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Unleashing the university potential: Exploring the impact of staffing autonomy on organizational performance through strategy implementation

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ABSTRACT

Drawing on the resource-based view, the current study examines the direct effect of staffing autonomy (SA) on strategy implementation (SI) and organisational performance (OP) in public and private universities. The study also investigates the direct effect of SI on OP. It further explores whether SI mediates the link between SA and OP. Moreover, the study examines whether the type of universities moderates the relationship among the constructs. The hypotheses were tested based on survey data from 254 leaders of public and private universities in India. PLS-SEM-based results reveal that SA has a significant positive impact on both SI and OP. Further, the results show that SI has a significant positive impact on OP. Besides, the results find that SI mediates the relationship between SA and OP. Furthermore, the multi-group analyses show that the university type has no moderating effect on the effect of SA on SI and OP, as well as on the impact of SI on OP. The results of the current study support the anticipations derived from a resource-based view. The theoretical and practical contributions are discussed, and limitations and new lines of future research are presented.

1. Introduction

University autonomy (UA) is a central value for any higher education system. It is an instrument that facilitates the academic excellence of universities in the long run. Further, UA allows the universities to have full potential in setting goals and objectives, deciding the administration policy, controlling budgets, and attracting capable staff without external interference (Shin et al., 2022). Estermann et al. (2011a) determine four dimensions of UA; one of the critical dimensions is SA, which, according to Choi (2019), refers to "the freedom to employ, promote, dismiss and set salaries for academic and administrative staff". It also implies the extent to which universities have power over employment terms (Dandira, 2011).

In the Indian higher education context, public universities are categorised into two categories: state and central universities. Soft guidelines instrument still directly influences public universities' human resource policies. The literature reports that public universities enjoy relatively moderate to high SA (Saint, 2009; Shin et al., 2022). This includes specifying vacant positions and making public announcements about vacant positions, setting up a selection committee, conducting interviews with candidates, and eventually announcing selected candidates (Varghese & Panigrahi, 2021). In comparison, private universities are categorised into two categories: private and deemed-to-be universities. The assessments of the level of SA reveal that private universities in India enjoy a complete SA (Angom, 2021; Datta & Saad, 2011).

However, the growing level of universities' autonomy has brought about new reasoning on how their staff can be managed better (Siekkinen et al., 2016). It is argued that high SA is a critical driver for optimising the universities' efficiency and effectiveness (Nedbalová et al., 2014; Nguyen & Van Gramberg, 2018; Nguyen, 2016). SA enables the universities to recruit competent and needed staff (Mai et al., 2022) who predominately engage in implementing formulated strategies of the universities in order to accomplish specific goals (Baruch, 2013) where the indicated strategies, in turn, positively affect the overall outcomes of these universities (Agasisti & Shibanova, 2022; Farrant & Afonso, 1997; Kupriyanova et al., 2020; Michavila & Martinez, 2018a). Therefore, SA can add value to the universities by allowing them to effectively implement the developed strategies in order to achieve superior OP (Ramírez & Tejada, 2018).

Generally, the debate of whether the autonomy of organisations

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improves OP is not a theoretical question, but it is entirely an empirical one (Voorn et al., 2022) based on studies that have theoretically addressed how important SA is for universities to achieve superior OP (Heinicke & Guenther, 2020; Marimon et al., 2009). However, limited empirical studies validated whether SA affects the OP in the context of Higher education institutes (HEIs) positively or not (Carvalho et al., 2022; Kupriyanova et al., 2020), specifically in developing countries like India. Therefore, this study investigates the impact of SA on OP in the context of public and private universities in India.

Despite the theoretical evidence that has proposed that SA may lead to the effective implementation of HEIs strategies (Estermann et al., 2009a) and leads to superior OP (Estermann et al., 2011b). Nonetheless, no previous studies have investigated the collective impact of SA and SI on OP. Furthermore, this study is among the first to propose that a mediator construct between SA and OP is crucial. Incorporating SI as a mediating factor between SA and OP is imperative, as it enriches our understanding of how SA empowers universities to have the competent staff required to implement their developed strategies effectively, which in turn are designed to optimise OP. Therefore, the current study aims to explore whether SI plays a mediating role in the link between SA and OP.

Although the literature shows that studies on SI and OP have been carried out in private sector and public agencies contexts (Andrews et al., 2017; Borrero et al., 2020; Elbanna et al., 2016; Naidoo & Wu, 2011; Ocak et al., 2022), there is highly scarce research in the HEIs context that has addressed how SI is related to the OP compared to strategy formulation (Egorov & Platonova, 2022; Jiang & Carpenter, 2013; Parakhina et al., 2017), particularly, in emerging and developing countries like India (Sawhney et al., 2020). Therefore, in an effort to fill the existing gap, this study investigates the effect of SI on OP in Indian public and private universities.

The current paper makes another contribution to the HEIs literature: the theoretical evidence states that SA and strategic practices concerning the university type vary (Papadimitriou, 2014). However, comparative studies between public and private universities have been scarce in the HEIs literature for the above relationships, and the variations stimulate the interest in investigating the moderating effect of university type on the mentioned-above relationships.

To fully address the gaps mentioned above, the researchers draw on the resource-based view (Barney, 1991) and combined arguments from strategic management and HRM literature to conceptualise and examine the current study's framework and examine it (Elbanna, 2013a; Lazarova et al., 2017). The crux of RBV is used to understand how public and private universities effectively implement the formulated strategies to improve their OP using human resources.

The current paper is divided into six sections, among which this is the first. The following section summarises the literature, including the discussion on the links between staffing autonomy, strategy implantation, and organisational performance. It provides reflections on public and private universities in India. Next, it presents the methodology of this study. The fifth section shows the data analysis and the findings. The sixth section offers the discussion obtained from the results. Finally, the last section provides the policy implications, contributions, and limitations.

2. Literature review

2.1. Study context

Although the Indian higher education system is regarded as one of the three most extensive systems in the world (Johnes et al., 2019; Kumar & Seranmadevi, 2020), there have not been many notable studies in this sector.

Universities in India have different statuses—they are categorised into two main groups: public and private universities. The first group comprises central and state universities. In contrast, the second group includes private and deemed-to-be universities (Sharma et al., 2022).

Generally, the higher education system in India is driven by the guidelines issued by regulatory authorities like the University Grants Commission (UGC). In both public-funded universities (by state/central) and private and deemed-to-be universities, HR management is generally guided by the recruitment guidelines to maintain minimum quality standards framed by the UGC (V. Kumar et al., 2022).

Although the UGC guidelines indicate that public and private universities must have autonomy in administrative staff recruitment (Kumar et al., 2022; Varghese & Panigrahi, 2021), perceived SA varies among different universities, and it establishes the context to study its impact on SI and OP– the research and the teaching performance – the two important indicators for a university.

2.2. Resource-based view perspective

The RBV is considered an impactful theoretical perspective (Sarwar et al., 2022) used to analyse the link between HR autonomy and performance (Lazarova et al., 2017). The RBV holds that the resources and capabilities of organisations are precious, scarce, difficult to replicate, and challenging to replace (Barney, 1991). More specifically, the RBV proposes that resources, including human capital and organisational capital resources (Grant, 1991; Sarwar et al., 2022), work together to produce organisational capabilities (Barney, 2001) for the purpose of implementing planned strategies that are designed mainly to enhance the performance of organisations (Priem & Butler, 2001).

Despite a considerable amount of literature using the RBV in HR autonomy-performance as well as strategy-performance research in the context of for-profit organisations, there is unexpectedly little research with robust theoretical support using the RBV in the HEIs sector. Drawing on the crux of RBV's theoretical assumptions, this study attempts to explore the effect of SA in facilitating effective SI to achieve superior OP.

2.3. Theoretical background and hypotheses development

2.3.1. Staffing autonomy and organizational performance

According to the Higher education literature, enhancing OP requires instruments such as autonomy (Kim & Cho, 2014; Rymarzak, 2018; Zahra & Jadoon, 2016). The primary objective of autonomy is to grant universities the ability to govern and manage their affairs independently, boosting efficiency and effectiveness (Agasisti & Shibanova, 2022; Heinicke & Guenther, 2020). Scholars assert, more specifically, that SA is one of the critical indicators for measuring organisations' autonomy (Voorn et al., 2022).

The relevant literature delineates the connection between the SA and universities' core outcomes: effectiveness and efficiency (Kupriyanova et al., 2020). According to Kupriyanova, the capacity of the universities to decide on the recruitment of academic staff plays a more critical role in their effectiveness. In contrast, their power to decide on administrative staff recruitment holds greater significance for efficiency. This argument lies in management professionalisation, where the existence of professional and competent academic and administrative staff suitable to engage effectively and efficiently in the university's core functions (Michavila & Martinez, 2018b), such as research and teaching, will eventually contribute to achieving the desired OP (Curaj et al., 2015).

Recently, there has been a prominent surge in the recruitment of highly qualified staff members by Indian public and private universities (Verma & Kaur, 2023). This is driven by the objective of strengthening their OP in order to secure high rankings by quality assurance agencies such as the National Assessment and Accreditation Council (NAAC) and University Grants Commission (UGC) and, in turn, boosting the images of these institutions (Rana & Kaur, 2023). This proved that SA is essential in enhancing the OP of Indian public and private universities and paved the way for promoting their overall standing and reputation within the academic setting.

Previous studies have attempted to explain SA and OP empirically

(Michavila & Martinez, 2018a). However, the evidence from empirical studies concerning their relationship is controversial. Since the effect of SA on OP has been either positive (Blom et al., 2022; Gurkov et al., 2017; Lazarova et al., 2017), negative (Kim & Cho, 2014), or no effect (Poór et al., 2020; Voorn et al., 2022).

However, most of these previous studies have been carried out in the context of subsidiaries of multinational companies. Only few studies have explored the effect of SA on the OP in the context of HEIs. For instance, a recent study by Carvalho et al. (2022) examined the effect of SA on performance. The results show that SA has a positive and significant impact on the performance of state HEIs in Bazile. In addition, Kupriyanova et al. (2020) found that among the dimensions of university autonomy, SA has the highest effect on the efficiency and effectiveness of some European universities. Depending on the above discussion, we develop the following hypothesis:

H1. Staffing autonomy has a significant and positive effect on Organisational performance.

2.3.2. *Staffing autonomy and strategy implementation*

SA refers to "the universities' freedom to recruit and set salary levels for academic and administrative staff" (Estermann et al., 2011b). SA is generally perceived as the extent to which a university can make decisions regarding defining the terms of recruiting, promoting, dismissing, and determining salaries for academic staff as well as administrative staff (Choi, 2019; Rymarzak, 2018) without external interference (Mai et al., 2022). This reflects that under a high level of SA, universities gain more power over human resources (Nokkala, 2009), where the human element is considered a vital component in implementing processes for all organisations' strategies (Tawse et al., 2023). According to Nathan (2010, p. 39), SI is "about getting an organisation's strategy as formulated accomplished through employees".

The effect of SA on SI can be characterised by two aspects. Firstly, SA empowers universities with strategic actor-hood capacity (Fındıklı, 2022) to adjust their human resource decisions with their strategies (Unger et al., 2020). This facilitates recruiting and retaining personnel with specific skills and expertise essential for ensuring the effective execution of their strategies (Shin et al., 2022). Secondly, SA significantly shapes the adaptability and responsiveness of universities to navigate dynamic environmental changes (Bugaian et al., 2016), fostering a culture of innovation and creativity within the workforce (Fındıklı, 2022). Consequently, such autonomy plays a pivotal role in advancing the allocation of resources to address emergent strategic challenges and ensure the effective and successful implementation of strategies (Górska et al., 2022).

Authors state that the absence or low level of SA can impede the capacity of universities to carry out their developed strategies effectively (Jiang & Carpenter, 2013; Ocak et al., 2022; Rahimnia Alashloo et al., 2005). For instance, universities with a low level of SA have no power to make decisions about recruitment, promotion, dismissal, and determining salaries; as a result, the universities may struggle to attract and retain the skilled academic and administrative staff that they need to achieve their goals and objectives (Estermann et al., 2009a). This can result in creating challenges to productivity in carrying out the designed strategies (Dandira, 2011).

The theoretical assumption in the higher education literature claims that when SA is high, universities can effectively align human resource practices with strategic objectives set in the strategy formulation stage (Jiang & Carpenter, 2013) by recruiting academic and administrative staff with the necessary capabilities and competencies, so that can lead to effective and successful SI, aiming to increase overall OP (Agasisti & Shibanova, 2022). Despite this theoretical assumption of the potential effect of SA on SI, no previous empirical studies have investigated this effect. Given the lack of existing literature on the subject of SA-SI relationships, this study highlights the importance of examining the impact of SA on the effective execution of strategies in Indian public and private universities. Considering the above studies, we argue that universities with greater SA can attract highly qualified staff, leading to effective strategy implementation. Thus, we can hypothesise that:

H2. Staffing autonomy has a positive and significant effect on Strategy implementation.

2.3.3. *Strategy implementation and organizational performance*

SI is widely acknowledged as the most influential and challenging component of strategic management due to its complex organisational process, which takes longer than strategy formulation (Parakhina et al., 2017; Thorpe & Morgan, 2007). Scholars reason that SI holds significant consequences, exceeding strategy formulation, as evidenced by the complexity involved, with most organisational objectives remaining unaccomplished (Greer et al., 2017). This indicates that achieving these objectives is critically linked to the effectively implemented strategies (Elbanna, 2013). SI refers to "the communication, interpretation, adoption, and enactment of strategic plans" (Noble, 1999). Kotler (2001, p. 36) defines SI as "the process that turns plans into action assignments and ensures that such assignments are executed in a manner that accomplishes the plan's stated objectives." This suggests that SI addresses issues connected to "how" to translate what was planned and considers the deadlines and availability of resources such as human, financial, and organisational capabilities (Andrews et al., 2017; Sanches et al., 2023). Moreover, developing appropriate strategies, projects, initiatives, systems, and performance indicators not only supports this translation but also forms the basis of successful SI, thereby improving the overall performance (Elbanna et al., 2016).

In the higher education context, effective SI has become an underlying OP driver of modern universities. John et al. (2009) explain that the effectiveness of a university's strategy solely relies on its implementation because, without appropriate implementation, the set strategy will negatively impact performance. Moreover, Shattock (2014) conclude that the practical implementation of a university's strategy leads to boosting productivity and quality of teaching and research, which generally contribute to improving the university's overall performance. Further, Shah and Nair (2011) highlight that effective SI could improve the OP of universities if managed effectively.

Despite the fact that limited attention has been paid to the SI and OP relationship in the context of HEIs, a sizable body of research conducted on private and public organisations has shown that SI influences OP positively (Borrero et al., 2020). For example, Andrews et al. (2017) found that the municipalities' SI significantly impacts the organisations' performance. Moreover, Sorooshian et al. (2010) reported that firms' SI practice has a significant and positive impact on performance. Based on the above literature, we hypothesise that:

H3. Strategy implementation has a significant and positive effect on Organisational performance.

2.3.4. *The mediation role of strategy implementation*

Pruvot and Estermann (2017) suggest that SA will leverage the universities' abilities to attract qualified and competent academics as well as administrative staff. Such qualified staff are directly responsible for implementing the formulated strategies of the universities (Hovdhaugen et al., 2013) for the purpose of improving OP (Kupriyanova et al., 2020). Therefore, it is stated that investing in staff is regarded as an essential factor in effective strategic planning since it ensures superior permanence (Dehaghi & Rohani, 2022). Conversely, in the absence of SA, the ability of universities to put plans into action with the aim of enhancing the productivity and effectiveness of universities (Erçetin & Fındık, 2018) will be diminished by a lack of employees' capabilities (Jiang & Carpenter, 2013).

Following RBV theory, we propose that a high level of SA shapes effective SI, and, in turn, effective SI is the antecedent to OP. In other words, when SA is high, universities can effectively implement their strategies with qualified human resources. As a result, OP will be improved, "SI can be considered as a mediator."

From an empirical point of view, a considerable lack of studies

examined the assumption that SI mediates the link between SA and the OP of universities. Only one single study on autonomy strategies modes and performance relationships was found (Brock, 1997). The author found that prospector strategies are positively linked to superior OP when coinciding with a high autonomy level. Given the above discussion, we hypothesise that:

H4. Staffing autonomy has an indirect positive effect on Organisational performance through Strategy implementation.

2.3.5. The moderating effect of university type

Researchers have underlined the variations between public and private universities in regulatory settings concerning human resources (Bernasconi, 2006; Jalal & Khaksari, 2019). Generally, the recruiting, promotion, dismissal, and salary structures for the employees of public universities are commonly determined through government-established guidelines (Rana & Kaur, 2023). Consequently, public universities may face constraints. In contrast, private universities enjoy more freedom and flexibility in forming hiring and dismissing criteria, deciding promotion protocols, and determining salary structures (Verma & Kaur, 2023). Accordingly, private universities have a more market-driven system, which allows them to attract talented staff.

Empirically, the results from a study by Taamneh et al. (2021) indicate that the freedom of public universities concerning HRM tends to manifest a low level of power compared to private universities.

In the Indian higher education context, despite the government rules and regulations that focus on ensuring quality aspects, private universities generally adopt the human resource management style of the private sector. They can decide on the HRM system, including recruiting, promoting, dismissing, and salary structures for staff at academic and administrative levels (Joshi, 2015). In contrast, Indian public universities receive government funds, so they are subject to government rules and regulations that are set also to guarantee attaining quality standards (Chattopadhyay, 2023). As a result, any committees assigned to recruiting public university staff must include a representative from the government to ensure adherence to these quality measures.

The missions of public universities typically align with public interest and welfare by addressing societal needs (Teixeira & Amaral, 2001). Therefore, they prioritise accessibility, affordability and Self-promotion while developing, implementing and evaluating their strategies (Maklad, 2011). Conversely, the missions of private universities suit private interests in place of the public (Jalal & Khaksari, 2019). They depend mainly on students' tuition fees, philanthropy, and endowments. Therefore, the process of developing, implementing and evaluating their strategies focuses on financial sustainability and competitiveness (Bhushan, 2019).

Studies have stressed different preferences in teaching and research outcomes between private and public universities (Olaskoaga-Larrauri et al., 2022). On the contrary, others reported that private and public universities produce similar teaching and research outcomes (Feeney & Welch, 2012). The emergence of these contradictions may be attributed to the inherent nature of HEIs and the diverse methodologies used in evaluating teaching and research outcomes in these universities. In the Indian higher education context, Loganathan and Subrahmanya (2022) reported differences between public and private universities. Their data suggest that public universities are research-oriented. Contrarily, private universities are graduation-oriented. Based on the above discussion, we can hypothesise the following:

H5. There is a significant difference between the direct effect of Staffing autonomy on Organisational performance between public and private universities.

H6. There is a significant difference between the direct effect of Staffing autonomy on Strategy implementation between public and private universities.

H7. There is a significant difference between the direct effect of Strategy implementation on Organisational performance between public and private universities.

Table 1
Respondents' Profile.

Variable	Category	Frequency	Percentage
Gender	Male	204	80.3
	Female	50	19.7
Years of Experience	10 - 15 years	25	09.8
	More than 15 years	229	90.2
Administrative Role	Pro-V.C	1	0.40
	Registrar	2	0.80
	Dean	86	33.9
	Assistant Dean	26	10.2
	Director	15	5.9
	HOD	124	48.8
Designation	Professor	214	84.3
	Associate Professor	29	11.4
	Assistant Professor	11	4.3
	Total	254	100.0

3. Methodology

3.1. Sampling and data collection

The present study adopted a self-administered survey to collect the data from the target participants. The participants were leaders of public and private universities in India. Non-probability purposive sampling technique was employed to collect data from the most relevant leaders to respond to the survey. This sampling method is more efficient than other methods because it allows the researchers to select participants having the necessary knowledge, expertise, or experience to provide more relevant and meaningful data (Patton, 2002; Willig, 2001). That being the case, we carefully selected appropriate participants from management, academic, and planning councils of the public and private universities to provide the needed information about the research questions. Accordingly, one key participant was considered sufficient to answer the questionnaire because he/she was qualified to evaluate the study's relationships with high accuracy and reliability.

3.2. The response rate and respondents' profile

The questionnaire was sent to 550 participants through email with a cover letter that included a link and introductory information about the survey and its questions; out of which 254 questionnaires were received. The response rate was 46.00 %. Table 1 shows the profile of the respondents, where it was found that the majority of the respondents were males (80.5 %). In addition, most of the respondents had more than 15 years of experience. Moreover, most of them held the position of HOD (48.61), followed by deans (34.26). Finally, the majority of the respondents' designation was professors (84.9 %).

3.3. Common method bias and non-response bias

3.3.1. Common method bias (CMB)

Common method bias (CMB) is an issue in social research studies using cross-sectional self-reported questionnaires (Podsakoff et al., 2003). Harman's single-factor test was used to detect the potential of CMB statistically. The results obtained from the unrotated principal component factor show that the first factor explains 38.52 of the total variance, which is below the maximum critical value of 0.50. Thus, CMB is not an issue in the present study.

In addition, the full collinearity test was used to test the probability of CMB in the PLS model analysis (Kock & Lynn, 2012). The values of the variance inflation factor (VIF) for constructs of the model, namely SA, SI and OP, are 1.319, 1.244 and 1.339, respectively. The results of VIF values of the model's constructs were below the cut-off value of 3.3, suggesting CMB is not an issue in the model of the current study (Kock & Lynn, 2012).

Table 2
The convergent validity of the model's constructs.

Coding	Statements	Loading
Staffing Autonomy (α= 0.917, ω= 0.971., CR=0.941, rho-*A* = 0.925, AVE=0.799)		
SA1	Our university has the capacity to decide on recruitment procedures (senior academic/senior administrative staff).	0.895
SA2	Our university has the capacity to decide on salaries (senior academic/ senior administrative staff).	0.884
SA3	Our university has the capacity to decide on dismissals (senior academic/senior administrative staff).	0.898
SA4	Our university has the capacity to decide on promotions (senior academic/senior administrative staff).	0.899
Strategy Implementation (α = 0.857, ω = 0.860., CR= 0.898, rho-*A* = 0.874, AVE=0.638)		
SI1	Our university develops specific initiatives and projects to put our strategic plan into action	0.845
SI2	The annual budget of our university strongly supports the objectives and priorities established in the strategic plan	0.766
SI3	Annual evaluations of top, middle and lower managers are based largely on their contribution to the successful accomplishment of strategic objectives	0.681
SI4	To keep in line with our business environment, we make continual small-scale changes to our strategy	0.868
SI5	Communicate to employees when and how the strategies will be carried out	0.820
Organizational Performance (α = 0.916, ω = 0.916, CR= 0.930, rho-*A* = 0.923, AVE=0.570)		
OP1	The number of research publications (including journal papers, conference papers, books, and monographs) conducted by our university presently and in the last three years has been	0.791
OP2	The number of research projects obtained by our university presently and in the last three years has been	0.780
OP 3	The percentage of our university's faculty attending conferences and seminars presently and in the last three years has been	0.813
OP 4	The average number of research projects undertaken by our university to address local needs in the last three-year period has been	0.805
OP5	The percentage of faculty on policy-making boards or committees presently and in the last three years has been	0.702
OP6	The participation of our university in the curriculum development of other HEIs in the last three-year period has been	0.726
OP7	The number of our university's faculty members who receive awards for teaching presently and in the last three years has been	0.747
OP8	The average subjects per course offered by our university in the last three-year period have been	0.667
OP9	The number of new courses offered by our university in the last three-year period has been	0.766
OP10	The number of courses incorporating new technology introduced by our university presently and in the last three years has been	0742

Notes: α – Cronbach's α; ω-McDonald's omega ω; Dijkstra and Hensler's rho_A – rho_A; CR– composite reliability; AVE – average variance extracted

3.3.2. Non-response bias

Non-response bias is a concern in self-reported surveys (Ramke et al., 2018). The non-response bias is assessed using the independent-sample *t*-test (Armstrong & Overton, 1977) to define if early and late respondents answered the study's survey in the same pattern (Lindner et al., 2001). The results showed no statistical difference at the significance level of 0.05 between early and late respondents. This implies that there is no severe concern regarding non-response bias.

3.3.3. Measurement instrument

We conducted an extensive literature review to identify and use already validated scales in previous studies. A five-point Likert scale ranging from 1 = "strongly disagree" to 5 = "strongly agree" was used to measure SA and SI, while a five-point Likert scale ranging from 1 = "poor" to 5 = "outstanding" was used to measure the OP construct.

SA was measured using four items adapted from Pruvot and Estermann (2017). SA scale comprises four indicators: the ability of universities to decide on (1) the recruitment procedures, (2) the salary, (3) the dismissal, and (4) the promotion of faculty and staff.

SI was tested using a five-item scale extracted from Elbanna (2013b), Bailey et al. (2000), Ogunmokun et al. (2005). SI scale focuses on putting the formulated strategies into action by (1) developing initiatives and projects, (2) establishing an annual budget supporting the objectives of strategies, (3) evaluating all levels of management based on the accomplishment of strategic objectives, (4) making continual changes to strategy, and (5) Communicate to employees when and how the strategies will be carried out.

A ten-item scale was adopted from Asif and Searcy (2014), Cameron (1978), and Chen et al. (2009) to measure OP. The OP is a unidimensional construct, and its indicators focus on teaching, research and service aspects. The details of the three constructs' items are provided in Table 2.

4. Data analysis

The data of this study were analysed using partial least square structural equation modeling (PLS-SEM) through SmartPLS version 4 (Ringle et al., 2022). This software is increasingly being applied because it has a user-friendly graphical interface that marks a significant advancement in latent constructs modelling through the PLS-SEM technique (Hair et al., 2021a) and co-variance-based structural equation modeling (CB-SEM). As highlighted by Hair et al. (2019a, p. 5), PLS-SEM was considered suitable over the CB-SEM technique for this study for the following reasons. First, this study aims to test its theoretical framework from a prediction point of view in order to predict the causal links between SA-OP, SA-SI and SI-OP, contrary to CB-SEM, which is designed specifically for testing and confirming existing theory. Second, the sample size is small because the population is restricted to key respondents who have the knowledge to answer the questions of this study, unlike CB-SEM, which works only with large sample sizes. Third, the collected data is based on the Likert scale, introducing non-normality (Sarstedt et al., 2014). Consequently, PLS-SEM was considered more suitable, in contrast to CB-SEM, which requires the data to be normally distributed.

These considerations formed the ground for adopting PLS-SEM as this study's primary data analysis technique. The PLS-SEM statistical analysis was carried out in four sequential steps. First, the measurement model was assessed to ensure the reliability and validity of this study's constructs. This step preceded testing the structural model since the structural model cannot be established if the measures are inconsistent or invalid. Second, the structural model was analysed to estimate the hypotheses of this study. Third, a Multi-Group Analysis (MGA) was conducted using Bootstrap MGA techniques to compare groups and identify significant differences. Finally, $PLS_{predict}$ was carried out to assess the predictive power of this study's model (Hair et al., 2021b, p. 14; Shmueli et al., 2019).

5. Results

5.1. Assessment of the measurement model

In order to ensure the reliability and validity of the study's model, convergent reliability and discriminant validity were assessed using Standard assessment criteria (Hair et al., 2019a).

5.1.1. Assessment of convergent reliability

The convergent reliability of this study's constructs was assessed using factor loadings, MacDonald omega (ω), Cronbach's alpha (α), composite reliability (CR), Dijkstra and Henseler's (2015) rho_A (rho_A) and Average Variance Extracted (AVE). As seen in Table 2, first, the results reveal that all the items' factor loadings are above the minimum recommended threshold value of 0.5 (Hair et al., 2019b). Second, all constructs' values of α, CR and rho_A are above the cut-off value of 0.70 (Henseler et al., 2015a). Third, the values of ω of all constructs are

Table 3
Cross loading.

No	Constructs	Items	1	2	3
1	Staffing Autonomy	SA1	**0.895**	0.392	0.399
		SA2	**0.884**	0.345	0.424
		SA3	**0.898**	0.323	0.358
		SA4	**0.899**	0.429	0.477
2	Strategy Implementation	SI1	0.417	**0.845**	0.381
		SI2	0.238	**0.766**	0.347
		SI3	0.277	**0.681**	0.312
		SI4	0.383	**0.868**	0.437
		SI5	0.332	**0.820**	0.332
3	Organisational Performance	OP1	0.455	0.434	**0.791**
		OP2	0.383	0.408	**0.780**
		OP3	0.413	0.400	**0.813**
		OP4	0.262	0.275	**0.805**
		OP5	0.283	0.326	**0.702**
		OP6	0.321	0.317	**0.726**
		OP7	0.340	0.263	**0.747**
		OP8	0.343	0.297	**0.667**
		OP9	0.350	0.365	**0.766**
		OP10	0.313	0.286	**0.742**

Table 4
Fornell & larcker criteria.

No	Constructs	1	2	3
1	Staffing Autonomy	0.894		
2	Strategy Implementation	0.421	0.799	
3	Organisational Performance	0.468	0.457	

Table 5
HTMT ratio.

No	Constructs	1	2	3
1	Staffing Autonomy			
2	Strategy Implementation	0.462		
3	Organisational Performance	0.495	0.501	

higher than the threshold value of 0.70 (Hayes & Coutts, 2020). Finally, the AVE values of the three constructs are higher than the critical value of 0.50 (Hair et al., 2019b). This indicates that the reliability and validity of this study's constructs are established.

5.1.2. Assessment of discriminant validity

The discriminant validity of the study's constructs was assessed using the standard criteria; Cross-loadings, (Fornell & Larcker 1981) criterion, and Heterotrait-Monotrait (HTMT) ratio. As shown in Table 3, the cross-loading results show that each construct's indicators load higher in their parent construct and low in the other construct indicating item-level discriminant validity has been established in this study's model (Hair et al., 2019b). Moreover, as seen in Table 4, the Fornell & Larcker criterion showed that the square root of the AVE value exhibited on the diagonal values for each construct is greater than its correlation with other constructs, implying construct-level discriminant validity has been established in this study's model (Fornell & Larcker, 1981).

Table 7
Multigroup analysis.

Hypo	Path	Difference (Public- Private Universities)	p-value	Decision
H5	SA -> OP	0.008	0.956	Not Supported
H6	SA -> SI	0.245	0.065	Not Supported
H7	SI -> OP	−0.095	0.556	Not Supported

Note: Staffing Autonomy, SA; Strategy Implementation, SI; Organizational Performance, OP

Eventually, as presented in Table 5, the HTMT values for all constructs are less than the critical value of 0.85, indicating that construct-level discriminant validity has been established in this study's model (Henseler et al., 2015b). Based on the results of the three mentioned-above metrics, it can be concluded that the discriminant validity was established.

5.2. Assessment of the structural model

After establishing the convergent reliability and discriminant validity, the structural model was assessed to test the significance and relevance of the path coefficient (testing hypotheses), the coefficient determination (R^2), the predictive relevance (Q^2), the out-of-sample predictive power of this study's model (Hair et al., 2019b; Shmueli et al., 2016).

5.2.1. Hypotheses testing

The bootstrapping procedure with 10,000 subsamples was conducted to test the study's hypotheses. As seen in Table 6, the findings show that SA has a positive and significant effect on op, corroborating H1 (β 0.335, t-value 4.773, $p < 0.000$, CI [0.190–0.467]). Similarly, SA was found to have a positive and significant effect on SI (β 0.421, t-value 6.605, $p < 0.000$, CI [0.300–0.548]). Hence, H2 is supported. The results also reveal that SI was found to have a positive and significant effect on OP (β 0.361, t-value 3.911, $p < 0.000$, CI [0.165–0.480]). Therefore, H3 is supported.

5.2.2. Mediation analysis

The mediating effect of SI on the SA and OP relationship was assessed. In this study, the indirect effect of SA on OP was used in line with (Zhao et al., 2010) recommendations. As seen in Table 6, it is observed that SA has a positive and significant indirect effect on OP through SI (β 0.133, t-value 2.937, $p < 0.003$, CI [0.062–0.236]). This indicates that SI has a complementary partial mediating effect (Hair et al., 2021b) on the relationship between SA and OP, as the direct effect of SA on OP is positively significant (see Table 6). Hence, H4 is supported.

5.2.3. Multigroup analysis (MGA)

Given the findings that both the direct and the indirect relationships between SA, SI, and OP, we also investigated whether the direct links between SA-OP, SA-SI, and SI-OP were moderated by the type of

Table 6
The structural model's outcomes.

Hypo	Path	β	SD	t-value	p-value	CI		Decision
						2.50 %	97.50 %	
Direct effects								
H1	SA -> AP	0.335	0.070	4.773	0.000	0.190	0.467	Supported
H2	SA -> SI	0.421	0.064	6.605	0.000	0.300	0.548	Supported
H3	SI -> AP	0.316	0.081	3.911	0.000	0.165	0.480	Supported
Indirect effects								
H4	SA ->SI->AP	0.133	0.045	2.937	0.003	0.062	0.236	Supported

Table 8
The explanatory power of the study's model.

Constructs	R^2	R^2 adjusted	Q^2
Organisational performance	0.301	0.296	0.301

Table 9
The predictive power of the structural model.

Items	Q^2predict	MAE		PLS-SEM-LM
		PLS-SEM	LM	
OP1	0.192	0.467	0.485	−0.018
OP 2	0.139	0.629	0.639	−0.010
OP 3	0.164	0.552	0.560	−0.008
OP 4	0.049	0.748	0.751	−0.002
OP 5	0.074	0.760	0.750	0.010
OP 6	0.098	0.672	0.653	0.019
OP 7	0.111	0.736	0.740	−0.004
OP 8	0.111	0.564	0.574	−0.010
OP 9	0.116	0.679	0.675	0.004
OP 10	0.092	0.646	0.646	0.000

university.

In doing that, multi-group analysis (MGA) was conducted using the bootstrapping procedure using 5000 subsamples. The results (see Table 7) showed no significant difference between public and private universities regarding the effect of SA on OP. Hence, H5 is not supported. Moreover, the results reveal no significant difference between public and private universities concerning the effect of SA on SI. Thus, H6 is not supported. In addition, the results reveal no significant difference between public and private universities regarding the effect of SI on OP. Hence, H7 is not supported. The MGA outcomes are outlined in Table 7.

5.2.4. The assessment of the model's explanatory power

The in-sample explanatory power of this study's model was assessed using standard assessment criteria, which are coefficient of determination (R^2) and cross-validated redundancy measure (Q^2) values of the endogenous construct (OP) (Hair et al., 2019c).

As a rule of thumb, R^2 values of 0.25, 0.50 and 0.75 can be regarded as weak, moderate, and substantial (Henseler et al., 2015a). As seen in Table 8, the R^2 value of the dependent construct (OP) is 0.301, indicating a weak explanatory power of this study's model.

As a guideline, Q^2 values greater than 0.50, 0.25 and 0.0 depict large, medium, and small predictive relevance of this study's model (Henseler et al., 2009). As shown in Table 8, the Q^2 value of OP is 0.301, suggesting medium predictive relevance of this study's model.

5.2.5. The assessment of the model's predictive power

The study's model out of sample predictive power was evaluated by the $PLS_{predict}$ procedure with 10 folds ($k = 10$) and 10 repetitions in order to meet the minimum sample size requirements of this study's model as recommended by Shmueli et al. (2019). It was found that $Q^2_{predict}$ values are higher than zero, indicating that the model has predictive power; following researchers should compare the PLS-SEM analysis error with the naïve linear regression model (LM) benchmark.

Following the guidelines provided by (Shmueli et al., 2019), we used Mean Absolute Error (MAE) prediction statistic to quantify the model's prediction error because the prediction error distribution was nonsymmetric. As seen in Table 9, it was found that the majority of indicators' MAE values of PLS-SEM analysis have lower prediction errors compared to the naïve LM benchmark. This indicates that the model has moderate to high predictive power.

6. Discussion

The current study builds on a resource-based view to investigate the level of SA and its effect on SI and OP. Moreover, it explored whether SI has a mediating effect on the link between SA and OP. Besides, it further analysed the moderating role of university type on the relationships between SA-OP, SA-SI, and SI-OP.

The evidence found that SA has a significant positive effect on OP. This corroborates previous studies finding that a high level of SA leads to superior performance (Carvalho et al., 2022; Kupriyanova et al., 2020). Furthermore, the evidence of this study indicated that SA has a significant positive effect on SI. This confirmed the theoretical claims that SA helps universities execute their strategies effectively by aligning hiring employees with formulated strategies (Estermann et al., 2009b; Jiang & Carpenter, 2013). The evidence also revealed that OP is positively affected by SI. This evidence is consistent with (Borrero et al., 2020; Sorooshian et al., 2010), who found that improving OP highly depends on effective strategies implementation.

The results of the mediating analysis showed that SI partially mediates the effect of SA on OP. This finding is congruent with the view of Pruvot and Estermann (2017), who claim that when universities are granted autonomy concerning hiring, promoting, dismissing, and setting salaries of academic and administrative personnel, they can effectively implement their strategies, and as a result, achieving better performance.

Surprisingly, the study MGA results revealed no notable variations between public and private universities concerning the relationships between SA-OP, SA-SI, and SI-OP. Although the moderating effect of university type on the link between SI and OP was found insignificant, its effect on OP is more significant for private universities. This demonstrates that the type of university was not affecting the relationships mentioned above. The following sections discuss the research implications and theoretical and practical contributions of the findings mentioned above, followed by limitations of the current study and suggestions for new lines of future research.

7. Theoretical contribution

The current study contributes five distinct contributions to the existing HEIs literature. First, it addressed the lacking and fragmenting theoretical clarity on the link between SA and OP by empirically confirming that SA positively affects universities' OP. Second, to date, the existing HEIs literature has not offered evidence on the effect of SA on SI and whether SI serves as a critical factor mediating the link between SA and OP. Hence, to address the mentioned gap, the current study empirically supports the claim that universities with a high level of SA can help them implement strategies effectively and, in turn, improve overall performance. In other words, SI is a significant factor that mediates the SA-OP relationship. Third, the current study extends HEIs literature and adds fresh empirical insights about the effect of SI on OP in public and private universities in the Indian context. Last, this study expands the resource-based view of organisations by revealing the effect of SA on SI and OP.

8. Practical implications

Besides the current study's theoretical contributions, it offers fruitful implications for HEIs. First, the results suggest that granting total SA to universities to recruit competent academic and administrative staff is associated with effective SI and superior OP because those qualified staff are directly responsible for executing the initiatives and projects of the strategies. The results also show how SI acts as the mediator between SA and OP of the universities, where providing SA can assist universities in carrying out strategies successfully, which, in turn, leads to achieving OP by benefiting from having qualified staff. Last, the results indicate that universities can gain the advantages of planned SI to improve their

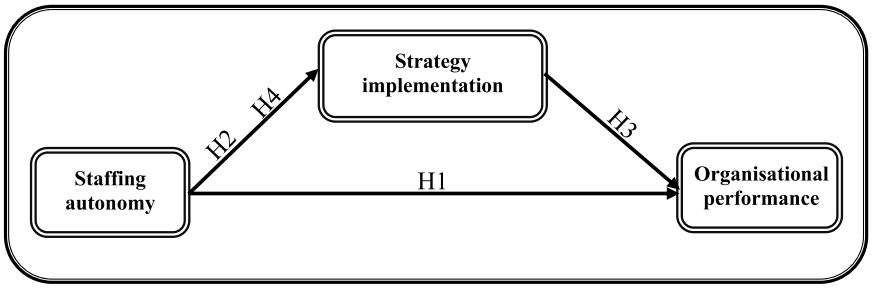

Fig. 1. The conceptual framework.

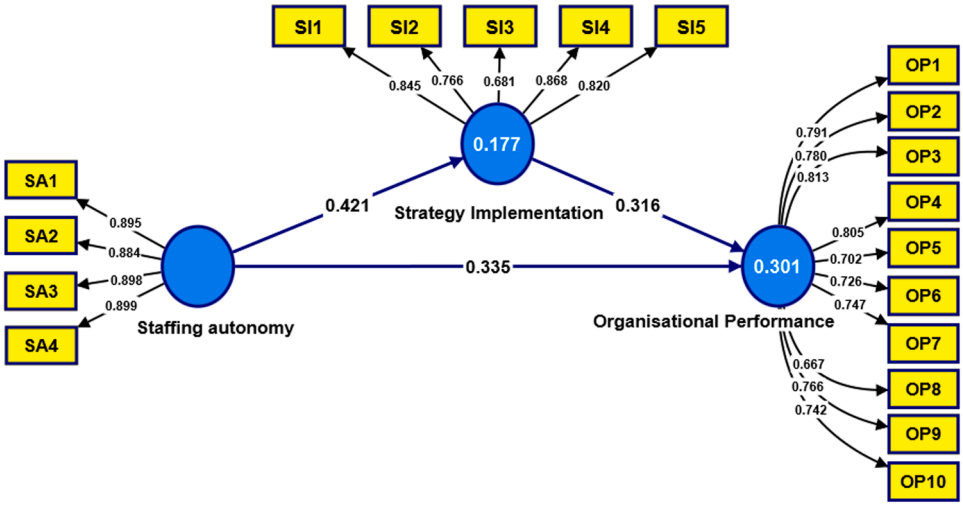

Fig. 2. The measurement model (PLS Algorithm).

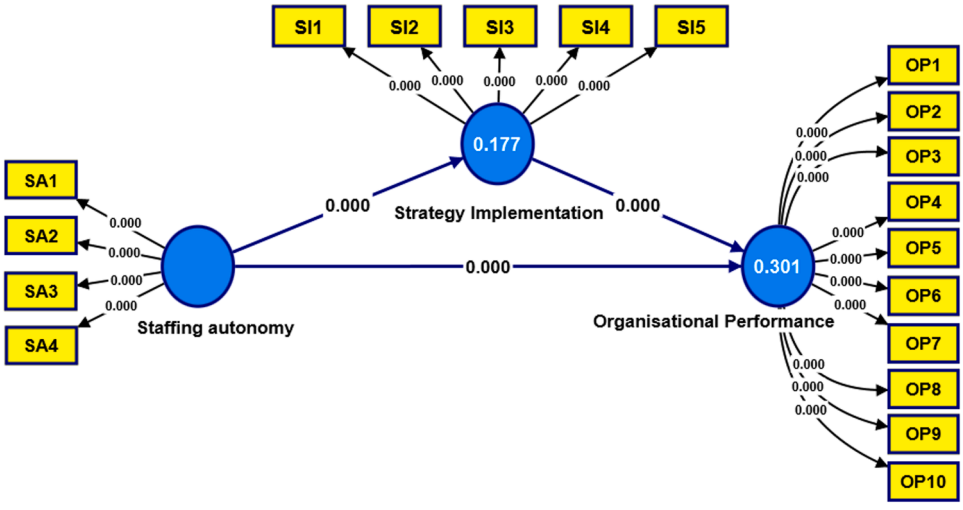

Fig. 3. Structural model (PLS-SEM Bootstrapping).

OP. Hence, universities are advised to focus on implementing the set strategy because the higher risk of strategy failure is attributed to the poor execution of the formulated strategy.

9. Limitations and scope for further studies

Despite the contributions of the current study, some limitations still exist that may present new lines for future studies. This study focused only on SA as the independent variable and SI as a mediator. Future studies should include other dimensions of UA, such as academic, organisational, and financial autonomy. Also, future studies should include other components of strategic planning, like strategy formulation and strategy evaluation, to bring in a more comprehensive understanding of the university autonomy-strategic planning relationship. Second, this study focused on non-financial aspects of measuring OP. Future studies should address the financial indicators of OP. Third, the current study has investigated the effect of SA on SI and OP within the context of Indian universities. Future research should test the study

model in different contexts. Last, this study relied on cross-sectional techniques to collect data, which may lead to possible common method bias and limit its results. Therefore, future research shall use a longitudinal design to validate and understand the proposed model (Figs. 1–3).

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CRediT authorship contribution statement

Abdullah Yahia Al Gharsi: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Software, Writing – original draft, Writing – review & editing. **Fozi Ali Belhaj:** Conceptualization, Funding acquisition, Methodology, Project administration, Resources, Writing – review & editing. **R Nirmala:** Conceptualization, Methodology, Supervision, Writing – original draft, Writing – review & editing. **Fuad Ahmed Alhada:** Conceptualization, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no conflict of interest. The authors confirm that the ideas expressed in the submitted article are their own and not those of an official position of the institution or funder.

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