


**FACED WITH OBSTACLES AND UNCERTAINTY: A THEMATIC REVIEW OF MIDDLE MANAGERS IN HIGHER EDUCATION**

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ARTICLE INFO	ABSTRACT
<b>Article history:</b>	<b>Purpose:</b> This study aims to identify the most prevalent issues, challenges, and uncertainty raised by middle managers and universities in published works from 2012 to 2021. Despite its popularity, there is no review article discussing the issues and difficulties faced by middle managers in higher education.
Received 04 October 2022	<b>Theoretical Framework:</b> This research draws on two theories, the managerial work theory, which focuses on daily managerial activities and the space, organisation, and management theory, which seeks to understand the space in which middle managers execute their activities and the effects of space on the management team and the organisation.
Accepted 26 December 2022	<b>Design/Methodology/Approach:</b> The Web of Science (WoS) and Scopus databases were used to identify English-language articles. Using ATLAS.ti 22, this thematic review will synthesise literature regarding middle managers and universities.
<b>Keywords:</b>	<b>Finding:</b> This review identified 36 articles containing 19 codes that characterise the approaching issues, problems, and challenges faced by university middle managers, grouped into 4 themes including leadership, financial, resource, and operational challenges.
Middle Manag; University; Leadership; Financial; Resource; Operational.	<b>Research Practical/ Social Implications:</b> The middle managers in higher education institutions are given a boost from this study, which recommends ways in which they might improve their competencies and therefore further the institution's sustainability.
	<b>Originality/Value:</b> This research makes novel contribution to the incipient literature by providing the patterns and trends that could affect how university middle managers work in the future and what their roles will be.
	Doi: <a href="https://doi.org/10.26668/businessreview/2022.v7i6.1129">https://doi.org/10.26668/businessreview/2022.v7i6.1129</a>

**DIANTE DE OBSTÁCULOS E INCERTEZAS: UMA REVISÃO TEMÁTICA DOS GERENTES MÉDIOS DO ENSINO SUPERIOR**

**RESUMO**

**Objetivo:** Este estudo visa identificar as questões, desafios e incertezas mais prevalentes levantadas por gerentes médios e universidades em trabalhos publicados de 2012 a 2021. Apesar de sua popularidade, não há nenhum artigo de revisão discutindo as questões e dificuldades enfrentadas pelos gerentes médios no ensino superior.

**Estrutura teórica:** Esta pesquisa se baseia em duas teorias, a teoria do trabalho gerencial, que se concentra nas atividades gerenciais diárias e a teoria do espaço, organização e gestão, que procura entender o espaço no qual os gerentes médios executam suas atividades e os efeitos do espaço sobre a equipe gerencial e a organização.

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**Design/Metodologia/Proteção:** A Web of Science (WoS) e as bases de dados Scopus foram utilizadas para identificar artigos em inglês. Usando ATLAS.ti 22, esta revisão temática sintetizará a literatura relativa aos gerentes médios e universidades.

**Encontrando:** Esta revisão identificou 36 artigos contendo 19 códigos que caracterizam a abordagem de questões, problemas e desafios enfrentados pelos gerentes médios universitários, agrupados em 4 temas incluindo liderança, finanças, recursos e desafios operacionais.

**Pesquisa Implicações práticas/sociais:** Os gerentes médios das instituições de ensino superior recebem um impulso deste estudo, que recomenda formas de melhorar suas competências e, portanto, promover a sustentabilidade da instituição.

**Originalidade/Valor:** Esta pesquisa traz uma nova contribuição à literatura incipiente, fornecendo os padrões e tendências que podem afetar a forma como os gerentes médios universitários trabalharão no futuro e quais serão suas funções.

**Palavras-chave:** Gerência Média, Universidade, Liderança, Financeiro, Recurso, Operacional.

## ANTE LOS OBSTÁCULOS Y LA INCERTIDUMBRE UNA REVISIÓN TEMÁTICA DE LOS MANDOS INTERMEDIOS EN LA ENSEÑANZA SUPERIOR

### RESUMEN

**Propósito:** Este estudio tiene como objetivo identificar los problemas, retos e incertidumbres más frecuentes planteados por los mandos intermedios y las universidades en los trabajos publicados entre 2012 y 2021. A pesar de su popularidad, no existe ningún artículo de revisión que **discuta los problemas y dificultades que enfrentan los mandos intermedios en la educación superior.**

**Marco teórico:** Esta investigación se basa en dos teorías, la teoría del trabajo directivo, que se centra en las actividades directivas diarias y la teoría del espacio, la organización y la gestión, que busca comprender el espacio en el que los mandos intermedios ejecutan sus actividades y los efectos del espacio en el equipo directivo y la organización.

**Diseño/Metodología/Enfoque:** Se utilizaron las bases de datos Web of Science (WoS) y Scopus para identificar artículos en inglés. Utilizando ATLAS.ti 22, esta revisión temática sintetizará la literatura relativa a los mandos intermedios y las universidades.

**Resultados:** Esta revisión identificó 36 artículos que contenían 19 códigos que caracterizan las cuestiones, los problemas y los retos a los que se enfrentan los mandos intermedios universitarios, agrupados en 4 temas que incluyen retos de liderazgo, financieros, de recursos y operativos.

**Implicaciones prácticas y sociales de la investigación:** Los mandos intermedios de las instituciones de enseñanza superior reciben un impulso gracias a este estudio, que recomienda formas de mejorar sus competencias y, por tanto, de fomentar la sostenibilidad de la institución.

**Originalidad/Valor:** Esta investigación aporta una contribución novedosa a la incipiente literatura al proporcionar los patrones y tendencias que podrían afectar a cómo trabajarán los mandos intermedios universitarios en el futuro y cuáles serán sus funciones.

**Palabras clave:** Mandos Intermedios, Universidad, Liderazgo, Financiero, Recursos, Operativo.

### INTRODUCTION

Today, the global higher education sector has undergone significant changes in its strategies and operations, fuelled by accelerating globalisation, technological advancements, and crisis uncertainty (Calonge et al., 2021; Pham et al., 2019). Universities are under pressure to operate in an increasingly competitive market and face numerous challenges, such as the impact of economic, environmental, health, and political issues. Alongside these obstacles have been societal demands for accountability, efficiency, and efficacy (Mutonyi, 2021). Universities of all sizes must respond to competitive pressure and advances in implementing strategy, aligning behaviours, and supporting decision-making in order to meet the

requirements of global university rankings (Janudin & Maelah, 2016). In addition, the complexity and dynamics of global development pose substantial obstacles to forecasting Sustainable Development Goals (SDGs) and Global Innovation Index (GII) accomplishments through the higher education sector. A lack of investments in higher education and an uneducated generation would jeopardise future opportunities and awareness of the need for behaviour change to be more financially, technologically, resourcefully, socially, environmentally, and politically sustainable (Filho et al., 2020; Webb et al., 2019). The implementation depends on the partnerships and engagements of a vast array of stakeholders and requires proper leadership and governance for sustainability (Filho et al., 2020; Nasaruddin & Rohayu, 2022).

It is stressful to lead a university during a period of change, as the leaders' responsibilities and influence are amplified (Fernandez & Shaw, 2020). Hierarchical levels, expensive administrative burdens, and bureaucratic systems have traditionally been inherited traits of public sector management styles in university governance structures (Chaharbaghi, 2007; Davis et al., 2016). The administration of universities must empower its resources to become more competitive and, as a result, achieve world-class status, because academic performance is the most important factor in achieving this distinction (Janudin & Maelah, 2016). Numerous initiatives to change, improve, and innovate are being undertaken within universities (Norazmi et al., 2020). These initiatives are generally driven by subject-specific and educational goals and considerations at the level of the faculty. These initiatives also have a strategic nature in order to distinguish the university from national and international competitors at the central level and/or to adapt to the changing higher education landscape (Kallenberg, 2020).

In an organization's hierarchical structure, middle managers are positioned above junior staff and below senior management (Harding et al., 2014). Consequently, they have a better perspective than the top management when it comes to identifying and resolving problems that arise among the employees during daily operations (Nielsen & Thomsen, 2008; Sukoco et al., 2020). In an effort to achieve organisational success, middle managers become the central strategic actors (Currie & Procter, 2005; Sukoco et al., 2020). Not only is it their responsibility as a strategy implementer to deal with market and technological shifts directly, but also as a strategy initiator to facilitate cross-departmental information and knowledge sharing (Anzengruber et al., 2017). Additionally, the participation of middle managers in identifying challenges and alternative solutions can have a positive impact on the performance of universities (Sukoco et al., 2020). The middle manager may then be viewed as a transformation

catalyst, a person who generates or promotes an idea to be adopted by another individual or team (Kör et al., 2020).

Middle managers are highly qualified members of the professional academic and non-academic staff who perform the most important roles in governance and educational development. They are influential and indispensable in carrying out the university's core administrative functions (Kallenberg, 2020). As middle managers, they are responsible for guiding departmental operations during times of disruption, rapid change, uncertainty, and crisis (Mosbiran et al., 2021). Typically, middle managers engage in sensemaking as they supervise the equitable implementation of policies revised by the university's board of executives, consider their effects on faculty, staff, and students, and determine modes of communication with relevant stakeholders. The middle managers apply their knowledge, abilities, perspectives, experiences, expectations, and goals to their operational responsibilities within the unit and across the university, establishing relationships, managing financial, human, and social capital, resolving conflicts, and ensuring equitable resource distribution (Kruse et al., 2020). The middle managers are positioned hierarchically in the middle of university governance and are able to influence both upward and downward transformation processes (Kallenberg, 2020). The complex and demanding nature of the middle manager's role is reflected in their job description, which calls for the ability to combine highly effective strategic leadership with effective operational oversight of the staff's outcomes (Creaton & Heard-Lauréote, 2021).

They have extensive knowledge of the university and the ability to influence the implementation of university operations and strategies (Kallenberg, 2020). Approximately 80 per cent of administrative decisions at universities are made by middle managers (Wolverton et al., 2005). As units and departments at higher education institutions are responsible for a variety of day-to-day operations, their management and leadership responsibilities at the departmental level are vital (Nasaruddin & Rohayu, 2022; Pham et al., 2019). The strategies that garner the attention of the executive level will have an impact on rethinking and modifying the existing strategic plans of the organisation in order to accommodate middle managers in new initiatives (Ren & Guo, 2011; Sukoco et al., 2020). The middle managers are in charge of strategy implementation, and their responsibilities include translating the policies of the top management into operational initiatives at a lower level and facilitating policy implementation at the operational level (Sukoco et al., 2020).

Numerous studies indicate that middle managers are a crucial predictor of university performance (Kallenberg, 2020; Kruse et al., 2020; Pham et al., 2019). Despite their significant

roles in ensuring the sustainability of the higher education system, little is known about the impact of the challenges and uncertainties faced by university middle managers (Davis et al., 2016; Frenkel, 2021; Kallenberg, 2020; Pham et al., 2019). This research draws on three theories, the managerial work theory (Mintzberg, 1973), which focuses on daily managerial activities and the space, organisation, and management theory (Chanlat, 2006), which seeks to understand the space in which middle managers execute their activities and the effects of space on the management team and the organisation.

Nonetheless, due to inconsistent results and the fragmented nature of empirical studies, researchers have emphasised the need for an in-depth examination of the relationship between middle managers and universities in order to better comprehend the nature of this relationship. Therefore, the underlying purpose of this paper is to open the Pandora's box of issues discussed in middle manager and university-related publications from 2012 to 2021; the following research question is presented. What are the predominant issues and challenges that have been raised regarding middle managers and universities in the literature from 2012 to 2021?

## **METHODOLOGY**

Braun and Clarke (2013) defined thematic analysis as the process of identifying patterns and constructing themes from a subject's comprehensive reading. As described by Zairul (2022), this paper utilised ATLAS.ti 22 software to conduct a thematic review, as a thematic analysis procedure was utilised for the literature review. The next step consisted of identifying the pattern and constructing a category for the purpose of comprehending the publication pattern in higher education that contributes to the roles of middle managers. The primary purpose of this paper is to conduct a systematic review of works on middle management in the context of higher education and to highlight the integrative relationship between the two terms' findings. Although different researchers provide different review guidelines, the ones used here were derived from empirical studies by Zairul (2020, 2021, 2022). The study's guidelines include four primary phrases: planning-research scope and search strategy, selection criteria, data extraction, and thematic review procedure.

### **Planning-research Scope and Search Strategy**

A search of the pertinent electronic databases, specifically the Web of Science (WoS) and Scopus databases, identified the pertinent articles published between January 1<sup>st</sup>, 2012, and December 31<sup>st</sup>, 2021. (10 years duration). We conducted a systematic literature review to identify relevant literature for university and middle managers. For the article to be included in



our review, it must emphasise middle managers and universities as the primary variables or subject areas. On March 8<sup>th</sup>, 2022, a search was conducted. The selection of WoS and Scopus was based on the databases' ability to provide the most comprehensive database of peer-reviewed publications with precise filtering options (AlEssa & Durugbo, 2021; Oladinrin et al., 2021). Scopus has more than 75 million records, 24,600 titles, and 5000 publishers, in addition to being a major archive for most research output. Scopus can also generate relatively accurate citation searches and has robust analytic tools (AlEssa & Durugbo, 2021). Meanwhile, the selection of WoS has provided the most dependable download functionality (Chen et al., 2008; Oladinrin et al., 2021). WoS is also based on its ability to perform more accurately than other search engines and to provide more precise results in terms of data centralisation (Jin et al., 2017; Oladinrin et al., 2021). A systematic review of research articles is conducted to extract from the WoS database using the keyword "middle" AND "manager" AND "university" OR "higher education" as well as from the Scopus database using the keyword TITLE-ABS-KEY ("middle" AND "manager" AND "university" OR "higher education") AND PUBYEAR- 2012 to 2021 in order to identify and retrieve academic journals that have published pertinent papers. The review is restricted to articles published in English in peer-reviewed journals for reasons of quality and consistency with other reviews of middle managers and universities. This process identified 674 articles in the WoS database and 84 articles in the Scopus database.

### **Selection Criteria**

This review included articles that met specific criteria. In accordance with the objectives of this review, the selection process was centred on the disciplines of leadership, management, and higher education. Unpublished research at the time of the review (January 1st, 2012, until December 31st, 2021) was excluded. This process yielded 32 articles in the WoS database and 17 articles in the Scopus database that qualified for further review. In the final step of the research procedure, only full empirical articles were retained, while all other types of research, such as conceptual papers, editorial notes, and book chapters, were excluded. Following application of these criteria, a total of 36 articles remained (Table 1). Due to the limitation of this review to peer-reviewed journals, 709 publications were excluded due to their inconclusive results, anecdotes, overlap, or lack of discussion regarding middle managers and universities. Therefore, there were only 36 articles remaining to be reviewed.

**Data Extraction**

The sampled articles were subjected to a manual screening to determine their applicability. In order to prevent researcher bias, leadership and human development specialists from the National University of Malaysia (UKM) who are familiar with the research were asked to review it. The articles were retrieved based on a set of predetermined criteria that determined eligibility and exclusion. The potential full-text articles were then evaluated for eligibility according to the aforementioned criteria. Following the exclusion of irrelevant studies, 36 articles remained.

Table 1. Search strings phase from Web of Science and Scopus databases

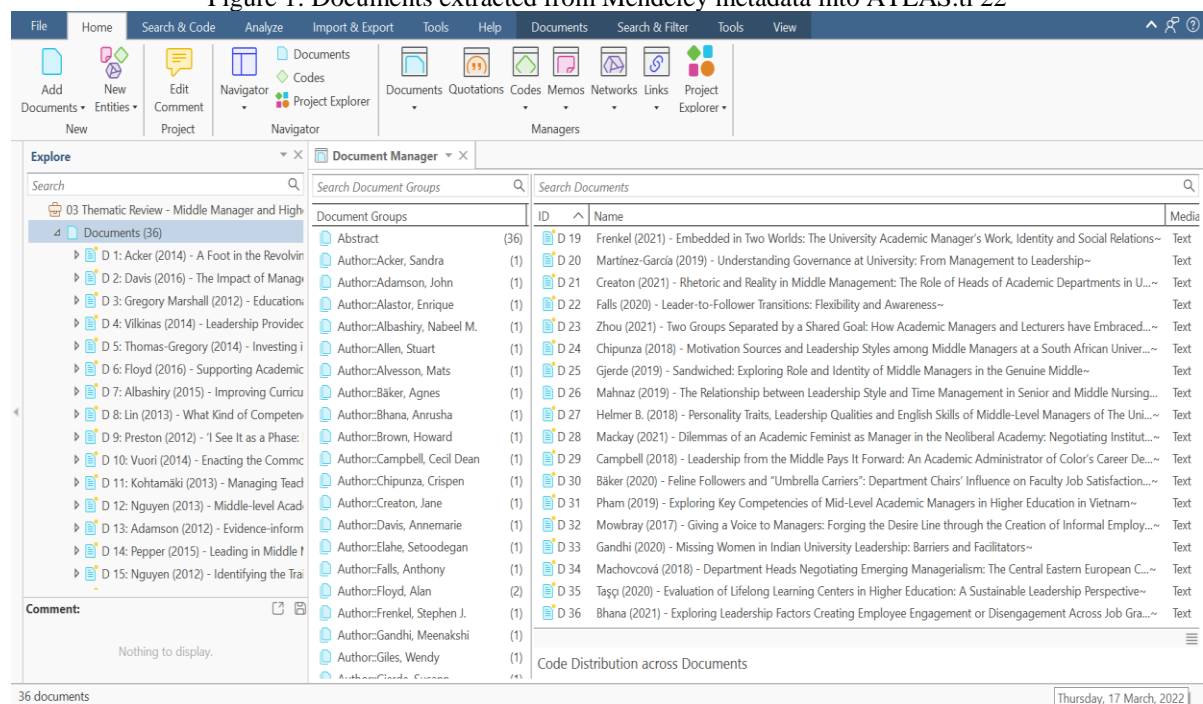
Web of Science (WoS) Database	Search Strings	(AK=(middle AND manager AND university OR (higher AND education)) AND LANGUAGE: (English) AND DOCUMENT TYPES: (Article) Refined by: DOCUMENT TYPES: ( ARTICLE ) AND WEB OF SCIENCE CATEGORIES: ( MANAGEMENT OR BUSINESS OR PSYCHOLOGY APPLIED ) Timespan: 2012-2021. Indexes: SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI.	
	Publication Extraction	Retrieved	674
		Rejected	642
		Duplication	13
∑ Accepted		19	
Scopus Database	Search Strings	TITLE-ABS-KEY (middle AND manager AND university OR (higher AND education )) AND PUBYEAR > 2011 AND PUBYEAR < 2022 AND ( LIMIT-TO ( DOCTYPE , "ar" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) ) AND ( LIMIT-TO ( PUBYEAR , 2021 ) OR ( LIMIT-TO ( PUBYEAR , 2020 ) OR LIMIT-TO ( PUBYEAR , 2019 ) OR LIMIT-TO ( PUBYEAR , 2017 ) OR LIMIT-TO ( PUBYEAR , 2016 ) OR ( LIMIT-TO ( PUBYEAR , 2015 ) OR LIMIT-TO ( PUBYEAR , 2014 ) OR LIMIT-TO ( PUBYEAR , 2013 ) OR LIMIT-TO ( PUBYEAR , 2012)) AND ( LIMIT-TO ( SUBJAREA , "BUSI" ) OR LIMIT-TO ( SUBJAREA , "SOCI" ) OR LIMIT-TO ( SUBJAREA , "PSYC" ) OR LIMIT-TO ( SUBJAREA , "ECON" ) OR LIMIT-TO ( SUBJAREA , "DECI" ) )	
	Publication Extraction	Retrieved	84
		Rejected	67
		Duplication	13
∑ Accepted		4	
Duplication in WoS-Scopus Databases	Publication Extraction	∑ Accepted	13

**Thematic Review Process**

The articles were uploaded as primary documents to the ATLAS.ti 22 software, and then each paper was categorised by author, periodical, publisher, and publication year (Figure 1). Due to the functionality of ATLAS.ti 22, the sorting of the 36 articles was made more systematic and accurate. Some approaches to the thematic review mirrored qualitative research coding strategies. The process is frequently perceived as fragmenting and reducing data to such an extent that the dialectic relationship between reading and writing is obscured. ATLAS.ti 22

facilitated the process of thematic review by establishing hypertext links between the initial coding and themes. Important to thematic review is the ability to step back from raw data and ideas of the initial code to the final theme for the purpose of interpretation. The core of a thematic review paper consists of iterative processes involving back-and-forth transitions between analytical tasks and software tools. The analytic task that occurs throughout analysis is reflection. So, the fact that it is at the centre of this method is important compared to other review paper methods.

Figure 1: Documents extracted from Mendeley metadata into ATLAS.ti 22



## RESULTS AND DISCUSSION

### Publications

The 36 articles pertaining to middle managers and universities were published in 25 different peer-reviewed journals according to the time period, as indicated by the WoS and Scopus databases (Table 2). Researchers could learn more about how research trends on middle managers and universities have changed over time by looking at a large amount of literature in index journals. Educational Management Administration & Leadership (6 articles), Tertiary Education and Management (3 articles), Higher Education Policy (2 articles), International Journal of Educational Management (2 articles), Journal of Higher Education Policy and Management (2 articles), and Sustainability published the majority of the articles (2 articles). The review includes 24 academic journals (96.0 percent) and a conference paper (4.0 percent).



Due to the interdisciplinary nature of the research area, a number of publications have found a home for middle manager research, including *International Political Studies Review* (1 article), *Research in Learning Technology* (1 article), *Revista Latinoamericana de Hipertensión* (1 article), and *The Qualitative Report* (1 article) (1 article). These journals include leadership, management, and education publications, but are not limited to them. From 2012 to 2021, a small number of articles (2 to 5 per year) involving middle managers and universities were published in the WoS and Scopus databases, according to our exhaustive search.

The number of articles published on university middle managers in the WoS and Scopus databases fluctuated from 2012 to 2014 (38.9%), remained static from 2015 to 2017 (2 articles), and increased from 2018 to 2021 (61.1%), with the most articles published in 2012, 2020, and 2021 (5 articles per year). This has revealed a periodic trend in research between middle manager issues and university interests. Despite the fact that the COVID-19 pandemic hastened the transition to digital technology, it is essential to view the middle manager as the driving force behind the university's transition to new forms of working system. Because of this, it is suggested that future research give more solid results about how different factors and outcomes affect middle managers and universities.

Table 2: Articles reviewed based on journals and year

NO.	JOURNAL	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	TOTALS
1	Atlantis Press	0	1	0	0	0	0	0	0	0	0	1
2	Asian EFL Journal	0	0	0	0	0	0	1	0	0	0	1
3	Educational Management Administration & Leadership	1	0	1	0	0	0	1	0	2	1	6
4	Gender and Education	0	0	0	0	0	1	0	0	0	0	1
5	Higher Education Policy	0	0	0	0	1	0	0	0	0	1	2
6	Higher Education Research & Development	0	0	1	0	0	0	0	0	0	0	1
7	Human Relations	0	0	0	0	0	0	0	1	0	0	1
8	International Journal of Educational Management	1	1	0	0	0	0	0	0	0	0	2
9	International Perspectives on Higher Education Research	0	0	1	0	0	0	0	0	0	0	1
10	Journal of Applied Research in Higher Education	0	0	0	0	0	0	0	1	0	0	1
11	Journal of Higher Education Policy and Management	2	0	0	0	0	0	0	0	0	0	2
12	Journal of Leadership Studies	0	0	0	0	0	0	0	0	1	0	1
13	Management in Education	0	0	0	1	0	0	0	0	0	0	1
14	Political Studies Review	0	0	0	0	0	0	0	0	0	1	1
15	Problems and Perspectives in Management	0	0	0	0	0	0	0	0	0	1	1
16	Research in Learning Technology	0	0	0	0	0	0	0	0	0	1	1
17	Research Policy	0	0	0	0	0	0	0	0	1	0	1
18	Revista Latinoamericana de Hipertensión	0	0	0	0	0	0	0	1	0	0	1
19	SA Journal of Human Resource Management	0	0	0	0	0	0	1	0	0	0	1
20	Studies in Higher Education	0	0	0	0	1	0	0	0	0	0	1
21	Sustainability	0	0	0	0	0	0	0	1	1	0	2
22	Tertiary Education and Management	1	1	1	0	0	0	0	0	0	0	3
23	The Curriculum Journal	0	0	0	1	0	0	0	0	0	0	1
24	The International Journal of Human Resource Management	0	0	0	0	0	1	0	0	0	0	1
25	The Qualitative Report	0	0	0	0	0	0	1	0	0	0	1
	<b>TOTALS</b>	<b>5</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>36</b>

## Theme

The iterative process has reviewed 36 research articles. To achieve consistency in the resulting subcategories, similarity and dissimilarity comparisons were conducted. This review examines and identifies various perspectives on middle management and higher education from 2012 to 2021. Initial categorization of 19 codes resulted in the identification of three major themes: individual and job centred, leader centred, and organization centred. Figure 2 depicts an overarching view of these relationships and related studies. Ten articles were analysed to determine the dominant trends in individual and job centred research. This was followed by 6 articles that were leader centred. In addition, the scope of research involving university middle managers on leadership behaviour (11 articles), leadership development (5 articles), and gendered (5 articles) outcomes is expanding.

Given the holistic and developmental nature of middle managers, it should come as no surprise that middle managers are positively associated with a wide range of individual and job-related attitude outcomes of university. These factors include employee engagement, intention to leave (Bäker & Goodall, 2020), personal and professional circumstances (Floyd, 2012), flexibility, awareness (Falls & Allen, 2020), racial equity (Campbell, 2018), gendered (Acker, 2014; Gandhi & Sen, 2020; Mackay, 2021; Maheshwari & Nayak, 2020; Spanò, 2017), employee empowerment (Vuori, 2014), and internal communication (Mowbray, 2017). This study also demonstrates that the leadership style of middle managers is not significantly related to their time management skills (Rakhshan et al., 2019).

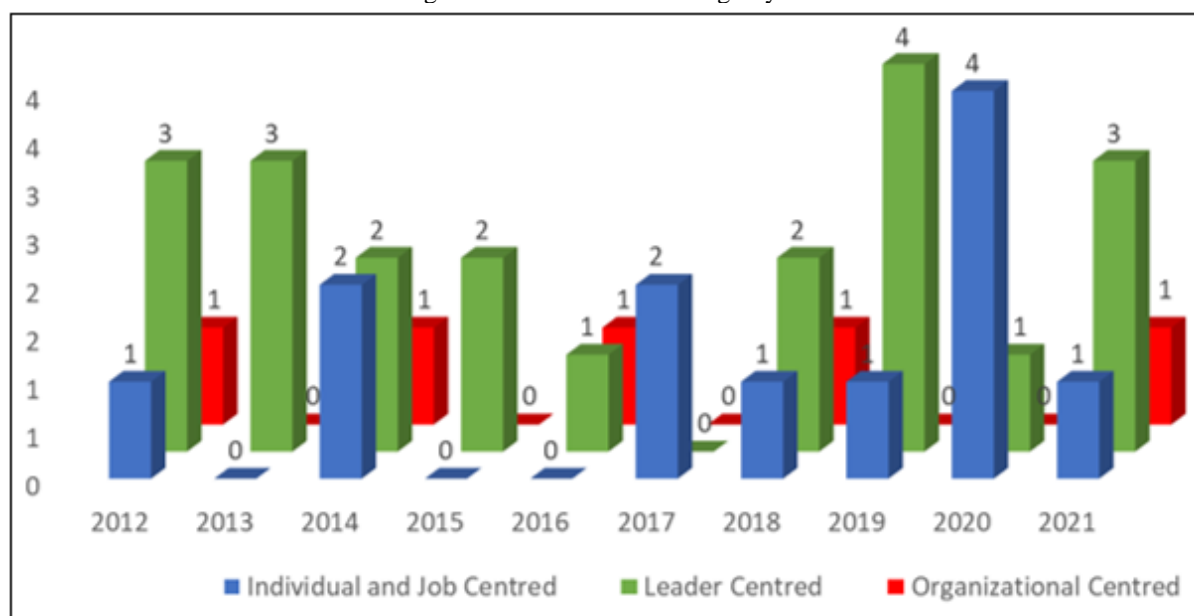
This review found mixed support for relationships between middle managers and a number of relational leader outcomes, such as leaders support system (Floyd, 2016), leadership motivation (Chipunza & Matsumunyane, 2018; Preston & Price, 2012), leadership behaviour (Adamson & Brown, 2012; Bhana & Suknunan, 2021; Creaton & Heard-Lauréote, 2021; Frenkel, 2021; Gjerde & Alvesson, 2019; Kohtamäki, 2013; Martínez-García et al., 2019; Pepper & Giles, 2015; Preston & Price, 2012; Thomas-Gregory & Mercer, 2014; Vilkinas, 2014), leadership competency (Lin et al., 2013; Pham et al., 2019), leadership style (Chipunza & Matsumunyane, 2018; Rakhshan et al., 2019) and leadership development (Albashiry et al., 2015; Montejo, 2018; Nguyen, 2012, 2013; Taşçı & Titrek, 2020). This study also indicates that the leadership style of middle managers is not significantly associated with instrumental motivation (Chipunza & Matsumunyane, 2018). In universities, middle managers typically lack authority over monetary employee benefits. Middle managers are positively associated with organisational outcomes such as managerialism (Davis et al., 2016; Machovcová et al., 2018),

rational management (Vuori, 2014), and change management (Marshall, 2012; Zhou & Milecka-Forrest, 2021) at the organisational level.

This analysis has exposed a few potential gaps in the 36 articles. In practise, according to Martínez-García et al. (2019), the role of middle managers is primarily focused on leadership rather than management. Middle managers were found to be more competent with daily operational matters and ensuring that their department functioned effectively than with strategic planning and establishing the department's vision (Pham et al., 2019). However, since the role of middle managers is portrayed as a managerial position in which there is frequently no room for action due to a lack of decision-making authority, there is evidence of low visibility of middle managers in university policies (Adamson & Brown, 2012; Martínez-García et al., 2019).

According to the empirical study conducted by Kohtamäki (2013), senior and middle managers have different management preferences and perceptions of operational and management practises. Work-life imbalance, subordinates' perceptions of women leaders, social networking, and personal factors (Maheshwari & Nayak, 2020), bureaucratic and professional discourses (Spanò, 2017), female development and mentoring programmes (Gandhi & Sen, 2020) were identified as barriers to the career advancement of women middle managers. There are many personal and professional barriers that make it hard for women in middle management positions in universities to use their authority and power, even though they are legally allowed to do so (Mackay, 2021).

Figure 2: The theme according to year



## Middle Managers

The initial phase of our research consisted of a review of 36 articles from 2012 to 2021, which confirmed the paucity of published research on middle management-related outcomes in the university context, particularly in developing nations. Middle managers were identified as those who link the activities of vertically related groups and are accountable for sub-functional workflow, but not the university's workflow (Davis et al., 2016). Academic middle managers and non-academic middle managers comprise the two primary categories of middle managers within the university system. Academic middle managers have a quantifiable job description based on their responsibilities for managing academic groups and coordinating academic activities within faculties.

However, non-academic managers can be justified on the basis of their support functions for departmental operations, such as human resources, finance, and central administration (Davis et al., 2016). The pattern was examined with a focus on middle managers and universities (Table 3). University middle managers have exhibited the highest rate of publication with 5 studies published in 2012, 2020, and 2021. This review demonstrates that academic middle managers are the predominant group of university middle managers studied (24 articles). This was followed by both academic and non-academic middle managers (11 articles) and only single article on non-academic middle managers. Future researchers should view this 10 years publication trend as an opportunity and guide to investigate in depth the numerous antecedents, mediators, and outcomes associated with non-academic university middle managers.

Table 3: The middle managers of university according to year

NO.	RESPONDENT	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	TOTALS
1	Academic and Non-Academic Middle Managers	2	2	1	0	1	1	2	0	1	1	11
2	Academic Middle Manager	3	1	3	2	1	1	2	3	4	4	24
3	Non-Academic Middle Manager	0	0	0	0	0	0	0	1	0	0	1
	<b>TOTALS</b>	<b>5</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>36</b>

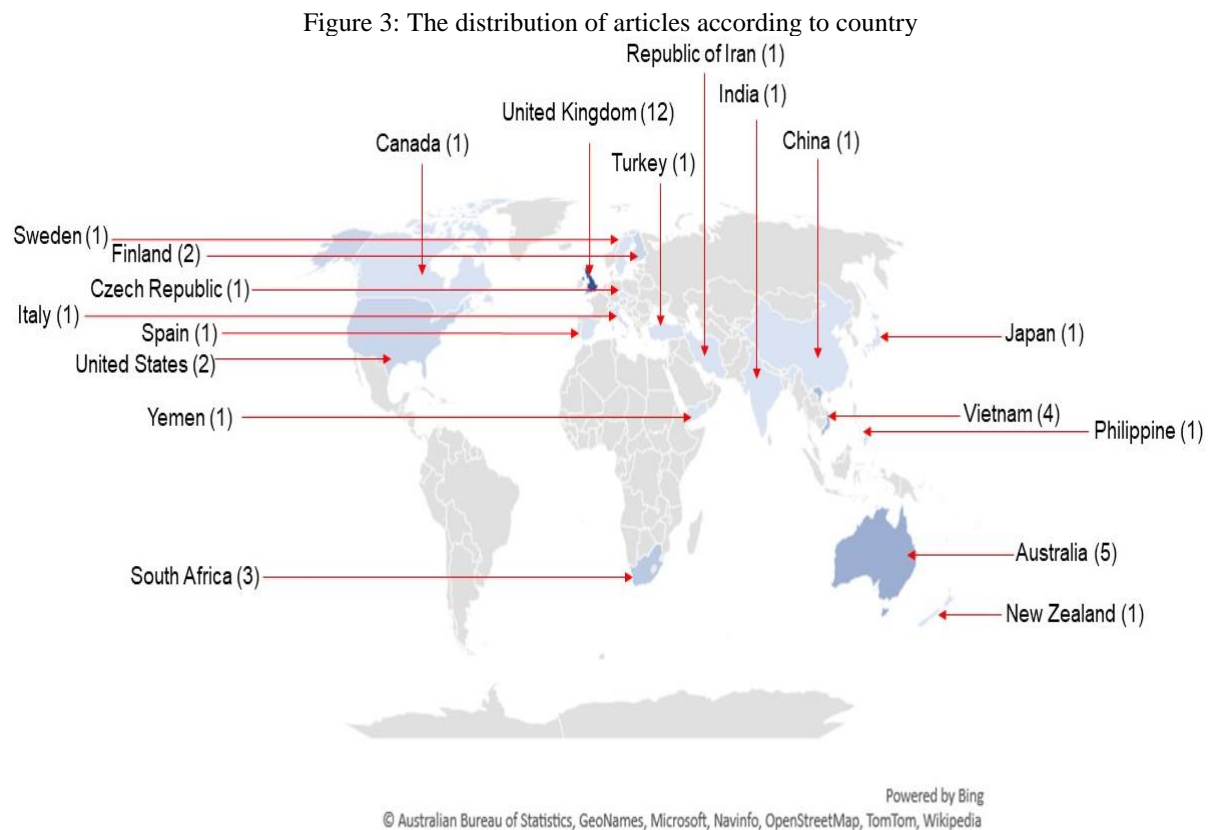
## Country

The pattern was analysed using the year and country of research conducted involving middle managers and university outcomes, as shown in Figure 3. From 2012 to 2021, research on middle managers and universities has been conducted in 19 countries by testing various variables. The United Kingdom (29.3 percent) and Australia conducted the majority of the studies on middle managers and universities (12.2 percent). The empirical studies were

conducted in a variety of nations, with the majority (20 studies) originating from the European region, including the United Kingdom (12 studies), Canada (1 study), Czech Republic (1 study), Finland (2 studies), Italy (1 study), New Zealand (1 study), Spain (1 study), and Sweden (1 study).

The emergence of middle managers and university research outside the European region, such as in Asia (7 studies), Africa (3 studies), America (2 studies), Oceania (5 studies), and Southeast Asia sub-region (5 studies), contributes to the transnational applicability of middle managers and universities. In developing nations, such as the Southeast Asia subregion, there is a dearth of research on this topic. There were only 4 studies conducted in Vietnam and 1 study in the Philippines, both of which are in the Southeast Asia subregion (ASEAN). ASEAN, consisting of Brunei, Cambodia, East Timor, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam, constitutes a subregion in the Asia region that could be explored in the near future. Comparatively less influential in global politics and economics than Pakistan and China, Southeast Asia has a rich diversity of culture, religion, ethnicity, resources, and educational levels (Hosshan et al., 2020; Romli et al., 2017). Frenkel (2021), Bäker and Goodall (2020), Spanò (2017), and Acker (2014) conducted 4 empirical studies that drew respondents from multiple countries, which we would encourage in the future. Despite the fact that a comparison across nations would be advantageous, space constraints and the focus of future researchers make such an endeavour difficult. University hierarchies function differently in each nation, and positions are not always directly equivalent (Acker, 2014).



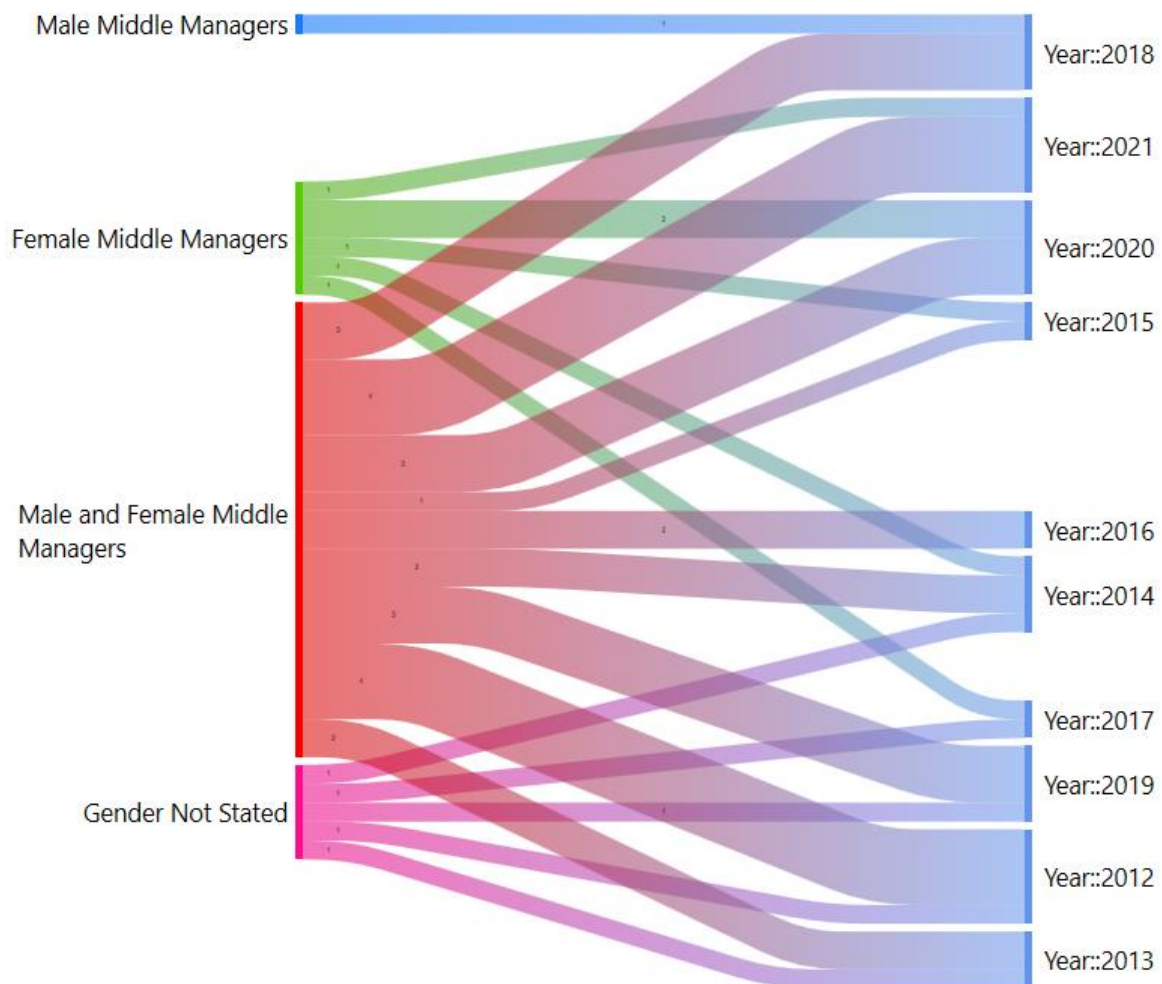


## Gender

The pattern was analysed using the year, and gender of middle managers (Figure 4). This empirical research was reviewed across 36 articles published between 2012 and 2021, with the majority of respondents coming from both male and female middle managers (24 articles), followed by female middle managers (6 articles), and only one article involving male university middle managers. However, approximately five articles did not disclose the gender of their respondents. In the context of university middle-level female managers, gendered research interests have emerged as one of the newest areas of study based on 5 publications by Mackay (2021), Gandhi and Sen (2020), Maheshwari and Nayak (2020), Span (2017), and Acker (2014) between 2012 and 2021. An analysis of the countries involved in the 5 gendered research articles revealed that 3 studies were conducted in 4 developed nations (United Kingdom, Canada, Australia, and Italy) and 2 studies in 2 developing nations (India and Vietnam). Some empirical studies have found that, compared to their male counterparts, leading females are more likely to exhibit negotiating institutional, authority, oppositional, and knowledge and change (Mackay, 2021), barriers and enablers for female leadership roles (Gandhi & Sen, 2020), policy of gender and leadership (Spanò, 2017) and participation (Acker, 2014). However, we also encourage research on male middle managers, which contributes to the

international applicability of middle managers. In addition, there were 24 articles that drew responses from both male and female middle managers, which is something we would like to see more of in the future. It is possible to highlight the 'cross-border' aspect of the gendered uncertainty of leadership, as revealed by the analysis of narratives in national contexts characterised by different discursive configurations. This difference between male and female middle managers should be on the agenda for future research, with a focus on the individual, leader, and institutional factors that contribute to resisting or keeping the status quo. In addition, the SDGs address the critical and significant global challenges that threaten the future, such as gender equality.

Figure 4: The gender of middle managers of university according to year



### Types of Research Methods

The pattern was analysed using the year and type of research method used by the researchers (Table 4). This empirical research was reviewed across 36 articles published

between 2012 and 2021, and the results indicate that 25 articles employed qualitative methodology, followed by quantitative methodology with 8 articles, and a mixed methodology with only 3 articles. The qualitative studies involving middle managers have emphasised semi-structured interviews (20 articles), document analysis (5 articles), in-depth interviews (5 articles), focus group interviews (2 articles), autoethnographic (1 article), behavioural event-interviews (1 article), narrative researcher (1 article), personal construct grid (1 article), personal narrative (1 article), and triangulating interviews (1 article). Nonetheless, self-administered questionnaires have been employed in quantitative studies of middle managers and universities (8 articles).

For middle managers and universities, qualitative research has become increasingly popular in recent years, but only a small number of researchers are combining quantitative and qualitative methods. This review also identified methodological challenges and opportunities that researchers can address in order to improve the quality and outcomes of future studies. Although the majority of the articles reviewed in this study suggest that some of the characteristics of middle managers are universally endorsed in the management literature, cross-cultural research is required to disentangle and comprehend the roles of different university middle managers across cultures, countries, and each higher education sector. The quantitative approach, associated with the empirical deductive paradigm, positivism, and large sample sizes, is used to generalise the population and make comparisons across populations (Chipunza & Matsumunyane, 2018).

Future survey-based quantitative and mixed-method approaches could potentially validate the findings of the current qualitative study and contribute to the limitations of prior research on middle managers and universities. Not all members of the university community are unionised, which may limit the applicability of the study's findings to settings that are dissimilar to those of the study (Falls & Allen, 2020). The qualitative method relied on arithmetic averaging to counteract a possible single-response or common-method bias (Machovcová et al., 2018).

The transferability of the current 36 articles' findings to other populations or countries depends on those contexts and the identified foundational pattern of middle managers' university transitions, which can be further investigated. Potential researchers may take into account a larger number of respondents in a variety of contexts in order to generalise and increase the likelihood that critical middle managers' and university research findings will be adopted as future community, institution, or higher education policy initiatives. By using a mix-method archiving process, it may be possible for middle managers to meet the diverse needs of

numerous stakeholders and to comprehend the centre positioning and challenges within the complex, hierarchical, and interconnected university system.

Table 4: Types of research methods according to year

NO.	RESEARCH METHOD	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	TOTALS
1	Mix Method	1	0	0	0	0	0	0	2	0	0	3
2	Qualitative	4	2	3	2	1	2	2	1	4	4	25
3	Quantitative	0	1	1	0	1	0	2	1	1	1	8
	<b>TOTALS</b>	<b>5</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>36</b>

### Research Theories and Models

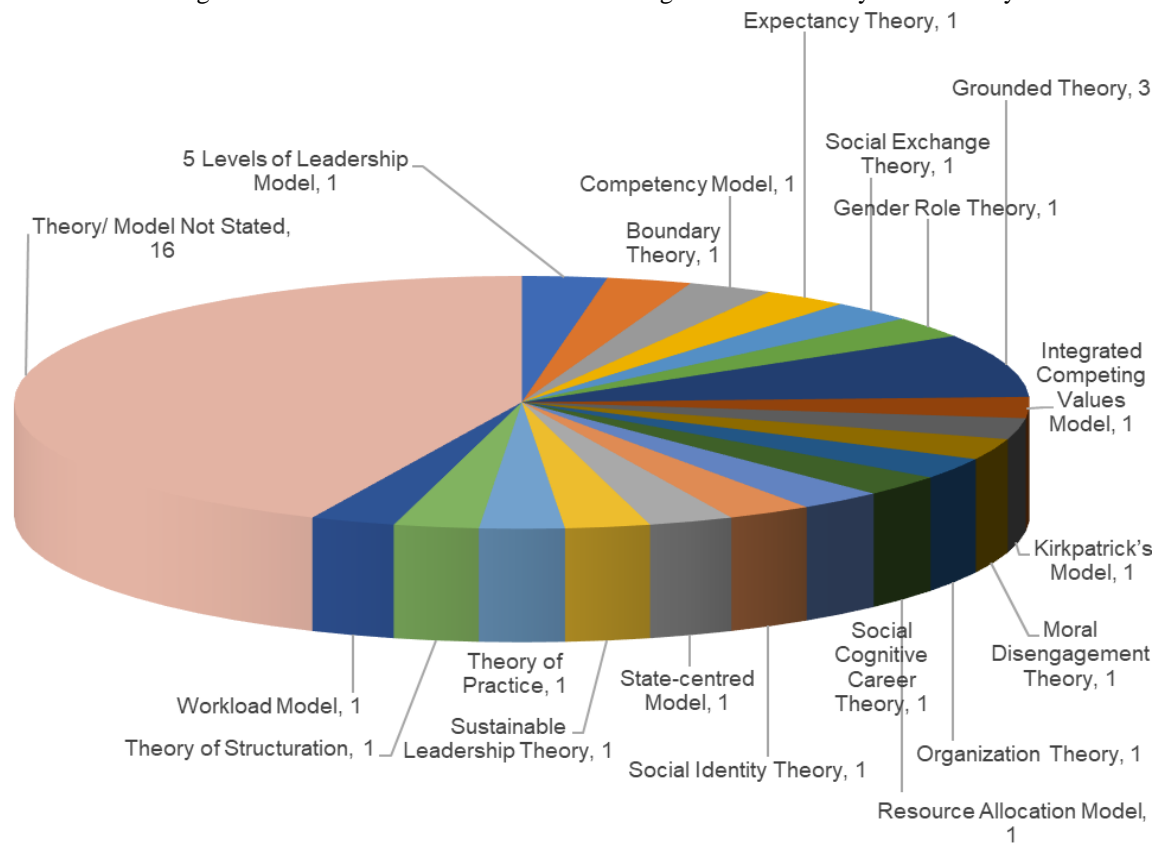
Figure 5 provides an overview of the theoretical perspectives and common assumptions of the university sample regarding middle managers. In total, 19 theories were identified in 36 articles published between 2012 and 2021. There were 3 studies that utilised Grounded Theory perspectives. Approximately 16 articles do not specify the theories or models used. Although the constructed nature of the process is acknowledged, data processing approaches such as Grounded Theory prioritise surface data and give the impression of rationality by emphasising procedures, rules, and a clear path from empirical reality to theory (Gjerde & Alvesson, 2019).

Nonetheless, there is a growing tendency among qualitative researchers to systematically code data, which is viewed as a reductionist and mechanistic process that detaches data pieces from a broader understanding and minimises the context of qualitative research data. This contradicts opinions that have been expressed because qualitative research with systematically coded data approaches is not in accordance with Grounded Theory's rules of conduct (Gjerde & Alvesson, 2019). In addition, even though the results cannot be generalised, the findings may assist other individuals, leaders, and institutions in gaining a firmer grasp of the relationship between middle managers and universities in terms of theory, practise, and research. Ideas supported by empirical evidence that may assist future researchers in advancing their in-depth consideration of the subject matter.

Future researchers may anticipate management, psychology, human development, and leadership as potential underlying theories, given the growing trend of research areas involving middle managers and universities. In the literature on leadership theories by Mackay (2021), Bäker and Goodall (2020), Gandhi and Sen (2020), Campbell (2018), Vuori (2014), and Preston and Price (2012), leadership has emerged. Mutually influential leadership styles are expected to result in increased levels of motivation and development on both the leader and follower side

(Chipunza & Matsumunyane, 2018; Northouse, 2019). Leadership styles typically define how the leader interacts with the group's followers and can be further explained and comprehended within the framework of Blau's Social Exchange Theory (SET) (1964). The influential SET Theory postulates that human relationships are formed through subjective cost-benefit analyses and that a leader whose style and interactions are based on trust and positive gestures will influence corresponding reciprocation from his or her subordinates (Chipunza & Matsumunyane, 2018). Researchers in the future might be able to predict the theoretical and practical gaps of SET Theory when it comes to problems and challenges that middle managers face in university settings.

Figure 5: The distribution of articles according to research theory/ model and year



### Qualitative Findings

Higher education has evolved in response to changes in the world's technological advancements, globalisation, and social structure (Khan et al., 2020). In the current climate of higher education, the need to improve and encourage the quality of university middle managers could not be greater. Surprisingly few of the 36 articles in this review address the issues and difficulties faced by middle managers in their roles. In this section, we will delve deeper into the qualitative findings based on academic and non-academic university middle managers from



2012 to 2021. This could encourage future researchers to explore new ways of approaching issues, problems, and challenges faced by university middle managers and to propose creative solutions to existing problems, manage complex, risky, and uncertain situations, achieve difficult, ill-defined goals, and improve their own performance.

We have focused on middle managers because such a position frequently serves as a steppingstone to the university's future executive level, despite the fact that the position has received little prior research. Moving up to a "middle" position in the organisational hierarchy can empower middle managers and may be viewed as a career advancement based on performance, contribution, personality, behaviour, and attitude. The current outcome of higher education is unpromising and is hampered by the lack of financial and operational resources, even though they are reportedly underutilised due to the absence of adequate middle management leadership.

However, academic vice-chancellors, academic deans, and academic directors have been studied as academic leaders in a variety of contexts by previous researchers who have examined leadership styles (Khan et al., 2020; Khan et al., 2018). These findings, which were guided by the research question, were examined iteratively in light of the segment's emerging trend. The search through data using the highlighted keywords in ATLAS.ti 22 has assisted in reducing the final themes to four major themes, including leadership, financial, resource, and operational challenges.

### **Leadership Challenges**

The inherited public sector management styles, numerous hierarchical layers, expensive administrative burdens, and bureaucratic systems are causing universities to face greater and more complicated challenges. The university's middle managers face challenges stemming from a decline in ministry funding, the possibility of a public health disaster, the introduction of new technologies, heightened market competition, and external forces of change. Leadership continues to be largely implicit, relying primarily on persuasion with few opportunities to distribute material or symbolic resources (Frenkel, 2021). In a study on effective leadership in higher education, it was discovered that middle managers viewed securing departmental resources and fostering employee growth as essential facets of their role (Floyd, 2012). Employees are either motivated or disruptive, depending on the leadership style, and must be led by example (Bhana & Suknunan, 2021). They are perceived as 'the disturbance handlers, resource allocators, and negotiators' (Thomas-Gregory & Mercer, 2014).

The university structures may be perceived as interfering with decision-making processes, being unethical and abusing power systems, and having a hierarchical structure that is ambiguous and complex. Due to the fact that authority does not necessarily reside where responsibility does, university structures are viewed as potential obstacles to middle leadership (Marshall, 2012). The academic and non-academic middle managers are accountable for personnel, budgets, and resources and wield significant strategic and planning authority. Compared to many other public sector institutions, the university operates with a high degree of decentralisation (Mackay, 2021). The middle managers must have the ability to manage both financial and human resources, as well as strong management and leadership skills.

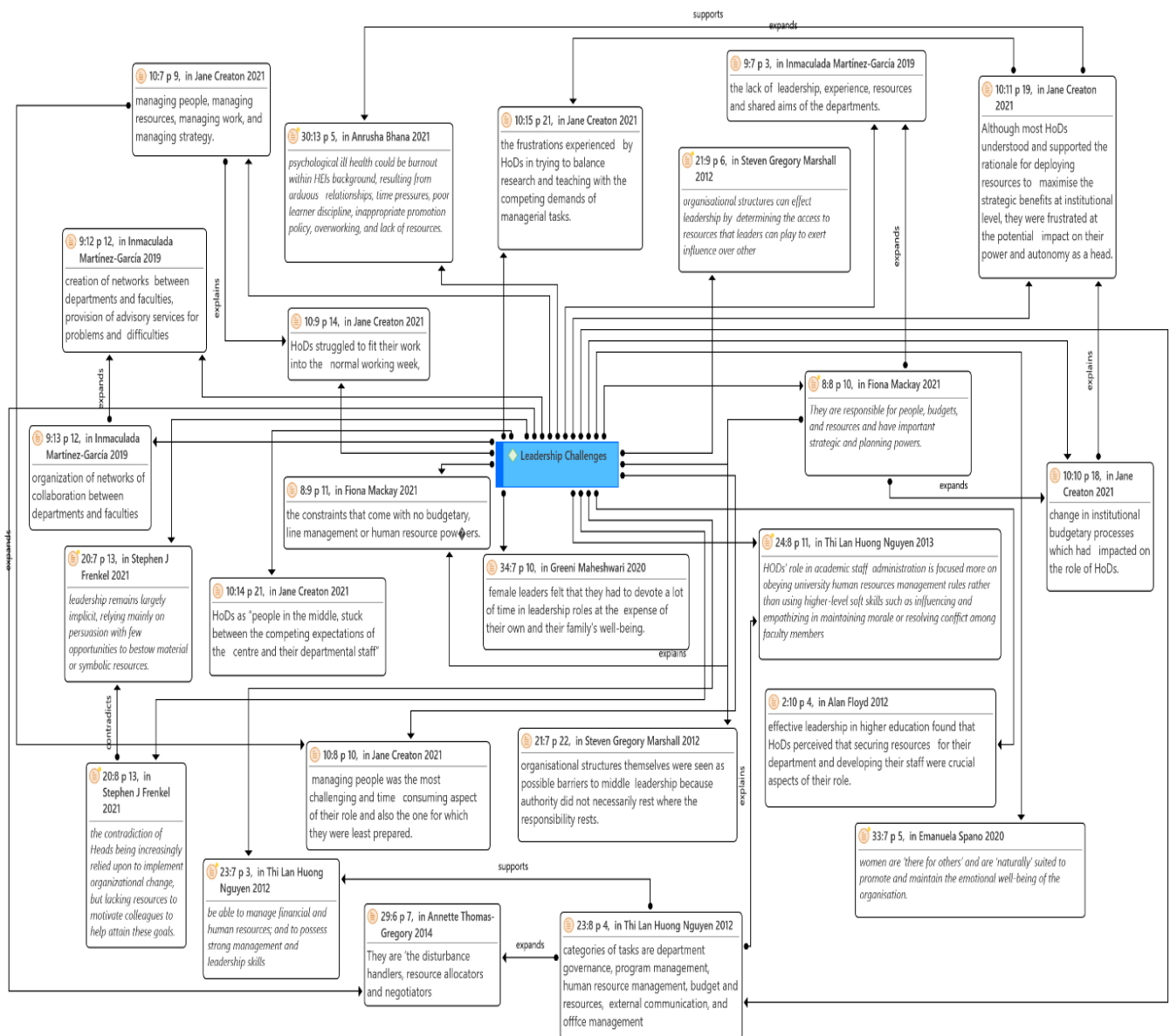
Their primary categories of responsibilities include department governance, programme management, human resource management, budget and resources, external communication, and office administration (Nguyen, 2012). They also play a significant role in the organisation of networks of collaboration between departments and faculties (Martínez-García et al., 2019). In addition, they improve the creation of networks between departments and faculties, as well as the provision of advisory services for issues and problems (Martínez-García et al., 2019). Even though the majority of middle managers understood and supported the rationale for deploying resources to maximise strategic benefits at the institutional level, they were frustrated by the potential impact on their power and autonomy as leaders (Creaton & Heard-Lauréote, 2021). There is less autonomy and authority for decision-making in human resources, materials, and financial resources, administrative tasks, and networks between departments and faculties (Martínez-García et al., 2019).

The departments' lack of leadership, experience, resources, and shared objectives. Constraints resulting from the absence of budgetary, line management, or human resources power (Mackay, 2021). The focus is on managing complexity, achieving stability, and getting things done through people, resources, work, and strategy. However, managing people was the most difficult and time-consuming aspect of their position, and the one for which university-educated middle managers were least prepared (Creaton & Heard-Lauréote, 2021). In addition, changes in university budgetary processes have impacted the role of middle managers (Creaton & Heard-Lauréote, 2021). Middle managers are increasingly relied upon to implement organisational change, but they lack the resources to motivate their co-workers to assist in achieving these objectives (Frenkel, 2021). The middle managers also struggled to fit their responsibilities into the standard workday (Creaton & Heard-Lauréote, 2021).

Managing the increasing workload and resulting lack of time management is one of the most challenging aspects of the role. The middle managers are described as "people in the

centre, caught between the competing expectations of the executive level and managing their departmental staff." The frustrations experienced by middle managers, in particular, when attempting to balance managerial tasks with competing stakeholder demands (Creaton & Heard-Lauréote, 2021). In the end, these risks are accountable for the rise in psychological illness and burnout caused by difficult relationships, time constraints, poor learner discipline, an inappropriate work environment, overwork, and a lack of resources and support (Bhana & Suknunan, 2021). For many British female middle managers, discourses on 'women's ways of leading' rest on the dangerous assumption that women are 'there for others' and 'naturally' suited to promote and maintain the emotional well-being of the organisation (Spanò, 2017). Female leaders felt they had to sacrifice their own and their family's well-being in order to fulfil their leadership responsibilities (Maheshwari & Nayak, 2020). Figure 6 depicts the network analysis of university middle management leadership challenges.

Figure 6: A network view on leadership challenges



## Financial Challenges

Since the 1980s, the leadership of universities has been subjected to heightened scrutiny due to the increase in the number of students, changes in funding for student placements, technological advancements, and the continuing globalisation of the higher education sector, which has created a highly competitive environment (Chipunza & Matsumunyane, 2018). Increasing demand, managerial diversity, a cultural shift in higher education, and budgetary restraints have compelled higher education to change and adopt leadership practices (Alonderiene & Majauskaite, 2016; Khan et al., 2020). The middle managers participate in activities that transcend both team and departmental boundaries. Resolving resource-related issues such as financial, human resource, and facility concerns; communicating internally

within the teams to others and/or higher levels; and gaining support for their teams are examples of boundary-spanning behaviours (Gumusluolu & Ilsev, 2009).

The network analysis of economic obstacles is depicted in Figure 7. It appears that middle managers at public university departments or units face more bureaucratic obstacles, lack of experience, and problems with funding, specialisation, and flexibility than administrators at private universities (Taşçı & Titrek, 2020). Other major responsibilities of middle managers include financial planning and resource management (Nguyen, 2013). The financial issues are a significant burden on middle managers, while department staff are only accountable for their portion of the pie. However, middle managers must be accountable for all department costs and revenues (Gjerde & Alvesson, 2019). Middle managers will be able to expand their teams, participate in international conferences, and increase funds for merit-based compensation with an increase in department funding (Machovcová et al., 2018). This is consistent with the findings of Montejo (2018) empirical study, which found that in addition to heavy workloads, financial and time constraints were among the obstacles for university middle managers.

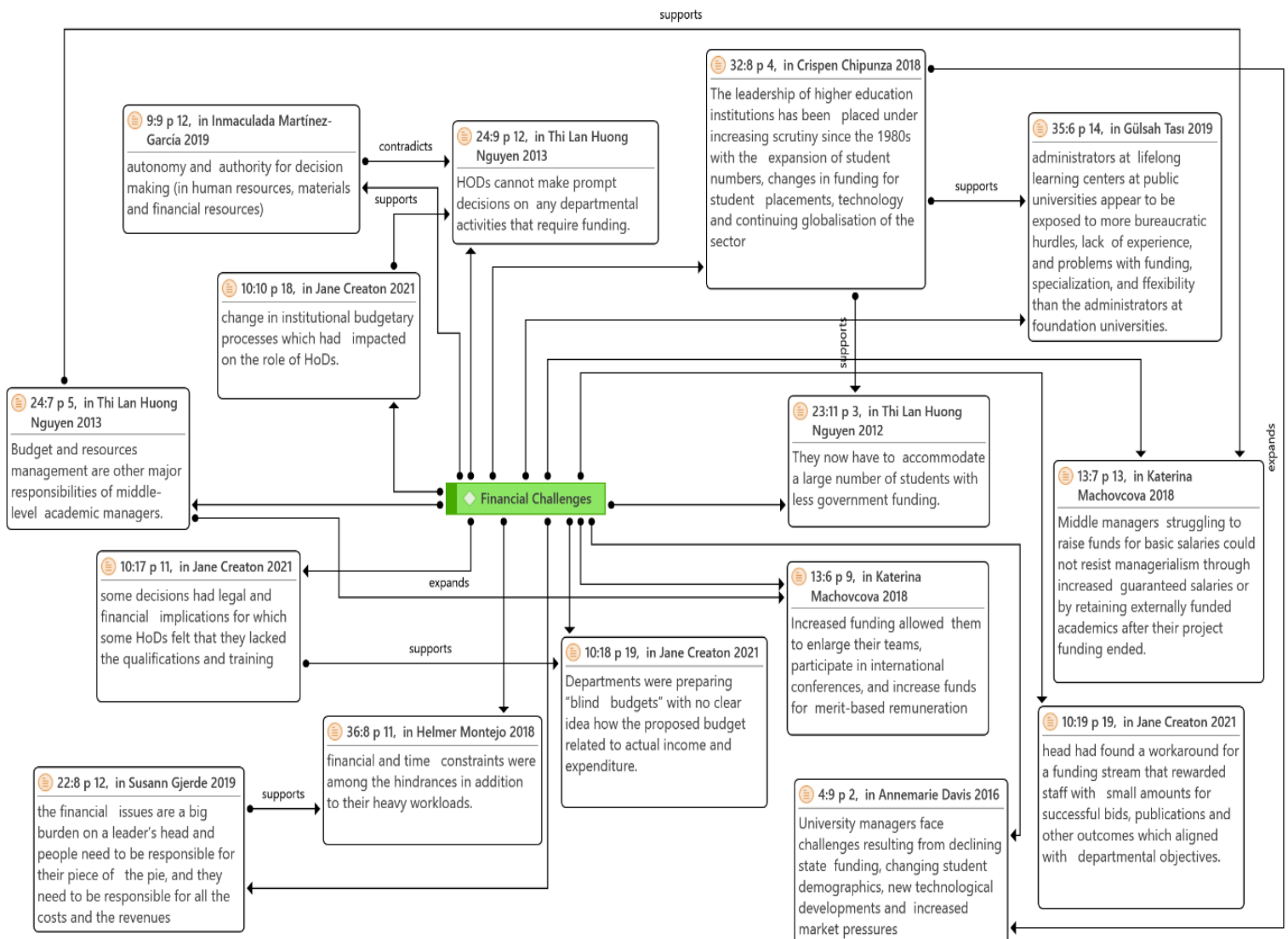
Middle managers are responsible for administering the department budget, preparing and proposing department budgets, and drafting annual reports. In addition to seeking external funding, they must also encourage faculty members to submit proposals for possible contracts and grants to government agencies and private foundations as part of their job performance (Nguyen, 2013). Some middle managers devised a workaround for a funding stream that compensated their employees with small amounts for successful grants, publications, and other outcomes that aligned with departmental objectives (Creaton & Heard-Lauréote, 2021). Due to limited financial resources, job insecurity, lack of growth opportunities, and ineffective human resource practises, these organisations tend to have difficulty managing their staff (Knezović & Drkić, 2020; Machovcová et al., 2018).

In order to accommodate a large number of operational items with less university funding, the roles of middle managers have become more important (Nguyen, 2012). Because financial management and control are centralised at the university level, middle managers cannot make prompt decisions on any departmental activities requiring funding. The departments are instructed to prepare "blind operational budgets" without having a clear understanding of how the proposed budget relates to actual revenues and expenditures (Creaton & Heard-Lauréote, 2021). This limited access to budget management and lack of financial management knowledge may also dissuade them from attracting outside funds for the university



(Nguyen, 2013). Financial resources appear to be a game changer for university middle managers seeking to serve in optimal conditions and achieve their career goals.

Figure 7: A network view on financial challenges



## Resources Challenges

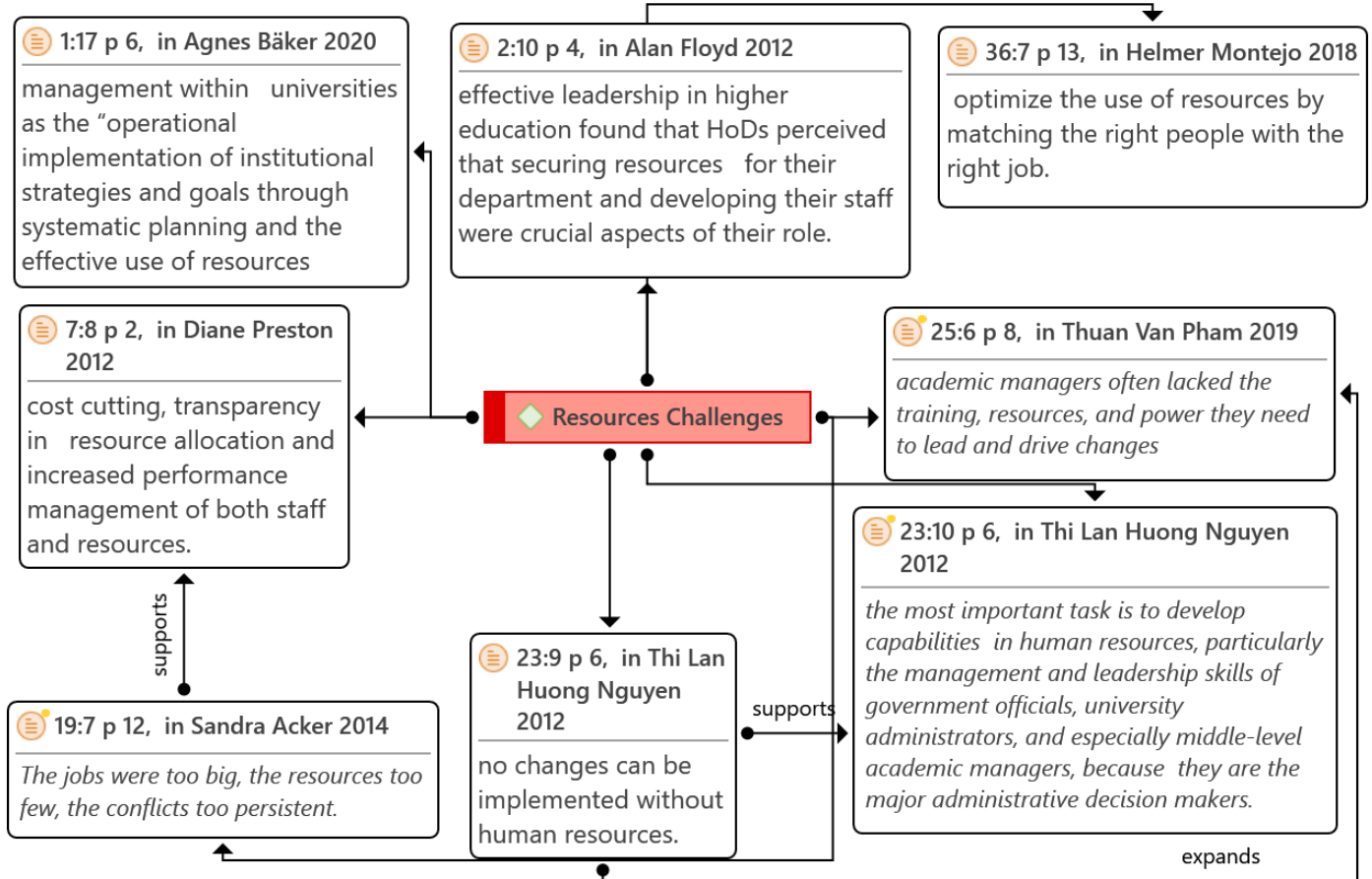
Findings from a study on effective leadership in higher education indicate that middle managers viewed securing resources for their department and fostering the growth of their staff as crucial facets of their positions (Floyd, 2012). The middle managers in the university governance system serve as the operational implementers of institutional strategies and objectives through systematic planning and the efficient use of resources (Bäker & Goodall, 2020). Middle managers designate their subordinates by identifying the critical roles and skills that must be retained, as well as the strategies required to optimise the use of resources by matching the right staff member with the right position (Montejo, 2018). Employees represent

a significant investment in terms of locating, hiring, training, strategies, and bonuses, making them a crucial resource for virtually every university (Bhana & Suknunan, 2021).

Middle managers have significant strategic and planning responsibilities and are accountable for people, finances, and assets (Mackay, 2021). The changing trend of priorities, reward systems, and the university's culture continue to be challenged by cost cutting, limitations in resource allocation (Preston & Price, 2012), and the reduction of departmental operational costs (Karatepe et al., 2020). The tasks were too large, the resources were too few, and the conflicts were too persistent (Acker, 2014). Without competent personnel and adequate resources, no changes can be implemented. As university middle managers are the most influential administrative decision-makers, developing their management and leadership skills should be the highest priority in terms of human resources, particularly the management and leadership skills of middle managers because they are the major administrative decision makers.

These middle managers will play a crucial role in enhancing the quality and services of higher education in order to support the transformation of the national higher education reform programme, and will therefore communicate this information to their subordinates by translating the executive university strategic planning to the department level (Nguyen, 2012). However, Pham et al. (2019) found that middle managers frequently lacked the training, resources, and authority necessary to lead. In addition to having enormous responsibilities, middle managers in higher education institutions also have less positional power, fewer resources, and limited authority. The obstacles are depicted in Figure 8 for resource challenges.

Figure 8: A network view on resources challenges



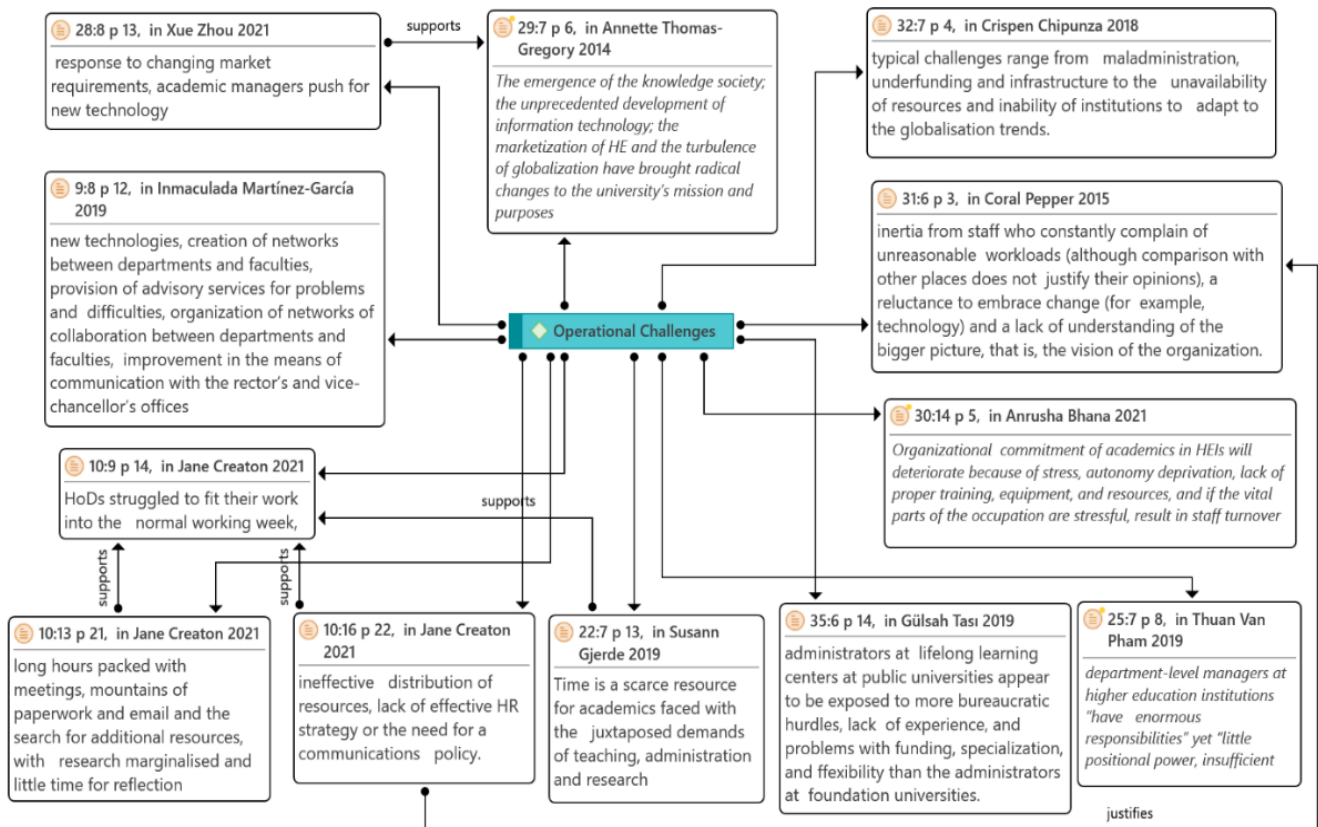
### Operational Challenges

Middle managers are responsible for the operational implementation of institutional strategies and objectives through systematic planning and the efficient use of resources (Bäker & Goodall, 2020). The major challenges of higher education institutions are more related to governance and operational management, with typical challenges ranging from maladministration, underfunding, and infrastructure to a lack of resources and an inability to adapt to globalisation trends (Chipunza & Matsumunyane, 2018). Inertia from lower-level staff who constantly complain of unreasonable workloads, a reluctance to embrace change, and a lack of understanding of the bigger picture, such as the vision and strategic planning of the university system, are the primary obstacles to departmental leadership in the university system (Pepper & Giles, 2015). These findings are further supported by Davis et al. (2016), who discovered that executive management "set us up for failure" when they made a strategic decision that had far-reaching effects on operational levels and negatively impacted service delivery.

The exclusion of middle managers from strategy-related conversations by executive management led to alienation, a lack of motivation to implement strategies, and intra-organizational conflict. The operational challenges of network analysis are depicted in Figure 9. According to Nguyen (2012), the executive level devotes a great deal of time to establishing administrative policies and then putting them into effect. The empirical research conducted by Creton & Heard-Lauréote (2021) revealed that middle managers struggle to juggle operational and strategic demands during long hours jam-packed with meetings, mountains of paperwork and email, and the search for additional resources, while research is marginalised and there is less time for reflection. Nonetheless, it was discovered that middle managers are more deliberately engaged with their subordinates at the departmental level and encourage participation in operational decision-making (Davis et al., 2016).

In addition, they relished the opportunity to discuss with other co-workers which departmental practises are effective or ineffective (Davis et al., 2016). Work engagement and knowledge sharing can create more efficient and streamlined procedures and processes in the operations of a university, which may enhance the innovative and creative behaviours of middle managers. However, rather than being given the opportunity to influence strategy, as is commonly expected, middle managers have found themselves embroiled in operational matters, dealing with co-workers who, perhaps understandably, view them with suspicion or indifference (Preston & Price, 2012).

Figure 9: A network view on operational challenges



## CONCLUSION

This study examined the global patterns and tendencies of middle managers and university publications in the public and private sectors. ATLAS.ti 22's code-to-network analysis revealed that the overview of middle managers and universities highlighted patterns, trends, issues, and obstacles. This study contributed to the pattern analysis of middle managers and universities by systematically identifying the thematic codes within 36 articles from 2012 to 2021 and evaluating the publication trends. Nevertheless, based on the findings of this thematic review, future researchers must consider a number of limitations in the 36 empirical studies regarding middle managers and universities. One of the limitations is the ability to generalise the findings to represent the university population. The results may not accurately represent the university's population of middle managers due to small sample size, lack of a sampling process, less homogenous respondents, and self-selection of participants. Rarely discussed elements include how various environmental and contextual factors influence the functions and responsibilities of university middle managers. This thematic review has established a baseline and potential avenues for future research on the impact of middle managers and universities on the individual and job, leader, and organization centred perspectives of university issues and challenges. Given that previous research has identified a



number of mechanisms connecting middle managers with university outcomes, it would be beneficial for future research to investigate additional potential mechanisms. An agile and comprehensive model of middle managers and universities is required to strengthen and prepare public and private higher education for the emergence of a volatile chain reaction resulting from a public health crisis. Thus, future researchers will be able to bolster the empirical evidence pointing to the effects of flow by conducting cross-cultural studies in various nations. The function of middle managers in enhancing the workflow of a department could be determined.

## REFERENCES

Aadil Ahmad Shairgojri, & Showkat Ahmad Dar. (2022). Emerging Cyber Security India's Concern and Threats. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 2(04), 17–26. <https://doi.org/10.55529/ijitc.24.17.26>

Abdulhalim Musa Abubakar, Zahra Soltanifar, Yusufu Luka, Eme William Udoh, & Mamoudou Hamadou. (2021). Analysis of Microbial Growth Models for Microorganisms in Chicken Manure Digester. *International Journal of Research in Science & Engineering (IJRISE)* ISSN: 2394-8299, 1(02), 1.24. <https://doi.org/10.55529/ijrise.12.1.24>

Acker, S. (2014). A Foot in the Revolving Door? Women Academics in Lower-middle Management. *Higher Education Research & Development*, 33(1), 73–85. <https://doi.org/10.1080/07294360.2013.864615>

Adamson, J., & Brown, H. (2012). Evidence-informed Leadership in the Japanese Context: Middle Managers at a University Self-access Center. *Tertiary Education and Management*, 18(4), 353–374. <https://doi.org/10.1080/13583883.2012.725765>

Agus Irawan, Siti Mukodimah, Afrizal Martin, & Yunaida Ervika. (2022). Design and Development of Lampung Script Educational Game. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 2(03), 36–48. <https://doi.org/10.55529/ijitc23.36.48>

Ahmad Khumaidi, & Iqbal Ramadhan. (2022). Android-Based Mobile Learning as an English Language Learning Media during Pandemic Times. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 2(02), 34–46. <https://doi.org/10.55529/ijitc.22.34.46>

Akanksha Rajora. (2021). Exploring the Connection among Character and Occupation Execution with Exceptional Reference to North Western Railline Association. *Journal of Multidisciplinary Cases (JMC)* ISSN 2799-0990, 1(01), 1–10. <https://doi.org/10.55529/jmc.11.1.10>

Albashiry, N. M., Voogt, J. M., & Pieters, J. M. (2015). Improving Curriculum Development Practices in a Technical Vocational Community College: Examining Effects of a Professional Development Arrangement for Middle Managers. *The Curriculum Journal*, 26(3), 425–451. <https://doi.org/10.1080/09585176.2015.1040041>

AlEssa, H. S., & Durugbo, C. M. (2021). Systematic Review of Innovative Work Behavior Concepts and Contributions. In *Management Review Quarterly*. Springer International Publishing. <https://doi.org/10.1007/s11301-021-00224-x>

Alonderiene, R., & Majauskaite, M. (2016). Leadership Style and Job Satisfaction in Higher Education Institutions. *International Journal of Educational Management*, 30(1), 140–164. <https://doi.org/10.1108/IJEM-08-2014-0106>

Almighty C. Tabuena, Yvon Mae H. Tabuena, Dr. Oscar Lauber, & Ángel Geovanny Rochina Chisag. (2021). An Examination of the Effects of a Research-Based Instructional Model on Students' Critical Thinking Abilities in an Introductory Science Course. *International Journal of Research in Science & Engineering (IJRISE)* ISSN: 2394-8299, 1(01), 1–12. <https://doi.org/10.55529/ijrise.11.1.12>

Aminu Adamu Ahmed, Abubakar Yusuf Dutse, & Mangai Josiah Mallo. (2022). Influencing Factors Determine Students' Behavioural Intentions to Adopt an E-Learning System in Tertiary Institution. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN: 2455-5290, 2(04), 35–63. <https://doi.org/10.55529/ijitc.24.35.63>

Anzengruber, J., Goetz, M. A., Nold, H., & Woelfle, M. (2017). Effectiveness of Managerial Capabilities at Different Hierarchical Levels. *Journal of Managerial Psychology*, 32(2), 134–148. <https://doi.org/10.1108/JMP-12-2015-0451>

Anumandla Mounika Reddy. (2021). Unique Privacy Aspects of Internet of Things. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 1(01), 1–6. <https://doi.org/10.55529/ijitc.11.1.6>

A. Panneerselvam. (2022). Framework and Challenges of Cyber Security in India: An Analytical Study. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 2(04), 27–34. <https://doi.org/10.55529/ijitc.24.27.34>

Arun kanti Howlader. (2022). A literacy review of tertiary levels teacher's modern technological literacy ratio in rural area of Bangladesh. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 2(02), 1–11. <https://doi.org/10.55529/ijitc22.1.11>

Asha Chauhan, A K Shrivastav, & Anjali Oudhia. (2022). Boosting the Power Conversion efficiency of CsPb<sub>0.75</sub>Sn<sub>0.25</sub>IBr<sub>2</sub> Alloy-based Perovskite Solar Cell with Charge Transport Layer Mg:SnO<sub>2</sub>: A Theoretical Study. *International Journal of Research in Science & Engineering (IJRISE)* ISSN: 2394-8299, 2(03), 48–60. <https://doi.org/10.55529/ijrise.23.48.60>

Bassey Bridget Jones, Nyong Bassey E, Edim Moses M., Ita Obo Okokon, & Asuquo Esther Offiong. (2022). Advances in the Modification of Natural Polymers for Applications in Food Packaging and Preservation. *International Journal of Research in Science & Engineering (IJRISE)* ISSN: 2394-8299, 2(04), 1–9. <https://doi.org/10.55529/ijrise24.1.9>

Bäker, A., & Goodall, A. H. (2020). Feline Followers and “Umbrella Carriers”: Department Chairs' Influence on Faculty Job Satisfaction and Quit Intentions. *Research Policy*, 49(4), 1–39. <https://doi.org/10.1016/j.respol.2020.103955>

- Bhana, A., & Suknunan, S. (2021). Exploring Leadership Factors Creating Employee Engagement or Disengagement Across Job Grade Categories at a Public Higher Education Institution in South Africa. *Problems and Perspectives in Management*, 19(1), 317–327. [https://doi.org/10.21511/ppm.19\(1\).2021.27](https://doi.org/10.21511/ppm.19(1).2021.27)
- Braun, V., & Clarke, V. (2013). Teaching Thematic Analysis : Overcoming Challenges and Developing Strategies for Effective Learning. *The Psychologist*, 26(2013), 120–123.
- Calonge, D. S., Aguerrebere, P. M., Hultberg, P., & Connor, M. (2021). Were Higher Education Institutions Communication Strategies Well Suited for the COVID-19 Pandemic? *Journal of Education and Learning*, 10(4), 1–14. <https://doi.org/10.5539/jel.v10n4p1>
- Campbell, C. D. (2018). Leadership from the Middle Pays It Forward: An Academic Administrator of Color’s Career Development Narrative in Postsecondary Education. *The Qualitative Report*, 23(7), 1702–1716. <https://doi.org/10.46743/2160-3715/2018.3361>
- Chaharbaghi, K. (2007). Provision of Public Services in an Age of Managerialism: Looking Better but Feeling Worse. *Equal Opportunities International*, 26(4), 319–330. <https://doi.org/10.1108/02610150710749421>
- Chanlat, J.-F. (2006). Space, organisation and Management Thinking: a Socio-Historical Perspective. In *Space, Organizations and Management Theory* (pp. 17–41). Liber & Copenhagen Business School Press.
- Chen, C., Song, I. Y., Yuan, X., & Zhang, J. (2008). The Thematic and Citation Landscape of Data and Knowledge Engineering (1985-2007). *Data and Knowledge Engineering*, 67(2), 234–259. <https://doi.org/10.1016/j.datak.2008.05.004>
- Chipunza, C., & Matsumunyane, L. L. (2018). Motivation Sources and Leadership Styles among Middle Managers at a South African University. *SA Journal of Human Resource Management*, 16, 1–13. <https://doi.org/10.4102/sajhrm.v16i0.985>
- Creaton, J., & Heard-Lauréote, K. (2021). Rhetoric and Reality in Middle Management: The Role of Heads of Academic Departments in UK Universities. *Higher Education Policy*, 34(1), 195–217. <https://doi.org/10.1057/s41307-018-00128-8>
- Currie, G., & Procter, S. J. (2005). The Antecedents of Middle Managers’ Strategic Contribution: The Case of a Professional Bureaucracy. *Journal of Management Studies*, 42(7), 1325–1356. <https://doi.org/10.1111/j.1467-6486.2005.00546.x>
- Davis, A., Jansen van Rensburg, M., & Venter, P. (2016). The Impact of Managerialism on the Strategy Work of University Middle Managers. *Studies in Higher Education*, 41(8), 1480–1494. <https://doi.org/10.1080/03075079.2014.981518>
- D.K. Mishra, V. Shinde, & S.K. Bharadwaj. (2022). A Convergence Study of Firefly Algorithm. *International Journal of Research in Science & Engineering (IJRISE) ISSN: 2394-8299*, 2(03), 17–25. <https://doi.org/10.55529/ijrise.2317.25>
- Dr. Bilal Ahmad Sheikh, Dr. Imran Mehraj Dar, Dr. Omar Fayaz Khan, & Iftikhar Bashir Wani. (2022). Value Engineering as a Sustainable Tool in Construction Industry. *International Journal*

of Research in Science & Engineering (JRISE) ISSN: 2394-8299, 2(02), 1–7. <https://doi.org/10.55529/jrise.22.1.7>

Dr. Nimisha Beri, & Shivani Gulati. (2022). Cyberloafing As A Challenge For Integration Of Ict In Education. Journal of Image Processing and Intelligent Remote Sensing(JIPIRS) ISSN 2815-0953, 2(01), 1–5. <https://doi.org/10.55529/jipirs21.1.5>

Dr. Dinesh kumar, & Abdulhamid Sanusi Ahmad2. (2022). Theoretical Models Of Technology Acceptance: A Critical Analysis & Design For Future Research. Journal of Image Processing and Intelligent Remote Sensing(JIPIRS) ISSN 2815-0953, 2(01), 6–17. <https://doi.org/10.55529/jipirs.21.6.17>

Dr. V Vasanthi, T Vijayarvathini, Vishnu Satheesh, & Manimaran.M. (2021). Block Chain Technology and Its Future Scope. Journal of Image Processing and Intelligent Remote Sensing(JIPIRS) ISSN 2815-0953, 1(01), 1–4. <https://doi.org/10.55529/jipirs.11.1.4>

Dr. Engr. Rt. Ln. Arun Kanti Howlader PMP. (2022). Infinite particles of infinite singular mass are the reason behind infinite universal particle and events which is equal. International Journal of Information Technology & Computer Engineering (IJITC) ISSN : 2455-5290, 2(01), 5–7. <https://doi.org/10.55529/ijitc.21.5.7>

Dr.Navdeep Kaur, & Mrs.Maninderpal Kaur. (2022). Role of Technology for Equality, Diversity and Inclusivity. International Journal of Information Technology & Computer Engineering (IJITC) ISSN : 2455-5290, 2(01), 19–29. <https://doi.org/10.55529/ijitc.21.19.29>

Dr. Sobha Manakkal, Rajeenamol P T, & Sundaramoorthi P. (2022). A Comparative Study Of Different Topologies Of Transformer less AC-DC Converters. Journal of Image Processing and Intelligent Remote Sensing(JIPIRS) ISSN 2815-0953, 2(03), 1–9. <https://doi.org/10.55529/jipirs23.1.9>

Esraa Mohammad Ahmad Jaradat. (2022). Load Prediction Techniques in Cloud Environment. International Journal of Research in Science & Engineering (JRISE) ISSN: 2394-8299, 2(01), 1–10. <https://doi.org/10.55529/jrise.21.1.10>

Falls, A., & Allen, S. (2020). Leader-to-Follower Transitions: Flexibility and Awareness. Journal of Leadership Studies, 14(2), 24–37. <https://doi.org/10.1002/jls.21696>

Fernandez, & Shaw, G. P. (2020). Academic Leadership in a Time of Crisis: The Coronavirus and COVID-19. Journal of Leadership Studies, 14(1), 1–7. <https://doi.org/10.1002/jls.21684>

Filho, W. L., Wolf, F., Lange Salvia, A., Beynaghi, A., Shulla, K., Kovaleva, M., & Vasconcelos, C. R. P. (2020). Heading Towards an Unsustainable World: Some of the Implications of Not Achieving the SDGs. Discover Sustainability, 1(2), 1–11. <https://doi.org/10.1007/s43621-020-00002-x>

Floyd, A. (2012). 'Turning Points': The Personal and Professional Circumstances that Lead Academics to become Middle-manager. Educational Management Administration & Leadership, 40(2), 272–284. <https://doi.org/10.1177/1741143211427980>

Floyd, A. (2016). Supporting Academic Middle Managers in Higher Education: Do We Care? Higher Education Policy, 29(2), 167–183. <https://doi.org/10.1057/hep.2015.11>

Fowsiya P A, Rajesh P, Rajkumar G, & Maheswaran K. (2022). Optimization of Energy Conversion Efficiency of PV System. *Journal of Image Processing and Intelligent Remote Sensing(JIPIRS)* ISSN 2815-0953, 2(02), 1–10. <https://doi.org/10.55529/jipirs22.1.10>

Frenkel, S. J. (2021). Embedded in Two Worlds: The University Academic Manager's Work, Identity and Social Relations. *Educational Management Administration & Leadership*, 1–18. <https://doi.org/10.1177/17411432211027643>

Gandhi, M., & Sen, K. (2020). Missing Women in Indian University Leadership: Barriers and Facilitators. *Educational Management Administration & Leadership*, 49(2), 352–369. <https://doi.org/10.1177/1741143219896048>

Gargi Kale, Prashant Bhaware, Rohit Ingle, Sayali Sulbhewar, Yash Gugaliya, Mayur Kaware, & Parag Thakare. (2022). Real Time Face Mask Detection-A Survey. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 2(01), 1–4. <https://doi.org/10.55529/ijitc21.1.4>

Gjerde, S., & Alvesson, M. (2019). Sandwiched: Exploring Role and Identity of Middle Managers in the Genuine Middle. *Human Relations*, 73(1), 124–151. <https://doi.org/10.1177/0018726718823243>

Gumusluolu, L., & Ilsev, A. (2009). Transformational Leadership and Organizational Innovation: The roles of Internal and External Support for Innovation. *Journal of Product Innovation Management*, 26(3), 264–277. <https://doi.org/10.1111/j.1540-5885.2009.00657.x>

Harding, N., Lee, H., & Ford, J. (2014). Who is 'the Middle Manager'? *Human Relations*, 67(10), 1213–1237. <https://doi.org/10.1177/0018726713516654>

Hosshan, H., Stancliffe, R. J., Villeneuve, M., & Bonati, M. L. (2020). Inclusive Schooling in Southeast Asian Countries: A Scoping Review of the Literature. In *Asia Pacific Education Review* (Vol. 21, Issue 1, pp. 99–119). <https://doi.org/10.1007/s12564-019-09613-0>

Hemang Desai, & Birajkumar V. Patel. (2022). A Model for Gujarati News Search Engine by Link Builder and Web Crawler Algorithms. *Journal of Image Processing and Intelligent Remote Sensing(JIPIRS)* ISSN 2815-0953, 2(03), 10–13. <https://doi.org/10.55529/jipirs.23.10.13>

Ida Ayu Putu Anggie Sinthiya, & Sri Ipnuwati. (2022). Ethics of Internet Use (Digital Netiquette) in UU ITE Perspective: Building a Courteous Digital Culture in the Era of Digital Transformation. *Journal of Image Processing and Intelligent Remote Sensing (JIPIRS)* ISSN 2815-0953, 2(04), 8–14. <https://doi.org/10.55529/jipirs.24.8.14>

Janudin, S. E., & Maelah, R. (2016). Performance Measurement System in Malaysian Public Research Universities: Is it Contemporary? *International Journal of Management in Education*, 10(3), 219–233. <https://doi.org/10.1504/IJMIE.2016.077505>

Jin, Y., Ji, S., Li, X., & Yu, J. (2017). A Scientometric Review of Hotspots and Emerging Trends in Additive Manufacturing. In *Journal of Manufacturing Technology Management* (Vol. 28, Issue 1, pp. 18–38). <https://doi.org/10.1108/JMTM-12-2015-0114>



Kallenberg, T. (2020). Differences in Influence: Different Types of University Employees Compared. *Tertiary Education and Management*, 26(4), 363–380. <https://doi.org/10.1007/s11233-020-09058-w>

Karatepe, O. M., Aboramadan, M., & Dahleez, K. A. (2020). Does Climate for Creativity Mediate the Impact of Servant Leadership on Management Innovation and Innovative Behavior in the Hotel Industry? *International Journal of Contemporary Hospitality Management*, 32(8), 2497–2517. <https://doi.org/10.1108/IJCHM-03-2020-0219>

Khan, M. A., Ismail, F. B., Hussain, A., & Alghazali, B. (2020). The Interplay of Leadership Styles, Innovative Work Behavior, Organizational Culture and Organizational Citizenship Behavior. *SAGE Open*, 10(1), 1–16. <https://doi.org/10.1177/2158244019898264>

Khan, S. K., Memon, M. A., & Ramayah, T. (2018). Leadership and Innovative Culture Influence on Organisational Citizenship Behaviour and Affective Commitment: The Mediating Role of Interactional Justice. *International Journal of Business and Society*, 19(3), 725–747.

Knezović, E., & Drkić, A. (2020). Innovative Work Behavior in SMEs: The Role of Transformational Leadership. *Employee Relations*, 1–18. <https://doi.org/10.1108/ER-03-2020-0124>

Kohtamäki, V. (2013). Managing Teaching and R&D: Diverging Views of Managers. *International Journal of Educational Management*, 27(4), 340–355. <https://doi.org/10.1108/09513541311316296>

Kör, B., Wakkee, I., & van der Sijde, P. (2020). How to Promote Managers' Innovative Behavior at Work: Individual Factors and Perceptions. *Technovation*, 99(November 2018), 1–15. <https://doi.org/10.1016/j.technovation.2020.102127>

Kruse, S. D., Hackmann, D. G., & Lindle, J. C. (2020). Academic Leadership During a Pandemic: Department Heads Leading With a Focus on Equity. *Frontiers in Education*, 5(December), 1–14. <https://doi.org/10.3389/educ.2020.614641>

Lin, F., Lin, J., & MA, W. (2013). What Kind of Competency Should Chinese Provincial College Middle-level Manager Have? 2013 International Conference on Advances in Social Science, Humanities, and Management, 43, 815–820. <https://doi.org/10.2991/asshm-13.2013.152>

Machovcová, K., Zábrowská, K., & Mudrák, J. (2018). Department Heads Negotiating Emerging Managerialism: The Central Eastern European Context. *Educational Management Administration & Leadership*, 47(5), 712–729. <https://doi.org/10.1177/1741143217753193>

Mackay, F. (2021). Dilemmas of an Academic Feminist as Manager in the Neoliberal Academy: Negotiating Institutional Authority, Oppositional Knowledge and Change. *Political Studies Review*, 19(1), 75–95. <https://doi.org/10.1177/1478929920958306>

Maheshwari, G., & Nayak, R. (2020). Women Leadership in Vietnamese Higher Education Institutions: An Exploratory Study on Barriers and Enablers for Career Enhancement. *Educational Management Administration & Leadership*, 1–18. <https://doi.org/10.1177/1741143220945700>



Marshall, S. G. (2012). Educational Middle Change Leadership in New Zealand: The Meat in the Sandwich. *International Journal of Educational Management*, 26(6), 502–528. <https://doi.org/10.1108/09513541211251361>

Martínez-García, I., Padilla-Carmona, M. T., & Alastor, E. (2019). Understanding Governance at University: From Management to Leadership. *Journal of Applied Research in Higher Education*, 11(3), 466–480. <https://doi.org/10.1108/JARHE-04-2018-0068>

Md. Jannatul Ferdous, Nayan Sarker, Chinmoy Das, Md. Tabil Ahammed, & Zayed Mohammad. (2022). Design and Analysis of A High Frequency Bow-tie Printed Ridge Gap Waveguide Antenna. *Journal of Image Processing and Intelligent Remote Sensing(JIPIRS)* ISSN 2815-0953, 2(02), 11–23. <https://doi.org/10.55529/jipirs.22.11.23>

Md. Tabil Ahammed, Shadat Hossain, Md. Mehedi Hasan, Golam Rabby, & Nazmul Huda. (2022). Superior Short circuit & Overcurrent Protection of Devices like Alternator, Transformer etc. *Journal of Image Processing and Intelligent Remote Sensing(JIPIRS)* ISSN 2815-0953, 2(02), 24–31. <https://doi.org/10.55529/jipirs.22.24.31>

Mintzberg, H. (1973). *The Nature of Managerial Work*. Harper & Row.

M. Islam Mahdi, & Agus Suryana. (2022). Mobile Web-Based Learning Application. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 2(02), 22–33. <https://doi.org/10.55529/ijitc.22.22.33>

Mohd Norazmi Nordin , Mustafa, M.Z.B., Razzaq, A.R.B.A (2020). Relationship between headmasters' leadership, task load on special education integration programme teachers' job satisfaction. *Universal Journal of Educational Research*, 2020, 8(8), pp. 3398–3405

Montejo, H. B. (2018). Personality Traits, Leadership Qualities and English Skills of Middle-Level Managers of The University of Southern Philippines Foundation: A Leadership Enhancement Program. *Asian EFL Journal*, 20(2), 78–96. [https://www.researchgate.net/profile/Khadijah-](https://www.researchgate.net/profile/Khadijah-Maming/publication/329625974_The_Asian_EFL_Journal/links/5c12766c299bf139c756b1d3/The-Asian-EFL-Journal.pdf)

[Maming/publication/329625974\\_The\\_Asian\\_EFL\\_Journal/links/5c12766c299bf139c756b1d3/The-Asian-EFL-Journal.pdf](https://www.researchgate.net/profile/Khadijah-Maming/publication/329625974_The_Asian_EFL_Journal/links/5c12766c299bf139c756b1d3/The-Asian-EFL-Journal.pdf)

Mosbiran, N.F.B., bin Mustafa, M.Z., Mohd Norazmi Nordin (2021). Special Elements and Values Needed in Leadership for Special Education. *Review of International Geographical Education Online*, 2021, 11(4), pp. 712–722

Mowbray, P. K. (2017). Giving a Voice to Managers: Forging the Desire Line through the Creation of Informal Employee Voice Channels and Productive Resistance. *The International Journal of Human Resource Management*, 29(5), 941–969. <https://doi.org/10.1080/09585192.2017.1396552>

Mrs.M.Jebakumari, Mr T.Palaniraja, Mr.K.Arun Patrick, & Ashwini. (2022). Blocking Of Spam Mail Using K-Means Clustering Algorithm. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 2(03), 19–24. <https://doi.org/10.55529/ijitc23.19.24>

Ms. Ritu Bhatiya. (2022). "A Study and Analysis on Color Coded Cryptography on Textual Data". *Journal of Image Processing and Intelligent Remote Sensing(JIPIRS)* ISSN 2815-0953, 2(04), 1–7. <https://doi.org/10.55529/jipirs.24.1.7>

Mutonyi, B. R. (2021). Employees' Psychological Capital and Innovative Behavior in Higher Education. *International Journal of Quality and Service Sciences*, 13(2), 198–215. <https://doi.org/10.1108/IJQSS-02-2020-0024>

Muhammad Muslihudin, Rizky Purnama, & Uning Lestari. (2021). Application Design for Identification of Car Garbage Prone Points for Pringsewu Regional Government Cleanliness Based on Mobile Web . *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 1(01), 22–36. <https://doi.org/10.55529/ijitc.11.22.36>

Muzamil Hussain ALHussaini. (2022). A Charter to Machinerics Universally Used by School Learners. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 2(02), 17–21. <https://doi.org/10.55529/ijitc.22.17.22>

Muzamil Hussain AL Hussaini. (2022). Effect of Information Technology on Education. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 2(04), 1–5. <https://doi.org/10.55529/ijitc.24.1.5>

Nasaruddin, M., & Rohayu, A. G. (2022). The Impact of Positive Leadership Styles on Organisational Innovative Behaviour: A Thematic Review. *NeuroQuantology*, 20(8), 1320–1338. <https://doi.org/10.14704/nq.2022.20.8.NQ44146>

Nguyen, T. L. H. (2012). Identifying the Training Needs of Heads of Department in a Newly Established University in Vietnam. *Journal of Higher Education Policy and Management*, 34(3), 309–321. <https://doi.org/10.1080/1360080X.2012.678730>

Nguyen, T. L. H. (2013). Middle-level Academic Management: A case study on the roles of the Heads of Department at a Vietnamese university. *Tertiary Education and Management*, 19(1), 1–15. <https://doi.org/10.1080/13583883.2012.724704>

Nielsen, A. E., & Thomsen, C. (2008). Investigating CSR Communication in SMEs: A Case Study among Danish Middle Managers. *Business Ethics: A European Review*, 18(1), 83–93. <https://doi.org/10.1111/j.1467-8608.2009.01550.x>

Northouse, P. G. (2019). *Leadership Northouse: Theory and Practice 8th Edition (8th ed.)*. Sage Publications, Inc.

Oladinrin, T. O., Mesthrige Jayantha, W., & Moses, T. (2021). New Working Practices: A Scientometric Review. *International Journal of Real Estate Studies*, 15(1), 49–62. <https://doi.org/10.11113/intrest.v15n1.8>

Payal, & Dr. Pradeep Kumar Gupta. (2021). Library Learning and Information Services of Library, its Setup, and Type of Library. *Journal of Multidisciplinary Cases (JMC)* ISSN 2799-0990, 1(01), 11–18. <https://doi.org/10.55529/jmc.11.11.18>

Pepper, C., & Giles, W. (2015). Leading in Middle Management in Higher Education. *Management in Education*, 29(2), 46–52. <https://doi.org/10.1177/0892020614529987>

Peter Ayoola Ajelabi, & Adebimpe Adenike Ajelabi. (2022). Application of Technologies to Instruction in Nigeria's Tertiary Education System: Panacea In The Midst Of National Challenges. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 2(01), 8–18. <https://doi.org/10.55529/ijitc.21.8.18>

Peer Amir Ahmad. (2021). Cyber Security Is More than Just a Question of Information Technology. *Journal of Image Processing and Intelligent Remote Sensing(JIPIRS)* ISSN 2815-0953, 1(02), 1–7. <https://doi.org/10.55529/jipirs12.1.7>

Pham, T. Van, Nghiem, T. T., Nguyen, L. M. T., Mai, T. X., & Tran, T. (2019). Exploring Key Competencies of Mid-Level Academic Managers in Higher Education in Vietnam. *Sustainability*, 11(23), 1–13. <https://doi.org/10.3390/su11236818>

P.Leo Dominic, & Dr.S.Praveen Kumar. (2021). An Empirical Study on Talent Landscaping in Information Technology Industry. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 1(02), 1–11. <https://doi.org/10.55529/ijitc.12.1.11>

Preston, D., & Price, D. (2012). 'I See It as a Phase: I Don't See It as the Future': Academics as Managers in a United Kingdom University. *Journal of Higher Education Policy and Management*, 34(4), 409–419. <https://doi.org/10.1080/1360080X.2012.689201>

P.Rajalakshmi. (2021). A Dual-transformer DC–DC with Variable frequency modulation Technique. *Journal of Image Processing and Intelligent Remote Sensing(JIPIRS)* ISSN 2815-0953, 1(02), 8–16. <https://doi.org/10.55529/jipirs.12.8.16>

Rakhshan, M., Khatereh, R., Elahe, S., & Jamshid, E. (2019). The Relationship between Leadership Style and Time Management in Senior and Middle Nursing Managers. *Revista Latinoamericana de Hipertensión*, 14(1), 26–31.

Rashid Manzoor Bhat, & Peer Amir Ahmad. (2022). Social Media and the Cyber Crimes Against Women-A Study. *Journal of Image Processing and Intelligent Remote Sensing(JIPIRS)* ISSN 2815-0953, 2(01), 18–22. <https://doi.org/10.55529/jipirs.21.18.22>

R. Arun Patrick, R. Gowrishanka, K. Cinetha, & T. Palani Raja. (2022). Efficient Data Access Control Scheme Using Splitting Technique In Clouds. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 2(03), 13–18. <https://doi.org/10.55529/ijitc23.13.1>

Ren, C. R., & Guo, C. (2011). Middle Managers' Strategic Role in the Corporate Entrepreneurial Process: Attention-Based Effects. *Journal of Management*, 37(6), 1586–1610. <https://doi.org/10.1177/0149206310397769>

Richard D. Hortizuela. (2022). Towards Web Equality: Efforts on Web Accessibility for Persons with Cognitive Disability. *International Journal of Research in Science & Engineering (IJRISE)* ISSN: 2394-8299, 2(03), 1–16. <https://doi.org/10.55529/ijrise.231.16>

Rina Wati, Novita Andriyani, & Tri Susilowati. (2022). Delivery Order Information System in Raya Family Restaurant Based On Android Application. *International Journal of Information*

Technology & Computer Engineering (IJITC) ISSN : 2455-5290, 2(03), 25–35.  
<https://doi.org/10.55529/ijitc23.25.35>

Romli, M. H., Tan, M. P., Mackenzie, L., Lovarini, M., Suttanon, P., & Clemson, L. (2017). Falls amongst Older People in Southeast Asia: A Scoping Review. In *Public Health* (Vol. 145, pp. 96–112). <https://doi.org/10.1016/j.puhe.2016.12.035>

Showkat Ahmad Dar, & Dr. Naseer Ahmad Lone. (2022). Make In India An Analytic Study of the Country's Technological shift for Transformation. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 2(04), 6–16. <https://doi.org/10.55529/ijitc.24.6.16>

Sri Ipinuwati, Andino Maselena, & Bastyan Dimas Prayoga. (2022). The Design of Goods Data Storage Application based on Android using Barcode Scanner. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 2(03), 1–12. <https://doi.org/10.55529/ijitc23.1.12>

Spanò, E. (2017). *Femina Academica: Women 'Confessing' Leadership in Higher Education*. *Gender and Education*, 32(3), 301–310. <https://doi.org/10.1080/09540253.2017.1336205>

S.Renukadevi. (2021). Switching Sequence Control 31-Level Asymmetric Cascaded of Reduced Switch Count Multilevel Inverter with Multi Carrier Pulse Width Modulation. *Journal of Image Processing and Intelligent Remote Sensing(JIPIRS)* ISSN 2815-0953, 1(02), 17–26. <https://doi.org/10.55529/jipirs.12.17.26>

Sukoco, B. M., Lestari, Y. D., Susanto, E., Nasution, R. A., & Usman, I. (2020). Middle Manager Capabilities and Organisational Performance: The Mediating Effect of Organisational Capacity for Change. *International Journal of Productivity and Performance Management*, 1–20. <https://doi.org/10.1108/IJPPM-07-2019-0364>

Taşçı, G., & Titrek, O. (2020). Evaluation of Lifelong Learning Centers in Higher Education: A Sustainable Leadership Perspective. *Sustainability*, 12(1), 1–18. <https://doi.org/10.3390/su12010022>

Thomas-Gregory, A., & Mercer, J. (2014). Investing in Our Education? Leading, Learning, Researching and the Doctorate. In *International Perspectives on Higher Education Research* (Vol. 13, pp. 213–232). <https://doi.org/10.1108/S1479-362820140000013010>

Vilkinas, T. (2014). Leadership Provided by Non-academic Middle-level Managers in the Australian Higher Education Sector: The Enablers. *Tertiary Education and Management*, 20(4), 320–338. <https://doi.org/10.1080/13583883.2014.966141>

Vivek Thoutam. (2021). An Overview on the Reference Model and Stages of Iot Architecture. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 1(01), 7–14. <https://doi.org/10.55529/ijitc.11.7.14>

Vivek Thoutam. (2021). Unique Security Challenges of Iot Devices and Spectrum of Security Considerations. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 1(01), 15–21. <https://doi.org/10.55529/ijitc.11.15.21>

Vivek Thoutam. (2021). A comprehensive review on communication enablers and Communication models of iot. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 1(02), 12–18. <https://doi.org/10.55529/ijitc.12.12.18>

V. Shavali, S.Anees fathima, & T.Reshma. (2022). Controlling and Scheduling of Homely Devices by Minimizing Power and Traffic Using IOT with Google Assistant. *International Journal of Information Technology & Computer Engineering (IJITC)* ISSN : 2455-5290, 2(02), 12–16. <https://doi.org/10.55529/ijitc.22.12.16>

Vuori, J. (2014). Enacting the Common Script: Management Ideas at Finnish Universities of Applied Sciences. *Educational Management Administration & Leadership*, 43(4), 646–660. <https://doi.org/10.1177/1741143214523016>

Webb, S., Holford, J., Hodge, S., Milana, M., & Waller, R. (2019). Conceptualising lifelong learning for sustainable development and education 2030. *International Journal of Lifelong Education*, 38(3), 237–240. <https://doi.org/10.1080/02601370.2019.1635353>

Wolverton, M., Ackerman, R., & Holt, S. (2005). Preparing for Leadership: What Academic Department Chairs Need to Know. *Journal of Higher Education Policy and Management*, 27(2), 227–238. <https://doi.org/10.1080/13600800500120126>

Wiki Widodo, Tri Susilowati, Widiyanto, & Andino Maseleno. (2022). Web-Based Sales Information System Of Sengon And Chocolate Seeds. *International Journal of Research in Science & Engineering (IJRISE)* ISSN: 2394-8299, 2(03), 26–47. <https://doi.org/10.55529/ijrise.2326.47>

Zairul, M. (2020). A Thematic Review on Student-Centred Learning in the Studio Education. *Journal of Critical Reviews*, 7(2), 504–511. <https://doi.org/10.31838/jcr.07.02.95>

Zairul, M. (2021). A Thematic Review on Industrialised Building System (IBS) Publications from 2015-2019: Analysis of Patterns and Trends for Future Studies of IBS in Malaysia. *Pertanika Journal of Social Sciences and Humanities*, 29(1), 635–652. <https://doi.org/10.47836/PJSSH.29.1.35>

Zairul, M. (2022). Opening the Pandora’s Box of Issues in the Industrialised Building System (ibs) in Malaysia: A Thematic Review. *Journal of Applied Science and Engineering (Taiwan)*, 25(2), 297–310. [https://doi.org/10.6180/jase.202204\\_25\(2\).0006](https://doi.org/10.6180/jase.202204_25(2).0006)

Zhou, X., & Milecka-Forrest, M. (2021). Two Groups Separated by a Shared Goal: How Academic Managers and Lecturers have Embraced the Introduction of Digital Technologies in UK Higher Education. *Research in Learning Technology*, 29, 1–18. <https://doi.org/10.25304/rlt.v29.2446>