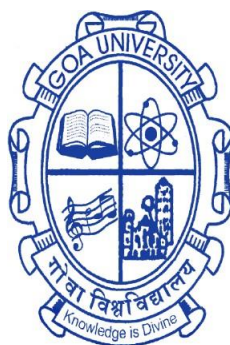


“University Autonomy and its impact on Universities’ Organizational Performance: The mediating role of Strategic Management”

A Thesis submitted in partial fulfillment for the Degree of

DOCTOR OF PHILOSOPHY

**In Goa Business School
GOA UNIVERSITY**



By

ABDULLAH YAHIA ABDULLAH AL GHARSI

**Goa Business School, Goa University
Goa**

October 2024

Abstract

University autonomy (UA) is critically vital for universities on a global scale, as it empowers them to thrive in academic excellence and foster innovation while preserving intellectual freedom.

Building on the resource-based view theory (RBV), this research study aims to examine UA and its key influential dimensions in improving organisational performance (OP) and facilitating effective Strategic management practices (SM) in Indian universities.

This study's conceptual framework and hypotheses were investigated by a questionnaire survey through both pick-up and drop-off and email techniques conducted in Indian universities.

Data were obtained from 232 Deans of schools and the heads of departments in Indian universities. A total response rate of 43.4% was recorded. Partial Least Square Structural Equation Modelling (PLS-SEM) was used in order to analyse the data through SmartPLS 4. The findings of this study showed that UA as a unidimensional construct has a significant, direct, and positive on OP. Moreover, the results revealed that organisational and financial autonomy have no effect on OP. Conversely, the results indicated that academic and staffing autonomy have a significant, direct, and positive on OP.

The findings also showed that UA as a unidimensional construct has a significant, direct, and positive on SM. Moreover, the results indicated that organisational, academic, and staffing autonomy have a significant, direct, and positive impact on SM. Conversely, the results revealed that financial autonomy has no effect on SM.

The findings further indicated that SM as a unidimensional construct has a significant, direct, and positive on OP. Moreover, the results revealed that all its components, namely strategic planning, strategy formalisation, strategy implementation, and strategy evaluation, have a significant, direct, and positive on OP.

The findings additionally demonstrated that SM has a mediating effect on the link between UA as a unidimensional construct and OP. Moreover, the results revealed that SM mediates the link between organisational and staffing autonomy and OP. Conversely, the results revealed that SM has no mediating effect between financial autonomy and academic autonomy and OP.

The study contributed to the higher education literature in two ways. First, the study contributed to the RBV theory by testing its assumptions and confirming that UA has a significant direct and positive effect on both OP and SM practices of universities. It also confirmed that SM has a significant direct and positive effect on OP. Second, the study contributed to the theory by extending the theory by investigating the mediating effect of SM in the link between UA and OP, in which it was observed that SM has a mediating effect in the relationship between UA and OP.

This study guides policymakers of higher education and leaders of Indian universities. They must enhance the level of UA for facilitating effective SM practices, which, in turn, leads to improving the overall OP of Indian universities.

Keywords: university autonomy, strategic management, organisational performance, Indian universities.

DECLARATION

I, Abdullah Yahia Abdullah Al Gharsi, hereby declare that this thesis represents work which has been carried out by me and that it has not been submitted, either in part or full, to any other University or Institution for the award of any research degree.

Place: Taleigao Plateau.

Abdullah Yahia Abdullah Al Gharsi

Date:

Name of the candidate

CERTIFICATE

I hereby certify that the work was carried out under my supervision and may be placed for evaluation.

Dr. R Nirmala

Name of the guide

Acknowledgement

Above all else, I praise my gratitude to **Allah**, the Almighty, for blessing me with the opportunity and empowering me with the capability, strength, and determination to complete my thesis successfully.

I would like to sincerely thank my supervisor, Dr R Nirmala, for her priceless humane, patient, and academic support. This thesis could only have been completed because of her limitless help.

Also, I express my sincere appreciation to the Department Research Committee (DRC) members, Prof Mukhopadhyay Pranab and DR Khanapuri Harip, for their invaluable insight and guidance during my research journey.

I want to extend my thanks and appreciation to the academic staff and the team of the research degree programme at Goa Business School, Prof. Purva, Prof. Nilesh and Prof. Dayanand.

I sincerely thank my closest friend, Dr Mugaahed, for his immense academic support and professional advice.

I extend my sincere gratitude to Prof. Neeraj Kaushik for his invaluable academic support and professional guidance not only for me but for all academic community.

I am also grateful to my loving wife, Nasrah, and our children, Aiham and Reham, throughout this endeavour for their unwavering support. They were there for me, and all their encouragement and understanding were strongly instrumental in completing this work.

Dedication

***In the name of Allah, the most Beneficent, the most Merciful this work is
dedicated to***

My father, Yahia Abdullah Al Gharsi, who left us many years ago, yet his principles, wisdom, and love remain my guiding light.

My precious mother, Habibah, whose unwavering sacrifices and encouragement have been the cornerstone of my educational journey.

My beloved wife, Nasrah, whose unfailing love, sacrifice, support and patience have been the bedrock of my academic journey.

My dear son and daughter, Aiham and Reham, are the bright stars in the sky of my presence. I dedicate my study to inspiring and motivating you to reach for the highest levels of knowledge and wisdom.

My dearest brother, Prof. Dr. Ali, whose constant spiritual and financial support has been instrumental in my academic quest, I owe you a profound gratitude.

My brother Abdulillah and three sisters, Arwa, Rajaa, and Musk, whose love, support, and shared values have enriched my life in countless ways.

My brother-in-law, Dr. Faud, who played a crucial role in initiating my academic journey, and your confidence in my potential has been a pillar of my educational aspirations.

To my beloved brother-in-law, Honorable Judge Hameed, a martyr of justice. We grew up together, sharing dreams and aspirations. Your unwavering commitment to upholding the law and selfless sacrifice inspires me every day. This work is a small tribute to your memory.

May Allah bless them all

Table of Contents

1	Chapter 1: Introduction	1
1.1	Introduction	1
1.2	Background of the study: Indian higher education system	1
1.2.1	<i>The historical roots and growth of Indian universities.....</i>	<i>1</i>
1.2.2	<i>Types of Indian Universities</i>	<i>5</i>
1.2.3	<i>key challenges faced by Indian universities.....</i>	<i>7</i>
1.3	Statement of the Research Problem	10
1.4	Research Gap.....	47
1.5	Significance of the Study	11
1.6	Research aim	12
1.7	Research Objectives	12
1.8	Research Questions	13
1.9	Research Scope	13
1.10	The Study Structure	14
1.11	Chapter Summary	15
2	Chapter 2: The Literature Review	16
2.1	Introduction	16
2.2	University Autonomy	16

2.2.1	<i>University Autonomy Definition</i>	18
2.2.2	<i>University Autonomy Dimensions.....</i>	18
2.2.3	<i>University autonomy in Indian Universities context.....</i>	23
2.3	Strategic Management.....	24
2.3.1	<i>An Overview of the Historical Development of Strategic Management</i>	26
2.3.2	<i>The Benefits of Strategic Management</i>	28
2.3.3	<i>Overview of Strategic Management in Higher Education</i>	29
2.3.4	<i>Overview of Strategic Management in Indian Higher Education</i>	30
2.3.5	<i>Positive Aspects of Strategic Management for Higher Education.....</i>	31
2.3.6	<i>Factors related to successful Strategic management in Higher Education.....</i>	32
2.3.7	<i>The definition of strategic management.....</i>	34
2.3.8	<i>Strategic Management Components</i>	35
2.4	Organisational Performance.....	42
2.4.1	<i>Organisational Performance Definition</i>	43
2.4.2	<i>Organisational performance dimensions in the higher education context.....</i>	43
2.5	The chapter summary	47
3	Chapter 3: Theoretical Underpinning and Hypotheses Development	53
3.1	Introduction	53
3.2	Theoretical Underpinning	53
3.3	Hypotheses Development.....	55

3.3.1	<i>University Autonomy and Organisational Performance</i>	55
3.3.2	<i>University Autonomy and Strategic Management</i>	58
3.3.3	<i>Strategic management and Organisational performance</i>	61
3.3.4	<i>The Mediation Effect of Strategic Management</i>	62
3.4	The Chapter Summary	64
4	Chapter 4: Methodology.....	65
4.1	Introduction	65
4.2	Research Philosophy	65
4.3	Research Approach	66
4.4	Research Design.....	67
4.5	Research Strategy	68
4.6	Data Collection Method	68
4.7	Time Horizon	69
4.8	Questionnaire Design	70
4.9	Operational Definitions.....	71
4.9.1	<i>University Autonomy.....</i>	72
4.9.2	<i>Strategic Management:</i>	73
4.9.3	<i>Organisational Performance:</i>	74
4.10	Measurement of Construct.....	75
4.10.1	<i>The independent Constructs.....</i>	75

4.10.2	<i>Dependent Constructs</i>	77
4.10.3	<i>The Mediating Constructs</i>	78
4.11	Pilot Test	79
4.11.1	<i>Pre- Pre-Pilot-Test</i>	79
4.11.2	<i>After-Pilot-Test</i>	85
4.12	Population	86
4.13	Sample, Sample Size and Sampling Technique	86
4.14	Ethical Consideration of the Study	87
4.15	Chapter Summary	88
5	Chapter 5: Analysis & Findings	89
5.1	Introduction	89
5.2	Preliminary Analysis of the Data	89
5.2.1	<i>Response Rate</i>	89
5.2.2	<i>Data Coding</i>	90
5.2.3	<i>Initial Data Screening</i>	91
5.2.4	<i>Missing Data</i>	91
5.3	Demographic Profile	91
5.3.1	<i>Respondents Profile:</i>	92
5.3.2	<i>Characteristics of Universities:</i>	95
5.4	Normal Distribution of Data:	95

5.5	Common Method Bias Analysis:	96
5.5.1	<i>Pre-data collection Procedures:</i>	96
5.5.2	Post-data collection Procedures:	96
5.6	Descriptive Statistics:	98
5.6.1	<i>Descriptive Statistics of Independent Variables:</i>	99
5.6.2	<i>Descriptive Statistics of Dependent Variables.....</i>	102
5.6.3	<i>Descriptive Statistics of Mediating Variables:</i>	106
5.7	Reasons for Using Partial Least Square, Structural Equation Modelling (PLS-SEM)	110
2.6	Assessment of the Measurement Model:	111
2.6.1	<i>Assessment of the Measurement Model of First-Order Constructs:.....</i>	111
2.6.2	<i>Assessment of Second-order Model:</i>	127
2.6.3	<i>The relationships Across Constructs:</i>	132
2.7	Structure Model Assessment:.....	134
2.7.1	<i>Assessment of Multicollinearity</i>	135
2.7.2	<i>Effect of University Autonomy Dimensions on Organisational Performance of Indian Universities:</i>	136
2.7.3	<i>Effect of University Autonomy Dimensions on Strategic Management of Indian Universities:</i>	137
2.7.4	<i>Effect of Strategic Management Practices on Organisational Performance of Indian Universities:</i>	138

2.7.5	<i>The Mediating Analysis</i>	138
2.8	The assessment of the Reflective-formative Model	144
2.8.1	<i>Measurement Model Assessment of Reflective Formative Model:</i>	144
2.8.2	<i>Structure Model Assessment of Reflective Formative Model:</i>	150
2.8.3	<i>The Mediating Analysis:</i>	152
2.9	Assessment of the Explanatory Power	155
2.9.1	<i>Assessment Determination of Coefficient (R^2) of the model:</i>	155
2.9.2	<i>f-square of the Model</i>	156
2.9.3	<i>Predictive Relevance ($Q^2_{predict}$) of the Model</i>	156
2.10	Assessment of the Predictive Power of the Model:	157
2.11	Summary of Hypotheses Decision	160
2.12	Chapter Summary	162
6	Chapter 6: Discussion of findings	172
6.1	Introduction	164
6.2	University Autonomy and Organisational Performance	164
6.2.1	<i>Direct Effects of Organisational Autonomy on Organisational Performance</i>	165
6.2.2	<i>Direct Effects of Financial Autonomy on Organisational Performance</i>	165
6.2.3	<i>Direct Effects of Academic Autonomy on Organisational Performance</i>	166
6.2.4	<i>Direct Effects of Staffing Autonomy on Organisational Performance</i>	166
6.3	University autonomy and Strategic management.....	167

6.3.1	<i>Direct Effects of Organisational Autonomy on Strategic Management</i>	167
6.3.2	<i>Direct Effects of Financial Autonomy on Strategic Management</i>	168
6.3.3	<i>Direct Effects of Academic Autonomy on Strategic Management</i>	168
6.3.4	<i>Direct Effects of Staffing Autonomy on Strategic Management</i>	169
6.4	Strategic Management and Organisational Performance	169
6.4.1	<i>Direct Effects of Strategic Planning on Organisational Performance</i>	170
6.4.2	<i>Direct Effects of Strategy Formalisation on Organisational Performance</i>	170
6.4.3	<i>Direct Effects of Strategy Implementation on Organisational Performance</i>	171
6.4.4	<i>Direct Effects of Strategy Evaluation on Organisational Performance</i>	172
6.5	The mediating effects of Strategic Management in the Relationships between University Autonomy and Organisational Performance	172
6.5.1	<i>The mediating effects of Strategic management in the Relationships between Organisational Autonomy and Organisational Performance</i>	173
6.5.2	<i>The mediating effects of Strategic management in the Relationships between Financial Autonomy and Organisational Performance</i>	174
6.5.3	<i>The mediating effects of Strategic management in the relationships between Academic Autonomy and Organisational Performance</i>	174
6.5.4	<i>The Mediating effects of Strategic Management in the Relationships between Staffing Autonomy and Organisational Performance</i>	175
6.6	Chapter Summary	176
7	Chapter 7: Conclusion, Implications, Recommendations and Limitations	177

7.1	Introduction	177
7.2	Conclusion.....	177
7.3	The Study Implications	183
7.3.1	<i>Implication for Theory</i>	183
7.3.2	<i>Implications for Practice and Recommendations</i>	185
7.4	Limitations and Future Research.....	188
7.5	Chapter Summary.....	189

List of Tables

Table 1.1. University Growth (Source: AISHE portal 2020-21)

Table 1.2 Type-wise Number of Universities (Source: UGC, 2022)

Table 4.1 Scale to Measure University Autonomy Dimensions

Table 4.2 Scale to measure Organisational Performance Dimensions

Table 4.3 Scale to measure Strategic management Components

Table. 4.4 Experts' Detail

Table. 4.5 The Range of Acceptance or Revision of the instrument

Table. 4.6 The Ratings of UA using a 4-point rating relevance scale (1,2-not relevant), (3,4-relevant) (Taken from Polit and Beck, 2006).

Table 4.7 The Ratings of SM using a 4-point rating relevance scale (3,4-relevant), (1,2-not relevant) (Taken from Polit and Beck, 2006).

Table 4.8 The Ratings of OP using a 4-point rating relevance scale (1,2-not relevant), (3,4-relevant) (Taken from Polit and Beck, 2006).

Table 4.9 The Cronbach's alpha of UA, SM, and OP constructs.

Table 5-3. Characteristics of Respondents (Source: Author)

Table 5-4. Characteristics of Universities (Source: Author)

Table 5-5 Harman's One-Factor Test

Table 5-6. Full Collinearity Test

Table 5-7. The weighted Average Range for 5-Point Likert Scales

Table 5-8. Descriptive Statistics of OA (Source: calculation by author based on primary data analysis)

Table.5-9 Descriptive Statistics of FA (Source: calculation by author based on primary data analysis)

Table 5-10. Descriptive Statistics of SA (Source: calculation by author based on primary data analysis)

Table 5-11 Descriptive Statistics of AA (Source: calculation by author based on primary data analysis)

Table 5-12. Descriptive Statistics of RP (Source: calculation by author based on primary data analysis)

Table 5-13. Descriptive Statistics of TP (Source: calculation by author based on primary data analysis)

Table 5-14. Descriptive statistics of SP (Source: calculation by author based on primary data analysis)

Table 5-15. Descriptive Statistics of FP (Source: calculation by author based on primary data analysis)

Table 5-16. Descriptive Statistics of SP (Source: calculation by author based on primary data analysis)

Table 5-17. Descriptive Statistics of SF (Source: calculation by author based on primary data analysis)

Table 5-18. Descriptive Statistics of SI (Source: calculation by author based on primary data analysis)

Table 5-19. Descriptive Statistics of SE (Source: calculation by author based on primary data analysis)

Table 5-20. Convergent Validity of the Independent Variables (Source: Author)

Table 5-21. Convergent Validity of the Dependent Variables (Source: Author)

Table 5-22. Convergent Validity of the Mediating Variables (Source: Author)

Table 5-23. Discriminant Validity – Cross Loadings of First-order Constructs (Source: Author),

Table 5-24. Discriminant Validity - Fornell-Larcker's criteria of First-order Constructs (Source: Author)

Table 5-25. Discriminant Validity - HTMT Criteria of First-order Constructs (Source: Author)

Table 4-26. The measurement Model of Second-order Constructs (Source: Author)

Table 5-27. Discriminant Validity – Cross Loadings of Second-order Constructs (Source: Author),

Table 5-28. Discriminant Validity - Fornell-Larcker's Criteria of Second-order Constructs (Source: Author)

Table 5-29. Discriminant validity - HTMT criteria of Second-order Constructs (Source: Author)

Table 5-30 The Relationships across Independent Constructs

Table 5-31. The Relationship across Dependent Constructs

Table 5-32. The Relationship across Mediating Constructs

Table 5-33. Variance Inflation Factor of Independent Variables (Source: Author)

Table 5-34. Effect of university Dimensions on Organisational Performance

Table 5-35. Effect of University Autonomy dimensions on Strategic Management

Table 4-36. Effect of Strategic Management practices on Organisational Performance Solely

Table 5-37. Effect of University Autonomy sub-constructs on Organisational Performance without the Mediator

Table 5-38. Effect of University autonomy Sub-constructs on Organisational Performance with the Mediator

Table 5-39. The indirect effect of University Autonomy Sub-construct on Organisational Performance through Strategic Management.

Table 5-40. Weights and loadings for the measurement of the Reflective-Formative Second-order Model

Table 5-41. Effect of University Autonomy on Organisational Performance

Table 5-41. Effect of University Autonomy on Organisational Performance

Table 5-42 Effect of University Autonomy on Strategic Management

Table 5-43. Effect of Strategic management on Organisational Performance

Table 5-44 The direct effect of University Autonomy on Organisational Performance without the mediator

Table 5-45. The direct effect of University Autonomy on Organisational Performance with the Presence of the Mediator

Table 4-46. The Indirect Effect of University autonomy on Organisational performance through Strategic management

Table 5-47: The coefficient of determination (R²)

Table 5-48: The effect size (f²)

Table 5-49 The predictive relevance of the study's model

Table 5-50. The predictive power of the study's model

Table 5-51. Summary of Hypotheses Decision

List of Figures

Figure.2.1 The SM components

Figure. 3.1 The Conceptual Framework

Figure 4.1. The research Onion of this study (Taken from Saunders et al., 2012, p.128)

Figure. 4.1 content analysis stage (Adopted from Almanasreh et al. (2019))

Figure 4.2 The descriptions for assessing content validity

Figure 5-1. Gender

Figure 5-2. Designation

Figure 5-3. Years of experience

Figure 5-4. Administrative Role

Figure 5-5. The measurement model of first-order constructs

Figure 5-6. The measurement model of Second-order constructs

Figure 5-7. Structural model (Smartpls 4.)

Figuer.5-8. Redundancy analysis

Figure 5-9. The Measurement Model of The Reflective Formative Model

Figure 5-10. Structural model (Smartpls 4.)

List of Charts

Chart 1.1. University Growth (Source: AISHE portal)

Graph 1.2 Year-wise Growth of Students Enrolment from 2010-11 to 2020-21 (Source UGC report 2021-22)

Chart 1.3 Type-wise Number of Universities (Source: UGC, 2022)

Chapter 1: Introduction

1.1 Introduction

This chapter presents the background of this study, including the history and growth of Indian universities, their types of Indian universities and the challenges they faced. The following sections depict the research, the statement of the problem, the research gap and contribution, the aim, objectives, and questions. The last sections present an overview of the research methodology and a summary of the structure of the thesis.

1.2 Background of the study: Indian higher education system

The Indian higher education system is complex and multifaceted, having evolved over centuries under the influence of historical, political, and socioeconomic factors. This chapter presents an academic analysis and a comprehensive examination of Indian universities. It delves into their historical origins and development, explores the various types of Indian universities, and discusses the key challenges they have faced.

1.2.1 The historical roots and growth of Indian universities

The modern Indian universities began during the British colonial regime in 1857 with the establishment of Calcutta, Madras, and Bombay Universities. These universities were founded following the model of the University of London (Béteille, 2005; Bhushan, 2019). Accordingly, the Indian higher education sector has significantly expanded and evolved into one of the world's most extensive and prevalent systems (Rana et al., 2022). According to Agarwal (2006), India has

the world's third-largest higher education system, following closely behind both China and the United States of America.

However, the growth of India's higher education sector after independence has occurred in different consecutive phases(Khanal, 2021; Mandal, 2021). When India gained independence in late 1947, there were only 25 universities, with several hundred affiliated colleges located in different states (Vergis, 2014).

In the 1960s and 1970s, the government supported higher education by establishing more universities and colleges. Furthermore, this period observed the establishment of Indian Institutes of Management, Indian Institutes of Technology, and National Institutes of Technology, which is viewed as a remarkable accomplishment for Indian higher education (Agarwal, 2006).

In the 1980s, the government of India faced financial constraints, which made it difficult to establish new universities. Consequently, the government founded only very few universities (Agarwal, 2006).

In the late 1990s, the state governments held back the growth of private institutions through strict regulatory controls. In the early 2000s, the University Grants Commission (UGC) recognised seven private universities set up in various states (Agarwal, 2006). This wave led to the unprecedented privatisation of higher education.

In the late 1980s, private players entered the Indian higher education sector due to an increasing demand for higher education that the government was unable to fulfill through public-owned universities (Agarwal, 2006; Sahney & Thakkar, 2016; Sawhney et al., 2017). As a result, Indian private higher education experienced extensive growth from the 1990s onwards as the

government sought greater private sector participation in the higher education system. However, before 1990, Private institutions were scarce (Mathew, 2016)

In the early 2000s, the University Grants Commission (UGC) recognised seven private universities set up in various states (Agarwal, 2006). Hence, this wave led to the unprecedented privatisation of the higher education system in India. Over the last two decades, there has been a growth in private and deemed-to-be universities and affiliated private colleges due to high demands, increased competitiveness, and reduced educational entry barriers (Sahney & Thakkar, 2016; Sawhney et al., 2019).

Compared to other capitalist or market-oriented economies such as the United States, the United Kingdom, Canada, and Australia, the higher education system in India is more privatised (Tilak & Tilak, 2018). The dominant movement towards a high degree of privatisation in the Indian higher education sector is owing to the conviction that privatisation is an effective solution for promoting access, quality and equity (Tilak & Tilak, 2018). Further, Vergis (2014) argued that in the current setting, Indian private universities have added a further dimension to the higher education system. Therefore, the higher education system in India has become both extensive and complex.

The number of universities published on the AISHE portal, as seen in Table 1.1 and Chart 1.1, has increased from 701 in 2016-17 to 899 in 2020-21 (28.24%). Central universities have increased from 44 to 51 universities over the last five years. State universities have increased from 345 to 403 universities. In comparison, private universities have increased from 233 to 365 universities. Also, deemed-to-be universities have increased from 79 to 80 universities. Most

universities during this period, i.e., 44.8%, are state universities. This indicates a significant increase in the state universities as well as the private universities in India.

Table 1.1. University Growth (Source: AISHE portal 2020-21)

No	University type	Academic year/Number of universities				
		2016-17	2017-18	2018-19	2019-20	2020-21
1	Central Universities	44	45	46	48	51
2	State Universities	345	351	371	386	403
3	Private Universities	233	262	304	327	365
4	Deemed to be Universities	79	80	80	80	80
Total		701	738	801	841	899

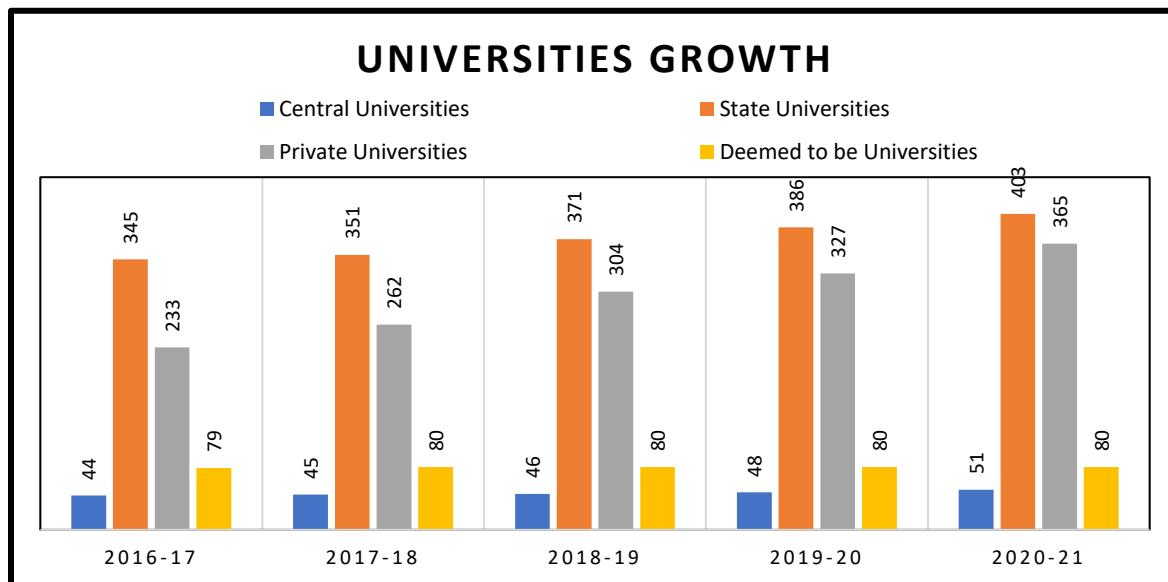
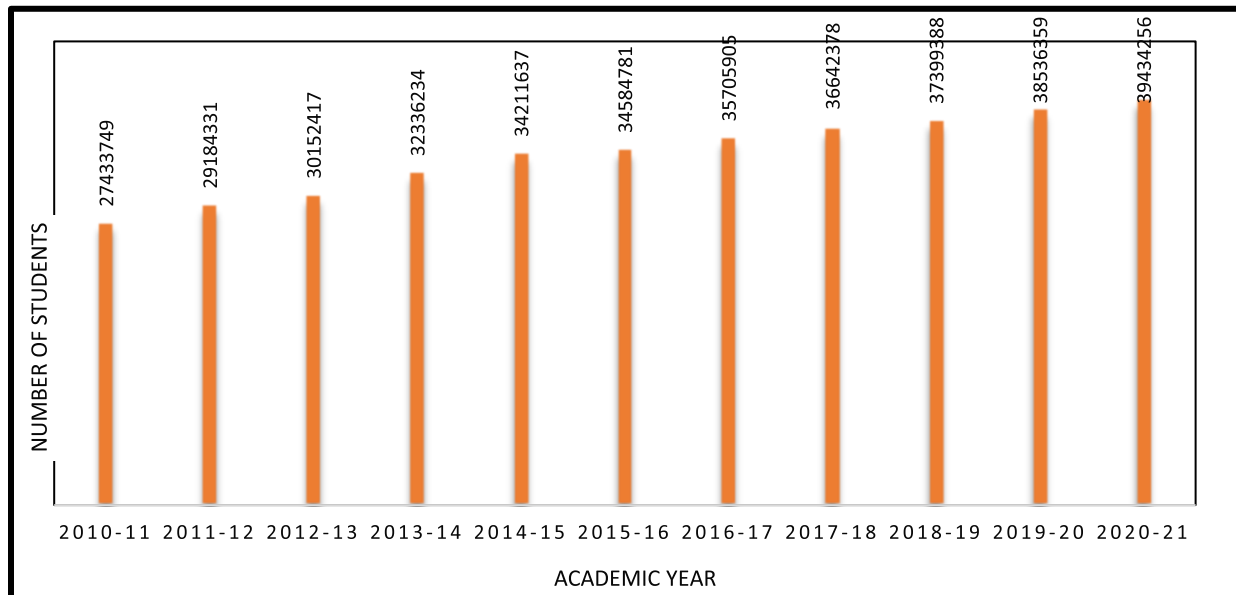


Chart 1.1. University Growth (Source: AISHE portal)

After a significant increase in the number of universities (Ravi et al., 2019a), the Indian higher education system is second only to China in terms of student enrollment, with 39.4 million students enrolled in universities and colleges for various courses during the academic year 2020-21 (Madeshia & Verma, 2020; Ravi et al., 2019a). Graph 1.2 shows the year-wise growth of student enrollment from the academic year 2010-11 to 2020-21. Comparing the growth of student

enrollment across all types of universities, colleges, and stand-alone higher education institutions between the academic year 2010-11 and 2020-21, there is an increase of 12 million students (UGC).



Graph 1.2 Year-wise Growth of Students Enrolment from 2010-11 to 2020-21 (Source UGC report 2021-22)

1.2.2 Types of Indian Universities

Indian universities are classified into four distinct categories: Central, state, private, and deemed to be universities (Basu et al., 2016).

Central universities are both established and financially supported by the central government of India (Basu et al., 2016). The central government is vested with the authority, as per a specific constitutional act, to maintain particular standards conducive to the Central Universities (Husain & Mushtaq, 2010). State universities, on the other hand, are established by the respective state governments and primarily rely on state-level funding. They operate within the jurisdiction of their respective state governments, under the regulation of state-level authorities

such as the State Higher Education Councils, and are subject to the rules and regulations set forth by the University Grants Commission (UGC).

Private universities, established under the provisions of the State Act, typically operate within the geographical boundaries of the respective state (UGC regulations 2003). They are controlled by various entities, including religious, philanthropic, private, and not-for-profit organizations (Ranjan, 2014). Importantly, these universities receive no financial assistance from the UGC. They maintain a high degree of autonomy in their governance and often have their own boards of trustees or governing bodies (A. K. Pandey & Rizvi, 2018).

Deemed to be universities attain their status based on their academic excellence and contributions (Gupte, 2015). According to the University Grants Commission (UGC) Act of 1956, section 3, "deemed to be university status can be granted to any higher education institution other than a university, on the recommendation of the UGC, by the central government".

Currently, Indian universities encompass 56 central universities distributed across 31 states, 474 state universities in operation within 30 states, 447 private universities established in 27 states, and 125 deemed to be universities officially recognised in 23 states (as per data provided by the University Grants Commission, as depicted in Table 1.2 and Chart 1.3)

Table 1.2 Type-wise Number of Universities (Source: UGC, 2022)

No	University type	Number of universities	Number of states Located in
1	Central Universities	54	31
2	State Universities	474	30
3	Private Universities	447	27
4	Deemed to be Universities	125	23

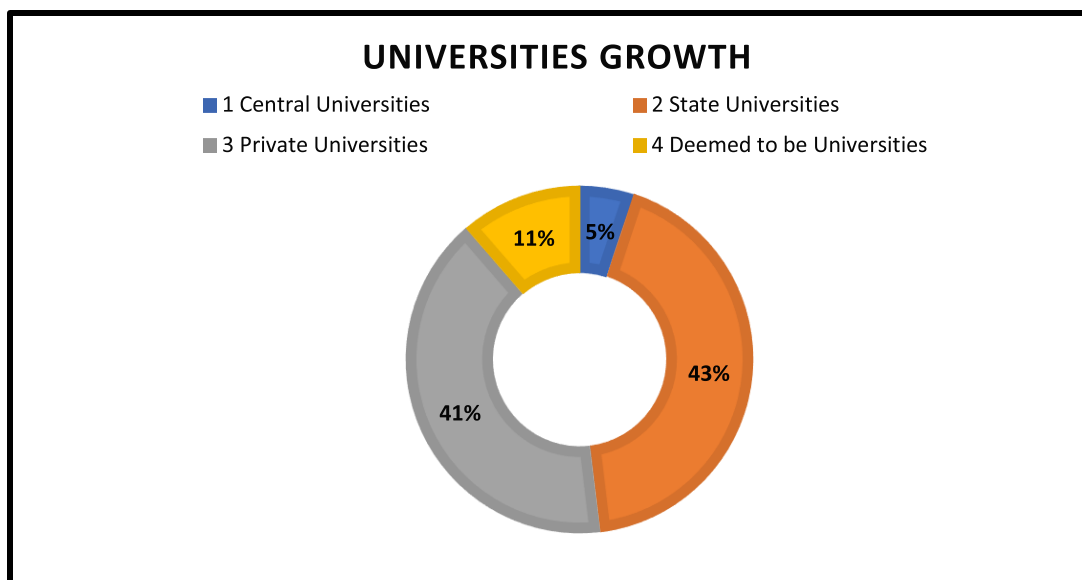


Chart 1.3 Type-wise Number of Universities (Source: UGC, 2022)

1.2.3 key challenges faced by Indian universities

The internal and external settings of Indian higher education institutions (HEIs) are structured by a complicated interaction of factors that considerably influence their governance, functioning, and overall efficacy. Internally, HEIs have faced challenges associated with governance organisational structures, funding mechanisms, faculty quality, curriculum relevance, and student demographics (Kumar et al., 2022; Kumar & Balaji, 2021).

The governance of many Indian universities remains mainly centralised and bureaucratic, often described by inflexible hierarchies and a lack of organisational autonomy (Sheikh, 2017). This centralised control limits academic leaders' decision-making capacity and restricts universities' ability to innovate and adapt to the rapidly evolving educational landscape. Besides, financial restrictions are a constant issue, with a

shortage of funding from both government and private sources worsening their financial standing. The financial issues hinder the ability of universities to invest in key areas such as infrastructure, research, faculty and staffing recruitment (Altbach, 2014). Heavy dependence on government funding coupled with limited capacity to generate alternative income streams has created a challenging balance between academic goals and financial viability (Chahal and Dar, 2015).

A significant number of the teaching faculty and staff in Indian universities are employed on a contractual basis, which creates an atmosphere of job insecurity and influences the academic freedom of faculty members. This situation often results in a heightened turnover rate and a lack of persistence in research, teaching and managerial activities, eventually affecting the quality of education delivered to students (Sheikh, 2017). In addition, the curriculum in many universities has not maintained pace with the rapidly transforming needs of the global thrift, leading to a vast skills gap among graduates and a divergence between academic courses and industry requirements (Rajkhowa, 2013). The challenges created by student demographics, including the increasing variety of the student population and the inconsistent levels of readiness among students, further problematise the internal setting of HEIs. Given these factors, a more comprehensive and flexible academic framework is essential to address the drivers of research and teaching styles and the needs of the students (Rajkhowa, 2013).

Externally, HEIs are affected by various regulatory, political, socio-economic, and global factors. The regulatory structure in India is characterised by extensive control exerted by various bodies, such as the University Grants Commission (UGC) and the All

India Council for Technical Education (AICTE). These regulatory bodies inflict strict controls on curriculum design, admission policies, and institutional processes, which, while intended to maintain standards, often strangle innovation and adaptability within universities. The complex and often strict regulatory framework has been criticised for being overly rigid, offering limited space for universities to experiment with new academic approaches or programs that could reasonably meet the demands of students, society and other key stakeholders (Trivedi, 2024).

Political forces are another significant external factor influencing Indian HEIs. Government interventions in appointing university leadership and administrators, distribution of resources, and the strategic direction of universities frequently undermine their autonomy. Political considerations often dictate crucial decisions, resulting in appointing individuals based on party loyalty instead of qualifications and merits, which can negatively impact universities' governance and academic integrity in the long term (Trivedi, 2024).

The socio-economic atmosphere offers more challenges, notably in a country as diverse as India. Regional disparities, economic inequalities, and inconsistent levels of access to education greatly influence student enrollment and retention, specifically among marginalised communities. Despite government initiatives to increase access to higher education for underrepresented groups, substantial obstacles remain, including high tuition costs, insufficient financial aid, and socio-cultural factors that discourage higher education participation among specific communities. These socio-economic factors contribute to a stratified higher education system where privileged institutions cater to the wealthy. At the

same time, a large number of students from disadvantaged communities are left with limited opportunities in underfunded and inadequately resourced institutions.

The increasing globalisation of higher education has also presented new external pressures on Indian HEIs. The rise of global rankings and the growing emphasis on international competitiveness have challenged these institutions. Indian universities are under growing pressure to enhance their standing in international rankings, which often emphasise research outcomes, internationalisation, and industry partnership areas where many Indian HEIs fall behind their international peers (). This stimulus towards international competitiveness necessitates significant reforms in both policy and practice, including improving research capabilities, promoting international partnerships, and aligning academic programs with international standards (Sahni, 2022). Nonetheless, achieving these goals needs overwhelming internal and external barriers.

In conclusion, addressing the multifaceted challenges facing Indian higher education necessitates comprehensive policy reforms. Increasing investment, enhancing university capacities, and transitioning towards decentralised governance models are critical steps in this direction. These strategic measures will empower Indian universities to fulfil their potential as catalysts for national development and compete effectively on the global stage.

1.3 Statement of the Research Problem

Over the past two decades, the concept of UA has become an integral part of higher education systems (Enders et al., 2013). UA has received significant attention as a critical factor

influencing the performance of universities worldwide (Maaranen et al., 2023) and empowering them to shape their own destinies (De Boer & Enders, 2017a).

However, merely granting autonomy is insufficient to ensure superior teaching, research, service, and financial performance within universities. The key lies in effective SM practices. According to Maassen et al. (2017), universities with complete autonomy are better equipped to engage in SM practices, aligning their resources and efforts more effectively with the changing environment, thus contributing to improved OP. Similarly, Gupta (2011) revealed that more effective implementation of differentiation strategies is associated with autonomous contexts. Therefore, autonomy not only ensures better performance but also facilitates the effective implementation of SM practices, leading to positive outcomes for universities (Estermann et al., 2011).

This study's research problem revolves around the strong demand for granting universities complete autonomy as a prerequisite so as to ensure the expansion of their SM capacity, which, in turn, facilitates the achievement of superior OP. Therefore, the study “**University Autonomy and its Impact on Universities’ Organizational Performance: The mediating role of Strategic Management**” is initiated.

1.4 Significance of the Study

The significance of the current study emerges as it is the first to

- Investigate the effects of UA as one construct and its individual dimensions on OP.
- Explore the effects of UA as one construct and how its individual dimensions affect SM in the context of Indian universities.

- Explore whether SM has a mediating effect on the link between UA and OP.

Accordingly, the outcomes of this study are expected to contribute to HE literature, policymakers of HEIs, and leaders of universities.

Firstly, this study is anticipated to provide new directions for scholars to conduct further studies based on its results.

Secondly, this study is predicted to highlight the importance of UA to policymakers and how it will enable universities to effectively adopt SM practices that would help them become more responsive to environmental changes, exploit opportunities and overcome challenges, leading to superior OP.

Finally, this study is anticipated to provide a clear description for policymakers and leaders of universities about effective developing and measuring SM practices to ensure better OP.

1.5 Research aim

The current study aims to explore the direct and indirect relationship between UA dimensions, SM and OP in Indian universities.

1.6 Research objectives

In order to address the aim of this research, the study seeks to meet the following detailed objectives:

- 1) To determine the effect of UA dimensions on OP from the perspective of Indian Universities' Deans of schools and Heads of departments.

- 2) To establish the effect of UA dimensions on SM from the perspective of Indian Universities' Deans of schools and Heads of departments.
- 3) To identify the effect of SM components on OP at Indian Universities from the perspective of Deans of the schools and Heads of departments.
- 4) To find out the mediating role of SM in enhancing the relationship between UA dimensions and OP.

1.7 Research questions

The following research questions guide the current study:

- 1) What are the impacts of UA dimensions on OP in Indian Universities?
- 2) What are the effects of UA dimensions on SM in Indian Universities?
- 3) What are the effects of SM components on OP in Universities?
- 4) Does SM mediate the relationship between UA dimensions and OP in Indian Universities?

1.8 Research Scope

The study scope is conceptually limited to exploring the direct and indirect relationships between UA dimensions, SM and OP due to less research works being available addressing the role of UA in SM practices and OP of universities. Furthermore, this study focuses explicitly on universities. Concerning the study location, this study targets universities across India (including central, state, private and deemed to be universities).

1.9 The Study Structure

This study consists of seven chapters as follows:

Chapter 1 provides an introduction to this study. Also, it delineates the research problem statement, identifies gaps in existing literature, and articulates the significance of this study. Besides, it outlines the research aim, specifies the objectives, and formulates the research questions.

Chapter 2 provides an overview of relevant literature pertaining to UA and its definition and dimensions. It presents the literature about SM within the broader context of higher education, specifically in the Indian higher education landscape. Further, it discusses both the positive aspects and the factors contributing to the success of SM. Furthermore, it provides definitions of SM, as well as its practices or components. Lastly, it presents definitions and dimensions of OP within the context of higher education.

Chapter 3 offers the theoretical underpinning used to examine the interrelationships among the constructs in this study. Additionally, it presents the development of hypotheses based on existing literature.

Chapter 4 presents the methodology of this study and research design, including the chosen research philosophy, approach, process, design, strategy, data collection method, and time horizons. It also covers questionnaire design, measurement of constructs, pilot testing, population, sample, sample size, and sampling technique used.

Chapter 5 focuses on analysing the quantitative data of this study. This involves preliminary data analysis, demographic profile analysis of the respondents, and descriptive

statistics of the constructs through the SPSS 26 version. It also includes the analytical approach and techniques used in this study to analyse the data, that is, partial least square structural equation modelling (PLS-SEM). It presents the measurement model to assess the validity and reliability of the study's constructs and the structural model to test the developed hypotheses. It further offers the assessment of both the explanatory and predictive power of the study's model.

Chapter 6 discusses this study's findings and further links these findings with underpinning theory and the literature review.

Chapter 7 presents the study's conclusion, summarising the findings and presenting theoretical and practical implications. It also offers recommendations to policymakers of Indian higher education and leaders of Indian universities. It further shows the limitations of this study and provides suggestions for new research directions.

1.10 Chapter Summary

This chapter served as the foundational cornerstone of the study. It concisely provides an introduction to this study. Also, it briefly delineated the research problem statement, identified gaps in existing literature, and articulated the significance of this study. Besides, it outlined the research aim, specified the objectives, and formulated the research questions. Finally, it presented the structure of this study.

Chapter 2: The Literature Review

2.1 Introduction

This chapter delves into the pivotal concepts of UA, SM and OP in general and the higher education contexts.

First, it comprehensively explores UA. It begins by presenting the fundamental definitions of UA and navigating through its various dimensions: academic, organisational, financial, and staffing autonomy. The chapter then scrutinises UA within Indian Universities.

Additionally, the chapter dissects the multifaceted domain of SM within higher education, providing both a historical overview of SM and an elucidation of its benefits. It proceeds to explore the practical applications of SM in higher education, considering both general and Indian higher education contexts. Furthermore, it highlights the benefits aspects of SM in higher education and outlines the critical factors underpinning its successful implementation.

Besides, the chapter provides various definitions of SM and intricately dissects its essential practices and components.

Finally, it explores the concept of OP, elucidating its definitions and dimensions within the context of Higher Education Institutions (HEIs).

2.2 University autonomy

In this section, the researcher explains the concept of UA and presents its established definitions and dimensions as outlined in the existing literature.

UA is often referred to as institutional autonomy. It defines the governance relationships between state authorities and universities (Maassen et al., 2017). further, it is a fundamental concept that permeates through various levels of academia, including the professorate, academic schools, departments, and related centres (Brock, 1997).

In the higher education literature, UA holds significant importance owing to its perceived contribution to the growth and development of HEIs (Felt & Glanz, 2002). It is regarded as an effective means to boost the governance of universities and expand their socioeconomic role (Fumasoli et al., 2014b). Furthermore, it has grown as an instrument that enables universities to respond directly and efficiently to the evolving demands of modern higher education systems (Ngo et al., 2022).

Tran et al. (2023) emphasised the imperative nature of UA for universities, as it empowers them to make decisions about their strategic direction, internal administration, curriculum development, research focus, and, notably, resource allocation. Besides, UA is viewed as a crucial element of academic freedom, enabling faculty members to conduct research and teach without external interference (Holmén, 2022; Michavila & Martinez, 2018).

Notably, national and international higher education policies acknowledge the importance of UA (Michavila & Martinez, 2018). These policies are framed to grant universities considerable autonomy under the view that such autonomy will lead to successful OP (Aghion et al., 2010). Consequently, policies governing UA are released through different legal mechanisms, such as laws, acts, decisions, resolutions, and circulars, aimed at advancing the higher education system (H. T. H. Do & Mai, 2022). Therefore, UA depends on a country's political and conditional contexts (Mai et al., 2022).

2.2.1 University autonomy definition

Several authors have made an effort to define university autonomy. For instance, Berdahl (1990) defined UA as “the power to govern without outside controls.” Comprehensively, Pruvot and Estermann (2017) define UA as “the power of the institution to manage its internal affairs without undue external influence”.

Scholars have attempted to define the concept of university autonomy. For instance, (Berdahl, 1990) defined university autonomy as “the power to govern without outside controls.” In addition, Varghese and Martin (2013) characterised UA as “the freedom of an institution to run its affairs without direct control or influence by the government.” Enders et al. (2013) agreed with this definition and added the element of ‘capability’ to it.

(Kohtamäki & Balbachevsky, 2019) concluded that UA refers to “expanded formal autonomy in which universities gain control over their resources and boundaries, commanding opportunities to profile and explore future strategies.” According to Zabalawi et al. (2020), UA refers to “a university’s capacity to determine its internal organisation and decision-making processes.” Comprehensively, Pruvot and Estermann (2017) defined UA as “the power of the institution to manage its internal affairs without undue external influence”.

2.2.2 University autonomy dimensions

University autonomy encompasses various dimensions (Orosz, 2018; Stransky-Can, 2022). Building on Ashby and Anderson’s (1966) seminal work, Berdahl (1990) categorised institutional autonomy into two primary concepts: substantive and procedural. Substantive autonomy refers to

an institution's goals, policies, and programs, while procedural autonomy concerns the techniques and methods employed to achieve these goals.

Anderson et al. (1998) explain UA by identifying its diverse dimensions, which encompass governance and administration, financial, staff, students, academic standards, curriculum and teaching, research and publications aspects. In a broader context, Verhoest et al. (2004) delved into six dimensions of autonomy relevant to performance within public organisations: legal, interventional, financial, structural, policy, and managerial autonomy.

Taking a stakeholder-oriented approach, Choi (2019) outlined six stakeholder groups as the dimensions of UA that are governments, administrators, academic staff, students, industries, and society at large.

In a comprehensive approach, Estermann et al. (2011) introduced 'the autonomy scorecard' as a tool to measure UA. The scorecard includes four key dimensions: organisational, financial, staffing, and academic autonomy.

In the Indian context, discussions regarding UA often revolve around three core dimensions. These are financial, administrative, and academic autonomy (Gandhi, 2013; Varghese & Malik, 2015).

However, this study adopts the framework proposed by Estermann et al. (2011) that encompasses four key dimensions of UA: organisational, financial, staffing, and academic. The following sub-sections delve into each of these dimensions in detail.

2.2.2.1 *Organisational autonomy*

Organisational autonomy (OA) has become a core part of any new system of controlling universities (Enders et al., 2013). Understanding the importance of OA is echoed in national and international HE policies. Thus, OA is a relational notion in which the relationship process must be regarded between the self and others (De Boer & Enders, 2017a).

Schmid and Pathak (2017) described OA as “the capacity of each organisational component of collaboration to independently determine their course of action.” Further, (Verhoest, Peters, et al., 2004) defined OA as “the level of discretionary decision-making authority an organisation has vis-à-vis superior levels, bodies, and actors.” According to (Stainton, 1994, p. 21), OA is “an organisation’s freedom from both internal and external constraints to formulate and pursue self-determined plans and purposes.”

In HEIs context, OA describes “the extent to which universities can decide on their own internal governance, authority, responsibility and accountability structures and the selection of their institutional leadership” (T. Carvalho & Diogo, 2018). Moreover, T. Carvalho and Diogo (2018) addressed OA by developing a multidimensional approach. As stated by the authors, OA consists of two essential dimensions. The first dimension involves the organisation’s decision-making competencies (the capacity to act). The second one is the exemption of restrictions on using such competencies (the freedom from external control).

OA is characterised by the ability of universities to freely shape their leadership style, strategically design and adapt their governance structures and internal academic systems, and establish distinct legal entities. This OA empowers universities to tailor their internal mechanisms to meet growing academic demands (Estermann et al., 2011).

2.2.2.2 *Financial autonomy*

The concept of financial autonomy (FA) is paramount for modern universities, representing a vital dimension of UA crucial for their survival and development (Enders et al., 2011; Kohtamäki, 2022; Pūraitė et al., 2017). FA primarily concerns universities' ability to generate income from different funding sources (Estermann et al., 2009) in order to respond to diverse and immense challenges (Sethy, 2021).

I. M. Pandey (2004) argued that FA lies in the availability of resources and the authority to utilise such resources within a general framework of a university's financial rules.

FA refers to “the ability of universities to act as independent financial entities” (Nokkala, 2009). This implies the capacity to make independent decisions concerning financing aspects.

Pruvot and Estermann (2017) coined core indicators for measuring FA. According to these authors, a university is considered autonomous if it has the power to decide on internal funding allocation, identify the length of the funding period, keep the surplus, borrow money from different sources, build, buy, and sell buildings or other facilities, set up the tuition fees for local and international students, determine the salaries of both its academics as well as administrative staff members.

2.2.2.3 *Staffing autonomy*

Staffing autonomy (SA) is a crucial indicator for measuring AA (Voorn et al., 2022). SA refers to the freedom to hire, promote, terminate, and set salaries for both academic and administrative staff (Choi, 2019). It encompasses how universities control employment terms (Dandira, 2011).

Fu (2023) argued that universities should be granted a flexible human resource management (HRM) structure to ensure UA. The increasing level of university autonomy has prompted new discussions on managing their staff effectively (Siekkinen et al., 2016). Scholars contend that high SA is pivotal in optimising university efficiency and effectiveness (Nedbalová et al., 2014; H. T. L. Nguyen & Van Gramberg, 2018; T. L. H. Nguyen, 2016). This enables universities to attract competent and necessary academic and administrative personnel.

Kupriyanova et al. (2020) suggested that a significant level of SA can drive efficiency and effectiveness in two scenarios: firstly, when universities have sufficient funds to attract and nurture talented staff. Secondly, when universities establish proper internal accountability mechanisms, ensuring equity, fairness, and transparency in staff-related processes, thereby building trust.

However, SA is primarily characterised by the extent to which a university can make decisions regarding recruitment, promotion, termination, and salary determination for academic and administrative staff (Rymarzak, 2018) without external interference (Mai et al., 2022).

2.2.2.4 Academic autonomy

Academic autonomy (AA) is widely recognised as a fundamental principle and a cornerstone of universities (Afdal, 2013; Alderman, 1996). It refers to “the right of academic institutions to decide freely and independently how to perform their tasks” (Wolff, 2000, p. 198; see Karran, 2009).

Kandiyoti and Emanet (2017) argued that AA embodies academic freedom, which extends to the freedom of faculty, scholars, and students in teaching, learning, pursuing knowledge, and conducting research, free from undue external constraints, regulations, or public pressures. T.

Carvalho and Diogo (2018) asserted that AA stems from the assumption that academic freedom plays a crucial role in generating and disseminating scientific knowledge.

AA is characterised by the capacity of universities to initiate or terminate degree programs, design the content of degrees and courses, set admission criteria for student selection, determine enrollment quotas, and choose suitable quality assurance measures, all without undue interference or restrictions imposed by external rules, regulations, or public pressures (Pruvot & Estermann, 2017).

2.2.3 University autonomy in Indian Universities context

During the period between the 1950s and 1960s, Indian universities were considered autonomous despite the funds that came from the government. Particularly, the universities had considerable administrative, staffing and academic autonomy during this period since they had the freedom to plan, develop and offer programmes and courses, conduct research, recruit staff, and award degrees. However, this period of complete autonomy was affected by the recognisable decline of public funds (Varghese & Malik, 2015).

The literature has analysed the level of UA in Indian universities based on three aspects that are academic autonomy, staffing autonomy, and administrative and financial autonomy.

Academic autonomy: Public and private universities enjoy a high degree of AA despite guidelines set forth by the UGC about academic matters, including new programs, courses and grant degrees (Varghese & Malik, 2019).

Staffing autonomy: although Indian universities are guided by the role, regulation and salary and service conditions of the UGC, most of them have freedom in teacher recruitment.

Typically, universities announce vacant faculty and staff positions, establish selection committees, conduct candidate interviews, and announce the results of the selection process (Varghese & Malik, 2019).

Organisational Autonomy and Financial Autonomy: Central universities possess both administrative and financial autonomy (Basu et al., 2016), in contrast to state public universities, which have limited autonomy in administrative and financial matters due to criteria imposed on fund allocation (Shin et al., 2022b). Conversely, private and deemed-to-be universities enjoy full financial and administrative autonomy (Angom, 2021; Jayaram, 2013; Joshi, 2015; Ramkumar, 2022; Roberts, 2018).

2.3 Strategic management

In this section, the concept of SM and its historical development and benefits are explained. Moreover, an overview of SM in the higher education context, its positive aspects, and factors related to successful SM are discussed. Then, the existing definitions of SM and the practices/components are presented.

SM is an analysis of processes or activities within an organisation. Jauch and Glueck (1988) suggested that SM is “a group of decisions and actions guiding the development of a practical approach to achieving organisations’ objectives”.

SM includes creating strategies and activities to achieve a set of goals and objectives (Hacker, 2001). However, the core purpose of SM is to advance an organization's objectives through a structured process consisting of three key stages: strategy formulation, implementation, and evaluation (Abosedo et al., 2016; Nickerson, 2010).

According to (Nurmandi & Purnomo, 2011), the SM process in non-for-profit organisations has developed in recent years, drawing from approaches designed by distinguished scholars such as (J. M. Bryson et al., 2004; Koteen, 1997; Nutt & Backoff, 1992). These approaches primarily encompass a comprehensive evaluation of internal strengths and weaknesses, analysing external opportunities and challenges, delineating vision, missions and values, establishing strategic goals and objectives, crafting and evaluating alternative plans, and creating action plans. Nonetheless, it is worth noting that there has been an ongoing debate about the scope, approach, content, and staff involvement in SM within non-profit organisations.

In his seminal article piece, (J. M. Bryson et al., 2004, p. 6) described strategic planning (SP) as “a disciplined effort to produce fundamental decisions and actions that shape and guide what an organisation is, what it does, and why it does it” (p. 6). Bryson asserts that the purpose of any strategic plan is to ensure an organisation’s ability to add value.

Kabir (2007) argued that SP and SM are distinct concepts since SP is identified as a critical component within the broader framework of SM, alongside strategic formulation and strategic implementation, where their collective purpose is to harmonize organizational objectives, policies, and initiatives. Similarly, in higher education literature, George et al. (2023) debated that there is a clear distinction between SN and SP. SP is generally described as an approach to formulating strategies in universities. In contrast, SM is much more inclusive. To clarify, SM is an ongoing process in which universities aim to continually incorporate SP and strategy implementation to achieve significant objectives by adapting to environmental changes. Therefore, SP serves as the foundation of SM.

2.3.1 *An Overview of the Historical Development of Strategic Management*

The origins of SM as a field began in ancient civilizations during the late third century when military strategists developed tactics and strategies to win battles. "The Art of War" is one of the earliest texts codifying strategic thinking, written by Sun Tzu in China around the 5th century BC (Wu et al., 2004).

However, the rapid growth of industries, markets, and organizations during the Industrial Revolution that began in the 18th Century drew a critical turning point for the development of SM. This era witnessed the emergence of corporate strategy as businesses aimed to gain a competitive advantage via allocating resources efficiently and market positioning (Bolland, 2020). In the early 20th Century, business schools were established, particularly Harvard Business School in 1908, which played a vital role in promoting the study of business strategy (Bower, 1982).

The 1960s and 1970s marked a critical turning point for the field of SM as it underwent a substantial shift in terms of conceptual advancements and the emergence of critical frameworks that persist in influencing modern strategic thinking. This transformative period establishes the groundwork for the systematic and dynamic approach to strategy in the present context (Gluck, 1985). In early 1957, Philip Selznich proposed comparing the organisation's internal aspects with external environmental factors. This was the root idea for developing SWOT analysis by Andrews (1965). SWOT analysis is a strategic tool by which organisations assess their strengths and weaknesses in light of opportunities and threats from their environment.

In 1962, Alfred Chandler published a book entitled "*Strategy and Structure: Chapters in the History of the Industrial Enterprise*", which is considered the first work of SM research. This

book explains how strategy and organisational structure need consistency to improve firm performance.

Igor Ansoff built on Chandler's work by developing diverse strategic concepts. He created a strategy grid that linked market penetration, product development, market development, vertical and horizontal integration, and various strategies. He assumed management could systematically employ these strategies to prepare for future challenges and opportunities. In his 1965 classic "Corporate Strategy", he designed a strategic tool named gap analysis, which is still employed in the present time. Gap analysis is used to understand the gap between where an organisation is presently and where it would like to be in future, based on which it develops "gap-reducing actions".

In the late 1980s, Henry Mintzberg reexamined how the concept of SM was conducted. Furthermore, He analysed the strategic process and concluded that these processes are more fluid and unanticipated than people considered. Based on his analysis, he proposed five strategies: "strategy as a plan, strategy as a ploy, strategy as a pattern, strategy as position, and strategy as perspective".

In the late 1990s, Henry Mintzberg (1990) used the strategies above to introduce "Ten Schools of Thought". The ten schools of thought are categorised into three classes. The first class is normative or prescriptive, comprising an informal planning school, an analytical positioning school, and a formal planning school. The second class is more concerned with how SM is conducted than defining ideal plans or positions. It includes six schools, which are the entrepreneurial, cognitive process school, visionary school, learning, adaptive process school, power or negotiation school, corporate culture process school, and last is reactive school. The last

group encompasses one school, which is a transformation or configuration school. This school is a hybrid of the other schools classified into different stages of corporate life cycles.

2.3.2 The Benefits of Strategic Management

Numerous scholars claimed that SM is the most essential and fundamental approach for achieving desired outcomes for public organisations (J. Bryson & George, 2020). For instance, (J. M. Bryson and Roering, 1988 highlighted that SM can help organisations to think and act strategically, resolve significant organisational difficulties, identify the future direction, build teamwork and expertise, and support decision-makers.

In their study, Krishna Shrestha and Ram Gnyawali, (2013) studied how leaders of business organisations and not-for-profit organisations perceived the benefits of adopting SM. The authors found that the benefits of adopting SM in business organisations are improved customer satisfaction, market position, brand image, and profitability. On the other hand, they observed that not-for-profit organisations benefit from practising SM by enhancing their image, networking, product development, understanding customers' needs, relationship with stakeholders, and services' growth.

Hacker (2001) emphasized that embracing SM ensures positive outcomes, long-term growth, and the maintenance of organizational competitive advantages. (Poister, 2010) underlined that the advantage of adopting SM is to take a broader perspective of processes that integrate objectives analysis, subjective evaluation of measures, goals, and futuristic consideration to chart future action plans.

Meyer (2016) and Stockwell (2016) contended that SM helps to enhance the performance of organisations, provides a general framework for the development of public policy, and produces numerous benefits to the organisations if it employs the bottom-up method that includes internal staff in the procedures and engaging the broader public in developing new views and insights.

2.3.3 Overview of Strategic Management in Higher Education

The foundation for the adoption of planning in Higher Education Institutions (HEIs) was laid during the inaugural meeting in 1959, where HE planners convened at the Massachusetts Institute of Technology. Subsequently, there were sporadic meetings until 1966 when the Society for College and University Planning (SCUP) was established, primarily focusing on campus planning (Dooris et al., 2004).

Academic and scientific approaches to the SM of universities found their roots in developed countries (Parakhina et al., 2017). In the late 1970s, SM was introduced in American universities, characterized by two predominant approaches: one centred on envisioning the future development of universities and the other addressing a select set of strategic issues related to educational organization growth.

In European countries, SM was developed in universities within a clear division of organisational, administrative and academic (Morgan, 2004). This framework aimed to promote universities' entrepreneurial orientation and the formulation of a systematic strategy for income generation (Clark, 1998).

However, authors have significantly contributed to the field of university SM to the field of SM of universities (Angiola et al., 2019; Bayenet et al., 2000; Chaffee, 1985; Clark, 1998; M.

D. Cohen & March, 1974; N. M. Do, 2019; Dyson, 2004; Kotler & Murphy, 1981; Morgan, 2004; Parakhina et al., 2017; Rhoades, 2000; Shattock, 2010; Shawyun, 2010).

2.3.4 Overview of Strategic Management in the Indian Higher Education

The literature on SM practices is in an extremely nascent stage in the context of Indian HEIs. Most of the contributions have been introductory, focusing on how strategic tools apply in HEIs (Pingle & Natasha, 2011; Umashankar & Dutta, 2007), providing a description of the current status of SM practice in selective Indian institutions (Raghunadhan, 2009; Sawhney et al., 2019) or eventually, proposing an SM model for practising SM within Indian HEIs (Sawhney, 2018).

However, the details of the existing studies that addressed SM in the Indian HEIs context are presented below:

(Pingle & Natasha, 2011; Umashankar & Dutta, 2007), based on the extant literature on balanced scorecards (BSC), proposed a model to manage Indian HEIs strategically. Similarly, Pingle and Natasha (2011) focused on BSC as a practical tool for measuring performance in HEIs. They recommended the use of BSC effectively to foster institutional overall OP.

(Raghunadhan, 2009) studied the effectiveness of SM of premier institutions, national-level institutions and state-level institutions in India based on secondary data with the aid of BSC. The findings showed that all national-level premier HEIs have conceptually adopted SM as these Institutions defined their strategic intent. On the contrary, there is an utter failure in the other two stages, such as implementation and evaluation.

(Sequeira, 2011) explored the adoption of SM components in Centrally Funded Technical Institutions (CFTIs) in India. They found that most Institutions are either uninvolved or lagging in embracing SM components.

(Sawhney et al., 2017) analysed SM adoption in the top 20 ranked private technical institutions according to the National Institutional Ranking Framework (2017) and highlighted the challenges faced concerning SM. The findings revealed that the adoption of SM is still in its infancy in these institutions.

Moreover, Sawhney et al. (2019, 2020) surveyed 368 leaders on SM adoption from 53 private-affiliated, government, autonomous, and other institutions. The finding showed that the level of SM adoption is low, and it is restricted only to a few institutions. Further, these institutions' leaders considered SM a critical leadership and transformational tool.

2.3.5 Positive Aspects of Strategic Management for Higher Education

In the contemporary landscape, universities have evolved into sophisticated, multi-level organisations. Their leaders are faced with the imperative of developing strategies that account for the unique attributes of these institutions (Stukalina, 2014). This is where SM plays a key role, serving as an indispensable tool for effective university governance. SM offers a modern framework that empowers universities to proactively address future changes and challenges (Hu et al., 2018).

Tabatoni et al. (2000) characterised SM in the context of universities as innovative thinking, expanding their capacity for transformative change and elevating quality standards.

Taylor and Machado (2006) added that SM is critical in enhancing universities' responsiveness and competitiveness.

Fantauzzi et al. (2021) contend that SM is an essential approach for universities. It signifies an institutional commitment to clearly defining objectives, determining precise actions to achieve them, assessing performance and recognising the need to acquire the necessary resources to implement these strategies. Similarly, Moreno-Carmona et al. (2022) highlighted that SM fosters increased cooperation and a sense of shared responsibility within the university community, facilitating the achievement of institutional objectives.

A recent study states that in the current times of profound uncertainty and a rapidly changing environment, universities benefit by embracing SM, enabling efficient resource allocation and fostering adaptability to harness emerging opportunities (Heaton et al., 2023).

In conclusion, the current literature underlines the key role of SM in guiding the complexities of contemporary universities, empowering them to adapt, excel, and remain competitive in a rapidly evolving higher education landscape. As universities evolve into complex, multi-level institutions, SM appears as an essential instrument for promoting innovation, enhancing responsiveness, and achieving objectives.

2.3.6 Factors related to successful Strategic management in Higher Education

Shattock (2000) identifies five key factors associated with successful SM that are autonomy, leadership, governance and control, analytical sophistication, and participation and ownership.

Autonomy allows universities to establish a strategic framework for planning that aligns with their specific environment.

Leadership emerges as one of the paramount factors crucial for successful SM, as leaders are tasked with decision-making, results attainment, and establishing effective management systems for interactions with subordinates, all of which facilitate adopting SM.

Governance and control are intrinsically linked to the three primary tiers of authority distribution within a university: the national, institutional, and departmental levels. Consequently, many SM scholars advocate adopting flexible management styles to distribute power within universities, given the escalating complexity of the academic domain and the increased tasks undertaken by universities globally.

Analytical sophistication in SM involves cutting-edge data analysis methods and instruments to enable informed decision-making, improving the university's strategic capabilities and competitiveness.

Participation and ownership pertain to planning approaches, with SM emphasizing the importance of involving diverse stakeholders in the process. Key stakeholders include heads of administration, deans, department heads, and research directors. Information networks play a pivotal role in enhancing intra-institutional communication, thereby supporting strategic decision-making.

According to Parakhina et al. (2017), the development of strategic management in universities is influenced by five factors: the life cycle, consensus, system of values, interests of consumers, and content of activities. The life cycle indicates the extended timeframe needed for

SM in universities, often overreaching five years, in contrast to the shorter timelines typically seen in business organisations. Consensus highlights the necessity for active participation from both academic and managerial leaders within universities, as opposed to the more top-down approach seen in commercial organisations. System values echo the university's mission-oriented values, which vary from the profit-businesses. The interests of consumers emphasise the intricate interplay of individual, societal, and employer interests, adding complexity to universities' goal balancing. Finally, the content of university activities concerns the balance between fostering innovation and maintaining a conservative academic setting.

2.3.7 The definition of strategic management

Various scholars have contributed to defining the concept of SM, offering diverse perspectives on this crucial element of organisational management theory and practice.

One definition characterises SM as “an ongoing process concerned with the identification of strategic goals, vision, mission and objectives of an organisation along with an analysis of its current situation, [to] develop appropriate strategies, put these strategies into action, and evaluate, modify or change these strategies when needed” in (Al Hijji, 2014, p. 10).

Another perspective frames SM as “a set of managerial decisions and actions that determines the long-run performance of a corporation” (Wheelen & Hunger, 2012, p. 5).

Bagire and Namada (2011, p. 72) offer another viewpoint, describing SM as “the process by which general managers of complex organisations develop and use a strategy to co-align their organisation’s competencies, opportunities and constraints in the environment”.

Furthermore, (David et al., 2017, p. 6) defines SM as “the art and science of formulating, implementing, and evaluating cross-functional decisions that enable an organisation to achieve its objectives.”

In the context of universities, SM is defined as “a formal process designed to help a university identify and maintain an optimal alignment with the most important elements of the environment within which the university resides” (Rowley, 1997).

2.3.8 *Strategic Management Components*

Several scholars have provided a comprehensive view of developing SM components designed to meet the needs of both for-profit and not-for-profit organisations.

(Chaffee, 1985; Goldsmith, 1996) distinguished three approaches used in the literature on SM: linear strategy, adaptive strategy, and interpretive strategy. The approach of linear strategy emphasises the consecutive development of formulation, execution, and evaluation of the long-term goals of an organisation. The overall aim of this approach is goal achievement, and evaluation criteria for the strategy’s effectiveness relate directly to the degree to which organisations have achieved goals. The adaptive strategy approach deals with a volatile environment and the need for an organisation to make changes to adapt to it. The last approach, interpretive strategy, mainly focuses on explaining an organisation’s cultural significance, enabling its members and external stakeholders to grasp the essence and principles an organisation upholds.

Goldsmith (1995, 1996) asserted that every ideal model of SM includes the following components: mission and goals, analysis of the external and internal environment, strategy formulation, strategy implementation, and strategy Monitoring. Further, the author highlighted that

these components are Indivisible; hence, any change in one component will disturb and overlap others in practice. Similarly, (Elbanna, 2013) developed a model for the SM process that includes strategic planning, strategic plan development, strategy implementation, and strategy evaluation.

Boldt (1991) contended that, as in the business domain, SM in universities contains several key components. These components include the defining the institutional mission and strategies, a broad analysis of the external environment and competitive positioning, a focus on identifying opportunities and threats, an exploration of internal values, weaknesses, and strengths, refining strategies as required, and the allocation of resources for the implementation of these strategies.

Shirley et al., as referenced by (Martin, 1992), designed a model that integrates elements from both the SP and management approaches explicitly tailored for HEIs. This model outlines several essential components, including SF, articulating a university's strategy, translating the university's strategy into a series of more detailed planning initiatives, and effectively communicating these plans to various organisational units.

In another framework, (Gomez & Giroto, 2015) stated that the literature provided the theoretical background for defining the variables of the SM process in the HEIs context based on theoretical assumptions from empirical evidence. This model includes the following processes: Strategic choice and design, SI, and strategic control and learning.

(Nickel, 2011) claimed that the comprehensive SM process gives a good orientation for the practice in HEIs, which comprises planning, operationalisation, implementation, and controlling.

(Martin, 1992) examined the essential components of SM in the context of HEIs. These components include environmental scanning, internal assessment, mission statement, goals and objectives and implementation.

An empirical survey by (Albadry, 2016) adopted strategy development, formulation, implementation, monitoring, and control components as a framework to reveal the involvement of Lithuanian universities in SM practices.

In her study, (Albadry, 2016) used the following four components of SM: SP (including vision, mission, goals and objectives, and external and internal evaluation), SF, SI, and SE.

A recent study by (Junaidah et al., 2020) developed a model for SM systems in HEIs to achieve the goals and objectives in a competitive and dynamic environment. This model includes three components: development, implementation, and evaluation.

In this study, the researcher takes on the components of SM in line with Albadry (2016), Elbanna (2013) and Goldsmith (1995, 1996) studies (see Figure 2.1), which includes SP, SF, SI, and SE. These components are described in the subsequent subsections:



Figure.2.1 The SM components

2.3.8.1 Strategic planning

SP is a critical component of SM (Mintzberg & Fredrickson, 1990; Poister, 2010). The purpose of SP in the long term is to encourage organisations to think of the outcomes, analyse the environment, evaluate values and priorities and determine the goals and objectives (J. M. Bryson, 2015). SP is defined as “a big picture approach that blends futuristic thinking, objective analysis and subjective evaluation of values, goals, and priorities, to chart a future direction and courses of action to ensure an organisation’s vitality, effectiveness and ability to add value” (Poister, 2010).

However, SP deals with the current, past and future situation and sets objectives and direction. Goldsmith (1996) asserted that SP includes developing vision, mission, values, objectives, and internal and external analysis. These aspects are explained as follows:

2.3.8.1.1 Developing the vision, mission and values

Vision is regarded as a future portrait that organisations outline (López-Morales et al., 2020). It is defined as “the desired state of the organisation, the superordinate end, fundamental purpose, and central philosophy” (I. Williams Jr et al., 2014). The vision answers a fundamental question: “What do we want to become?” Hence, a clear vision statement provides the basis for designing a broad mission statement. The vision statement should be concise and one sentence (Gurley et al., 2015).

On the contrary, A mission statement is the basis for priorities, strategies, plans, and task assignments. It is also considered an initiating phase for creating jobs and organisational structures (David et al., 2017, p. 171). The mission statement answers the question, “What is our business?”

Despite their outward similarities, vision and mission exhibit several substantive distinctions. While the Vision is an idealistic image of where organisations want to reach, the mission is a medium-term picture of the future that organisations can achieve (López-Morales et al., 2020).

The organisational values serve as a fundamental basis for SP in HEIs. Values refer to “the shared beliefs among organisation members, the prevalent culture in the organisation, shared values, and behavioural standards” (Sidhu, 2003). The importance of organisational values is that staff can align themselves philosophically with the department and the university (Mueller, 2015).

2.3.8.1.2 Setting goals and objectives

The goal concept is frequently used interchangeably with the term objective. However, (Dess & Miller, 1998) clearly distinguished these two concepts. In contrast to an objective, a goal is perceived as an unrestricted statement of an organisation's aspirations and what it seeks to achieve without quantifying actual achievements and time constraints. Objectives, on the other hand, represent the outcomes of planned activities.

According to Dess and Miller (1998), objectives are the operational definitions of goals in additional detailed words that explain what is to be completed by when and quantified if feasible.

2.3.8.1.3 Internal and external environmental analysis

Environmental scanning refers to "the monitoring, evaluation, and dissemination of information from the external and internal environments to key people within an organisation" (Wheelen & Hunger, 2012, p. 16). The internal environment relates to variables under top management's control and may pose strengths and weaknesses to the organisation. Conversely, the

external environment relates to outside organisational variables and may pose opportunities and threats. Organisations assess different forces, such as "political, economic, sociocultural, technological, ecological, and legal forces", that affect them.

However, the literature reveals that specific forces hold greater significance for organisations in one domain while being less important to those in another. Various strategic tools are commonly employed to evaluate the internal and external environment, including portfolio matrix analysis, SWOT analysis, and Porter's Five Competitive Forces Model (Wheelen & Hunger, 2012).

2.3.8.2 Strategy Formalisation

SF serves as the blueprint upon which universities rely to achieve their objectives. Its primary aim is to chart an organisation's future course by defining strategic and operational goals and objectives (Daigneault, 2016). SF is defined as "the process of developing alternative courses of action for goal accomplishment" (Fernandez et al., 2008). Additionally, it is characterised as "the exchange processes that guide the actions of founding institutions" (Smits & Champagne, 2020).

The purpose of SF varies between the private and public sectors. In the private sector, it aims to gain a competitive edge in the marketplace. Conversely, in the public sector, the focus turns toward enhancing performance and delivering superior services (Boyne & Walker, 2010).

The formalisation of strategies within HEIs involves two key elements. Firstly, involve the decision-making processes and those responsible for executing the plan. Secondly, the financial resources required to implement a strategy (Gomez & Girotto, 2015). In addition, the literature

emphasises the key role of employee engagement in the SF processes, as their active participation is crucial for the successful implementation of strategies (Buluma et al., 2013). Moreover, external stakeholders should be involved in the SF to ensure their collaboration and support (Elbanna, 2010).

2.3.8.3 Strategy Implementation

SI is widely acknowledged as a challenging component of SM primarily due to its complex organisational process, which takes longer than SF (Parakhina et al., 2017; Thorpe & Morgan, 2007). SI refers to “the communication, interpretation, adoption, and enactment of strategic plans” (Noble, 1999).

Håkonsson et al. (2012) described SI as “the realisation of strategy and what the organisation does.” This suggests that the core of SI revolves around how to put formulated strategies into action (Rahimnia Alashloo et al., 2005) by adopting a suitable implementation style (Andrews et al., 2009).

Scholars contend that the successful implementation of strategies is tied to accomplishing the goals and objectives of organisations (Elbanna, 2013). According to Pearce et al. (2000), the effectiveness of a university’s strategy hinges entirely on its implementation, as inadequate execution can negatively impact performance. Similarly, there are many cases where carefully designed strategies have failed due to a lack of proper implementation (Gomez & Giroto, 2015). Therefore, effective SI serves to enhance productivity and elevate the overall outcomes of a university if managed adeptly (Shah & Nair, 2011; Shattock, 2000).

2.3.8.4 Strategy Evaluation

SE represents the last central component of the SM. It plays a crucial role in identifying shortcomings within previously conducted plans, enabling a complete reevaluation of the entire process.

The success of executing strategic plans is related to an organisation's ability to closely monitor success in achieving the set goals (Plant, 2009).

SE is defined as “a process in which corporate activities and performance results are monitored so that actual performance can be compared with desired performance” (Wheelen & Hunger, 2012, p. 22). SE lies at the top of the leadership agenda to ensure the efficiency and effectiveness of an organisation (Poster, 2010). Within this component, the management compares actual performance with desired results to provide feedback to the organisation's leadership to evaluate outcomes and take corrective action if needed, either in strategy formulation, strategy implementation, or both (Etonyeaku et al., 2022).

According to the existing literature (Kang & Fredin, 2012; Rahuma & Fethi, 2022), the Balanced Scorecard (BSC) has emerged as the succeeding strategic tool for assessing organisational performance and facilitating more comprehensive decision-making at the highest levels of management.

2.4 Organisational performance

OP is a pivotal and widely studied dependent construct within the specific context of HEIs. It is a fundamental measure of an HEIs' effectiveness, efficiency, and overall success in achieving its goals and objectives (Lyn & Muthuveloo, 2019).

2.4.1 Organisational performance definition

Despite the ongoing debates concerning the OP definition, various definitions have been proposed as yet. OP is described as “a set of financial and non-financial indicators, which offer information on the degree of achievement of objectives and results” (Lebans & Euske, 2006). Furthermore, OP is defined as “the perceived outputs resulting from the HEIs” (Tjahjadi et al., 2019). According to (Lestari et al., 2021), OP refers to “the performance of organisations when seeking to achieve change targets.” Besides, Hussein et al. (2014) define OP as “the outcomes of various organisational processes which occur in the course of its daily operations”.

2.4.2 Organisational performance dimensions in the higher education context

The OP concept is mainly multidimensional since it relates to assessing different aspects of universities (Rehman & Iqbal, 2020). Hence, universities are described as multiple-product institutions. In the existing literature, OP was measured by different dimensions (Enders et al., 2013).

Cameron (1978) developed a framework to measure the OP of HEIs through nine dimensions, which collectively provide a comprehensive understanding of how HEIs function in various aspects of their mission as follows:

- 1) Student Satisfaction: This dimension estimates students' satisfaction level regarding their educational experiences within HEIs.
- 2) Student Academic Development: It gauges how students achieve academic growth and progress during their courses.

- 3) Student Career Development: This dimension concentrates on the support delivered by HEIs to boost students' career development.
- 4) Student Personal Development: It evaluates the non-academic aspects of students' personal growth, containing cultural, social, and emotional evolution promoted by HEIs.
- 5) Faculty and Administrator Employment Satisfaction: This dimension assesses the levels of job satisfaction among faculty and administrative staff in HEIs.
- 6) Professional Development and Quality of Faculty: It estimates how HEIs help their faculty and staff grow professionally and gauges the effectiveness of the teaching and research faculty within HEIs.
- 7) Systems' Openness and Interaction with the External Environment: It assesses HEIs' capability to collaborate with other institutions, industries, and communities.
- 8) Resource Acquisition: This dimension relates to HEIs' capacity to develop resources from different sources, such as funding, partnerships, and grants.
- 9) Organizational Health: The final dimension includes factors like goodwill, vitality, and overall viability in the internal practices and procedures of HEIs.

Asif & Searcy (2014) devised a framework to measure the OP of HEIs based on four dimensions: research, teaching, service and financial performance.

The research dimension involves the number of research publications and projects, the percentage of faculty obtaining grants, the number of technology and research projects handling local demands and the percentage of faculty participating in conferences and seminars.

The teaching dimension includes the level of satisfaction among students, as well as other stakeholders, employers' satisfaction with the skills of graduates, students' dropout rate, the

students' percentage with a particular GPA, the level of course evaluation, and the employment rate of graduates.

The service dimension involves indicators: the number of new programs designed, participation of HEIs in curriculum committees and academic committees, the students' counselling service, and the community counselling service.

The financial dimension involves indicators: the income yielded from research projects, consultancies and tuition fees, sponsorships/endowments, the research and teaching cost, and the budget allocated to the research activities.

Using the Delphi method followed by a case study to develop a balanced scorecard (BSC) with four major aspects of Customer, internal process, learning and growth and financial for universities to measure the OP.

The Customer dimension comprises an array of key indicators, including student-to-teacher ratio, customer satisfaction, withdrawal rate, dropout and registration rate, school image, school reputation, the performance of alums, involvement in social services, and level of evaluation.

Within the Internal Processes dimension, pertinent indicators include administration facilities expenditures, customer satisfaction, student-to-staff ratio, E-process ratio, the requirement of excellent teaching quality, curriculum E-process ratio, total funding per student ratio, and average facility expenses per student.

The Learning and Growth aspect encompasses indicators such as PhD student ratio, planning and research integration, journal articles published per faculty, rate of staff qualification attainment, and rate of staff patent acquisition.

Lastly, the Financial dimension includes key metrics like return on investment, economic value added, tuition income, capital donations from businesses, the ratio of alum donations and registration rate.

Similarly, (Zangouezinezhad & Moshabaki, 2011) designed a broad framework, drawing upon the BSC, to assess the OP of universities. This framework includes four dimensions: Customer, Internal Processes, Learning and Growth, and Financial.

The customer dimension combines a span of indicators, such as the number of applications received, student satisfaction, knowledge and skill sharing within the workplace, the count of students hired, average salary offerings, the number of individuals profiting from training programs, grants and endowments secured from industry collaborations, and the number of alums actively engaged in public service and community initiatives.

In the internal process dimension, key indicators include the number of new services and products presented, the awarded grades, ratios of faculty-to-student, academic expenses per student, and the number of faculty members specialising in specific fields.

The learning and growth aspect contains various sets of indicators, including the number of faculty presentations at conferences and their papers, travel budgets allocated for conference attendance, the number of cross-trained staff members, courses comprising new technology, attendance at teaching workshops, the introduction of new courses, collaboration with firms in

joint activities, academic excellence achievements, increased research productivity, increased community outreach, and the undertaken entrepreneurial initiatives.

Lastly, the Financial dimension encompasses key metrics such as increases in student enrollment, the number of permanent endowment funds, the efficient and effective utilisation of institutional facilities and annual grants from industry partners.

Based on the above literature, this study measures OP in four dimensions: research, teaching, service and financial dimensions.

2.5 Research Gap

The literature emphasises that research on the effect of UA on OP is thin and has not reached a decisive conclusion (De Boer & Enders, 2017b; Enders et al., 201). For instance, Agasisti and Shibanova (2022) present that the body of empirical evidence exploring the effect of autonomy on the performance of public organisations has not produced a consistent pattern of results, leaving the precise nature of this relationship uncertain. This emphasises the need for further research to explain this complex relationship. Further, according to Choi (2019), a critical knowledge gap exists in the literature regarding the complex relationship between UA and OP. Particularly, the current stream of research frames UA as a managerial performance-enhancing tool primarily focusing on short-term outcomes. Hence, there is a need for research that explores how UA impact short and long-term performance indicators such as reaching, research, financial and service. In addition, Maassen et al. (2017) propose that autonomy is a determinant of university performance, but empirical evidence is lacking to conclusively support the critical role of university autonomy in enhancing universities' organisational performance. Furthermore, Carvalho et al. (2022) highlight that there is still a gap in the existing literature related to the exclusion of two important

dimensions of OP, which are teaching and learning performance. They call for future research to incorporate these two variables to gain a more comprehensive understanding of the effect of UA on OP. Another limitation stated by Carvalho et al. in their study is that it offers a narrow perspective on the impact of UA on OP by restricting their investigation to a specific subset of universities, thereby compromising the generalisability of their findings to the broader higher education landscape. Hence, a further study with a more inclusive approach, encompassing a diverse range of public and private universities, is necessary to capture the full spectrum of UA's influence on OP.

The preceding discussion has highlighted several critical research gaps concerning the causal relationship between UA and OP within universities. While previous studies have made strides in exploring this causal link, a comprehensive understanding of UA's multifaceted nature and its nuanced influence on OP remains relatively underdeveloped. Acknowledging this academic knowledge gap, the current study aims to make a substantial contribution to the HE management literature by delving into the complex interplay between UA, conceptualised as a multidimensional construct encompassing organisational, staffing, financial, and academic dimensions, and OP, comprising research, teaching, financial, and service performance. Through rigorous empirical investigation, this study seeks to reveal the specific mechanisms by which different facets of UA impact OP, thereby advancing our knowledge in this crucial field.

The theoretical assumption that UA contributes significantly to the strategic capacity improvement of universities is widely acknowledged (Pruvot & Estermann, 2017). For instance, Shin et al. (2022) assert that universities that attain the highest degree of UA are allowed to make decisions with full autonomy concerning strategic planning. This implies that these universities have considerable freedom in formulating, implementing and evaluating their strategies without

stringent constraints of external authorities (Alexiadou & Rönnerberg, 2022). However, empirical evidence supporting this claim remains scarce. Furthermore, the literature emphasises that the capacity of UA to bolster strategic profiling and positioning within the intricate higher education landscape is paramount (Antonowicz & Jongbloed, 2015; Fumasoli et al., 2014a; Turcan et al., 2016). For instance, Kallio et al. (2020) reason that rigid public steering mechanisms, particularly those that severely shrink financial autonomy, hinder a university's capacity to develop and execute strategic plans. They contend that such restrictions render effective SM practices impossible. Accordingly, it is apparent that a substantial degree of freedom is crucial for universities to maintain high educational standards and prevent the erosion of academic quality due to the absence of comprehensive and effective strategic planning. However, the extent to which UA enhances the standing of SM practices within the university landscape remains an under-researched area.

To the best of the researcher's knowledge, this study is the first to examine the impact of UA on SM in Indian universities, considering both public and private institutions.

University autonomy, the degree of freedom universities hold in decision-making, has been a topic of growing interest in recent years. Theoretical perspectives indicate a positive effect of UA on OP. Studies indicate that effective SM practices can significantly contribute to organisational success (Estermann et al., 2011; Agasisti & Shibanova, 2022). For instance, Estermann et al. (2009) contend that autonomous universities are better positioned to adapt to changing settings and exploit opportunities, leading to enhanced OP. Similarly, Jiang and Carpenter (2013) point out that UA empowers universities to make strategic decisions consistent with their vision, mission and goals, and in turn enhancing their overall effectiveness. Likewise, Bladh (2007) concludes that universities can sufficiently improve their OP by designing robust, self-determined visions and strategies for prospective growth uncontrolled by external authorities.

Also, Lewis, Hendel, and Kallsen (2007) argue that autonomy in resource allocation is directly linked with the effective strategic practices of universities. Furthermore, Carvalho and Diogo (2018) emphasise that a greater level of UA is granted to leaders of universities, facilitating the development of strategic plans and bringing about societal expectations. According to Maassen et al. (2017), the assumption is that increased UA will yield universities developing sharper strategic profiles, ultimately boosting OP in academic and financial terms.

While there is a theoretical basis for proposing a link between UA, SM, and OP, a critical gap in the literature exists. No empirical studies have been identified that explicitly examined the mediating role of SM in the relationship between UA and OP. Given the logical supposition that autonomy provides the necessary conditions for effective strategic decision-making, which, in turn, drives OP. Therefore, this study proposes that SM practices mediate the relationship between UA and OP. By examining this under-studied mechanism, this study aims to contribute to the existing literature by providing empirical evidence on how UA translates into improved OP through the SM process.

SM as a field of research requires more focus despite what has been written so far (J. Bryson & George, 2020). The literature calls for further examination of the applicability of theoretical models of SM in the context of HEIs (Siegel & Leih, 2018). More specifically, in emerging and developing countries like India (Sawhney et al., 2020).

The extant literature predominantly investigates the link between SM practices and OP within the boundaries of the private sector as well as public agency domains (Andrews et al., 2017; Borrero et al., 2020; Elbanna et al., 2016; Ocak et al., 2022), a limited the body of research has addressed this nexus within the HEIs context (Angiola et al., 2019; Egorov & Platonova, 2022).

Particularly, empirical evidence remains comparatively sparse. In addition, conceptualising and operationalising the SM construct within this context has mainly been limited, with a predominant focus on strategic formulation (SF) with little emphasis on strategic implementation (SI) and strategic evaluation (SE) (Egorov & Platonova, 2022; Elbanna et al., 2020; Parakhina et al., 2017). Consequently, a comprehensive understanding of the multifaceted interplay between SM four practices and OP in HEIs, especially in public and private universities, remains thin. Hence, there is a critical need for further comprehensive empirical research.

To the best of the researcher's knowledge, no study has been identified that has examined whether SM as one construct and its sub-constructs (components) affect OP in the context of Indian universities. Therefore, to fill the existing gap, this study investigates the effects of SM as one construct and its sub-constructs on OP in Indian universities.

Accordingly, in order to fill the gaps mentioned above in the extant literature, this study will contribute substantively to the existing body of knowledge by answering the following key question:

- What are the effects of UA and its dimensions on OP through the mediating role of SM in Indian universities? This is carried out by empirically offering and validating a comprehensive UA model and creating a conceptual framework for the different dimensions of UA and their impact on SM, leading to OP improvement in Indian universities.

2.6 The chapter summary

This chapter reviews the relevant literature on UA and its definitions and dimensions. It also discusses the concept of SM and its historical development and benefits. Moreover, it presents

an overview of SM in the higher education context, its positive aspects, and factors related to successful SM. Then it offers the existing definitions of SM and the four components. Next, it elaborates on OP regarding definitions and dimensions within the higher education context. Finally, the knowledge gap has been presented in detail.

Chapter 3: Theoretical Underpinning and Hypotheses Development

3.1 Introduction

This chapter addresses the theoretical foundation that underpins the conceptual framework of this study and explains the hypotheses development.

3.2 Theoretical underpinning

Penrose (1959) and Wernerfelt (1984) pioneered the resource-based view of the firm (RBV), which was later expanded by (J. Barney, 1991) to address the essential question that is "Why do some firms persistently outperform others?" (J. B. Barney & Arikan, 2005). According to Rivard et al. (2006), RBV is "a collection of resources and competencies which could combine a range of competencies." The RBV posits that organisations' resources and capabilities are valuable, rare, difficult to imitate, and no substitutable (J. Barney, 1991). These valuable resources are categorised as tangible, intangible, and personal-based (Grant, 1991).

Tangible resources incorporate physical assets and financial capital. Intangible resources comprise service or product quality, brand image, and reputation. Personal-based resources include assets such as human capital, organisational capital, and cultural and technical assets (Grant, 1991; Sarwar et al., 2022).

Barney (1991, p. 101) defines an organisation's resources as "all assets, capabilities, organisational processes, firm attributes, information, and knowledge that enable the firm to design and execute strategies that improve its efficiency and effectiveness." In addition, Christensen (2016) broadly defined resources in higher education, including "autonomy/power, financial

sustainability, accreditation, enrollment, and credibility to manage and achieve the organisation mission”.

However, these resources combine to produce organisational capabilities (J. B. Barney, 2001). Capabilities refer to organisations' ability to assemble, combine, and distribute resources to conceive, choose, and implement strategies that enhance performance (Priem & Butler, 2001).

The RBV is a widely influential theoretical perspective (Sarwar et al., 2022) that has been used as a foundation to examine the relationship between autonomy and performance (Lazarova et al., 2017). Despite the terminology used, studies have defined UA as the extent to which universities can freely manage their administrative/organisational, academic, staffing and financial aspects in order to improve their performance (see Estermann et al., 2011). This is the first starting point of this study's argument that effectively leveraging the UA in managing administrative, academic, staffing and financial aspects is central to improving their OP.

The assumption is that UA will allow universities to determine how to design strategies, implement and evaluate them (Alexiadou & Rönnerberg, 2022; Dobbins et al., 2011; Estermann et al., 2011) so that they can achieve better OP (Estermann & Nokkala, 2009). This thinking stems directly from the view that UA is considered a resource (Christensen, 2016) to improve universities' strategic capabilities (Kohtamäki & Balbachevsky, 2019). This is the second point of this study's argument that effectively leveraging the UA as a critical resource is granted to universities to improve their SM practices.

Considering the application of the RBV to SM, (J. B. Barney, 2001) claimed that organisations can improve their performance by using the existing resources to execute strategies that use their internal strengths while balancing external threats and evading external weaknesses.

This is the third point of this study's argument that effective use of the universities' resources produces proper adoption of SM practices in order to achieve superior OP.

Despite a considerable amount of literature using the RBV in autonomy-performance studies as well as strategy-performance research in the context of for-profit organizations, there is unexpectedly little research with robust theoretical support using the RBV in the context of HEIs.

Drawing on the crux of RBV theoretical assumptions, this study attempts to explore the role of UA in facilitating effective SM practices in order to achieve superior OP.

3.3 Hypotheses development

In this study, the researcher identifies key constructs in order to develop a theoretical framework for understanding the interrelationships among them. Accordingly, the researcher develops a comprehensive conceptual framework that illustrates the interrelationships among UA dimensions, SM practices, and OP dimensions in the context of Indian public and private universities. Figure 3.1 presents the theoretical framework with hypotheses.

The sections below then present how the hypotheses were established based on RBV and the existing HEIs literature. By systematically combining these theoretical perspectives, the study aims to establish a robust basis for empirical investigation.

3.3.1 University Autonomy and Organisational Performance

Several theoretical studies have argued that UA is a pre-condition for improving the OP of universities worldwide. For instance, Maassen et al. (2017) argued that granting complete UA leads to a positive effect on universities' OP. The argument made by Maassen et al. revolves around the idea that UA provides universities with greater control over resource allocation, enabling them to

invest in areas that directly contribute to OP, such as research, teaching, services and managerial aspects. In this sense, universities strive to justify autonomy through effective outcomes. Further, Jacobs (2010) stated that the OP of universities is affected by their autonomy and competitive environment. In other words, a high level of UA, as well as competition, yields superior OP where the universities will enhance their return on any given investment. From this perspective, UA provides universities with the freedom to respond to competitive pressures effectively, while competition incentivizes universities to utilise their autonomy to maximize performance by investing in research, teaching, and providing services.

In addition, Shin et al. (2022a) concluded that UA allows the leader to increase employees' involvement in work and enhance OP and services provided to stakeholders. Considering this argument, granting leaders greater freedom in decision-making empowers them to cultivate a participatory organisational culture, leading to a high level of employee involvement, which can pave the way to increased job satisfaction, motivation, and a stronger sense of ownership over organisational goals. Consequently, employees are more likely to contribute innovative ideas, improve processes, and enhance service delivery. This collective effort ultimately translates into improved OP and enhanced services provided to stakeholders. Essentially, Shin et al. suggest that UA acts as a catalyst for employee engagement, which, in turn, becomes a critical driver of OP success. Moreover, T. Carvalho and Diogo (2018) indicated that the restrictions to the different dimensions of UA negatively affect the OP of universities. Consequently, universities may struggle to adapt to a changing environment, compete effectively, and deliver high-quality teaching, research and other services. From this perspective, these limitations ultimately translate into lower OP due to reduced flexibility, innovation, and responsiveness to stakeholder needs.

Although the empirical evidence for the positive effect of UA on OP is uncertain (Knott & Payne, 2004; Westerheijden et al., 2010), they have justified that UA is essential for better OP in universities (Choi, 2019). For instance, Eykamp (1995, cited in Enders et al., 2013) revealed that UA positively correlates with OP. A further attempt by Aghion (2009) examined the link between UA, competition, and the overall OP in some European and US universities. They found that there is a positive link between UA and OP. In this study, the academic ranking of world universities measured the OP, whilst UA was estimated by freedom in developing curriculum, student recruitment, hiring of academic staff, wage policies, the share of budgets from the government, and research grants. Similarly, in their study, Aghion et al. (2010) investigated the relationship between UA, competition, and OP in some European and US universities. They found a positive link between UA and OP. In addition, a study by Kupriyanova et al. (2020a) investigated the effect of UA on the effectiveness and efficiency of some European countries' HEIs. The findings revealed that all four dimensions of UA have comparable effects on both efficiency and effectiveness. A recent study by Agasisti and Shibanova (2022) used a multi-stage empirical methodology to investigate the effects of formal and informal UA and the performance and efficiency of Russian higher education. The findings indicated that informal autonomy affects positively and significantly overall institutional efficiency. In contrast, formal autonomy does not affect higher publication activity or efficiency. Based on prior literature and the argument of RBV, this study proposes the following hypotheses:

H1. UA has a positive and significant effect on OP.

H1a. OA has a positive and significant effect on OP.

H1b. FA has a positive and significant effect on OP.

H1c. SA has a positive and significant effect on OP.

H1d. AA has a positive and significant effect on OP.

3.3.2 University Autonomy and Strategic Management

The literature described UA as “the right of universities to define their strategies without external interference” (Mekonnen et al., 2022). Mekonnen et al. asserted that obtaining a complete UA is essential for realising HEIs’ overall missions. They further contend that universities can better define and pursue their missions through considerable autonomy, allowing flexibility to adapt to changing environments, allocate resources effectively, and innovate directly to mission fulfilment. Moreover, complete UA can enable a strong university culture and identity, which are essential for achieving long-term mission objectives.

The theoretical assumption in the higher education literature is that when UA is high, universities can determine how to design strategies, implement and evaluate them Dobbins et al., 2011; Estermann, 2014; Estermann et al., 2009). For instance, Alexiadou and Rönnberg (2022) posit that a high degree of UA empowers institutions to independently formulate, execute, and assess their strategic initiatives. Despite this theoretical assumption of the potential effect of UA on SM, no previous empirical studies have investigated this effect. Despite this theoretical assumption of the potential effect of UA on SM, no previous empirical studies have investigated this effect.

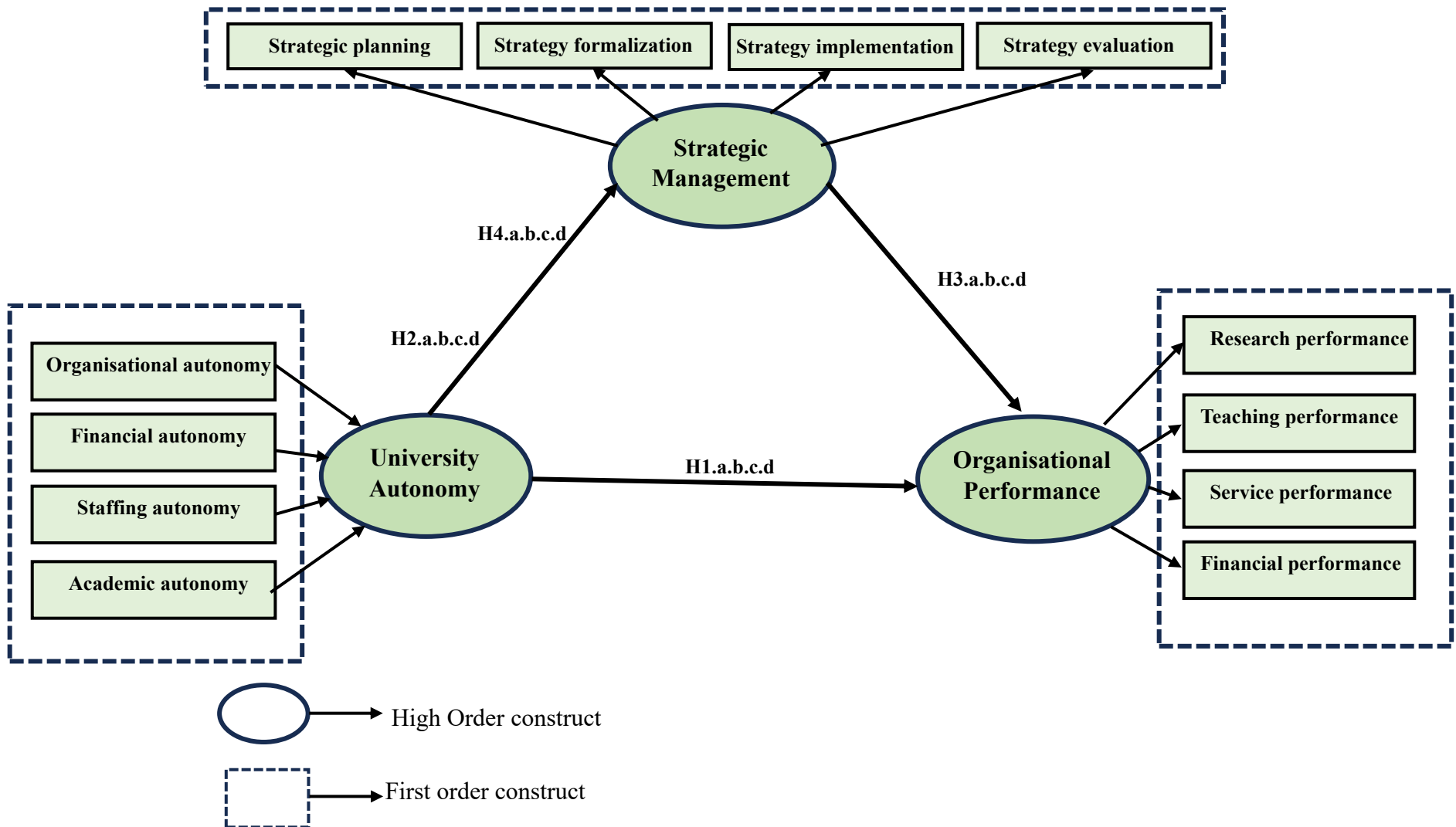


Figure. 3.1 The Conceptual Framework

Furthermore, the literature highlighted that the financial restrictions imposed on universities limit universities' strategic capabilities (Estermann et al., 2011). Moreover, scholars underscored that AA provides leaders of the universities with the necessary capacity and competency to make strategic decisions (Bleiklie & Michelsen, 2013), which also serves as an instrument to carve out a niche in teaching and research (Goodell, 2005).

Brock (1997) concluded that autonomy is necessary for HEIs to set goals and implement constructive strategies. This was supported by Kohtamäki and Balbachevsky (2019), who claimed that UA would build a new, effective university and improve its SM and development practices. According to T. Carvalho and Diogo (2018), UA allows leaders of universities to develop their strategic plans and ensure the appropriate use of funding in implementing their initiatives and activities. Moreover Kohtamäki (2022) emphasised that universities must become more strategically, competently managed, financially entrepreneurial, and educationally effective and innovative with complete UA.

In a more recent analysis, Shin et al. (2022a) showed that universities that enjoy the highest degree of UA can make decisions concerning strategic planning. On the contrary, (Kallio et al., 2020) opined that SM is challenging for universities to practice in a centralised system since expecting universities to develop their strategic plans under strict steering mechanisms leads to long-term reverse consequences on their abilities to respond to the changes in their settings. Therefore, without UA, universities may struggle to attract and retain the skilled academic and administrative staff needed to achieve their goals and objectives (Estermann et al., 2009). Building on the discussion of the above-cited studies and the assumptions of RBV, this study proposes the following hypotheses:

H2. UA has a positive and significant effect on SM.

H2a. OA has a positive and significant effect on SM.

H2b. FA has a positive and significant effect on SM.

H2c. SA has a positive and significant effect on SM.

H2d. AA has a positive and significant effect on SM.

3.3.3 Strategic management and Organisational performance

In the literature, the emphasis that SM brings positive results to OP has been controversial. Scholars who support the importance of SM have consistently claimed that it leads to better decisions (Ansoff, 1991) and therefore enhance OP (Eriksen, 2008a). In contrast, scholars who do not support SM have reasoned that it is a bureaucratic approach that results in rigidity concerning the ability to adapt to changes in the environment and competitive space (Mintzberg, 1990), and such rigidities, therefore, leads to poor OP (Ansoff et al., 2018; Eriksen, 2008b).

Nevertheless, the view that SM is counterproductive to OP lacks empirical evidence (George et al., 2019), and this study follows the evidence that argues SM contributes to OP positively.

However, previous studies investigating the SM-OP relationship were mainly carried out in the private sector and thus have neglected the HEIs context. Many empirical studies reported positive and significant impacts of SM on OP (Donkor et al., 2018; Eriksen, 2008b; Glaister et al., 2008; Hill et al., 2014).

An early meta-analytic review by Miller and Cardinal (1994) found that SM positively impacts OP. Further, the authors stated that methods used in investigating the link between SM and OP are primarily responsible for the inconsistencies reported in the literature. Similarly, a recent meta-analytic review by George et al. (2019) synthesised more than 20 years of empirical studies on the SM-OP relationship to identify whether SM contributes to OP. The

authors revealed that SM has a positive, moderate, and significant impact on OP. Further, they suggested that the positive effect of SM on OP is strongest when OP is measured as effectiveness and when SM is estimated as formal planning.

However, few studies have attempted to investigate the effect of SM on OP in the context of HEIs. For instance, Angiola et al. (2019) analysed whether SM and the implementation process of 29 Italian public universities enhanced OP levels from 2011 to 2014 through outcome indicators using multiple regression analysis. The results indicated a positive impact of SM on the outcomes of public universities. Moreover, Zumitzavan and Imsuwan (2014) used survey questionnaires to examine the effect of organisational strategies on OP of universities in Thailand as a case study. The results revealed that organisational strategy has a positive effect on OP. Based on the above literature and the assumptions of RBV, this study proposes the following hypotheses:

H3. SM has a positive and significant effect on OP.

H2a. SP has a positive and significant effect on OP.

H2b. SF has a positive and significant effect on OP.

H2c. SI has a positive and significant effect on OP.

H2d. SE has a positive and significant effect on OP.

3.3.4 The Mediation Effect of Strategic Management

In HEIs literature, there has been an emphasis that UA prompts SM practices, thus improving the OP of universities (Fumasoli et al., 2014a). For instance, Unger et al. (2020a) contended that UA strengthens universities' abilities to develop strategic targets, provides stable financial resources and shapes their unique profile in teaching and research. In addition, Choi (2019) noted that UA enables universities to self-regulate their activities and develop SM

capabilities in line with the changes in their environment for the purpose of improving their OP. Further, Maassen et al. (2017) argued that UA positively affects issues such as strategic planning behaviour, profiling and teaching and research processes.

According to Enders et al. (2013), UA is generally seen as a foundation for adopting SM practices and holds the flexibility to formulate teaching and research methods strategies. Moreover, Adam (2020) claimed that UA can provide universities with strategic behaviour to respond to challenges for a better OP. Similarly, Estermann et al. (2009) contended that UA bears a positive effect on facilitating the adoption of strategic planning to enhance the OP of universities in the long run by translating their resources into initiatives, programs and activities.

However, there has been a considerable dearth of studies that examined the assumption that SM practices mediate the link between UA and the OP of universities. Only one study was found that attempted to investigate how implementing strategy affects performance with or without the presence of autonomy (Brock, 1997). Brock found that HEIs that implement prospector strategies and have high autonomy are linked with a higher level of effectiveness than those with low autonomy. In addition, He reported that HEIs that implement prospector strategies, have a high level of autonomy and use externally oriented planning are linked with better performance.

Given the above literature, it can be concluded that when universities are granted a high level of UA, they can implement SM practices effectively. This, in turn, leads to superior OP. In other words, UA indirectly affects the OP of universities through the mediating role of SM. Accordingly, this study proposes the following hypotheses:

H4. SM mediates the relationship between UA and OP.

H4a. SM mediates the relationship between OA and OP.

H4b. SM mediates the relationship between FA and OP.

H4c. SM mediates the relationship between SA and OP.

H4d. SM mediates the relationship between AA and OP.

3.4 The Chapter Summary

In this chapter, the researcher presents the underpinning theoretical foundation based on which the interrelationships among the constructs are tested. Also, the researcher discusses the hypotheses development based on the existing literature.

Chapter 4: Methodology

4.1 Introduction

This chapter explains the chosen methodology of this study. First, it addresses the selected research philosophy and research approach, providing a foundation for the study. After that, it highlights the key processes undertaken in this study. Next, it outlines the research design, strategy used, time horizon, and data collection method, offering insight into the study's methodology. Then, it provides an overview of the questionnaire design.

Furthermore, the chapter presents the operational definitions and measurement of independent, dependent, and mediating constructs, clarifying the terminology and constructs and their sub-constructs used in the study. The chapter then offers the pilot test of the study's instrument, assessing its initial effectiveness. Following that, it outlines the population, sample, sample size, and sampling technique, providing a framework for data collection. Lastly, the ethical considerations of the study are discussed, addressing the ethical aspects of research conduct.

4.2 Research philosophy

Research philosophy refers to 'the underlying systems of beliefs and assumptions about knowledge development' (Saunders et al., 2016). There are five main philosophies: positivism, critical realism, interpretivism, postmodernism, and pragmatism (Saunders et al., 2016, p. 145). The current study mainly adopts a positivist philosophy, which promotes an objective interpretation of reality and uses data from surveys and experiments (Gray, 2021).

In social science, most of the literature relies on two philosophies: positivism and interpretivism. Positivism philosophy is mainly linked with quantitative research using

surveys or structured interviews. In contrast, interpretivism philosophy is primarily associated with qualitative research using surveys or structured interviews using observation or unstructured interviews (Lee & Lings, 2008). According to Wahyuni (2012), the essential fact underpinning the positivist philosophy is that different studies would yield similar outcomes of a particular problem when they analyse a large sample employing a similar research method and statistical tests. Positivist research uses existing theories to develop hypotheses and collects observable data to investigate causal relationships between variables (Saunders et al., 2012). In the same vein, (Della Porta & Keating, 2008) noted that researchers set out with a hypothesis, collect data, and then identify whether or not the findings support the proposed hypothesis.

According to (Della Porta & Keating, 2008), the researcher and the subject are independent and objective in positivist philosophy. Therefore, the researcher is unbiased and does not influence the research subject.

The current study aims to investigate the role of UA in improving the OP of universities through SM practices based on a survey questionnaire. In addition, the conceptual framework of this study will be examined based on an existing theory. Therefore, positivist philosophy is determined as the most appropriate paradigm to answer the questions of the study.

4.3 Research Approach

Two prominent approaches to research are the inductive and deductive approaches (Saunders et al., 2016). The deductive approach is based on positivist philosophy and the quantitative methodology. It begins with reviewing the relevant literature and using existing theories to develop hypotheses. Following that, data are collected to test these hypotheses.

The findings are used to support or refute the hypotheses, and the theories are revised accordingly (Bryman, 2001).

The inductive approach, on the other hand, is based on interpretivist philosophy and qualitative methodology. It aims to build theories from empirical observations and solid evidence, which can be generalised to the entire population (Bernard, 2013). However, this approach has been criticised for its potential for falsification, as researchers' limited knowledge may prevent them from effectively connecting empirical data with theories (Myers & Klein, 2011).

Since this study aims to identify the cause-and-effect relationships between UA, SM and OP based on the positivist philosophy that intends to generalise the finding for a large population, the deductive approach is adopted to answer the questions of the current study based on statistical findings.

4.4 Research Design

The research design refers to “the general plan of how you will go about answering your research questions” (Saunders et al., 2009, p. 136). In addition, the research design is a specific plan for addressing the objectives of a study through sequent steps, which include developing the research questions, collecting data, analysing data and reporting the results and lastly, writing the conclusion (Creswell & Creswell, 2017, p. 145). In the same vein, Bryman and Bell (2011) stated that research design is a framework that guides the data collection and analysis.

Based on the study’s research philosophy and conceptual framework, the current study uses a quantitative cross-sectional design using a survey questionnaire in order to answer its questions, leading to the addressing of the aim and objectives. In particular, this

research explores the role of UA and its effect on both SM and OP based on the perspectives of leaders of Indian universities.

4.5 Research Strategy

Different strategies for collecting empirical data include experiments, surveys, action research, case studies, grounded theory, and archival and ethnographic strategies (Saunders et al., 2009).

This study uses a structured survey questionnaire to collect quantitative data. This strategy is widely used in empirical research, allowing researchers to collect large amounts of data from a population (Bryman, 2001). Structured survey questionnaires typically consist of closed-ended questions with pre-determined answer choices. This makes them easy to administer and score, and it allows researchers to compare responses from different participants (Saunders et al., 2016). Furthermore, the survey questionnaire will enable the researcher to collect the empirical data needed to examine the proposed conceptual framework quantitatively using descriptive and inferential statistics (Saunders et al., 2019).

4.6 Data Collection Method

There are two main data collection methods: quantitative and qualitative. Quantitative research involves collecting and analysing numeric data, while qualitative research involves non-numeric data, such as text, images, or videos (Saunders et al., 2016).

The selection of the data collection method relies on the research questions being asked and the information needed to answer them. Quantitative research is often utilised to test hypotheses or estimate the relationship between constructs. Qualitative research is often employed to explore people's experiences and views or to comprehend the social and cultural contexts in which phenomena appear (Christensen, 2016).

In this study, the researcher is interested in exploring the perspectives of deans of schools and heads of departments working in Indian universities on UA, SM, and OP. Therefore, the qualitative data collection method is the most appropriate for this study.

4.7 Time Horizon

There are two types of studies based on the time frame in which data is collected: cross-sectional and longitudinal studies. In cross-sectional studies, researchers collect data at a single point in time to answer their research questions. In longitudinal studies, researchers collect data at different points in time to answer their research questions (Sekaran & Bougie, 2016).

This study employs a cross-sectional design to collect data. A cross-sectional design is the most appropriate for this study because it allows the researcher to collect data from a large sample of respondents at a particular time to investigate a specific relationship.

Figure 4.1 outlines the research methodology adopted in this study, which is based on the research onion model developed by (Saunders et al., 2012, p. 128).

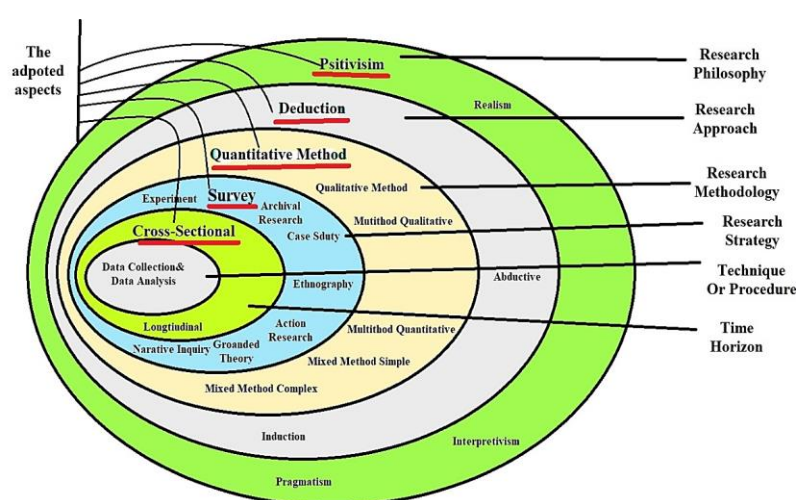


Figure 4.1. The research Onion of this study (Taken from Saunders et al., 2012, p.128)

4.8 Questionnaire design

A questionnaire refers to “a prepared set of questions (or measures) used by respondents or interviewers to record answers (data)” (Hair et al., 2019, p. 274). According to Saunders et al., (2009), there are three types of questionnaires for conducting both qualitative and quantitative research: unstructured, semi-structured, and structured. Unstructured questionnaires support free answers where respondents are provided with open-ended questions and can offer broad views. This type of questionnaire is suitable for qualitative studies. Semi-structured questionnaires support both unrestricted and restricted answers where respondents are given open-ended and closed-ended questions. This type of questionnaire is suitable for mixed studies. The last type of questionnaire is the structured questionnaire. It only includes closed-ended questions where the respondents are given a set of answers from which they should select the most appropriate. This type of questionnaire is suitable for quantitative research (Hague & Jackson, 2002).

According to (Taylor-Powell & Marshall, 1998), a questionnaire incorporates four types of information that are “beliefs and thoughts, attitudes, knowledge, and attributes and behaviour”. Beliefs and thoughts refer to emotions of individuals, opinions, conclusions and views. The knowledge addresses the understanding of respondents about a specific issue. The behaviour relates to what respondents intend to do something, whether in the past or present. Last, attributes include personal demographic characteristics of the respondents, such as gender, age, education, and occupation.

The widely employed rating scale is the Likert scale designed by Likert (1932), which is easy to understand and takes less time to answer (Shahin, 2011). It comprises several options per question. Scholars may use sequences of “strongly agree, agree, disagree, or strongly disagree” or other sequences such as poor, Fair, good, poor, and

outstanding (Alabi & Jelili, 2023; Heiberger et al., 2015). Dawes (2008) proposed that a five-point scale is appropriate for conducting structural equation modelling (SEM).

This study relies on positivist philosophy and quantitative method; hence, it adopts a closed-ended questionnaire (Collis & Hussey, 2009) based on five Likert scales as the most appropriate type to measure the three constructs related to the conceptual framework (Shahin, 2011).

The questionnaire is designed into five sections. The first section includes a cover letter which describes the aim of the study and provides a concise and clear explanation of its objectives to the respondents. Moreover, it presents the researcher's contact information when respondents have further enquiries. Further, the section provides the respondents with instructions on answering the questions (appendi xx). The second incorporates the demographic characteristics of the respondents (personal information): gender, designation, administrative role and responsibility and years of experience to make the respondents feel psychologically comfortable with the questionnaire (Sekaran & Bougie, 2016). The third section includes questions for measuring UA dimensions. The fourth section contains the questions for estimating SM components. The last section involves the questions to measure the dimensions of OP. The participants surveyed were requested to reveal their agreement on each item based on a five-point Likert scale ranging from 1 = "strongly disagree" to 5 = "strongly agree" for UA and SM constructs. Also, they were asked to reveal their agreement on each item based on a five-point Likert scale ranging from 1 = "poor" to 5 = "outstanding" for OP.

4.9 Operational definitions

The operational definition is necessary to estimate abstract concepts based on a subjective point of view (Sekaran & Bougie, 2016). The operational definition is described as "a set of questions and response alternatives used to measure a variable" (Ruane, 2016).

The current section presents the operational definitions of the conceptual framework of this study's constructs to estimate their interrelationships. Based on relevant literature, the researcher identifies the following operational definitions of the primary constructs and their relevant sub-constructs or dimensions.

4.9.1 University autonomy

UA is defined as “the freedom of a university to make its own decisions about organizational, academic, staffing, and financial affairs without external control or influence” (Estermann et al., 2011).

4.9.1.1 Organisational Autonomy

OA is defined as “the extent to which a university can make its own decisions about the terms of office, selection procedure, and dismissal of the executive head; the inclusion and selection of external members in governing bodies; academic structures; and the creation of legal entities” (Pruvot & Estermann, 2017).

4.9.1.2 Academic Autonomy:

AA is defined as "the capacity of a university to make its own decisions freely about student enrollment, student selection, program offerings, program curriculum, program termination, and language of instruction" (Pruvot & Estermann, 2017).

4.9.1.3 Staffing Autonomy:

SA is described as “the capacity of a university to make its own decisions about the recruitment procedures, salaries, promotions, and dismissals of senior academic and administrative staff” (Pruvot & Estermann, 2017).

4.9.1.4 Financial Autonomy:

FA is the ability of a university to make its own decisions about the allocation of public funding, the retention of surpluses, the borrowing of money, the ownership and sale of buildings, and the charging of tuition fees for national and international students at different degree levels (Pruvot & Estermann, 2017).

4.9.2 Strategic Management:

SM is defined as “the process of understanding an organization, developing a vision and mission, setting goals and objectives, assessing internal capabilities and external factors, formulating strategies to achieve goals and objectives, implementing strategies, and evaluating the effectiveness of strategies” (Goldsmith, 1995).

4.9.2.1 Strategic planning:

SP is described as “the process of developing a clear and written vision, mission, values, goals, and objectives, and assessing the internal and external environment of a university” (Boyd & Reuning-Elliott, 1998; Elbanna, 2010; Elbanna et al., 2016; Glaister et al., 2008).

4.9.2.2 Strategy formalisation:

SF is defined as “the process of developing and documenting a structured planning process, planning techniques, guidelines, and policies to guide the planning process and assess alternatives before deciding on a strategy” (Bailey et al., 2000; Segars et al., 1998).

4.9.2.3 Strategy implementation:

SI is defined as “the activities and actions required for implementing the strategic plan” (Bailey et al., 2000; Elbanna et al., 2016; Ogunmokun et al., 2005).

4.9.2.4 Strategy evaluation:

SE is defined as “the activities and actions required for assessing the strategic plan” (Asif & Searcy, 2014).

4.9.3 Organisational Performance:

OP is defined “as a university’s actual research, teaching, service, and financial outcomes” (Asif & Searcy, 2014).

4.9.3.1 Research Performance:

Research performance is defined as “the research activities and outcomes of a university that include different research publications, research projects, and technology projects obtained, academic grants acquired by the faculty and their participation in conferences and seminars” (Asif et al., 2013; Asif & Searcy, 2014; Cameron, 1978).

4.9.3.2 Teaching Performance:

Teaching performance is defined as “the extent to which a university creates stakeholders’ satisfaction with graduates’ skills, increases graduates’ particular GPA and employment rate, minimises students’ dropout rate, and evaluates its courses” (Asif & Searcy, 2014; Cameron, 1978; Chen et al., 2009).

4.9.3.3 Financial Performance:

Financial performance is defined as “a subjective measure of the degree to which a university achieved financial objectives” (Asif & Searcy, 2014; Zangouinezhad & Moshabaki, 2011).

4.9.3.4 *Service Performance:*

Service performance is defined as “the extent to which a university participates in community service, program design, academic committees, curriculum development committees, and provides consultation to students” (Asif & Searcy, 2014; Cameron, 1978; Zangoueinezhad & Moshabaki, 2011).

4.10 **Measurement of construct**

This section presents the instruments selected to estimate the constructs investigated in this study. All of the adopted scales have been tested and published in high-impact journals. In the following sub-sections, the scales adopted to measure the independent construct (UA), the dependent construct (OP), and the mediating construct (SM) are offered separately below.

4.10.1 *The independent constructs*

Table 4.1 shows 22 items measuring perceived UA grouped into four dimensions adapted from the original "Autonomy Scorecard" scale developed by Pruvot and Estermann (2017). These dimensions measured the deans' and heads of departments' perspectives on organisational, financial, staffing, and academic autonomy. Finally, one global item was developed and incorporated to test the validity and reliability of the UA constructs.

Table 4.1 Scale to Measure University Autonomy Dimensions

Dimensions	Items	Source
OA	Our university determines and conducts the selection procedure for the appointment of the executive head	Pruvot & Estermann (2017)
	Our university has complete autonomy to decide the recruitment rules for the appointment of the executive head	
	Our university does not have the right to remove the executive head from office*	
	Our university defines the length of the executive head's term of office	
	Our university can freely decide to include external members in its governing bodies	
	Our university can freely establish new faculties, departments, and research institutes or restructure existing ones without external approval	
AA	Our university decides freely on the overall number of its students without the interference of an external authority.	Pruvot & Estermann (2017)
	Our university sets up the admission criteria for the selection of its students (at Bachelor, Master and doctoral levels).	
	Our university opens and closes degree programmes freely without the approval of an external authority (at the Bachelor, Master and doctoral levels).	
	Our university designs the content of its degree programmes and courses.	
	Our university can freely select appropriate Quality Assurance Mechanisms according to its needs.	
	Our university can freely choose Quality Assurance Agencies, including agencies from other countries, according to its needs.	
SA	Our university freely sets the recruitment procedures for appointing academic and administrative staff	Pruvot & Estermann (2017)
	Our university freely determines the salaries of academic and administrative staff	
	Our university decides freely on the dismissal of academic and administrative staff	
	Our university decides freely on the promotion of academic and administrative staff	
FA	Our university can autonomously allocate public funding according to its needs	Pruvot & Estermann (2017)
	Our university can freely retain and accumulate the surplus of its public funding	
	Our university's government grants do not depend on the surplus we generate*	
	Our university can freely borrow and raise money from different sources without the approval of external authorities	
	Our university needs permission from external authorities before buying, selling, or building facilities*	
	Our university freely sets the level of tuition fees for Indian students and foreign students (at Bachelor, Master, and doctoral levels)	
GI	My university has a high level of University autonomy	
Note: OA, organisational autonomy; AA academic autonomy; SA, staffing autonomy; FA, financial autonomy.		
* Reverse-coded question.		

4.10.2 Dependent constructs

For estimating the OP of Indian universities, a scale containing 16 items was adopted to measure four dimensions of OP, which are research, teaching, service and financial performance, where each dimension was estimated by four items. Table 4.2 shows the complete scale along with the sources they were taken from.

Table 4.2 Scale to Measure Organisational Performance Dimensions

Dimensions	Items	Source
RP	The average number of research publications (including journal papers, conference papers, books, and monographs) published by our university in the last three-year period has been	Asif and Searcy (2014), Asif et al. (2013), Cameron (1978)
	The average number of research projects obtained by our university in the last three-year period has been	
	The percentage of the faculty of our university who have attended conferences and seminars in the last three-year period has been	
	The percentage of the faculty of our university being members of the editorial boards/reviewers' panels of journals in the last three-year period has been	
TP	The number of faculty members of our university who received awards for teaching in the last three-year period has been	Asif and Searcy (2014), Chen et al. (2009), Cameron (1978)
	The average subjects per course offered by our university in the last three-year period have been	
	The average number of new courses offered by our university in the last three-year period has been	
	The average number of courses incorporating new technology being introduced by our university in the last three-year period has been	
SRP	The participation of our university in the curriculum development of other Higher Education Institutes in the last three-year period has been	Asif and Searcy (2014), Zangoueine zhad and Moshabaki (2011), Cameron (1978)
	The community service activities undertaken by our university in the last three-year period have been	
	The percentage of faculty participation in Policy-making boards and committees in the last three-year period has been	
	The number of companies involved in joint activities with our university in the last three-year period has been	
	The income generated from research projects by our university in the last three-year period has been	

FP	The income generated from tuition fees by our university in the last three-year period has been	Asif and Searcy (2014),
	The total teaching and research costs of our university in the last three-year period have been	Zangoueine zhad and
	The grants/endowments received from the industry by our university in the last three-year period have been	Moshabaki (2011)

Note: RP, research performance; TP, teaching performance; SRP, service performance, FP, financial performance.

4.10.3 The Mediating constructs

Table 4.3 presents 23 perceived items to measure SM practices, grouped into four components: strategic planning (1-8), strategy formalisation (9-12), strategy implementation (13-17), and strategy evaluation (18-23). Also, Table 4.3 shows the complete scale along with the sources they were taken from.

Table 4.3 Scale to Measure Strategic Management Components

Dimensions	Items	Source
SP	Our university has a clear vision statement that defines its long-term future	Elbanna (2010), Elbanna et al. (2016), Boyd et al. (1998), Glaister et al (2009)
	Our university has a clear mission statement that emphasises its uniqueness and identity	
	Our university has clearly defined organisational values, which are collective beliefs about what the university stands for	
	Our university has clear long-term goals	
	Our university has annual objectives that clearly express how to achieve the long-term goals	
	Our university analyses the related external environmental aspects to determine the opportunities and threats	
	Our university analyses its internal aspects to increase its strengths and avoid weaknesses	
	Our university achieves a good fit between the external and internal environmental aspects	
SF	Our university has instructions and written guidelines to structure its strategic plan	Segars et al. (1998),
	Our university accurately evaluates multiple alternatives before deciding on a strategy	
	The strategies of our university emerge gradually as the university responds to the need to change	

	There is no formal documentation for the planning process and outputs in our university *	Bailey et al. (2000)
SI	Our university develops specific initiatives and projects to put its strategic plan into action	Elbanna,(2013), Bailey et al. (2000) Ogunmokun et al. (2005)
	The annual budget of our university strongly supports meeting the objectives and priorities established in the strategic plan	
	Once plans are made by our university, no changes are allowed for a significant period of time*	
	Our university communicates to its employees when and how the strategies will be carried out	
	The annual evaluations of top, middle and lower managers are based largely on their contribution to the successful accomplishment of the strategic objectives	
SE	Our university uses various types of performance measures (financial and non-financial) to evaluate its strategic plan	Elbanna (2013)
	Our university benchmarks its performance against other universities	
	Our university uses performance measures to track the implementation of initiatives and projects called for by the strategic plan	
	Our university uses the results of performance measurement to track the accomplishment of the objectives stated in the strategic plan	
	Our university regularly reports the performance measures associated with the strategic plan to the concerned departments and sections	
	Our university takes corrective actions based on the reported performance measures	
Note: SP, strategic planning, SF, strategy formalisation, SI, strategy implementation, SE, strategy evaluation. * Reverse-coded question.		

4.11 Pilot test

A pilot study is defined as “a small-scale test to examine a study’s feasibility before conducting a large trial” (Teresi et al., 2022). According to (Lynn, 1986; Saunders et al., 2009), a pilot test helps scholars improve the possible design and identify potential weaknesses to be addressed in the final questionnaire. In this study, the pilot study was conducted in two separate stages, pre-pilot and post-pilot, to assess the reliability of the research instrument. The following sub-sections present the pre-pilot and post-pilot tests.

4.11.1 Pre- Pilot-test

Before conducting the pilot test, the researcher conducted content analysis

following the guidelines provided by (Lynn, 1986) (see Table 1). Almanasreh et al. (2019) provide practical descriptions for assessing content validity based on three stages. It begins with the development stage, which includes three steps: defining the concepts, identifying the domain, developing items, and formatting an instrument. The next stage is the Judgment-quantification, where a scholar invites experts to determine the items' relevance, clarity, and comprehensiveness. The last stage involves revising and reformation, where the scholar should decide whether to keep, alter, omit, or add new items to the instrument (see Fig 4.2).

Based on this, the content analysis form was developed based on a 4-point rating scale used to rate the items of the study's constructs, namely UA, SM and OP and sent to three experts (see Table 4.4).

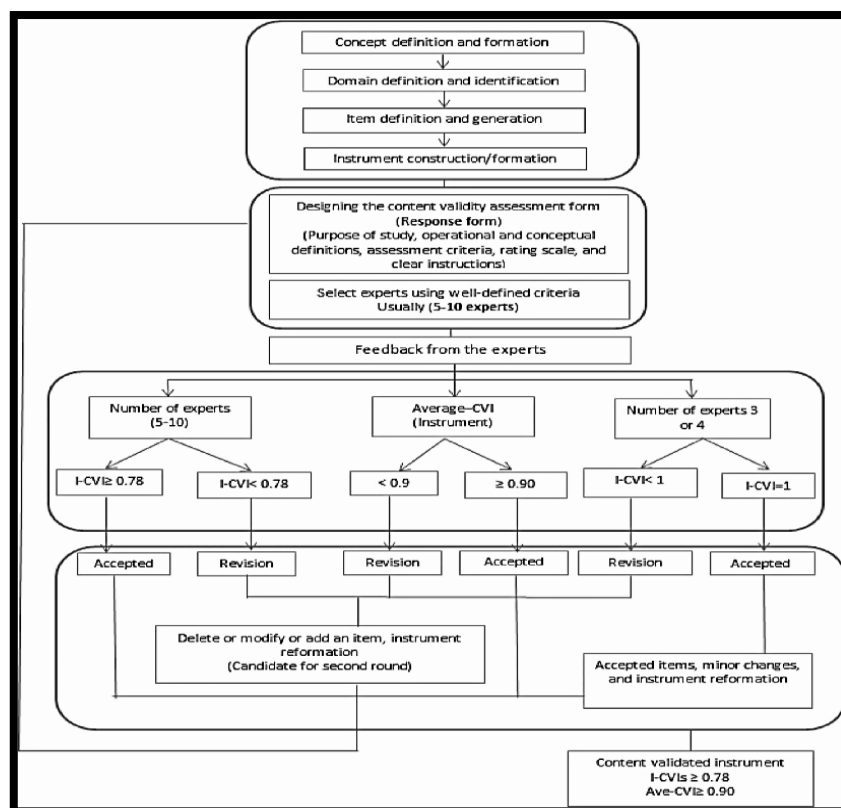


Figure. 4.2 content analysis stage (Adopted from Almanasreh et al. (2019))

Table. 4.4 experts' detail

No	Name	University	Designation
1	Y.V. Reddy	Goa University	Senior Professor
2	Nilesh A. Borde	Goa University	Senior Professor
3	Dawood Abdulmalek AL-Hidabi	International Islamic University, Malaysia	Senior Professor

Next, the research used I-CVI, which stands for content validity index of each item; Ave-CVI, which stands for Content validity index of the whole instrument; UA-CVI, which stands for content validity index of the whole instrument and Ave-proportion of agreement across experts; which is calculated based on the following equation:

Proportion of agreement of each expert/total number of experts

It is used to quantify the rating of the items and decide whether to keep, alter, omit, or include new items in the research instrument. Since three experts were involved in assessing the scale, and as seen in Table 4.5, there should be a complete agreement to accept the scale in general and an item in particular (See Figure 4.2).

Table. 4.5 The range of acceptance or revision of an instrument

Number of experts	I-CVI	Average-CVI	Decision
3-4	<1	<0.9	Revision
	=1	>0.9	Accepted
5-10	<0.78	<0.9	Revision
	>0.78	>0.9	Accepted

Based on the number of experts involved in the content analysis and their ratings, the results, as seen in Table 4.6, revealed that the Item-CVI indices for each item of the UA construct are =1. Also, the Ave-CVI, UA-CVI and Ave-proportion of agreement across experts' indices were found to be = 1. This indicates a complete agreement among the three

experts and concludes that all the items of the UA construct should remain.

Table. 4.6 The ratings of UA using a 4-point rating relevance scale (1,2-not relevant), (3,4-relevant) (Taken from Polit and Beck, 2006).

Item	Expert 1	Expert 2	Expert 3	Number of Agreement	Item-CVI ¹	Decision
1	4	4	4	3	1.00	Remained
2	4	4	4	3	1.00	Remained
3	4	4	4	3	1.00	Remained
4	4	4	4	3	1.00	Remained
5	4	4	3	3	1.00	Remained
6	4	4	4	3	1.00	Remained
7	4	4	4	3	1.00	Remained
8	4	4	4	3	1.00	Remained
9	4	4	3	3	1.00	Remained
10	4	4	4	3	1.00	Remained
11	4	4	4	3	1.00	Remained
12	4	4	4	3	1.00	Remained
13	4	4	4	3	1.00	Remained
14	4	4	4	3	1.00	Remained
15	4	4	4	3	1.00	Remained
16	4	4	4	3	1.00	Remained
17	4	4	4	3	1.00	Remained
18	4	4	4	3	1.00	Remained
19	4	4	4	3	1.00	Remained
20	4	4	4	3	1.00	Remained
21	4	4	4	3	1.00	Remained
22	4	4	4	3	1.00	Remained
No of agreement	1.00	1.00	1.00	Ave-CVI=	1.00	
Proportion of agreement	1.00	1.00	1.00	UA-CVI=	1.00	
Ave- proportion of agreement across experts = (Mean expert proportion)					1.00	

Note:

Item –CVI= Number of experts rating the item, either 3 or 4/total number of experts.

Ave-CVI= Sum of the I-CVIs (I-CVI1+I-CVI2+...+I- CVIn)/total number of items.

UA-CVI= Number of items that achieved rating 3 or 4 by all experts/total number of items.

Ave-proportion of agreement across experts = Proportion of agreement of each expert/total number of experts.

Similarly, the results show that Item-CVI indices for each item of the SM construct are =1. Also, the Ave-CVI, UA-CVI and Ave-proportion of agreement across experts' indices were found to be = 1. This indicates a complete agreement among the three experts and concludes that all the items of the SM construct should remain (see Table 4.7).

Table 4.7 The ratings of SM using a 4-point rating relevance scale (3,4-relevant), (1,2-not relevant). (Taken from Polit and Beck, 2006).

Item	Expert 1	Expert 2	Expert 3	Number of Agreement	Item-CVI ¹	decision
1	4	4	4	3	1.00	Remained
2	4	4	4	3	1.00	Remained
3	4	4	4	3	1.00	Remained
4	4	4	4	3	1.00	Remained
5	4	4	4	3	1.00	Remained
6	4	4	4	3	1.00	Remained
7	4	4	4	3	1.00	Remained
8	4	4	4	3	1.00	Remained
9	4	4	4	3	1.00	Remained
10	4	4	4	3	1.00	Remained
11	4	4	4	3	1.00	Remained
12	4	4	4	3	1.00	Remained
13	4	4	4	3	1.00	Remained
14	4	4	4	3	1.00	Remained
15	4	4	4	3	1.00	Remained
16	4	4	4	3	1.00	Remained
17	4	4	4	3	1.00	Remained
18	4	4	4	3	1.00	Remained

19	4	4	4	3	1.00	Remained
20	4	4	4	3	1.00	Remained
21	4	4	4	3	1.00	Remained
22	4	4	4	3	1.00	Remained
23	4	4	4	3	1.00	Remained
Number of agreements	1.00	1.00	1.00	Ave-CVI =	1.00	
Proportion of agreement	1.00	1.00	1.00	UA-CVI=	1.00	
Ave-proportion of agreement across experts= (Mean expert proportion)					1.00	

In the same vein, the results show that Item-CVI indices for each item of the OP construct are =1. Also, the Ave-CVI, UA-CVI and Ave-proportion of agreement across experts' indices were found to be = 1. This indicates a complete agreement among the three experts and concludes that all the items of the OP construct should remain (see Table 4.8).

Table 4.8 The ratings of OP using a 4-point rating relevance scale (1,2-not relevant), (3,4-relevant). (Taken from Polit and Beck, 2006).

Item	Expert 1	Expert 2	Expert 3	Number of Agreement	Item-CVI ¹	decision
1	4	4	4	3	1.00	Remained
2	4	4	4	3	1.00	Remained
3	4	4	4	3	1.00	Remained
4	4	4	4	3	1.00	Remained
5	4	4	4	3	1.00	Remained
6	4	4	4	3	1.00	Remained
7	4	4	4	3	1.00	Remained
8	4	4	4	3	1.00	Remained
9	4	4	4	3	1.00	Remained
10	4	4	4	3	1.00	Remained
11	4	4	4	3	1.00	Remained
12	4	4	4	3	1.00	Remained

13	4	4	4	3	1.00	Remained
14	4	4	4	3	1.00	Remained
15	4	4	4	3	1.00	Remained
16	4	4	4	3	1.00	Remained
Number of agreements	1.00	1.00	1.00	Ave-CVI ² =	1.00	
Proportion of agreement	1.00	1.00	1.00	UA-CVI ³ =	1.00	
Ave-proportion of agreement across experts= (Mean expert proportion)					1.00	

4.11.2 After-Pilot-test

After the pre-pilot survey (content analysis), the pilot test was conducted to ensure there were no difficulties for the respondents in answering the questions and to assess whether the questions were valid and reliable before administering the final questionnaire (Saunders et al., 2009).

The initial questionnaire was distributed to 30 respondents with characteristics similar to the target population who were deans or heads of departments, as suggested by (McNabb, 2013). Out of which, 20 valid questionnaires were returned, with a high response rate of 66.6%. This was an acceptable response rate as Saunders et al. (2019) recommend that a 30% response rate is reasonable for the questionnaire dropped out and picked up in person.

The reliability of the returned questionnaires was analysed via IBM SPSS Statistical 26 version. The results showed that Cronbach's alpha of UA, SM, and OP constructs is 0.840, 0.960, and 0.930, respectively, which are above the cut-off value of 0.7. This indicates that the instrument is valid and that the questionnaire can be administered. Therefore, there were no deleted items for all constructs (See Table 4.9.).

Table 4.9 The Cronbach's alpha of UA, SM, and OP constructs.

Constructs	No of items	Cronbach's Alpha
University Autonomy	22	0.840
Strategic Management	23	0.960
Organisational Performance	16	0.930

4.12 Population

Population is described as the total group of events, people or things that a researcher seeks to investigate (Sekaran & Bougie, 2016). According to Saunders et al. (2012), population refers to “the entire group of cases and elements that a sample is taken from”. In this study, the population includes deans of schools and heads of departments working at universities in India (including central, state, private and deemed to be universities).

4.13 Sample, Sample size and Sampling technique

This study is based on case selection. It focuses on Indian universities (including central, state, private and deemed to be universities). Therefore, non-probability purposive sampling was used because it is appropriate for the research questions that need certain level of knowledge.

Purposive sampling is a type of convenience sampling in which the researcher judges the sample elements to be representative of the target population. In this study, purposive sampling was adopted because experts (deans of schools and heads of departments) were able to identify a representative population sample due to their knowledge and experience (J. Hair Jr et al., 2019, p. 193).

The sample of this study includes deans of schools and heads of departments who were members of the management council or planning board because they were in a good position to provide the required information due to their broad management perspective and involvement in university management, planning, and performance.

To ensure the sample's representativeness across the diverse Indian higher education landscape, universities were selected based on geographical location, size, and type (central, state, private, and deemed to be university). An initial list of all recognised Indian universities was compiled from the University Grants Commission (UGC) website. Subsequently, a comprehensive search of university websites was conducted to obtain detailed contact information for deans of schools and heads of departments (HODs), including email addresses and phone/mobile numbers. This thorough procedure resulted in a reliable and up-to-date contact list, enabling the targeted distribution of questionnaires.

4.14 Ethical Consideration of the Study

The ethical concerns are related to the moral principles of scholars' behaviour concerning the rights of the participants whom his/her study may impact (Saunders et al., 2016). Research ethics is characterised as “the standards of behaviour that guide conduct in relation to the rights of those who become the subject of your work or are affected by it” (Saunders et al., 2019, p. 815).

The questionnaire of this study was developed ethically. The researcher explained clearly to the participants the research study's aim, objectives, process and length. Moreover, the researcher informed the respondents that their personal information would be kept confidential and would not share the collected data with a third party. In addition, the participants were aware that their personal information would not be published. Further, the researcher informed the participants that if they wished, he would share a brief of the

findings of this study.

4.15 Chapter Summary

The methodology chapter presents the research philosophy, approach, process, design, strategy, data collection method, time horizons, questionnaire design, measurement of the constructs, pilot test, population, sample, sample size and sampling technique and ethical consideration of this study. The next chapter provides details concerning the data analysis procedure and the study results.

Chapter 5: Analysis & Findings

5.1 Introduction

This chapter analyses the data and presents the collected quantitative data collection findings. Initially, it discusses the preliminary analysis of the data and the demographic profile of the respondents. Then, it analyses the normality of the data and the common method bias. Next, it discusses each latent construct's descriptive statistics. Following that, the chapter moves on to assess the measurement model of both first and second-order constructs, which precisely include convergent validity and discriminant reliability and construct reliability of the measurement models. Consequently, it examines and presents the correlation across the constructs. The chapter then tests the structural model and presents its results. Subsequently, it assesses the study's model's explanatory and predictive power. The chapter then concludes by presenting a summary of the hypotheses' decision.

5.2 Preliminary analysis of the data

This section explains the preliminary data analysis, which includes the data's preparation, organisation, and exploration to define the basis for the data analysis to answer the research questions and address the research objectives.

5.2.1 Response rate

The target population of this study includes the deans of schools and heads of departments who were working in Indian universities. As shown in Table 5-1, a total of 534 questionnaires were distributed to the targeted respondents, out of which 232 were returned. This makes a 43.4% response rate.

Following the preliminary examination for missing data, 9 responses were excluded from the analysis, and the remaining 223 responses were used for data analysis, decreasing the actual response rate to 41.7%. Table 1. presents the response rate.

Table 5-1. Response rate (Source: Author)

Questionnaires	Frequency	Percentage
Questionnaire Distributed	534	100
Questionnaire Returned	232	43.4
Questionnaire Rejected	9	1.6
Questionnaire Retained	223	41.7

5.2.2 Data Coding

Data coding makes the data entering fast and minimises errors (Saunders et al., 2016). Two steps were used to code the data. The researcher assigned numbers to the participant's responses in the first step. In the second step, the constructs and the sub-constructs were coded using standard acronyms before entering the data (See Table 5-2).

Table 5-2. Data coding (Source: Author)

First /Second order Constructs	Code
University Autonomy	UA
Academic Autonomy	AA
Financial Autonomy	FA
Staffing Autonomy	SA
Organisational Autonomy	OA
Organisational Performance	OP
Research Performance	RP
Teaching Performance	TP
Service Performance	SRP
Strategic Management	SM
Strategy Planning	SP
Strategy Formalisation	SF
Strategy Implementation	SI
Strategy Evaluation	SE

5.2.3 Initial Data Screening

After coding the data, it was entered into the IBM SPSS Statistics software, Version 26. The entered data were refined to determine any errors throughout the data entry process. In addition, the four reverse-coded question values in surveys were re-coded before conducting the data analysis.

5.2.4 Missing Data

Missing data is a concern in social science research as the researchers use the survey method for collecting data (Carter, 2006). Missing data occurs when a researcher enters the data or the respondents do not answer a particular question because they may have limited knowledge to answer some of a study's questions. Hence, they may deny answering those questions (J. F. Hair Jr et al., 2014). As a remedial procedure, (J. F. Hair Jr et al., 2014) recommended that when the missing data is about 10% of the overall items, some imputation methods can be applied.

However, it should be deleted if the missing data is more than 10% of the overall items. In this study, 9 cases were found to have more than 10% missing data on the overall items. Therefore, they were removed.

5.3 Demographic profile

This section provides details about the demographic profiles that were established from the questionnaire. Basic descriptive statistics such as frequencies and percentages were used to present the information about the respondents and their universities.

5.3.1 Respondents profile:

The respondents were requested to identify their profile, including gender, designation, years of experience, and an administrative role. The profile information of the respondents is presented in the following sub-sections and depicted in Table 5-3. and Fig 5-1. to 5-4. based on the respondent's demographic information.

5.3.1.1 Gender

As seen in Table 5-3 and Figure 5-1, the results showed that 80.3% of respondents are male, and 19.7% are female. This indicates that the majority of the respondents are considerably male.

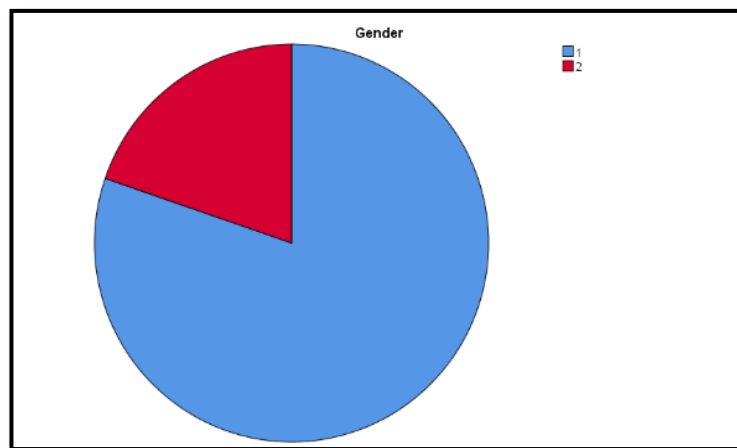


Figure 5-1. Gender

5.3.1.2 Designation

As depicted in Table 5-3. and Figure 5-2. the results indicated that 83.9 % of respondents are professors, 11.7 % are associate professors, and 4.5% are assistant professors. This means that the majority of the respondents are considerably professors.

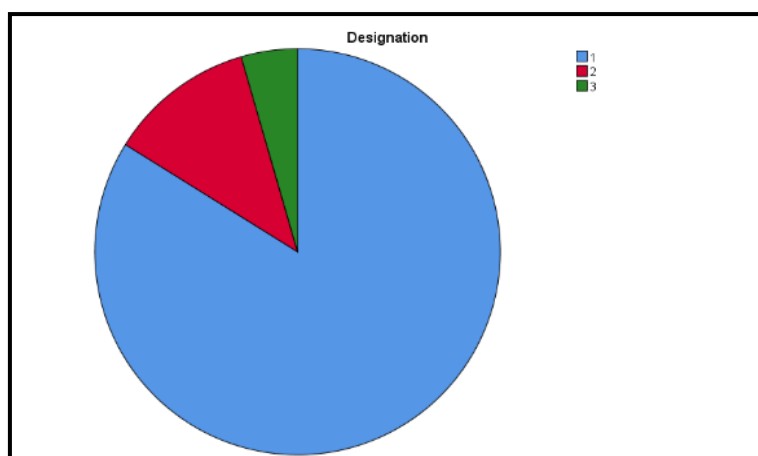


Figure 5-2. Designation

5.3.1.3 Years of Experience

As presented in Table 5-3. and figure 5-3. The results showed that 5.4 % had experience ranging between 10 to 15 years, while 94.6% of the respondents had experience over 15 years. This means that the majority of the respondents are considerably experienced.

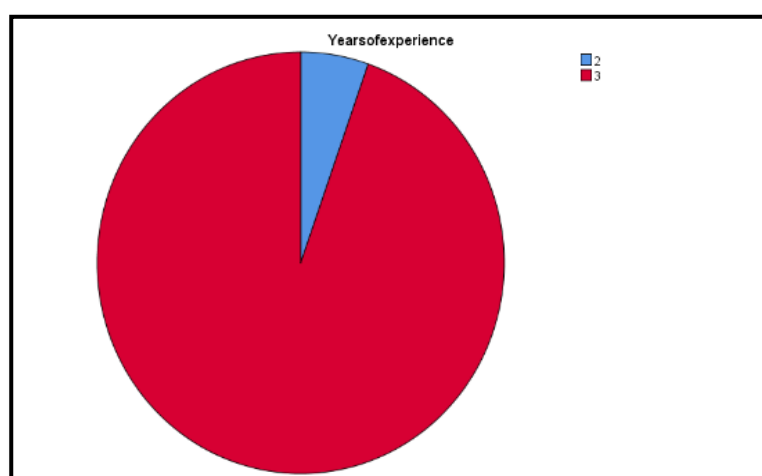


Figure 5-3. Years of experience

5.3.1.4 Administrative Role

As shown in Table 5-3 and figure 5-4, the results indicated that one respondent is pro-V.C 0.4%, two 0.9% are registrars, 33.2% are Deans, 9.9% are assistant deans, 4.9% are

directors and 50.7% who are heads of departments. This means that most participants held the administrative role of head of the departments.

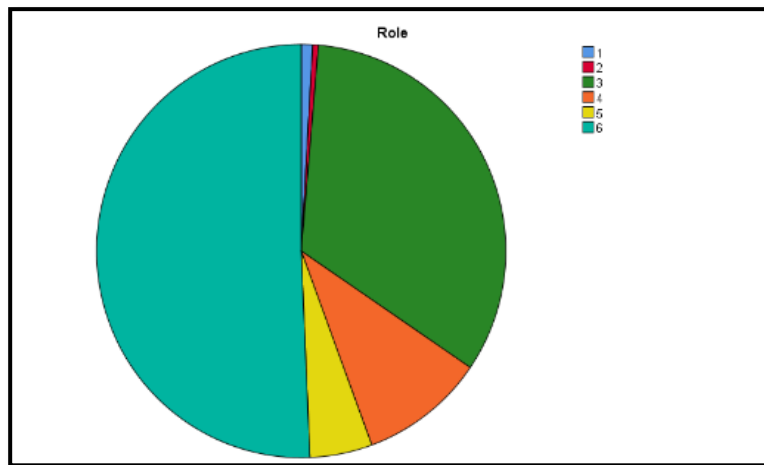


Figure 5-4. Administrative Role

Table 5-3. Characteristics of Respondents (Source: Author)

Variable	Category	Frequency	Percent
Gender	Male	179	80
	Female	44	20
	Total	223	100
Years of Experience	10 - 15 years	12	5.4
	More than 15 years	211	94.6
	Total	223	100
Administrative Role	Pro V.C	1	0.4
	Registrar	2	0.9
	Dean	74	33.2
	Assistant Dean	22	9.9
	Director	11	5
	HOD	113	51
	Total	223	100
Designation	Professor	187	84
	Associate Professor	26	12
	Assistant Professor	10	4.5
	Total	223	100

5.3.2 Characteristics of Universities:

As shown in Table 5-4. Approximately 18.4% of the universities are Central, 39.9 % are State, 31.3% are private, and 10.3% are Deemed to be universities.

Table 5-4. Characteristics of universities (Source: Author)

Variable	Category	Frequency	Percentage
Type of University	Central University	41	18.4
	State University	89	39.9
	Private University	70	31.4
	Deemed to be University	23	10.3
Total		223	100

5.4 Normal Distribution of Data:

The skewness and kurtosis values were used to assess the normality of the data (Pallant, 2020). According to (Coakes & Steed, 2009), the normality of data is met when skewness and kurtosis values are zero.

However, Hair et al., (1998) stated that a sample would be assumed normal when the skewness values range between -2 and 2 and kurtosis values range between -3 and 3.

For the present study, the skewness values for all 60 items varied between 0.283 and -0.534. The kurtosis values varied between 6.302 and -1.249. Hence, the result showed that the sample distribution is not wildly skewed, indicating its closeness to the normal distribution (Kim, 2013).

5.5 Common Method Bias Analysis:

In social science research, common method bias is a concern to scholars. It refers to a situation where “variance that is attributable to the measurement method rather than to the constructs the measures represent” (Podsakoff et al., 2003, p. 879).

Many procedures are followed to minimise the potential existence of biasedness in data. This study follows two procedures to reduce the likelihood of the common method bias, including pre-data collection procedures and post-data collection procedures. These two procedures are presented in the following subsections.

5.5.1 Pre-data collection Procedures:

In this study, the procedures followed before collecting the data include removing the titles of each construct and dimension in each measured construct of the questionnaire. Further, the order of the statements was randomised.

Moreover, four reverse-coded questions were used to identify respondents who may fail to be attentive in providing valid answers to the questionnaire's statements. Finally, the researcher distributed the questionnaire using two mechanisms: printed questionnaires were given personally to the respondents. Second, for respondents who reside in far states, the researcher contacted them personally, after which the questionnaire was sent to them through email or other social media platforms as per their request.

5.5.2 Post-data collection procedures:

After data collection, the procedures followed to test the potential existence of common method bias include assessing Harman's one-factor test, non-response bias and Full collinearity test.

First, Harman's one-factor test was used to detect issues of common method variance (CMV) (Podsakoff & Organ, 1986). Based on (Podsakoff et al., 2003), bias happens when a single factor falls out of factor analysis and explains 50% of the variance. This study applied Harman's one-factor test by employing unrotated principal component factor analysis to detect CMV.

As seen in Table 5-5 and Appendix 2, Harman's one-factor test results revealed that a single factor explained only 35.049 per cent of the total variance, which is less than the cut-off value of 50%. This suggests that the data of this study has no common method bias concerns.

Table 5-5 Harman's one-factor test

Total Variance Explained			
Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	21.033	35.049	35.049

Second, non-response bias was employed as recommended by (Armstrong & Overton, 1977). Early and late responses were identified and compared using independent samples t-test. The results show (Appendix 3.) no significant differences between early and late respondents. As such, it can be concluded that the probability of non-response bias is not a concern in this study.

Third, the current study also used the Full collinearity test to detect the potential of CMB, as Kock and Lynn (2012) recommended. The results of the VIF test present that the values of OA, FA, AA, SA, SM, and OP constructs are 1.176, 1.155, 1.441, 1.722, 1.754, and 1.730, respectively, which are under the critical value of 3.3 (see Table 5-6). This indicates that the model of the current study is not contaminated by CMV (Kock, 2015).

Table 5-6. Full Collinearity Test

Constructs	VIF	Cut-off Value
Organisational Autonomy	1.176	< 3.3
Financial autonomy	1.155	
Academic autonomy	1.441	
Staffing autonomy	1.722	
Strategic management	1.154	
Organisational Performance	1.730	

5.6 Descriptive statistics:

In this section, the descriptive statistics of the constructs were performed to evaluate the level of UA, SM and OP in the Indian universities.

In doing this, the present study uses the weighted average score based on the five-point Likert scale calibrated by previous literature (Pihie & Akmaliah, 2009) in order to gauge the level of independent, dependent and mediating constructs (see Table 5-7).

Table 5-7. The weighted average range for 5-point Likert Scales

The weighted average	Interpretation
Below 3.39	Low
3.40 and 3.79	Moderate
above 3.80	High

Table 5-7 shows that the five-point Likert scale is split into three groups for interpretation, where a weighted average below 3.39 suggests a low level. A weighted average between 3.40 and 3.79 suggests a moderate level. A weighted average above 3.80 suggests a high level. However, the following subsections present the descriptive statistics of each study construct.

5.6.1 Descriptive statistics of independent variables:

In this study, the UA construct consists of four dimensions: OA, FA, SA and AA. The descriptive statistics of each dimension are presented as follows:

5.6.1.1 Organizational autonomy

In response to the level of OA that Indian universities enjoyed, Table 5-8 presents the frequency, percentage, mean, and standard deviation of each item that measured the OA sub-construct among respondents. They were requested to provide their perspective using a five-point Likert scale ranging from 1 strongly disagree to 5 strongly agree.

The overall findings revealed that the weighted average score for OA is 3.317 with a standard deviation of 1.123. This suggests that the respondents stated that the universities enjoyed a low level of OA.

Table 5-8. Descriptive statistics of OA (Source: calculation by author based on primary data analysis)

Statements	SD	D	N	A	SA	Mean	S. D
Our university determines and conducts the selection procedure for the appointment of the executive head	47 21.1%	19 8.5%	24 10.8%	55 24.7%	78 35.0%	3.44	1.55
Our university has complete autonomy to decide the recruitment rules for the appointment of the executive head	47 21.1%	32 14.3%	31 13.9%	43 19.3%	70 31.4%	3.26	1.54
Our university does not have the right to remove the executive head from office	53 23.8%	44 19.7%	32 14.3%	31 13.9%	63 28.3%	3.03	1.56
Our university defines the length of the executive head's term of office	46 20.6%	22 9.9%	35 15.7%	53 23.8%	67 30.0%	3.33	1.51
Our university can freely decide to include external members in its governing bodies	28 12.6%	21 9.4%	37 16.6%	48 21.5%	89 39.9%	3.67	1.40
Our university can freely establish new faculties, departments, and research institutes or restructure existing ones without external approval	43 19.3%	35 15.7%	33 14.8%	62 27.8%	50 22.4%	3.18	1.44
Overall						3.32	1.12

Note: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree, Mean = Weighted average mean, S.D. = Standard deviation.

5.6.1.2 Financial autonomy

Regarding the level of FA that Indian universities have, Table 5-9 presents the frequency, percentage, mean, and standard deviation of each item that measured FA among respondents. They were asked to provide their opinions using a five-point Likert scale ranging from 1 strongly disagree to 5 strongly agree.

The overall findings showed that the weighted average score for FA is 3.64, with a standard deviation of 0.88. This indicates that the respondents revealed that the universities enjoyed a moderate level of FA.

Table 5-9 Descriptive statistics of FA (Source: calculation by author based on primary data analysis)

Statement	SD	D	N	A	SA	Mean	S.D
Our University can autonomously allocate the public funding, according to its needs	17 7.6%	25 11.2%	25 11.2%	95 42.6%	61 27.4%	3.71	1.20
Our University can freely retain and accumulate the surplus of its public funding	21 9.4%	31 13.9%	38 17.0%	87 39.0%	46 20.6%	3.48	1.23
Our University's government grants do not depend on the surplus we generate	15 6.7%	22 9.9%	40 17.9%	110 49.3%	36 16.1%	3.58	1.08
Our University can freely borrow and raise money from different sources without the approval of external authorities	29 13.0%	34 15.2%	28 12.6%	92 41.3%	40 17.9%	3.36	1.29
Our University needs permission from external authorities before buying, selling, or building facilities	24 10.8%	28 12.6%	27 12.1%	96 43.0%	48 21.5%	3.52	1.25
Our University freely sets the level of tuition fees for Indian students and foreign students (at Bachelor, Master, and doctoral levels)	06 2.7%	07 3.1%	14 6.3%	104 46.6%	92 41.3%	4.21	0.89
Overall						3.64	0.88

Note: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree, Mean = Weighted average mean, S.D. = Standard deviation.

5.6.1.3 Staffing autonomy

Concerning the level of SA that Indian universities enjoy, Table 5-10 presents the frequency, percentage, mean, and standard deviation of each item that measured SA among respondents where they were asked to reveal their opinions using a five-point Likert scale ranging from 1 strongly disagree to 5 strongly agree.

The overall findings showed that the weighted average score for staffing autonomy is 4.150, with a standard deviation of 0.821. This implies that the respondents revealed that the universities enjoyed a high level of SA.

Table 5-10. Descriptive statistics of SA (Source: calculation by author based on primary data analysis)

Statement	SD	D	N	A	SA	Mean	S.D
Our university sets freely the recruitment procedures for appointing academic and administrative staff	2 0.90%	17 7.60%	15 6.70%	92 41.30%	97 43.50%	4.19	1
Our university determines freely the salaries of academic and administrative staff	0 0.00%	24 10.80%	15 6.70%	101 45.30%	83 37.20%	4.09	0.9
Our university decides freely on the dismissal of academic and administrative staff	0 0.00%	22 9.90%	13 5.80%	103 46.20%	85 38.10%	4.13	0.9
Our university decides freely on the promotion of academic and administrative staff	1 0.40%	16 7.20%	17 7.60%	93 41.70%	96 43.00%	4.2	0.9
Overall						4.15	0.8
Note: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree, Mean = Weighted average mean, S.D. = Standard deviation.							

5.6.1.4 Academic autonomy

Regarding the level of AA that Indian universities have, Table 5-11 presents the frequency, percentage, mean, and standard deviation of each item that measured AA among respondents where they were asked to reveal their view using a five-point Likert scale ranging from 1 strongly disagree to 5 strongly agree.

The overall findings pointed out that the weighted average score for AA is 4.142 with a standard deviation of 0.790. This shows that the respondents revealed that the universities enjoyed high level of AA.

Table 5-11 Descriptive statistics of AA (Source: calculation by author based on primary data analysis)

Statement	SD	D	N	A	SA	Mean	S.D
Our University decides freely on the overall number of its students without the interference of an external authority	2 0.90%	17 7.60%	15 6.70%	97 43.50%	92 41.30%	4.17	0.9
Our University sets up the admission criteria for the selection of its students (at Bachelor, Master and doctoral levels)	2 0.90%	14 6.30%	16 7.20%	96 43.00%	95 42.60%	4.2	0.9
Our University designs the content of its degree programmes and courses	1 0.40%	15 6.70%	16 7.20%	84 37.70%	107 48.00%	4.26	0.9
Our University can freely select appropriate Quality Assurance Mechanisms according to its needs	0 0.00%	18 8.10%	20 9.00%	91 40.80%	94 42.20%	4.17	0.9
Our University can freely choose Quality Assurance Agencies, including agencies from other countries, according to its needs	1 0.40%	24 10.80%	32 14.30%	102 45.70%	64 28.70%	3.91	1
Overall						4.14	0.8
Note: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree, Mean = Weighted average mean, S.D. = Standard deviation.							

5.6.2 Descriptive statistics of dependent variables

In this study, the OP construct includes four dimensions, which are research, teaching, service and financial performance. The descriptive statistics of each dimension are presented in the sub-sections below.

5.6.2.1 Research Performance

With respect to the level of research performance that Indian universities achieved in the last three years. Table 5-12 presents the frequency, percentage, mean, and standard deviation of each item that measured the construct of research performance among respondents

where they were asked to state their perspectives using a five-point Likert scale ranging from 1 poor to 5 outstanding.

The overall findings revealed that the weighted average score for research performance is 3.726, with a standard deviation of 0.734. This indicates that the respondents revealed that the universities achieved a moderate level of research performance.

Table 5-12. Descriptive statistics of Research performance (Source: calculation by author based on primary data analysis)

Statement	P	F	G	E	O	Mean	S.D
The average number of research publications (including journal papers, conference papers, books, and monographs) published by our University in the last three-year period has been	00 0.0%	12 5.4%	30 13.5%	131 58.7%	50 22.4%	3.98	0.76
The average number of research projects obtained by our University in the last three-year period has been	02 0.9%	24 10.8%	51 22.9%	112 50.2%	34 15.2%	3.68	0.90
The percentage of the faculty of our University who have attended conferences and seminars in the last three-year period has been	00 0.0%	17 7.6%	52 23.3%	118 52.9%	36 16.1%	3.78	0.81
The percentage of the faculty of our University being members on the editorial boards/reviewers' panels of journals in the last three-year period has been	03 1.3%	35 15.7%	67 30.0%	91 40.8%	27 12.1%	3.47	0.94
Overall						3.72	0.73

Note: P = Poor, F = Fair, G = Good, E = Excellent, O = Outstanding, Mean = Weighted average mean, S.D. = Standard deviation.

5.6.2.2 Teaching Performance

With respect to the level of teaching performance that Indian universities achieved in the last three years. Table 5-13 shows the frequency, percentage, mean, and standard deviation of each item that measured the construct of teaching performance among respondents. They were asked to state their perspectives using a five-point Likert scale ranging from 1 poor to 5 outstanding.

The overall findings revealed that the weighted average score for teaching performance is 3.72, with a standard deviation of 0.70. This indicates that the respondents revealed that the universities achieved a moderate level of teaching performance.

Table 5-13. Descriptive statistics of Teaching performance (Source: calculation by author based on primary data analysis)

Statement	P	F	G	E	O	Mean	S.D
The number of faculty members of our University who received awards for teaching in the last three-year period has been	02 0.9%	41 18.4%	56 25.1%	99 44.4%	25 11.2%	3.47	0.95
The average subjects per course offered by our University in the last three-year period have been	00 0.0%	09 4.0%	55 24.7%	109 48.9%	50 22.4%	3.90	0.79
The average number of new courses offered by our University in the last three-year period has been	03 1.3%	17 7.6%	56 25.1%	100 44.8%	47 21.1%	3.77	0.92
The average number of courses incorporating new technology being introduced by our University in the last three-year period has been	00 0.0%	21 9.4%	55 24.7%	105 47.1%	42 18.8%	3.75	0.87
Overall						3.72	0.70

Note: P = Poor, F = Fair, G = Good, E = Excellent, O = Outstanding, Mean = Weighted average mean, S.D. = Standard deviation.

5.6.2.3 Service Performance

Regarding the level of service performance that Indian universities had in the last three years. Table 5-14 shows the frequency, percentage, mean, and standard deviation of each item that measured the construct of service performance among respondents. They were asked to state their perspectives using a five-point Likert scale ranging from 1 poor to 5 outstanding.

The overall findings pointed out that the weighted average score for service performance is 3.58, with a standard deviation of 0.75. This shows that the respondents revealed that the universities had a moderate level of service performance.

Table 5-14. Descriptive statistics of Service performance (Source: calculation by author based on primary data analysis)

Statement	P	F	G	E	O	Mean	S.D
The participation of our University in the curriculum development of other Higher Education Institutes in the last three-year period has been	01 0.4%	17 7.6%	65 29.1%	99 44.4%	41 18.4%	3.73	0.87
The community service activities undertaken by our University in the last three-year period have been	00 0.0%	19 8.5%	67 30.0%	88 39.5%	49 22.0%	3.75	0.90
The percentage of faculty participation in Policy-making boards and committees in the last three-year period has been	02 0.9%	36 16.1%	63 28.3%	92 41.3%	30 13.5%	3.50	0.95
The number of companies involved in joint activities with our University in the last three-year period has been	07 3.1%	40 17.9%	76 34.1%	70 31.4%	30 13.5%	3.34	1.02
Overall						3.58	0.75

Note: P = Poor, F = Fair, G = Good, E = Excellent, O = Outstanding, Mean = Weighted average mean, S.D. = Standard deviation.

5.6.2.4 Financial Performance

In line with the level of financial performance that Indian universities had in the last three years. Table 5-15 provides the frequency, percentage, mean, and standard deviation of each item that measured the construct of financial performance among respondents. They were asked to state their perspectives using a five-point Likert scale ranging from 1 poor to 5 outstanding.

The overall findings specified that the weighted average score for financial performance is 3.267, with a standard deviation of 0.731. This implies that the respondents revealed that the universities had a low level of financial performance.

Table 5-15. Descriptive statistics of Financial performance (Source: calculation by author based on primary data analysis)

Statement	P	F	G	E	O	Mean	S.D
The income generated from research projects by our University in the last three-year period has been	10 4.5%	33 14.8%	69 30.9%	86 38.6%	25 11.2%	3.4	1.01
The income generated from tuition fees by our University in the last three-year period has been	03 1.3%	26 11.7%	66 29.6%	104 46.6%	24 10.8%	3.54	0.88
The total teaching and research costs of our University in the last three-year period has been	00 0.0%	26 11.7%	110 49.3%	68 30.5%	19 8.5%	3.36	0.80
The grants/endowments received from the industry by our University in the last three-year period has been	16 7.2%	70 31.4%	87 39.0%	42 18.8%	8 3.6%	2.80	0.95
Overall						3.27	0.73
Note: P = Poor, F = Fair, G = Good, E = Excellent, O = Outstanding, Mean = Weighted average mean, S.D. = Standard deviation.							

5.6.3 Descriptive statistics of Mediating variables:

In the present study, SM contains four practices/components that are SP, SF, SI, and SE. Each of these practices is illustrated in further detail in the following sub-sections.

5.6.3.1 Strategy Planning

This section describes the level of SP that Indian universities practiced, Table 5-16 shows the frequency, percentage, mean, and standard deviation of each item that measured SP construct among respondents. They were requested to indicate their view on a five-point Likert scale ranging from 1 strongly disagree to 5 strongly agree.

The overall findings showed that the weighted average score for SP is 4.27, with a standard deviation of 0.70. This shows that the respondents revealed that the universities had a high level of SP.

Table 5-16. Descriptive statistics of SP (Source: calculation by author based on primary data analysis)

Statements	SD	D	N	A	SA	Mean	S. D
Our University has a clear vision statement that defines its long-term future	01 0.4%	07 3.1%	10 4.5%	51 22.9%	154 69.1%	4.57	0.76
Our University has a clear mission statement that emphasises its uniqueness and identity	02 0.9%	03 1.3%	8 3.6%	62 27.8%	148 66.4%	4.57	0.71
Our University has clearly defined organisational values, which are collective beliefs about what the university stands for	02 0.9%	04 1.8%	16 7.2%	71 31.8%	130 58.3%	4.45	0.78
Our University has clear long-term goals	04 1.8%	08 3.6%	18 8.1%	67 30.0%	126 56.5%	4.36	0.91
Our University has annual objectives that clearly express how to achieve long-term goals	03 1.3%	06 2.7%	37 16.6%	83 37.2%	94 42.2%	4.16	0.89
Our University analyses the related external environmental aspects to determine the opportunities and threats	04 1.8%	07 3.1%	44 19.7%	95 42.6%	73 32.7%	4.01	0.90
Our University analyses its internal aspects to increase its strengths and avoid weaknesses	03 1.3%	07 3.1%	37 16.6%	102 45.7%	74 33.2%	4.06	0.86
Our University achieves a good fit between the external and internal environmental aspects	02 0.9%	12 5.4%	43 19.3%	103 46.2%	63 28.3%	3.96	0.88
Overall						4.27	0.70
Note: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree, Mean = Weighted average mean, S.D. = Standard deviation.							

5.6.3.2 Strategy Formalisation

This section reveals the level of the SF that Indian universities practiced. Table 5-17 presents the frequency, percentage, mean, and standard deviation of each item that measured the SF construct among respondents. They were asked to state their perspectives on a five-point Likert scale ranging from 1 strongly disagree to 5 strongly agree.

The overall result indicated that the weighted average score for SF is 4.06, with a standard deviation of 4.06. This demonstrates that the respondents stated that the universities had a high level of SF.

Table 5-17. Descriptive statistics of SF (Source: calculation by author based on primary data analysis)

Statements	SD	D	N	A	SA	Mean	S. D
Our University has instructions and written guidelines to structure its strategic plan	5 2.2%	10 4.5%	28 12.6%	107 48.0%	73 32.7%	4.04	0.91
Our University accurately evaluates multiple alternatives before deciding a strategy	4 1.8%	11 4.9%	27 12.1%	117 52.5%	64 28.7%	4.01	0.88
The strategies of our University emerge gradually as the university responds to the need to change	3 1.3%	5 2.2%	31 13.9%	115 51.6%	69 30.9%	4.09	0.81
There is no formal documentation for the planning process and outputs in our University	6 2.7%	15 6.7%	24 10.8%	87 39.0%	91 40.8%	4.09	1.01
Overall						4.06	0.74
Note: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree, Mean = Weighted average mean, S.D. = Standard deviation.							

5.6.3.3 Strategy Implementation

This section shows the level of SI that Indian universities practiced. Table 5-18 reveals the frequency, percentage, mean, and standard deviation of each item that measured SI construct among respondents. They were asked to state their perspectives on a five-point Likert scale ranging from 1 strongly disagree to 5 strongly agree.

The overall result indicated that the weighted average score for SI is 3.92, with a standard deviation of 3.92. This states that the respondents revealed that the universities had a high level of SI.

Table 5-18. Descriptive statistics of SI (Source: calculation by author based on primary data analysis)

Statements	SD	D	N	A	SA	Mean	S. D
Our University develops specific initiatives and projects to put its strategic plan into action	1 0.4%	11 4.9%	32 14.3%	98 43.9%	81 36.3%	4.11	0.86
The annual budget of our University strongly supports meeting the objectives and priorities established in the strategic plan	3 1.3%	23 10.3%	46 20.6%	86 38.6%	65 29.1%	3.84	1.01
Once plans are made by our university, no changes are allowed for a significant period of time	1 0.4%	17 7.6%	33 14.8%	127 57.0%	45 20.2%	3.89	0.83
Our university communicates to its employees when and how the strategies will be carried out	1 0.4%	15 6.7%	42 18.8%	109 48.9%	56 25.1%	3.91	0.86
The annual evaluations of top, middle and lower managers are based largely on their contribution to the successful accomplishment of the strategic objectives	4 1.8%	16 7.2%	48 21.5%	91 40.8%	64 28.7%	3.87	0.97
Overall						3.92	0.72
Note: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree, Mean = Weighted average mean, S.D. = Standard deviation.							

5.6.3.4 Strategy Evaluation

This section shows the level of strategy evaluation that Indian universities practiced. Table 5-19 provides the frequency, percentage, mean, and standard deviation of each item that measured strategy evaluation construct among respondents. They were asked to point out their views on a five-point Likert scale ranging from 1 strongly disagree to 5 strongly agree.

The overall result unveiled that the weighted average score for strategy evaluation is 3.88, with a standard deviation of 3.88. This indicates that the respondents stated that the universities had a high level of strategy evaluation.

Table 5-19. Descriptive statistics of SE (Source: calculation by author based on primary data analysis)

Statements	SD	D	N	A	SA	Mean	S. D
Our University uses various types of performance measures (financial and non-financial) to evaluate its strategic plan	5 2.2%	16 7.2%	45 20.2%	96 43.0%	61 27.4%	3.86	0.97
Our University benchmarks its performance against other universities	3 1.3%	19 8.5%	41 18.4%	91 40.8%	69 30.9%	3.91	0.98
Our University uses performance measures to track the implementation of initiatives and projects called for by the strategic plan	4 1.8%	17 7.6%	40 17.9%	103 46.2%	59 26.5%	3.88	0.95
Our University uses the results of performance measurement to track the accomplishment of the objectives stated in the strategic plan	4 1.8%	19 8.5%	41 18.4%	95 42.6%	64 28.7%	3.88	0.98
Our University regularly reports the performance measures associated with the strategic plan to the concerned departments and sections	3 1.3%	24 10.8%	33 14.8%	96 43.0%	67 30.0%	3.90	0.10
Our University takes corrective actions based on the reported performance measures	4 1.8%	20 9.0%	42 18.8%	92 41.3%	65 29.1%	3.87	0.10
Overall						3.88	0.86

Note: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree, Mean = Weighted average mean, S.D. = Standard deviation.

5.7 Reasons for Using Partial Least Square, Structural Equation Modelling (PLS-SEM)

Recent studies have moved beyond the Partial Least Square, Structural Equation Modelling (PLS-SEM) versus Covariance-Based Structural Equation Modelling (CB-SEM) debate (Hair, Sarstedt, et al., 2019; Rigdon, 2012) by verifying PLS-SEM as a distinctive method for analysing models with composite-based path. However, the logic behind using PLS-SEM over CB-SEM in this study is outlined as follows:

- This study tests the theoretical framework from a prediction viewpoint.
- The structural model of this study is complex and contains many constructs and model relationships.

- The model of this study includes one formative construct, which is UA.
- The data of this study is not normally distributed.
- This study requires latent variable scores for conducting follow-up analyses of second-order constructs.

2.7 Assessment of the measurement model:

This section presents the reason for using Partial Least Square Structural Equation Modelling (PLS-SEM). Then, it presents the assessment of the measurement model that includes the evaluation of both the validity and reliability of first and second-order constructs in the model. Following that, it presents the assessment of the structural model. Next, it presents both the explanatory and predictive power of the model. It concludes by summarising the hypotheses' decision.

2.7.1 Assessment of the measurement model of First-order constructs:

This section presents the measurement model assessment of the first-order constructs to ensure their reliability and validity. In doing so, the convergent reliability and discriminant validity are assessed in the following subsections.

2.7.1.1 Convergent reliability

Convergent reliability refers to "the extent to which the construct converges to explain the variance of its items" (J. Hair Jr et al., 2019). In other words, convergent reliability investigates links between a construct and its indicators in order to ensure whether these indicators are appropriate to measure the construct.

In this study, convergent reliability and validity are assessed by the most common metrics used, which are Cronbach's Alpha, Composite Reliability (CR), Dillon-Goldstein's

(rho_A), factor loading, and last Average Variance Extracted (AVE). In addition, the McDonald's Omega (MO) procedure is used, which is a recent and robust metric of internal consistency as recommended by Hayes and Coutts (2020).

Factor loadings refer to the extent to which indicators associate with one another through their latent construct. A factor loading value above 0.708 for each indicator is desirable. This implies that it explains more than 50% of the variance in its indicators. In addition, a factor loading value equal to or greater than 0.50 is considered a lower limit value if the AVE is greater than 0.5 (Hair et al., 2006, 2010; Sarstedt et al., 2021). Hence, items with factor loading below 0.5 were deleted in this study.

The minimum cut-off value of Concerning Cronbach's Alpha, MO, CR, and rho_A is 0.70. This indicates a good representation of the reliability of each construct in a model (Hair, Risher, et al., 2019a).

The last criterion used is AVE, which refers to "the grand mean value of the squared loadings of the indicators associated with the construct (i.e., the sum of the squared loadings divided by the number of indicators)." The minimum acceptable AVE value is 0.50, which implies that the construct explains 50% of the variance of its indicators (J. Hair Jr et al., 2017a, p. 129).

However, following the above metrics and their roles of thumbs, the convergent reliability of independent, dependent and mediator constructs and their dimensions are assessed as follows:

2.7.1.1.1 Independent variables:

The first step to assess the convergent validity and reliability of the UA dimensions includes examining factor loadings for each indicator. The results showed that one indicator

(AA3) from AA was identified with a factor loading value of 0.372 (highlighted in bold, see Table 20), which is less than the minimum limited factor loading value of 0.5. Hence, to meet the convergent reliability, the item was deleted, and the final factor loading of each indicator was re-assessed. Figure 5-5 depicts the revised model of the present study.

As displayed in Table 5-20, the factor loadings in the independent sub-constructs are above the minimum threshold value of 0.50, which implies that all the items measuring UA are satisfactory. Figure 5-5 shows the results of the PLS algorithm for the first-order model.

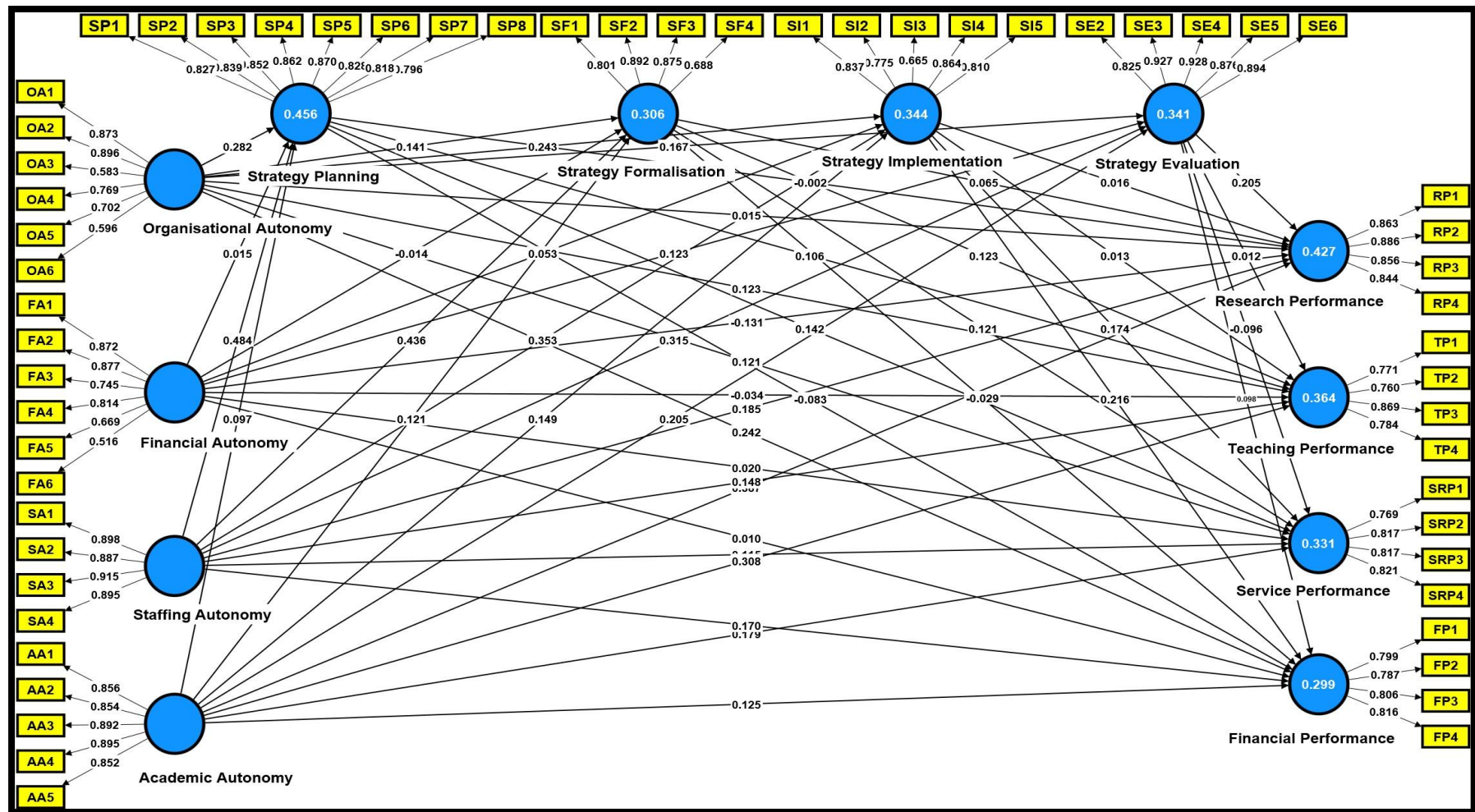
The second step involves the assessment of the internal consistency of the independent variables using Cronbach's Alpha, MO, CR and rho_A metrics. The results showed that the Cronbach's Alpha values of the independent sub-constructs range between 0.842 and 0.921; MO values range between 0.847 and 0.921; CR range between 0.881 and 0.944; and rho_A values range between 0.885 and 0.926. This reveals that Cronbach's alpha, MO, CR and rho_A values of all independent sub-constructs are found above the minimum limit value of 0.70. Hence, the internal consistency of the independent variables is established (J. F. Hair Jr et al., 2016).

The last step involves the evaluation of AVE (On the construct level). The results show that the AVE values of all independent variables range between 0.558 and 0.808, which are above the minimum cut-off value of 0.50. This indicates that the independent sub-constructs demonstrate more than 50% of the variation in their indicators.

Based on the above results, convergent reliability is established for all the independent sub-constructs, and therefore, the data is adequate for carrying out the following analysis.

Table 5-20. Convergent validity of the independent variables (Source: Author)

Construct	Items	Loading	Alpha	MO	CR	rho_A	AVE
Academic Autonomy	AA1	0.856	0.92	0.877	0.94	0.924	0.757
	AA2	0.854					
	AA3*	0.372					
	AA4	0.891					
	AA5	0.895					
	AA6	0.852					
Financial Autonomy	FA1	0.872	0.846	0.865	0.888	0.885	0.577
	FA2	0.877					
	FA3	0.745					
	FA4	0.815					
	FA5	0.671					
	FA6	0.514					
Staffing Autonomy	SA1	0.898	0.921	0.921	0.944	0.926	0.808
	SA2	0.886					
	SA3	0.915					
	SA3	0.895					
Organisational Autonomy	OA1	0.873	0.842	0.847	0.881	0.906	0.558
	OA2	0.896					
	OA3	0.585					
	OA4	0.769					
	OA5	0.701					
	OA6	0.596					
Note: * deleted item							



Fuger 5-5. The measurement model of first-order constructs

2.7.1.1.2 Dependent variables:

The same procedures were followed to evaluate the convergent reliability of the dependent sub-construct.

As seen in Table 5-21, The factor loadings in the dependent sub-constructs range between 0.760 and 0.887; Cronbach's Alpha values range between 0.808 and 0.885; MO values range between 0.812 and 0.886; CR range between 0.874 and 0.921; and rho_A values range between 0.816 and 0.892. This implies that Cronbach's alpha, MO, CR, and rho_A values of all dependent sub-constructs are above the minimum threshold value of 0.70 and, therefore, found to be satisfactory (J. F. Hair Jr et al., 2016).

Finally, the AVE values of all dependent sub-constructs range between 0.636 and 0.744, which are above the minimum cut-off value of 0.50. This implies that the dependent sub-constructs explain more than 50% of the variation in their indicators.

Based on the above results, convergent reliability is established for all the dependent sub-constructs, and hence, the data is adequate for carrying out the following analysis.

Table 5-20. Convergent validity of the independent variables (Source: Author)

Construct	Items	Loading	Alpha	MO	CR	rho_A	AVE
Research Performance	RP1	0.863	0.885	0.886	0.921	0.892	0.744
	RP2	0.887					
	RP3	0.855					
	RP4	0.844					
Teaching Performance	TP1	0.771	0.808	0.812	0.874	0.818	0.636
	TP2	0.760					
	TP3	0.869					
	TP4	0.784					
Service Performance	SRP1	0.769	0.820	0.823	0.881	0.823	0.650
	SRP2	0.817					
	SRP3	0.816					
	SRP3	0.821					
Financial Performance	FP1	0.799	0.815	0.815	0.878	0.816	0.643
	FP2	0.787					
	FP3	0.806					
	FP4	0.816					

2.7.1.1.3 Mediating variables:

The same procedures were followed to evaluate the convergent reliability of the mediating sub-construct.

As shown in Table 5-22, the factor loadings in the mediating variables range between 0.665 and 0.931; Cronbach's Alpha values range between 0.837 and 0.943; MO values range between 0.831 and 0.943; CR range between 0.889 and 0.955; and rho_A values range between 0.885 and 0.946. This implies that Cronbach's alpha, MO, CR, and rho_A values of all mediating variables are above the minimum threshold value of 0.70 and found satisfactory (J. Hair Jr et al., 2017a).

Finally, AVE values of all mediating variables range between 0.669 and 0.779, which are above the minimum cut-off value of 0.50. This implies that the mediating variables explain more than 50% of the variation in their indicators.

Based on the above results, convergent reliability for all the mediating variables is established, and hence, the data is adequate for carrying out the following analysis.

Table 5-22. Convergent validity of the mediating variables (Source: Author)

Construct	Items	Loading	Alpha	MO	CR	rho_A	AVE
Strategy Planning	SP1	0.827	0.939	0.931	0.949	0.941	0.700
	SP2	0.839					
	SP3	0.852					
	SP4	0.862					
	SP5	0.87					
	SP6	0.828					
	SP7	0.818					
	SP8	0.796					
Strategy Formalisation	SF1	0.801	0.837	0.831	0.889	0.885	0.669
	SF2	0.892					
	SF3	0.875					
	SF4	0.688					
Strategy Implementation	SI1	0.837	0.85	0.855	0.894	0.86	0.63
	SI2	0.775					
	SI3	0.665					
	SI3	0.864					
	SI5	0.81					
Strategy valuation	SE1	0.865	0.943	0.943	0.955	0.946	0.779
	SE2	0.818					
	SE3	0.923					
	SE4	0.931					
	SE5	0.871					
	SE6	0.882					

2.7.1.2 Discriminant validity:

Discriminant validity is another method to assess a construct's validity (Hair et al., 2017). It is used to empirically examine the uniqueness of a construct from other constructs in a model by testing the existence of cross-loading between factors.

This study evaluates the discriminant validity via three metrics: Fornell and Larker criterion, Cross-Loading and Heterotrait-Monotrait ratio (HTMT).

However, the three metrics mentioned above were assessed to establish the discriminant validity of the present study's constructs, as shown in the following subsections (J. F. Hair Jr et al., 2020).

2.7.1.2.1 Cross loadings

Cross-loading is used to verify discriminate validity using loading values magnitude of constructs in a model. As a rule of thumb, items that measure a particular construct must load higher in their parent construct than in the other constructs of a model.

As shown in Table 5-23, the results revealed that loadings of the items are found to be higher in their respective construct (highlighted in bold) than in the other constructs of the model. Hence, discriminant validity is established.

2.7.1.2.2 Fornell-Larcker's criteria

The first metric is Fornell and Larker criterion. It compares the square root of each construct's AVE with the latent construct correlations where the square root of the AVE value must be higher than its greater correlation with any other construct in a model (Fornell & Larcker, 1981).

As shown in table 5-24, the square root of AVE values represented by the bold text diagonal elements for all constructs are found to be higher than the correlation between each pair of constructs except for Teaching Performance. The square root of AVE value of teaching performance sub-construct is 0.797 which is slightly less than the value of its the correlation with service performance variable 0.80. This indicates a lack of discriminant validity between teaching and service performance.

This violation of the discriminant validity occurs because teaching performance and service performance sub-constructs are conceptually correlated (Hair et al., 2011). However, the literature presents a remedial solution to the violation of discriminant validity, the researchers are advised to model the constructs that are conceptually correlated as indicators of a second-order construct (J. Hair Jr et al., 2017b, p. 58; Pattnaik, 2019).

Table 5-23. Discriminant validity – Cross loadings of first-order constructs (Source: Author),

Construct	Item	AA	FA	SA	OA	SP	SF	SI	SE	RP	TP	SRP	FP
Academic Autonomy	AA1	0.856	0.170	0.365	0.163	0.323	0.277	0.287	0.304	0.462	0.412	0.315	0.227
	AA2	0.854	0.150	0.412	0.174	0.319	0.311	0.314	0.376	0.457	0.402	0.311	0.256
	AA3	0.891	0.128	0.424	0.127	0.306	0.264	0.292	0.310	0.463	0.439	0.311	0.243
	AA4	0.895	0.190	0.423	0.245	0.375	0.329	0.388	0.404	0.523	0.435	0.360	0.349
	AA5	0.852	0.232	0.397	0.258	0.359	0.344	0.353	0.362	0.533	0.451	0.381	0.382
Financial Autonomy	FA1	0.139	0.872	0.243	0.541	0.315	0.195	0.292	0.330	0.089	0.206	0.224	0.269
	FA2	0.184	0.877	0.241	0.485	0.305	0.197	0.317	0.358	0.121	0.191	0.243	0.270
	FA3	0.174	0.745	0.250	0.420	0.198	0.147	0.254	0.182	0.077	0.148	0.212	0.229
	FA4	0.174	0.815	0.203	0.451	0.211	0.108	0.209	0.295	0.082	0.162	0.195	0.260
	FA5	0.030	0.671	0.186	0.291	0.201	0.087	0.125	0.157	0.025	0.079	0.139	0.152
	FA6	0.207	0.514	0.166	0.210	0.228	0.216	0.185	0.243	0.012	0.115	0.079	0.058
Staffing Autonomy	SA1	0.403	0.276	0.898	0.210	0.541	0.449	0.444	0.456	0.403	0.362	0.365	0.345
	SA2	0.407	0.242	0.886	0.217	0.524	0.457	0.411	0.402	0.403	0.424	0.369	0.319
	SA3	0.415	0.195	0.915	0.166	0.499	0.448	0.429	0.392	0.419	0.365	0.310	0.288
	SA4	0.443	0.300	0.895	0.279	0.590	0.518	0.493	0.504	0.466	0.466	0.458	0.402
Organisational Autonomy	OA1	0.202	0.434	0.248	0.873	0.415	0.268	0.356	0.359	0.196	0.275	0.324	0.322
	OA2	0.228	0.571	0.281	0.896	0.419	0.311	0.424	0.405	0.151	0.300	0.309	0.419
	OA3	0.045	0.339	0.118	0.585	0.247	0.104	0.145	0.194	0.044	0.009	0.054	0.071
	OA4	0.168	0.326	0.128	0.769	0.326	0.205	0.290	0.246	0.186	0.228	0.296	0.307
	OA5	0.186	0.405	0.170	0.701	0.251	0.127	0.249	0.190	0.144	0.244	0.239	0.304

Strategy Planning	OA6	0.099	0.362	0.048	0.596	0.173	0.031	0.143	0.158	0.028	0.140	0.070	0.179
	SP1	0.303	0.228	0.506	0.259	0.827	0.618	0.544	0.564	0.336	0.354	0.348	0.174
	SP2	0.323	0.237	0.506	0.278	0.839	0.630	0.533	0.560	0.309	0.358	0.349	0.218
	SP3	0.299	0.248	0.503	0.290	0.852	0.610	0.612	0.631	0.365	0.414	0.417	0.304
	SP4	0.312	0.342	0.510	0.368	0.862	0.662	0.670	0.665	0.393	0.389	0.443	0.346
	SP5	0.362	0.283	0.520	0.426	0.870	0.703	0.670	0.691	0.435	0.426	0.458	0.368
	SP6	0.332	0.315	0.467	0.422	0.828	0.653	0.673	0.688	0.334	0.349	0.399	0.376
	SP7	0.340	0.238	0.544	0.360	0.818	0.754	0.723	0.678	0.379	0.417	0.429	0.354
Strategy Formalisation	SP8	0.324	0.280	0.474	0.440	0.796	0.696	0.662	0.674	0.395	0.451	0.454	0.432
	SF1	0.217	0.123	0.354	0.216	0.635	0.801	0.560	0.571	0.322	0.316	0.352	0.250
	SF2	0.364	0.166	0.485	0.213	0.703	0.892	0.705	0.676	0.388	0.371	0.347	0.286
	SF3	0.374	0.222	0.509	0.291	0.711	0.875	0.706	0.659	0.440	0.464	0.489	0.393
Strategy Implementation	SF4	0.125	0.174	0.320	0.115	0.554	0.688	0.512	0.514	0.224	0.228	0.263	0.118
	SI1	0.361	0.252	0.483	0.358	0.696	0.685	0.837	0.659	0.373	0.391	0.403	0.333
	SI2	0.241	0.269	0.312	0.309	0.568	0.558	0.775	0.636	0.301	0.300	0.379	0.382
	SI3	0.251	0.195	0.337	0.226	0.491	0.489	0.665	0.570	0.316	0.292	0.325	0.328
	SI4	0.346	0.212	0.445	0.277	0.658	0.682	0.864	0.747	0.421	0.398	0.415	0.384
Strategy Evaluation	SI5	0.290	0.335	0.375	0.385	0.604	0.616	0.810	0.709	0.315	0.298	0.357	0.328
	SE1	0.302	0.357	0.436	0.375	0.729	0.686	0.757	0.865	0.349	0.329	0.367	0.338
	SE2	0.378	0.305	0.395	0.275	0.600	0.562	0.642	0.818	0.410	0.299	0.294	0.313
	SE3	0.378	0.344	0.444	0.334	0.682	0.652	0.775	0.923	0.412	0.377	0.368	0.393
	SE4	0.388	0.275	0.416	0.345	0.706	0.675	0.779	0.931	0.435	0.395	0.398	0.419
	SE5	0.359	0.308	0.476	0.324	0.677	0.645	0.732	0.871	0.421	0.385	0.391	0.331

	SE6	0.348	0.308	0.435	0.311	0.704	0.713	0.752	0.882	0.439	0.429	0.430	0.396
	RP1	0.542	0.184	0.470	0.198	0.415	0.418	0.420	0.450	0.863	0.632	0.623	0.497
	RP2	0.490	0.017	0.394	0.106	0.386	0.390	0.405	0.426	0.887	0.584	0.545	0.471
	RP3	0.457	0.095	0.445	0.163	0.430	0.421	0.395	0.428	0.855	0.690	0.596	0.505
	RP4	0.445	0.026	0.297	0.123	0.281	0.250	0.270	0.281	0.844	0.695	0.598	0.530
	TP1	0.456	0.089	0.372	0.178	0.307	0.302	0.292	0.288	0.694	0.771	0.610	0.520
	TP2	0.347	0.206	0.366	0.139	0.357	0.305	0.332	0.329	0.535	0.760	0.528	0.436
	TP3	0.429	0.208	0.376	0.353	0.461	0.384	0.407	0.387	0.577	0.869	0.703	0.587
	TP4	0.331	0.158	0.333	0.259	0.382	0.407	0.326	0.333	0.587	0.784	0.700	0.583
	SRP1	0.322	0.187	0.344	0.241	0.394	0.369	0.333	0.295	0.588	0.618	0.769	0.543
	SRP2	0.341	0.201	0.342	0.303	0.427	0.346	0.406	0.382	0.516	0.654	0.817	0.554
	SRP3	0.256	0.145	0.316	0.244	0.368	0.347	0.368	0.338	0.527	0.642	0.816	0.617
	SRP4	0.326	0.263	0.357	0.267	0.409	0.413	0.420	0.357	0.573	0.664	0.821	0.742
	FP1	0.358	0.137	0.344	0.210	0.339	0.336	0.371	0.347	0.642	0.646	0.716	0.799
	FP2	0.287	0.225	0.262	0.346	0.311	0.237	0.329	0.330	0.432	0.507	0.557	0.787
	FP3	0.267	0.254	0.326	0.288	0.274	0.255	0.383	0.303	0.440	0.527	0.591	0.806
	FP4	0.187	0.294	0.289	0.413	0.335	0.274	0.334	0.353	0.350	0.473	0.591	0.816

Note: AA, Academic autonomy; FA; Financial Autonomy; SA; Staffing autonomy; OA, Organisational autonomy; RP, Research performance; TP, Teaching performance; SRP, Service performance FP, Financial performance; SP, Strategic planning; SF, Strategy formalisation; SI, Strategy implementation; SE, Strategy evaluation

Table 5-24. Discriminant validity - Fornell-Larcker's criteria of first-order constructs (Source: Author)

No	Construct	1	2	3	4	5	6	7	8	9	10	11	12
1	Academic Autonomy	0.870											
2	Financial Autonomy	0.203	0.759										
3	Organisational Autonomy	0.227	0.547	0.747									
4	Staffing Autonomy	0.465	0.285	0.246	0.899								
5	Strategy Planning	0.389	0.326	0.431	0.602	0.837							
6	Strategy Formalisation	0.353	0.212	0.268	0.523	0.800	0.818						
7	Strategy Implementation	0.379	0.317	0.393	0.497	0.766	0.770	0.793					
8	Strategy Evaluation	0.406	0.357	0.371	0.492	0.775	0.745	0.421	0.882				
9	Research Performance	0.564	0.098	0.173	0.473	0.444	0.436	0.750	0.467	0.862			
10	Teaching Performance	0.493	0.207	0.299	0.453	0.475	0.439	0.427	0.421	0.750	0.797		
11	Service Performance	0.388	0.250	0.328	0.423	0.497	0.459	0.750	0.427	0.684	0.800	0.806	
12	Financial Performance	0.341	0.285	0.393	0.380	0.392	0.343	0.670	0.415	0.098	0.670	0.764	0.802

Note: AA, Academic autonomy; FA; Financial Autonomy; SA; Staffing autonomy; OA, Organisational autonomy; RP, Research performance; TP, Teaching performance; SRP, Service performance FP, Financial performance; SP, Strategic planning; SF, Strategy formalisation; SI, Strategy implementation; SE, Strategy evaluation

Table 5-25. Discriminant validity HTMT criteria of first-order constructs (Source: Author)

No	Construct	AA	FA	OA	SA	SP	SF	SI	SE	RP	TP	SRP	FP
1	Academic Autonomy												
2	Financial Autonomy	0.230											
3	Organisational Autonomy	0.231	0.625										
4	Staffing Autonomy	0.503	0.320	0.249									
5	Strategy Planning	0.415	0.360	0.452	0.644								
6	Strategy Formalisation	0.373	0.248	0.274	0.577	0.892							
7	Strategy Implementation	0.422	0.364	0.424	0.555	0.847	0.894						
8	Strategy Evaluation	0.434	0.390	0.388	0.524	0.818	0.831	0.937					
9	Research Performance	0.618	0.114	0.198	0.513	0.476	0.479	0.495	0.502				
10	Teaching Performance	0.568	0.243	0.331	0.522	0.539	0.511	0.510	0.479	0.892			
11	Service Performance	0.441	0.287	0.356	0.480	0.560	0.534	0.567	0.482	0.803	0.978		
12	Financial Performance	0.389	0.331	0.433	0.435	0.440	0.387	0.533	0.472	0.687	0.824	0.933	
Note: AA, Academic autonomy; FA; Financial Autonomy; SA; Staffing autonomy; OA, Organisational autonomy; RP, Research performance; TP, Teaching performance; SRP, Service performance FP, Financial performance; SP, Strategic planning; SF, Strategy formalisation; SI, Strategy implementation; SE, Strategy evaluation													

2.7.1.2.3 HTMT criteria

The second metric is The HTMT criteria, which is proposed as a replacement for the Fornell and Larcker criterion over a criticism that this criterion does not perform properly when the loadings of the items on a particular construct diverge slightly (Henseler et al., 2015).

The HTMT criteria is defined as "the mean value of the item correlations across constructs relative to the geometric mean of the average correlations for the items measuring the same construct" (Henseler et al., 2015). According to the HTMT criterion, the discriminant validity issue presents when its value is higher than 0.9 for a model whose constructs are conceptually similar or when an HTMT value is higher than 0.85 for a model whose constructs are conceptually distinct.

In the table above (5-25), the results of HTMT criteria show that its values for the relationships between constructs that are conceptually distinct are less than the recommended threshold value of 0.85. In contrast, the THMT values for the relationships between constructs that are conceptually similar are less than the threshold value of 0.90 except for the relationship between strategy implementation and strategy evaluation (HTMT= 0.937) and between teaching performance and service performance (HTMT=0.978) and finally between service performance and financial performance (HTMT=0.933) which exceed the HTMT maximum threshold value of 0.90. This indicates that discriminant validity is absent between these constructs because they are conceptually and statistically correlated.

To remedy discriminant validity issues, the literature recommends that researchers should model first-order constructs into a single multidimensional higher-order construct (J. Hair Jr et al., 2017a, p. 223).

2.7.2 Assessment of Second-order model:

Following theoretical and empirical supporting evidence, both the dependent and mediating sub-constructs can be established as second-order constructs. This approach is considered the most appropriate technique for further analysis (Crocetta et al., 2021; Koufteros et al., 2009).

Accordingly, the interrelated dependent sub-constructs, namely research, teaching, service and financial performance, were clubbed together to form OP as a higher-order dependent construct. In addition, the interrelated mediating sub-constructs, namely SP, SF, SI and SE, were clubbed together to form SM as a second-order construct.

After forming the higher-order constructs, assessing the reliability and validity of higher-order constructs OP and SM is essential. In doing so, the convergent reliability and discriminant validity are estimated in the following subsections.

6.1.1.1 Convergent reliability:

Similar to the first-order constructs measurement model assessment, the convergent reliability of reflective-reflective higher-order constructs was validated through factor loading, Cronbach's Alpha, CR, rho-A and AVE.

Table 5-26 and Figure 5-6 below illustrate the convergent reliability and validity results of reflective-reflective higher-order constructs, which are OP and SM.

The factor loadings of first-order sub-constructs of OP range between 0.838 and 0.916, which is satisfactory. The values of Cronbach's Alpha, CR and rho-A are higher than the minimum threshold value of 0.70, which is satisfactory. Finally, the AVE value is greater than

the critical value of 0.50, which is satisfactory. This indicates that convergent reliability for the second-order dependent construct (OP) is established.

Table 4-26. The measurement model of Second-order constructs (Source: Author)

SOC	FOC	Loading	Alpha	CR	rho_A	AVE
Organisational performance	RP	0.864	0.910	0.930	0.910	0.780
	TP	0.916				
	SRP	0.915				
	FP	0.838				
Strategic management	SP	0.918	0.940	0.950	0.940	0.840
	SF	0.902				
	SI	0.922				
	SE	0.917				
Note: FOC, First order construct; SOC, Second order construct; RP, Research performance; TP, Teaching performance; SRP, Service performance FP, Financial performance; SP, Strategic planning; SF, Strategy formalisation; SI, Strategy implementation; SE, Strategy evaluation						

Similarly, it is observed that the factor loadings of all first-order sub-constructs of Strategic management range between 0.902 and 0.922, suggesting a good convergent validity. The values of Cronbach's Alpha, CR, and rho-A are greater than the cut-off value of 0.70, which is found satisfactory. Finally, AVE values are found to be greater than the minimum critical value of 0.50.

This indicates that convergent reliability and validity of the second-order mediating construct are established. Hence, the convergent validity and reliability of the second-order model are satisfactory.

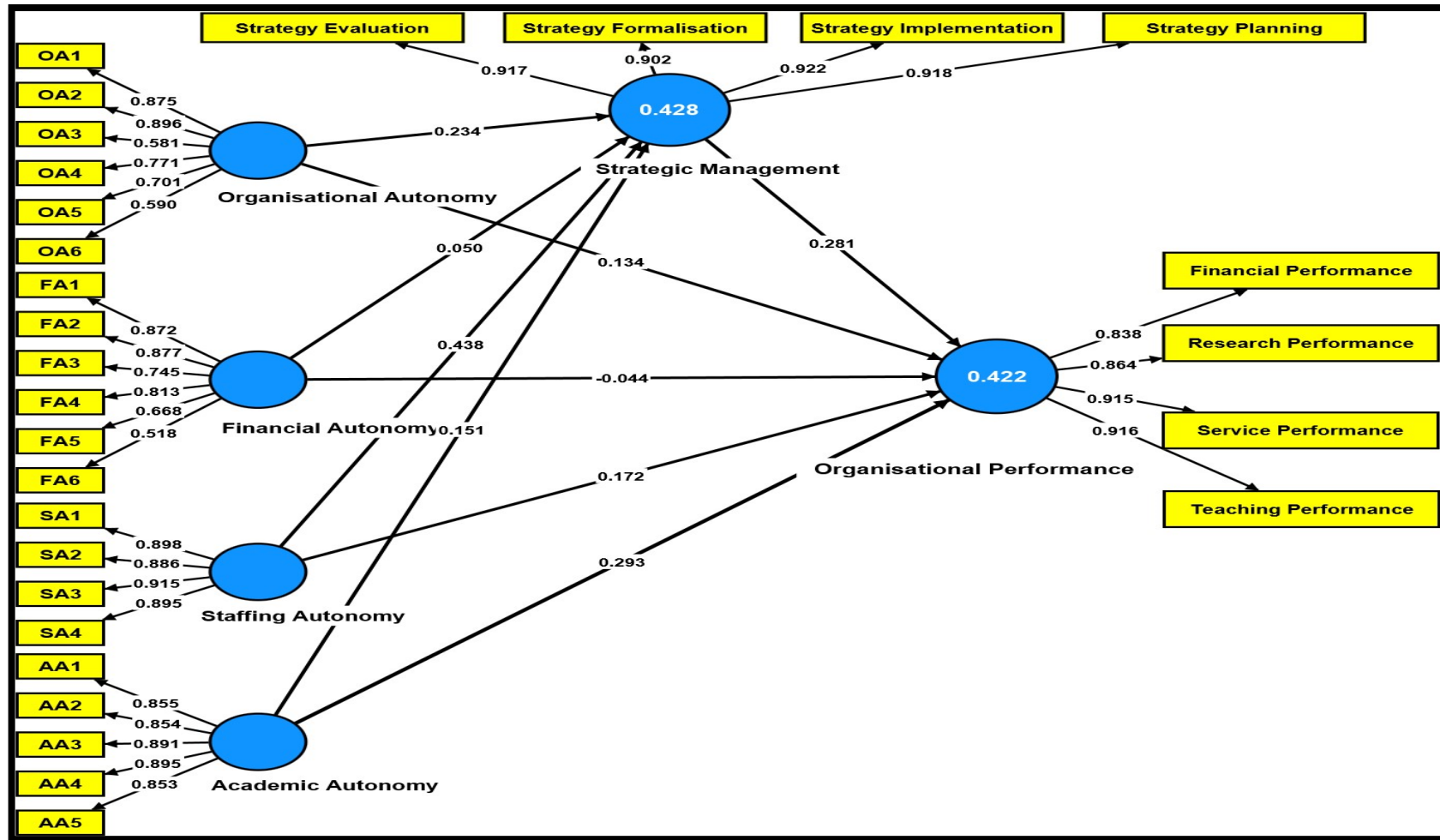


Figure 5-6. The measurement model of Second-order constructs

6.1.1.2 Discriminant validity

In the same manner as first-order constructs, the discriminant validity of reflective-reflective higher-order constructs was assessed via three metrics, that are, Fornell& Larcker's criteria, HTMT criteria, and cross-loading. The results of three discriminant validity metrics of higher-order constructs, namely, OP and SM, are presented in the following sections.

6.1.1.2.1 Cross loadings

According to this metric, the loadings of indicators on their respective constructs must be higher than those of other constructs' indicators. As seen in Table 5-27. the results showed that the loadings of first-order sub-constructs are higher on their respective second-order construct. Hence, the discriminant validity of the higher-order sub-constructs is confirmed.

Table 5-27. Discriminant validity – Cross loadings of second-order constructs (*Source: Author*),

No	SOC	FOC	1	2
1	Organisational performance	RF	0.864	0.488
		TP	0.916	0.483
		SRP	0.915	0.509
		FP	0.838	0.436
2	Strategic management	SP	0.513	0.918
		SF	0.477	0.902
		SI	0.503	0.922
		SE	0.49	0.917

Note: FOC, First order construct; SOC, Second order construct; RP, Research performance; TP, Teaching performance; SRP, Service performance FP, Financial performance; SP, Strategic planning; SF, Strategy formalisation; SI, Strategy implementation; SE, Strategy evaluation

6.1.1.2.2 Fornell-Larcker's criteria

The table below 4-30 presents the values of the square root of AVE, represented by the highlighted diagonal values, and the correlation of all second-order constructs. The rule of

thumb to establish discriminant validity is that the square root of AVE values must be greater than the correlation of latent constructs.

As seen in Table 5-28, the highlighted diagonal values for both second-order variables are higher than the relevant correlations of latent variables. The square root of AVE of the OP is 0.884, which is higher than the values of its correlation with Strategic management.

Similarly, the square root of AVE of SM is 0.915, which is greater than the values of its correlation with OP. This implies that the discriminant validity of both second-order variables is well established.

Table 5-28. Discriminant validity - Fornell-Larcker's criteria of second-order constructs (*Source: Author*)

No	SOC	1	2
1	Organisational Performance	0.884	
2	Strategic Management	0.543	0.915
Note: SOC, Second order construct			

6.1.1.2.3 Heterotrait Monotrait criteria (HTMT):

The HTMT criteria assess the similarity between two or more constructs where it requires that the confidence intervals must not include the value 1.

According to (Henseler et al., 2015), to distinguish each construct from other constructs in the model, the values of HTMT across constructs that are conceptually similar must be less than 0.90. In contrast, the HTMT values across constructs that are not conceptually similar must be less than 0.85.

As seen in Table 5-29 below, the HTMT value is 0.588, which is less than the cut-off value of 0.85 for the constructs that are not conceptually similar. This shows that the second-

order independent construct (OP) is distinguished from the second-order mediating construct (SM), implying that discriminant validity is established.

Table 5-29. Discriminant validity - HTMT criteria of second-order constructs (*Source: Author*)

No	SOC	1	2
1	Organisational Performance		
2	Strategic Management	0.588	
Note: SOC, Second order construct			

2.7.3 *The relationships across constructs:*

In PLS-SEM, the causal relationship across constructs is identified by applying the PLS algorithm to assess the measurement model. These causal correlations show how the constructs of a model are statistically linked with one another. For constructs that are conceptually associated, they are expected to be statistically correlated, which may lead to multi-collinearity issues.

The presence of multi-collinearity occurs when a correlation among independent constructs in the regression model is more than 0.85. In addition, a correlation value higher than 0.60 is found to be an issue that affects the exogenous construct' significance in affecting the endogenous variables (J. Hair Jr et al., 2017a, p. 157).

However, in such a condition, a remedial solution to multi-collinearity is recommended by applying a two-stage approach (the second-order construct) in which highly correlated constructs that measure one concept/construct are used as sub-constructs/indicators in the second-order construct.

The correlations across variables are evaluated in three groups, the first group is the independent variables, and the next group is the dependent variables. The last group is mediating variable as follows.

6.1.1.3 *The relationships across independent constructs:*

As seen in Table 5-30 below, it is found that the values of correlation across all independent subconstructs are below the value of 0.50. For instance, the correlation value of AA and FA is 0.203. While the correlation value of AA with SA is 0.465, and OA is 0.227, which is a good sign of the absence of non-collinearity.

Only the correlation between two independent constructs is observed to be above the value of 0.50, which are FA and OA, with a correlation value of 0.547.

Table 5-30 The relationships across independent constructs

No	Construct	1	2	3	4
1	Academic Autonomy	1			
2	Financial Autonomy	0.203	1		
3	Staffing Autonomy	0.465	0.285	1	
4	Organisational Autonomy	0.227	0.547	0.246	1

6.1.1.4 *The relationships across dependent constructs:*

As depicted in Table 5-31, it is observed that the correlation values of all dependent constructs are higher than 0.50. For instance, the correlation value of research performance with teaching performance is 0.750, with service performance is 0.684, and with financial performance is 0.578. Accordingly, the results suggest that the dimensions of the dependent construct can be grouped into one higher-order construct named OP to reduce the structural model's complexity, as Hair, Risher, et al. (2019b) recommended.

Table 5-31. The relationship across dependent constructs

No	Construct	1	2	3	4
1	Research Performance	1			
2	Teaching Performance	0.750	1		
3	Service Performance	0.684	0.802	1	
4	Financial Performance	0.578	0.670	0.764	1

6.1.1.5 The relationships across mediating constructs:

As shown in Table 5-32, it is found that the correlation values of all mediating constructs are greater than 0.50. For instance, the correlation value of the dependent construct SP with SF is 0.801, with SI is 0.766, and with SE is 0.775. Consequently, the results suggest that the dimensions of mediating constructs can be grouped into one higher-order SM construct, leading to more parsimony for the structural model, as Hair, Risher, et al.(2019b) recommended.

Table 5-32. The relationship across mediating constructs

No	Construct	1	2	3	4
1	Strategy Planning	1			
2	Strategy Formalisation	0.801	1		
3	Strategy Implementation	0.766	0.770	1	
4	Strategy Evaluation	0.775	0.745	0.839	1

2.8 Structure Model Assessment:

After ensuring the reliability and validity of the measurement model are satisfactory, the structural model is evaluated to estimate the causal relationships between constructs in the model.

This study uses the common assessment criteria, which are the Variance inflation factor (VIF), coefficient of determination (R²), the effect size (f²), cross-validated redundancy measure (Q²), the statistical significance and relevance of path coefficient (p-value), and Predictive power (PLS-Predict) (Hair, Risher, et al., 2019c). In doing so, the bootstrapping technique was employed, and the sample was divided into 10,000 subsamples to identify the significance levels for the causal relationships between constructs (see Figure 5-7) (Sarstedt et al., 2014) .

The assessment of the causal relationships in the model was carried out in four parts.

In the first part, the independent sub-constructs, namely OA, FA, SA, and AA, were examined to determine their impact on the second-order dependent construct, namely OP. In addition, the independent sub-constructs were also evaluated to determine their impact on the second-order mediating construct, namely SM.

In the second part, the mediating constructs were solely evaluated to determine their effect on the second-order dependent construct (OP), where the higher-order mediating construct includes SP, SF, SI and SE. Also, the mediating second-order construct (SM) was examined to identify its impact on the dependent higher-order construct (OP).

The last part evaluates the second-order mediating construct to identify its role in the relationship between the four independent sub-constructs (OA et al.) and the second-order dependent construct (OP).

2.8.1 Assessment of multicollinearity

Multi-collinearity occurs when two or more independent variables are highly correlated, leading to misleading statistical inferences. The Variance Inflation Factor (VIF) metric is used to assess the multi-collinearity of the independent constructs. According to Hair,

Risher, et al. (2019b), collinearity issues present when the VIF value is higher or equal to 5, whereas possible collinearity issues occur when the VIF value is between 3-5. However, the ideal VIF value should be less than 3.

As seen in Table 5-33 below, the results revealed that all values of the four independent constructs are less than the ideal threshold value 3. This implies that there are no multi-collinearity issues in the independent constructs.

Table 5-33. Variance Inflation Factor of independent variables (Source: Author)

Construct	VIF
Academic Autonomy	1.356
Financial Autonomy	1.532
Staffing Autonomy	1.790
Organisational Autonomy	1.658

2.8.2 *Effect of University Autonomy Dimensions on Organisational Performance of Indian Universities:*

This section presents the results of the hypotheses testing for examining the effects of UA's sub-constructs, which are OA, FA, SA, and AA and OP as a second-order construct (Figure 7).

As seen in Table 5-34, AA ($\beta = 0.293$, $t = 3.976$, $p < 0.000$, 95% CI [0.147, 0.434]) and SA ($\beta = 0.172$, $t = 2.179$, $p < 0.029$, 95% CI [0.013, 0.321]) have significant effects on OP, while FA ($\beta = 0.044$, $t = 0.590$, $p < 0.555$, 95% CI [-0.188, 0.102]) and OA ($\beta = 0.134$, $t = 1.861$, $p < 0.063$, 95% CI [-0.004, 0.278]) have no significant effects on OP. Hence, hypotheses H1a and H1c are supported, while hypotheses H1b and H1d are not supported.

Table 5-31. The relationship across dependent constructs

Hypo	Path	β	Bootstrap Mean	t-value	p-value	CI	
						2.50%	97.50%
H1a	OA -> OP	0.134	0.138	1.861	0.063	-0.004	0.278
H1b	FA -> OP	-0.040	-0.046	0.590	0.555	-0.188	0.102
H1c	SA -> OP	0.172	0.165	2.179	0.029	0.013	0.321
H1d	AA -> OP	0.293	0.290	3.976	0.000	0.147	0.434

Note: Organisational autonomy, OA; Financial autonomy, FA; Staffing autonomy, SA; Academic autonomy, AA; organisational performance, OP

2.8.3 Effect of University Autonomy Dimensions on Strategic Management of Indian Universities:

Table 5-35 presents the findings of the hypotheses testing for examining the effects of UA's sub-constructs and SM. It is found that three out of four sub-constructs of the UA show a significant positive effect on OP in public and private universities. The three significant sub-constructs are AA ($\beta = 0.151$, $t = 1.985$, $p < 0.047$, 95% CI [0.003, 0.305]), SA ($\beta = 0.438$, $t = 6.780$, $p < 0.000$, 95% CI [0.302, 0.556]) and OA ($\beta = 0.234$, $t = 3.829$, $p < 0.000$, 95% CI [0.117, 0.358]). While it is found that the path relationship between FA and SM ($\beta = 0.050$, $t = 0.795$, $p < 0.427$, 95% CI [-0.117, 0.358]) shows no evidence of a significant effect. Therefore, hypotheses H2a, H2c, and H2d are supported, while hypothesis H2b is not supported.

Table 5-35. Effect of University autonomy dimensions on Strategic management

Hypo	Path	β	Bootstrap Mean	t-value	p-value	CI	
						2.50%	97.50%
H2a	OA -> SM	0.234	0.235	3.829	0.000	0.117	0.358
H2b	FA -> SM	0.050	0.057	0.795	0.427	-0.067	0.179
H2c	SA -> SM	0.438	0.434	6.780	0.000	0.302	0.556
H2d	AA -> SM	0.151	0.154	1.985	0.047	0.003	0.305

Note: Organisational autonomy, OA; Financial autonomy, FA; Staffing autonomy, SA; Academic autonomy, AA; Strategic management, SM

2.8.4 Effect of Strategic Management Practices on Organisational Performance of Indian Universities:

In order to test hypotheses H3a, H3b, H3c, and H3d, the dimensions of SM were taken singly and tested their impact on OP on an individual basis. As seen in Table 5-36, SP has a significant effect on OP ($\beta = 0.515$, $t = 6.022$, $p < 0.000$, 95% CI [0.342, 0.670]), SF has a significant effect on OP ($\beta = 0.480$, $t = 6.222$, $p < 0.000$, 95% CI [0.319, 0.619]), SI has a significant effect on OP ($\beta = 0.505$, $t = 6.840$, $p < 0.000$, 95% CI [0.353, 0.644]) and SE has a significant effect on OP ($\beta = 0.491$, $t = 6.977$, $p < 0.000$, 95% CI [0.347, 0.624]). Hence, the hypotheses H3a, H3b, H3c, and H3d are supported.

Table 4-36. Effect of Strategic management practices on Organisational performance Solely

Hypo	Path	β	Bootstrap Mean	t-value	p-value	CI	
						2.50%	97.50%
H3a	SP -> OP	0.515	0.523	6.022	0	0.342	0.67
H3b	SF -> OP	0.48	0.486	6.222	0	0.319	0.619
H3c	SI -> OP	0.505	0.512	6.84	0	0.353	0.644
H3d	SE -> OP	0.491	0.496	6.977	0	0.347	0.624

Note: SP, Strategic planning; SF, Strategy formalisation; SI, Strategy implementation; SE, strategy evaluation

2.8.5 The Mediating Analysis

In this section, the mediating role of SM in the relationship between UA's dimensions and OP is examined by performing the Bootstrapping procedure on 10,000 subsamples.

The mediating construct is defined as “a variable that accounts for all or part of the relationship between a predictor and outcome” (J. F. Hair Jr et al., 2014). In concurrence with PLS-SEM, the present study followed three steps recommended by (Baron & Kenny, 1986).

In the first step, the direct relationship between UA’s sub-constructs and OP was tested without the mediator’s presence (SM). In the second step, the direct relationship between UA’s sub-constructs and OP was tested in the mediator’s presence. In the last step, the indirect effect of the UA’s four sub-constructs on OP through the mediator was examined.

As a rule of thumb, the mediating effect is significant if the following criteria are established:

- (1) The relationship between an independent and dependent construct is significant.
- (2) The relationship between an independent and a mediator construct is significant.
- (3) The relationship between a mediator and a dependent construct is significant (Kock, 2011).

2.8.5.1 Direct effect of University Autonomy Dimensions on Organisational Performance Without The Presence of The Mediator

In this step, the direct effect of UA sub-constructs on OP is examined without the inclusion of SM. The results in Table 5-37 show that the direct effects of three sub-constructs of UA on OP were found statistically significant; AA ($\beta = 0.331$, $t = 4.882$, $p < 0.000$, 95% CI [0.198, 0.463]), SA ($\beta = 0.294$, $t = 3.906$, $p < 0.000$, 95% CI [0.143, 0.438]) and OA ($\beta = 0.213$, $t = 3.213$, $p < 0.001$, 95% CI [0.090, 0.349]), while FA ($\beta = -0.029$, $t = 0.428$, $p < 0.668$, 95% CI [-0.148, 0.118]) shows no evidence of a significant effect on OP.

Table 4-36. Effect of Strategic management practices on Organisational performance Solely

Path	β	Bootstrap Mean	t-value	p-value	CI	
					2.50%	97.50%
OA -> OP	0.213	0.289	3.213	0.001	0.090	0.349
FA -> OP	-0.029	-0.021	0.428	0.668	-0.148	0.118
SA -> OP	0.294	0.219	3.906	0.000	0.143	0.438
AA -> OP	0.331	0.332	4.882	0.000	0.198	0.463

Note: Organisational autonomy, OA; Financial autonomy, FA; Staffing autonomy, SA; Academic autonomy, AA; OP, Organisational performance

2.8.5.2 Direct Effect of University autonomy Dimensions on Organisational Performance With The Presence of The Mediator

In this step, the direct effect of UA's sub-constructs on OP is examined but with the inclusion of SM.

The results in Table 5-38 revealed that two sub-constructs of US have significant direct effects on OP: AA ($\beta = 0.293$, $t = 3.98$, $p < 0.000$, 95% CI [0.147, 0.434]) and SA ($\beta = 0.172$, $t = 2.18$, $p < 0.000$, 95% CI [0.013, 0.321]). On the contrary, the other two sub-constructs that show no evidence of significant effects on OP are FA ($\beta = -0.044$, $t = 0.590$, $p < 0.555$, 95% CI [-0.188, 0.102]) and OA ($\beta = 0.134$, $t = 1.860$, $p < 0.063$, 95% CI [-0.004, 0.278]).

Table 5-38. Effect of university autonomy sub-constructs on Organisational performance with the mediator

Path	β	Bootstrap Mean	t-value	p-value	CI	
					2.50%	97.50%
AA -> OP	0.293	0.290	3.980	0.000	0.147	0.434
FA -> OP	-0.044	-0.046	0.590	0.555	-0.188	0.102
SA -> OP	0.172	0.165	2.180	0.029	0.013	0.321
OA -> OP	0.134	0.138	1.860	0.063	-0.004	0.278

Note: Organisational autonomy, OA; Financial autonomy, FA; Staffing autonomy, SA; Academic autonomy, AA; OP, Organisational performance

2.8.5.3 Indirect Effect of University Autonomy Dimensions on OP Through Strategic Management

In this last step, the indirect effects of UA's sub-constructs on OP through SM are tested.

As seen in Table 5-39, it is observed that SA has a significant effect on OP through SM ($\beta = 0.123$, $t=2.157$, $p < 0.031$, 95% CI [0.024,0.246]). Similarly, it is found that OA ($\beta = 0.066$, $t=2.392$, $p < 0.017$, 95% CI [0.016, 0.123]) has a significant effect on OP through SM. On the contrary, it is observed that AA ($\beta = 0.042$, $t=1.273$, $p < 0.203$, 95% CI [0.000, 0.124]) has no significant effect on OP through SM, although it has a positive effect on OP as well as SM. This is because the path coefficient (β) with respect to its relationship with SM is low ($\beta = 0.151$), and the significance value (p-value) is close to not being statistically significant ($p < 0.047$). In the same vein, it was found that FA ($\beta = 0.014$, $t=0.612$, $p < 0.540$, 95% CI [-0.014, 0.075]) has no significant effect on OP through SM.

Table 5-39. The Indirect effect of University Autonomy Sub-construct on organisational Performance Through Strategic Management

Hypo	Path	β	Bootstrap Mean	t-value	p-value	CI		Mediation Type Observed
						2.50%	97.50%	
H4a	AA -> SM -> OP	0.042	0.048	1.273	0.203	0.000	0.124	No mediation
H4b	FA -> SM -> OP	0.014	0.020	0.612	0.540	-0.014	0.075	No mediation
H4c	SA -> SM -> OP	0.123	0.126	2.157	0.031	0.024	0.246	partial mediation
H4d	OA -> SM -> OP	0.066	0.065	2.392	0.017	0.016	0.123	Full mediation

Note: Organisational autonomy, OA; Financial autonomy, FA; Staffing autonomy, SA; Academic autonomy, AA; OP, Organisational performance; SM, Strategic management

2.8.5.4 *Type of the mediation effect*

As a rule of thumb, in the case of partial mediation, the direct relationship between an independent and a dependent construct is statistically significant, and the indirect relationship through a mediator is significant. In the case of full mediation, the direct relationship between an independent and a dependent construct is statistically insignificant, but the indirect relationship through the mediator is statistically significant. Finally, no mediation occurs when both the direct and the indirect relationships are insignificant (J. Hair Jr et al., 2017a).

Based on the results of testing the direct relationship between the independent constructs with and without the inclusion of the mediating construct, as well as the impact of the independent constructs on the dependent construct through the mediating construct, it can be concluded that SM partially mediates the relationship between SA and OP (complementary mediation). In addition, it fully mediates the relationship between OA and OP (Indirect-only mediation). Finally, it can be found that SM has no significant mediating effect on the relationship between AA and OP (Direct-only non-mediation). Similarly, it is seen that SM has no mediating role in the relationship between FA and OP (No-effect non-mediation).

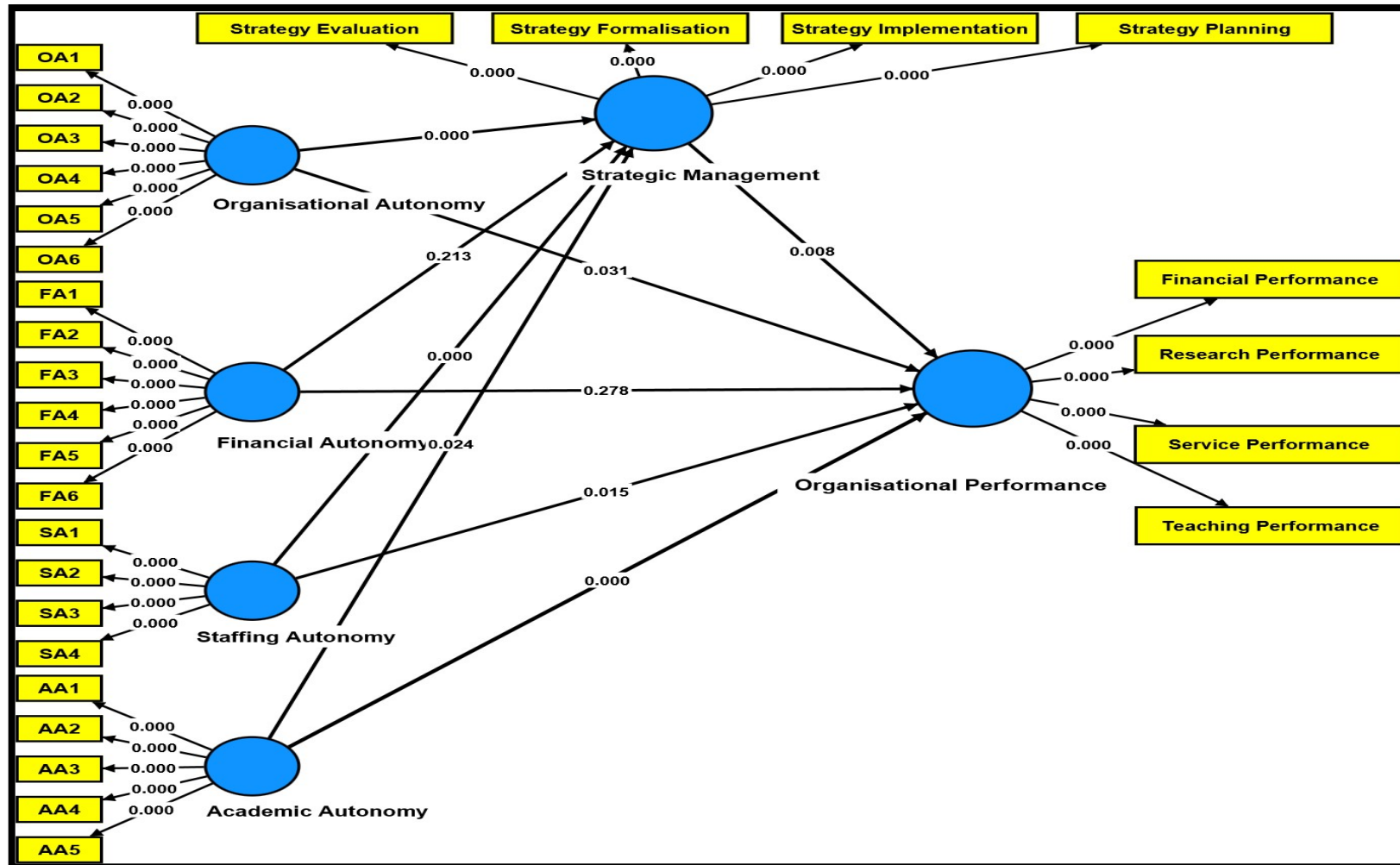


Figure 5-7. Structural model (Smartpls 4.)

2.9 The assessment of the reflective-formative model

It is worth mentioning that the dimensions of UA were found uncorrelated (See section 5.1.3 tables), which supported the conclusion of the absence of any serious multicollinearity. Hence, this brings the notion of a formative latent variable that was recommended by various authors in such cases (Becker et al., 2012; J. F. Hair Jr et al., 2021a; Jarvis et al., 2003).

The formative construct is distinguished from the reflective construct by which its indicators define the characteristics of a construct. In addition, changes in those indicators will lead to changes in the construct because the contents of the indicators are different and are not correlated to one another.

This study has adopted a general hypothesis related to testing the effect of UA on OP (H1), the effect of UA on SM, and finally, the indirect effect of UA on OP through SM. This makes it appropriate to use the dimensions of UA as indicators to form the second-order reflective-formative construct, that is, UA (see, Jarvis et al., 2003). The measurement model, as well as the structural model of the reflective-formative model, were assessed in the following sub-section.

2.9.1 *Measurement Model Assessment of Reflective Formative Model:*

This section presents the evaluation criteria followed to assess and validate the reflective-formative measurement model recommended by Hair et al. (2014) to ensure its reliability and validity in measuring UA construct.

Three criteria were used, which are redundancy analysis, collinearity of indicators/sub-constructs (first-order constructs), and the significance of outer weight and outer loading of each indicator/sub-constructs (t-values, p-values, significance levels) (J. Hair Jr et al., 2017a, p. 154).

As a rule of thumb, the correlation between the formative construct and the single global item should be higher than 0.70, and the R² should be greater than 0.5. Otherwise, a model lacks convergent validity.

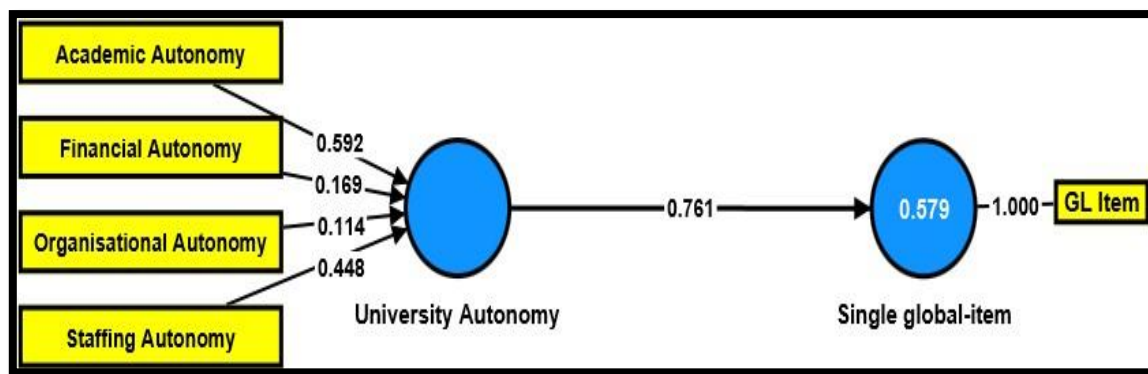
The variance inflation factor should ideally be lower than 5. contrarily, the indicator with a VIF value greater than 5 is considered for elimination as it creates collinearity issues and leads to model contamination.

The outer weight of each indicator should be significant at a level of 0.05. If an indicator's weight is found statistically insignificant, but the corresponding indicator's loading is higher than 0.5 and statistically significant, the indicator should be kept. If the outer weight is not statistically significant and the outer loading of an indicator is relatively lower than 0.5. In that case, the formative indicator must be removed from the model (J. Hair Jr et al., 2017a, p. 166).

6.1.1.6 The redundancy analysis

Redundancy analysis was conducted by assessing the correlation between the UA construct and a single-global item (Chin, 1998), "the overall rate of the level of UA," where university autonomy was used as an exogenous construct, and the single global item was used as an endogenous construct (Diamantopoulos & Winklhofer, 2001).

This study used the PLS-SEM algorithm procedure to test the reflective-formative model's convergent validity through redundancy analysis. The results of the redundancy analysis, as seen in Figure 5-8, indicate that the path coefficient between UA and the single global item is 0.761, which is higher than the recommended critical value of 0.70 (J. F. Hair Jr et al., 2014), and the R² value is 0.579. This confirms the convergent validity of the reflective formative construct.



Figuer.5-8. Redundancy analysis

6.1.1.7 Variance inflation factor (VIF)

The degree of multi-collinearity among indicators/ subconstructs was examined by the Variance inflation factor (VIF) to guarantee the absence of multi-collinearity issues.

Table 5-40 shows that VIF values of first-order constructs (OA, FA, SA, and AA) are less than the threshold value of 3.3 (1.299, 1.462, 1.346, 1.479, respectively). This indicates that multi-collinearity is not an issue for first-order constructs measuring UA.

6.1.1.8 The significance of the outer weight and outer loading

The last criterion used to assess the measurement model of the second-order construct is the significance of the outer weight and outer loading of each indicator/sub-construct (t-values, p-values, significance levels).

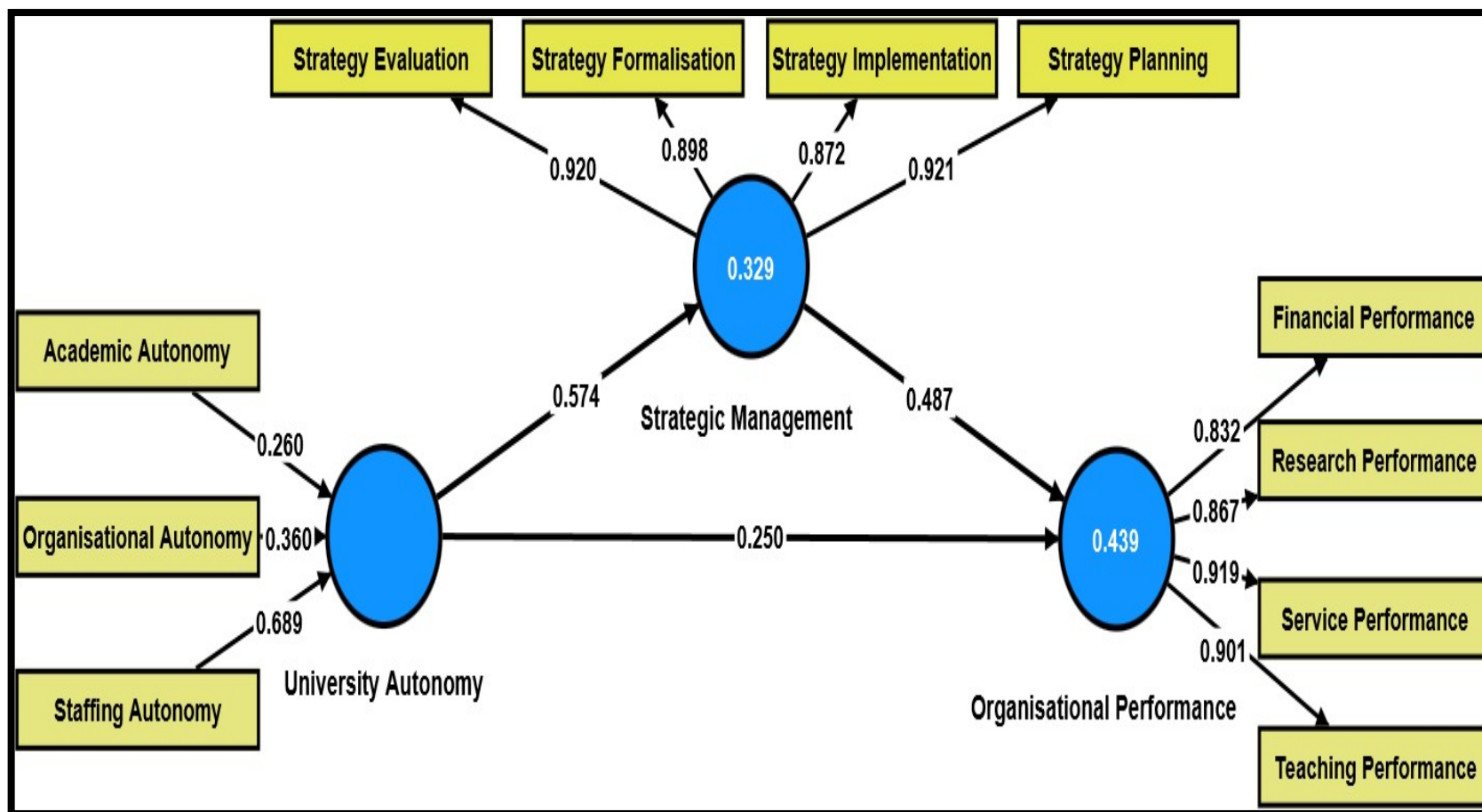
The present study used the Bootstrapping nonparametric procedure with 5,000 subsamples extracted from the original sample to test the statical significance of the weights and loadings of the second-order constructs (J. F. Hair Jr et al., 2021a).

As presented in Table 5-40, the outer weights of OA, FA, SA and AA are significant at the level of 0.05. In addition, their loadings are found to be significant at the level of 0.05 (see Figure5-9).

This indicates that all three first-order constructs are relatively important to the second-order formative UA construct. On the contrary, the outer weight of FA was found not significant at the level of 0.05, and its corresponding loading is 0.456, which is less than the cut-off value of 0.50 (see table 4-47). This implies that FA contributes poorly to the second-order formative UA construct. Therefore, FA was removed from the model.

Table 5-40. Weights and loadings for the measurement Reflective-Formative second-order model

FOC	Weights	t-values	p-values	Confidence Interval		Loading	t-value	p-values	Confidence Interval		VIF
				2.50%	97.50%				2.50%	97.50%	
Academic Autonomy	0.380	4.074	0.000	0.200	0.563	0.737	10.673	0.000	0.583	0.853	1.299
Organisational Autonomy	0.348	4.057	0.000	0.175	0.510	0.591	8.675	0.000	0.446	0.714	1.462
Staffing Autonomy	0.588	6.326	0.000	0.389	0.754	0.857	16.947	0.000	0.733	0.930	1.346
Financial autonomy	0.021	0.245	0.806	-0.136	0.193	0.456	5.451	0.000	0.283	0.610	1.479



Fuger 5-9. The Measurement Model of The Reflective Formative Model

2.9.2 Structure Model Assessment of Reflective Formative Model:

After forming the second-order reflective formative construct and confirming its validity and reliability, the structural model is assessed to measure the relationships in the model. The common evaluating criteria used in this study are the statistical significance and relevance of the path coefficient (p-value) in order to test the main hypotheses (H1, H2, H3, H4).

The bootstrapping technique was conducted with 10,000 sub-samples to determine the significance levels of the causal relationship between constructs (see 5-10) (J. F. Hair Jr et al., 2021b).

The analysis of the model's relationships was performed in four parts. The first part investigates the impact of UA on OP. The second part examines the effect of UA on SM. The third part tests the impact of SM on OP was tested. In the last part, the mediating role of the SM construct in the relationship between UA and OP was examined.

6.1.1.9 Effect of University Autonomy on Organisational performance of Public and Private Universities:

This section shows the results of the hypotheses testing for investigating the relationship between second-order constructs, that are, UA and OP (Figure 5-10). As seen in Table 5-41 reveals that UA significantly impacts OP in Indian universities ($\beta = 0.435$, $t = 4.838$, $p < 0.000$, 95% CI [0.254, 0.602]). Therefore, hypothesis H1. is supported.

Table 5-41. *Effect of University autonomy on Organisational performance*

Hypo	Path	β	Bootstrap Mean	t-value	p-value	CI	
						2.50%	97.50%
H1	UA -> OP	0.435	0.433	4.838	0.000	0.254	0.602

Note: UA, University autonomy; OP, Organisational performance

6.1.1.10 *Effect of University Autonomy on Strategic Management Practices of Public and Private Universities:*

This section shows the results of the hypothesis testing for examining the relationship between second-order constructs, that are, UA and SM practices.

As seen in Table 5-42 and Figure 5-10, UA has a significant effect on OP in Indian universities ($\beta = 0.647$, $t = 12.382$, $p < 0.000$, 95% CI [0.528, 0.737]). Hence, the hypothesis H2. is supported.

Table 5-42 *Effect of University autonomy on Strategic management*

Hypo	Path	β	Bootstrap Mean	t-value	p-value	CI	
						2.50%	97.50%
H2	UA -> SM	0.647	0.651	12.382	0.000	0.528	0.737

Note: UA, University autonomy; SM, Strategic management

6.1.1.11 *Effect of Strategic Management Practices on Organisational performance of Public and Private Universities:*

This section presents the results of the hypotheses testing for investigating the link between second-order constructs, that are, SM and OP.

As seen in Table 5-43 and Figure 5-10, SM has a significant effect on OP in Indian universities ($\beta = 0.261$, $t = 2.187$, $p < 0.029$, 95% CI [0.254, 0.602]). Therefore, the hypothesis H3. is supported.

Table 5-43. Effect of Strategic management on Organisational performance

Hypo	Path	β	Bootstrap Mean	t-value	p-value	CI	
						2.50%	97.50%
H3	SM -> OP	0.261	0.266	2.187	0.029	0.011	0.475
Note: SM, Strategic management; OP, Organisational performance							

2.9.3 The Mediating Analysis:

This section presents the results of the mediating role of SM in the relationship between UA and OP by performing Bootstrapping on 10,000 subsamples.

In line with PLS-SEM, the current study followed three steps. In the first step, the direct relationship between UA and OP was tested without the presence of the mediator (SM). The next step followed was investigating the direct relationship between UA and OP in the presence of the mediator (SM). The last step included testing the indirect effect of the UA on OP through SM (Zhao et al., 2010).

2.9.3.1 Direct effect of University autonomy on Organisational performance without the presence of the mediator

In this step, the direct effect of UA on OP is examined without the inclusion of SM. The results in Table 5-44 revealed that the direct effects of UA on OP were found to be statistically significant ($\beta = 0.613$, $t = 15.529$, $p < 0.000$, 95% CI [0.539, 0.694]).

Table 5-44 The direct effect of University autonomy on Organisational performance without the mediator

Path	β	Bootstrap Mean	t-value	p-value	CI	
					2.50%	97.50%
UA -> OP	0.613	0.620	15.529	0.000	0.539	0.694

Note: UA, University autonomy; OP, Organisational performance

2.9.3.2 Direct effect of University autonomy on Organisational performance with the presence of the mediator

In this step, the direct effect of university autonomy on Organisational performance is tested with the inclusion of the mediating construct (Strategic management). The results in Table 5-45 and Figure 0.00 present that University autonomy has a significant direct effect on Organisational performance ($\beta = 0.435$, $t = 4.838$, $p < 0.000$, 95% CI [0.254, 0.602]).

Table 5-45. The direct effect of University autonomy on Organisational performance with the Presence of the Mediator

Path	β	Bootstrap Mean	t-value	p-value	CI	
					2.50%	97.50%
UA -> OP	0.435	0.433	4.838	0.000	0.254	0.602

Note: UA, University autonomy; OP, Organisational performance

2.9.3.3 Indirect effect of University autonomy on Organisational performance through Strategic management

In this last step, the indirect effect of UA on OP through SM is examined. As shown in Table 5-46, it is observed that University autonomy ($\beta = 0.169$, $t = 1.997$, $p < 0.046$, 95% CI [0.015, 0.341]) has a significant effect on OP through SM.

Table 4-46. The Indirect Effect of University autonomy on Organisational performance Through Strategic Management

Hypo	Path	β	Bootstrap Mean	t-value	p-value	CI		Mediation Type Observed
						2.50%	97.50%	
H4	UA->UA -> OP	0.169	0.176	1.997	0.046	0.015	0.341	Partial mediation

Note: UA, University autonomy; SM, Strategic management; OP, Organisational performance

2.9.3.4 Type of the Mediation Effect

Based on the results of testing the direct relationship between the independent construct and the dependent construct with and without the inclusion of the mediating construct, as well as the effect of the independent construct on the dependent construct through the mediating construct, it can be concluded that SM partially mediates the relationship between UA and OP of Indian universities in India.

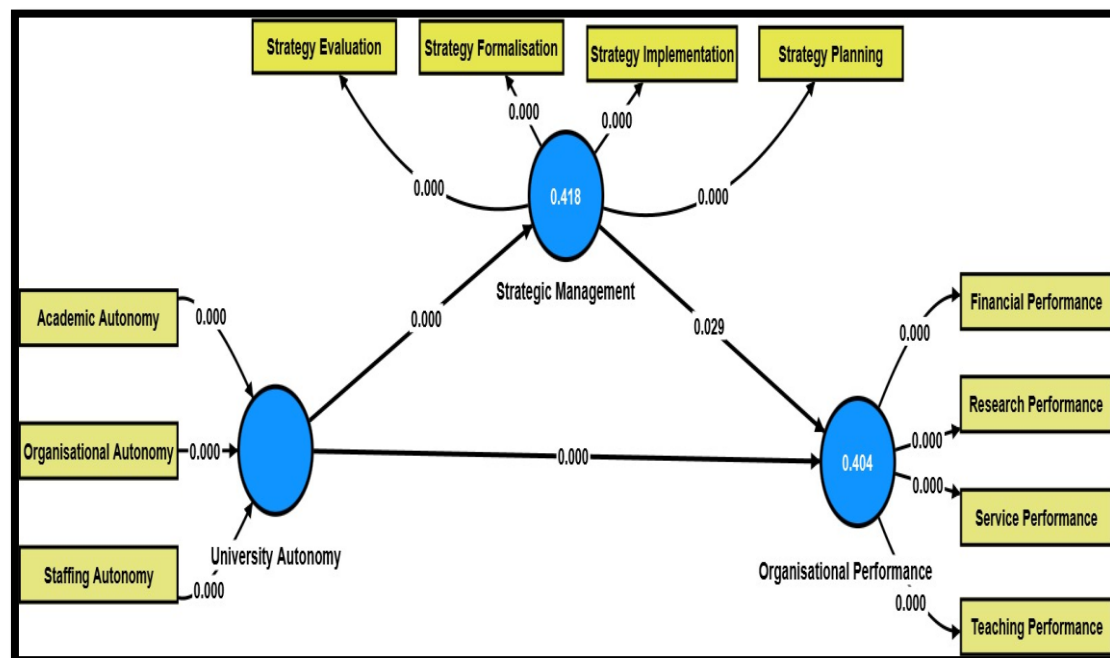


Figure 5-10. Structural model (Smartpls 4.)

2.10 Assessment of the explanatory power

In this section, the explanatory power of this study's model is assessed by three metrics, which are the coefficient of determination (R^2), f squared of coefficient (f^2), and predictive relevance (Q^2_{predict}). The explanatory power is referred to as “in-sample predictive power” that determines the variance size in the endogenous variable attributed to the exogenous variables (Rigdon, 2012). The three metrics are addressed as follows:

2.10.1 Assessment Determination of Coefficient (R^2) of the model:

This section assesses the coefficient of determination (R^2) following PLS-SEM. R^2 indicates the amount of variance the independent constructs explain in the dependent construct (Shmueli & Koppius, 2011). According to Henseler et al. (2009), R^2 values of 0.75, 0.50, and 0.25 are considered outstanding, moderate, and weak, respectively.

As shown in Table 5-47, the R^2 value of Organisational performance is 0.422, and the adjusted R^2 is 0.408. This implies moderate variance explained by the independent constructs. Table 4-44 also shows the R^2 value of Strategic management, which is 0.428, and the adjusted R^2 is 0.418, indicating that the independent constructs explain 42.8% of the variance in Strategic management, which also implies moderate variance explained by the independent constructs.

Table 5-47: The coefficient of determination (R^2)

Constructs	R-square	R-square adjusted
Organisational Performance	0.422	0.408
Strategic Management	0.428	0.418

2.10.2 *f*-square of the model

The *f*-squared coefficient (f^2) is assessed in this study to measure the effect size. f^2 shows the contribution of each predictor constructs to the R^2 of a dependent construct. According to J. Cohen (1988), f^2 values higher than 0.02, 0.15, and 0.35 imply small, medium, and large effect sizes, respectively. In contrast, (Kenny, 2016) recommends more realistic standards that 0.005, 0.01, and 0.025 implies small, medium, and large effect sizes, respectively.

As depicted in Table 5-48, f^2 of the impact of AA on OP is 0.111, indicating a high to medium to moderate size effect. A small effect size is observed in the effect of FA ($f^2=0.002$), SA ($f^2=0.030$) and OA ($f^2=0.020$) on OP.

Table 5-48: The effect size (f^2)

Construct	Organisational Performance
Academic Autonomy	0.111
Financial Autonomy	0.002
Staffing Autonomy	0.030
Organisational Autonomy	0.020

2.10.3 *Predictive Relevance (Q²predict) of the Model*

Before assessing the model's predictive power, the researcher should check Stone-Geisser's predictive relevance ($Q^2_{predict}$) to identify the predictive accuracy of a model based on blindfolding statistics (Sarstedt et al., 2014). $Q^2_{predict}$ is considered a combination of in-sample and out-of-sample prediction.

This metric relies on removing single points of the data and then estimating model parameters. As a rule of thumb, $Q^2_{predict}$ should be positive in order to conduct and assess the

predictive power of a model, which implies the model's prediction error of the PLS path is lower than the prediction error provided by most of the naïve benchmark (Shmueli et al., 2019).

Table 5-49 shows that Q^2_{predict} values of the dependent first-order constructs are greater than zero. This means that the model has good predictive relevance. Accordingly, the values of RMSE or the MAE with the naïve LM benchmark can be compared to determine the out-sample-predictive power of the model.

Table 5-49 The predictive relevance of the study's model

First Order Constructs	Q^2_{predict}
Research Performance	0.315
Teaching Performance	0.300
Service Performance	0.228
Financial Performance	0.209

2.11 Assessment of the predictive power of the model:

In addition to In-sample explanatory power assessment, the PLS-Predict algorithm assessment of the out-sample-predictive power of a model is applied to identify the amount of prediction error in the model of the study. PLS-Predict is a cross-validation technique to determine the predictive quality (out-of-sample prediction) for the key-dependent construct (Shmueli et al., 2016). It estimates a model on a training sample and assesses its predictive performance on data other than the holdout sample (Shmueli et al., 2016).

In order to conduct this technique assessment, researchers should first identify whether the prediction error distribution shape is symmetric or non-symmetric. If the prediction error distribution is symmetric, the researchers should compare the root mean square error statistic (RMSE) and with the naïve benchmark of the linear regression model (LM). If the prediction error distribution is non-symmetric, the researchers should compare the mean absolute error

statistic (MAE) with the naïve LM Benchmark. Consequently, this comparison leads to four outcomes:

- If the PLS-SEM error is greater than the LM error for all the indicators, this means that the model lacks predictive power.
- If the PLS-SEM error is greater than the LM error for the minority of the indicator, this indicates that the model has low predictive power.
- If the PLS-SEM error is less than the LM error for the majority of the indicators, this implies that the model has moderate predictive power.
- If the PLS-SEM error is less than the LM for all indicators, this means that the model has high predictive power (Shmueli et al., 2019).

In this study, the PLS-Predict procedure with $k = 10$ folds and ten repetitions is applied to determine its model's predictive power. As recommended by (Shmueli et al., 2019). Initially, the shape of the prediction error distribution of the model was checked.

The charts below 5-1 illustrate the shape of the prediction errors distribution of the dependent constructs. The distribution of prediction errors appears to be rather non-symmetrical, which indicates that the Mean Absolute Errors (MAE) should be used in comparison with the naïve LM Benchmark to determine the predictive power of the model.

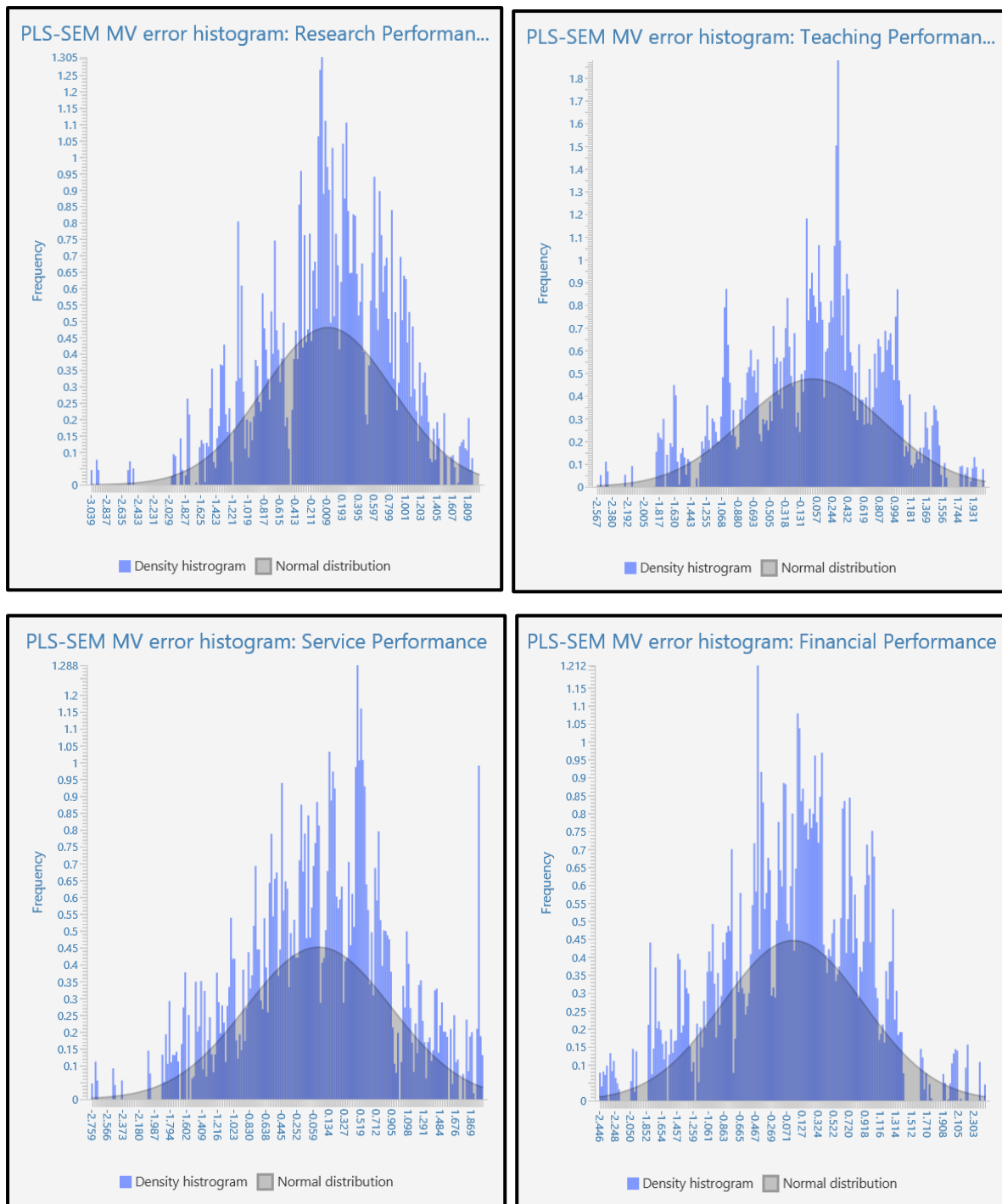


Chart 5-1 Symmetrical distribution of prediction errors for first-order dependent constructs

Table 5-50 presents the results of the model's predictive power for the indicators of Organisational performance. It can be seen that the errors of the PLS-SEM-MAE model are less than that of the LM-MAE model for three indicators (the majority of the indicators), while

one indicator has an error value that is greater than the LM-MAE model. This implies that the model of this study has moderate to high predictive power.

Table 5-50. The predictive power of the study's model

First Order Constructs	PLS-SEM_MAE	LM_MAE	PLS-SEM_MAE - LM_MAE
Research Performance	0.651	0.653	-0.002
Teaching Performance	0.673	0.704	-0.031
Service Performance	0.703	0.726	-0.023
Financial Performance	0.706	0.702	0.004

2.12 Summary of Hypotheses Decision

Table 5-51. Summary of Hypotheses Decision

No	Hypotheses	Decision
H1	University autonomy has a positive effect on Indian Universities' Organizational performance.	Supported
H1a	Organisational autonomy has a positive effect on Indian Universities' Organizational performance.	Unsupported
H1b	Financial autonomy has a positive effect on Indian Universities' Organizational performance.	Unsupported
H1c	Academic autonomy has a positive effect on Indian Universities' Organizational performance.	Supported
H1d	Staffing autonomy has a positive effect on Indian Universities' Organizational performance.	Supported
H2	University autonomy has a positive effect on Strategic management in Indian Universities.	Supported
H2a	Organisational autonomy has a positive effect on Strategic management in Indian Universities.	Supported

H2b	Financial autonomy has a positive effect on Strategic management in Indian Universities.	Unsupported
H2c	Academic Autonomy has a positive effect on Strategic management in Indian public and private Universities.	Supported
H2d	Staffing autonomy has a positive effect on Strategic management in Indian Universities.	Supported
H3	Strategic Management has a positive impact on Indian universities' Organizational performance.	Supported
H3a	Strategic Planning has a positive impact on Indian universities' Organizational performance.	Supported
H3b	Strategy formalisation has a positive impact on Indian universities' Organizational performance.	Supported
H3c	Strategy implementation has a positive impact on Indian universities' Organizational performance.	Supported
H3d	Strategy evaluation has a positive impact on Indian universities' Organizational performance.	Supported
H4	University autonomy has an indirect positive impact on Organizational performance through Strategic management in Indian universities.	Supported
H4a	Organisational autonomy has an indirect positive impact on Organizational performance through Strategic management in Indian universities.	Supported
H4b	Financial autonomy has an indirect positive impact on Organizational performance through Strategic management components in Indian universities.	Unsupported
H4c	Academic autonomy has an indirect positive impact on Organizational performance through Strategic management in Indian universities.	Unsupported
H4d	Staffing autonomy has an indirect positive impact on Organizational performance through Strategic management in Indian universities.	Supported

2.13 Chapter Summary

This chapter addresses the procedures followed for analysing the data and presenting the research findings. The data were analysed in eight stages. The first stage includes the response rate, data coding, data screening, missing data and the demographic background of the respondents and the universities.

The second stage demonstrates the normality of the data. Then it discusses the procedures followed to minimise common method bias before and after data collection.

The third stage involves descriptive statistics of the constructs of the study using the frequency, percentage, mean, and standard deviation of each item and the overall of all first-order constructs.

The fourth stage presents the measurement model of the first-order construct, as well as the second-order construct was conducted to ensure convergent and discriminant validity and reliability of the first model. The measurement model for the first model was found satisfactory.

After ensuring the good fit of the measurement model of the first model of the study, The fifth stage presents the assessment of the structural model and the hypotheses testing of the first model, which includes testing the hypotheses H1a, H1b, H1c, H1d; H2a, H2b, H2c, H2d; H3, H3a, H3b, H3c, H3d; H4a, H4b, H4c, and H4d.

The sixth step presents the measurement model of the second model, that is, the reflective-formative model, to ensure its convergent and discriminant reliability and validity.

The seventh step shows the assessment of the structural model of the second model (reflective-formative model) to test hypotheses H1, H2, H3, and H4.

The last stage presents the evaluation of the explanatory power and the predictive power of the study's model.

Chapter 6: Discussion of findings

6.1 Introduction

This chapter presents the study's quantitative results (as given in Chapter 5), which are also linked with theories and related literature in the same study area. The chapter starts with revising the objectives of this study. Next is a discussion of the results in concurrence with its hypotheses and objectives. The discussion is illustrated in four sub-sections based on the study's objectives. Section 6.2 presents the findings of the direct effects of UA and its four dimensions on OP. Section 6.3 offers the results of the direct effects of UA and its four dimensions on SM. Section 6.4 shows the results of the direct effects of SM and its four components/practices on OP. Section 6.5 displays the results of mediating effects of SM in the relationships between UA and its four dimensions and OP.

6.2 University autonomy and Organisational Performance

This section and its sub-sections address the first aim of this study: to examine the direct effects of UA and its dimensions on OP. Besides, it answers Q1: What are the effects of UA dimensions on OP in Indian Universities?

The PLS-SEM results support hypothesis H1, which is that UA (as a second-order construct including three indicators: OA, SA, AA) has a positive effect on Indian Universities' OP ($\beta = 0.435$, $t = 4.838$, $p < 0.000$). Moreover, analysis of the collected data demonstrates that the effect size of UA on OP is medium ($f^2 = 0.185$). This result reveals a strong direct and positive effect of UA on OP.

This finding supports the theoretical assumption by several scholars who argued that UA serves as an OP enhancer (Choi, 2019; De Boer & Enders, 2017c; Estermann et al., 2011;

Pruvot & Estermann, 2017). Further, this finding is consistent with previous empirical studies (Aghion, 2009; Enders et al., 2013; Westerheijden et al., 2010), demonstrating that UA positively and significantly affects OP. Moreover, this finding highlights that UA is beneficial for universities because it brings a consequence of superior OP (Fumasoli et al., 2014a).

6.2.1 Direct Effects of Organisational autonomy on Organisational performance

This study hypothesised that OA has a significant direct and positive effect on OP. Against expectation, the results of this study contradict previous studies (Adam, 2020; Maassen et al., 2017) that reveal that OA has a significant, direct and positive effect on OP.

However, the result is in line with prior studies (Agasisti & Shibanova, 2022; Zinchenko & Egorov, 2019) that found that OA does not significantly predict universities' performance. As Agasisti and Shibanova (2022) clarified, a possible explanation for this finding could be that the formal autonomy level of universities is restricted to unimportant rules.

6.2.2 Direct Effects of Financial autonomy on Organisational performance

This study proposed that FA has a significant direct and positive effect on OP. Contrary to anticipation, the finding contradicted prior studies (A. Carvalho et al., 2022) reported that FA improves OP in a way that encourages universities to act more effectively and efficiently concerning their resources. However, the results of this study show that the participants surveyed did not believe that FA positively affects OP. The good reason for the non-positive effect of FA could be that Indian universities have limited FA due to some restrictions (Ravi et al., 2019b). To conclude, the constraints and performance-based funding

steering mechanisms could be a valid explanation for the absence of the effect of FA on OP (Kohtamäki, 2022a).

6.2.3 Direct Effects of Academic autonomy on Organisational performance

This study's PLS-SEM quantitative results indicate that AA has a significant direct and positive effect on OP supporting H1c. The results reveal that the respondents agreed that universities could obtain better OP with a high degree of AA. This finding supports the theoretical assumption that AA gives universities the capacity to shape their internal academic structure to cope with the evolving needs of the public and achieve academic excellence (Gandhi, 2013; Maassen et al., 2017; Pruvot & Estermann, 2017). In addition, this finding is in line with findings from previous empirical studies (Belgaroui & Hamad, 2021) that report the significant direct and positive effect of AA on OP. Furthermore, this finding also supports the argument that AA reinforces universities' abilities to produce and disseminate scientific knowledge, hence increasing their OP (T. Carvalho & Diogo, 2018).

6.2.4 Direct Effects of Staffing autonomy on Organisational performance

This study found that SA has a significant direct and positive effect on OP supporting H1d. The results imply that the survey respondents agree that universities could improve OP by exercising high SA. This finding proves the theoretical assumption in the literature that SA provides the universities with the abilities and freedom to recruit academic and administrative staff with the necessary capabilities and competencies needed to achieve better OP (Agasisti & Shibanova, 2022; Voorn et al., 2022). This finding is in accordance with prior empirical evidence (Blom et al., 2022; A. Carvalho et al., 2022; Gurkov et al., 2017; Kupriyanova et al., 2020b; Lazarova et al., 2017) that reported a significant direct and positive effect of SA on

OP. This finding shows the importance of SA as one of the core dimensions of UA to improve OP.

6.3 University autonomy and Strategic management

This section and its subsections address the second aim of this study: to examine the direct effects of UA and its dimensions on SM. Further, it answers Q2: What are the effects of UA dimensions on SM in Indian Universities?

The PLS-SEM results support hypothesis H2, which is that UA (as a Second-order construct that includes three indicators: OA, SA, and AA) has a positive effect on Indian Universities' SM ($\beta = 0.647$, $t = 12.382$, $p < 0.000$). Moreover, analysis of the collected data shows that the effect size of UA on SM is large ($f^2 = 0.720$). This result presents a strong direct and positive effect of UA's three related dimensions (indicators) on SM. This suggests that UA has significantly and substantially influenced how Indian universities engage in SM activities.

This finding supports the prior theoretical studies by several scholars arguing that UA would serve as a fundamental underpinning for practicing SM (Groves et al., 1997; Kallio et al., 2020; Kohtamäki & Balbachevsky, 2019; Unger et al., 2020a). Moreover, this result presents an extended understanding of the effect of UA on SM. It implies that UA is a prerequisite for universities to increase their capabilities to analyse the internal and external environment and achieve a good fit between them, develop goals and objectives, and design and implement adequate strategies (Estermann et al., 2011).

6.3.1 Direct Effects of Organisational autonomy on Strategic management

Based on the PLS-SEM, it was observed that OA has a significant direct and positive effect on SM supporting H2a.

This result implies that the surveyed respondents agree that universities could enhance their SM capabilities with a high degree of OA. This finding confirms the theoretical claims by De Boer and Enders (2017a) and Shin et al. (2022a), who suggest that OA provides universities with the capabilities to make decisions with complete freedom concerning SM.

6.3.2 Direct Effects of Financial autonomy on Strategic management

Based on the PLS-SEM, it was found that the direct effect of FA on SM is statistically non-significant. Consequently, H2b was not supported. This finding shows that there is no link between FA and SM at Indian universities.

In fact, the analysis of the data collected demonstrates that there is no effect size of FA on SM ($f^2 = 0.003$), which signifies that the level of financial autonomy is not high enough to influence Strategy management practices of Indian universities. Hence, this result emphasises the need to remove the financial restrictions imposed on Indian universities (Shin et al., 2022a), which leads to a positive effect on SM practices (Unger et al., 2020a).

The importance of granting a high level of FA is to enable universities to prompt their strategic profiling (Fumasoli et al., 2014a; Maassen et al., 2017).

6.3.3 Direct Effects of Academic autonomy on Strategic management

In light of the PLS-SEM analysis, it is evident that AA exerts a statistically significant and positive direct effect on SM, thus providing support for H2c. This outcome suggests that the survey participants agree that universities can augment their SM capacities when they enjoy a high degree of AA.

This finding is in line with the theoretical argument put forth by Maassen et al. (2017), Bladh (2007) and Iwinska and Matei, (2014), who all contend that AA empowers

universities to determine how to develop strategies designed to achieve their academic goals and objectives.

6.3.4 Direct Effects of Staffing autonomy on Strategic management

According to the PLS-SEM analysis, the proposed effect of SA on SM practices was found to be positive and significant since the standardised estimate was statistically significant at a ($\beta = 0.438$, $p < 0.000$) level. Hence, H2d is supported.

This is consistent with the arguments of previous studies that SA is an influential factor in practising SM (Antonowicz & Jongbloed, 2015; Estermann et al., 2009). Moreover, the discussion in the higher education literature is that when SA is high, universities will have the power to make decisions about recruitment, promotion, dismissal, and determining salaries of academic and administrative staff, which effectively helps in fostering SM practices (Jiang & Carpenter, 2013). More specifically, by recruiting academic and administrative staff with the necessary capabilities and competencies, the universities can lead to effective and successful adaptation of SM practices (Shin et al., 2022a).

6.4 Strategic Management and Organisational Performance

This section and its subsections deal with the third aim of this study and investigate the direct effects of SM and its components on OP. Also, it answers Q3: What are the effects of SM components on OP in Indian Universities?

The PLS-SEM results support hypothesis H3, which is that SM (as a Second-order construct that includes four indicators: SP, SF, SI and SE) has a positive impact on Indian universities' OP ($\beta = 0.261$, $t = 2.187$, $p < 0.029$). Besides, analysis of the collected data demonstrates that the effect size of SM on OP is small ($f^2=0.066$).

The findings are consistent with previous studies (Angiola et al., 2019; Kabui et al., 2018; Owolabi & Makinde, 2012; Oyedijo, 2012; Usuh & Preston, 2017) that reported that SM practices are essential to affect the OP of Indian universities directly. Hence, the result indicates that SM practices enhance Indian universities' OP.

6.4.1 Direct Effects of Strategic planning on Organisational performance

Given the PLS-SEM analysis, it is evident that SP (including vision, mission, values, objectives and environmental analysis) has a significant direct and positive effect on OP. Hence, H3a is supported. This finding suggests that the survey participants agree that universities can augment their OP capacities by adopting SP. Moreover, this finding is in line with the previous empirical evidence by Boateng and Karikari (2015), who reported that SP is a pivotal tool for improving OP.

Based on this evidence, it is clear that SP positively impacts how thriving universities perform. In essence, universities that engage in effective SP are more likely to achieve higher OP and success than those that do not prioritise SP (Angiola et al., 2019). This insight emphasises the importance of SP as a critical management practice for universities aiming to excel in their OP.

6.4.2 Direct Effects of strategy formalisation on Organisational performance

In light of the outcomes derived from the PLS-SEM analysis, it is apparent that SF has a significant direct and positive effect on OP. Hence, H3b is supported.

This finding is in accordance with the prior studies (Elbanna et al., 2016; Kylaheiko et al., 2016), which indicate that the capacity of an organisation to formalise its strategies effectively leads to better OP.

Given this finding, it is clear that SF significantly and positively impacts how well universities act for goal accomplishment (Fernandez et al., 2008). Furthermore, this finding underlines the critical role of SF in improving OP if effectively executed (Shah, 2013; Shah & Nair, 2011), as the essence of SF resides in establishing strategies aimed at achieving the goals and objectives of universities (Kotler & Murphy, 1981).

6.4.3 Direct Effects of strategy implementation on Organisational performance

In light of the findings derived from the PLS-SEM analysis, it is clear that SI has a significant, direct and positive effect on OP. Hence, H3c is supported.

This finding suggests that the surveyed participants agree with the proposed idea that universities can increase their OP if their strategy implementation is managed effectively by translating their strategic plans into tangible initiatives and operational projects.

This finding is consistent with prior empirical studies by Andrews et al. (2017) and Sorooshian et al. (2010), who observed that SI significantly impacts the organisation's performance. Based on this finding, it is noticeable that SI is a critical survival asset for universities.

In consideration of the fact that the effectiveness of a university's strategies solely relies on their implementation since, without proper implementation, the designed plans will negatively impact OP (Pearce et al., 2000). Accordingly, effective SI boosts productivity and quality of teaching and research, in general, to improve the university's overall performance (Shattock, 2014).

6.4.4 Direct Effects of Strategy evaluation on Organisational performance

Based on the PLS-SEM, it was found that strategy evaluation has a positive impact on Indian universities' OP (H3d). Hence, H3d is supported.

This finding demonstrates that the respondents who participated in this study agreed that universities could improve their OP by precisely evaluating their strategies via a systematic evaluation process and control.

This finding is consistent with previous empirical investigations (Elbanna, 2013) that reported that SE significantly and positively affects OP. Furthermore, this finding stresses that the SE process involves constant monitoring of the OP of universities, enabling the achievement of established objectives and validating the success or failure of their specified plans (Elbanna et al., 2016).

6.5 The mediating effects of Strategic management in the relationships between University Autonomy and Organisational Performance

This section and its subsections deal with the last aim of this study: to examine the indirect effect of UA and its dimensions on OP through SM. Also, it answers Q4: Does SM mediate the relationship between UA dimensions and OP in Indian Universities?

In order to test hypothesis H4, which is that UA (as a Second-order construct that includes three indicators: OA, SA, and AA) has an indirect positive impact on OP through SM in Indian universities, the author explains this hypothesis based on the rule of thumb of the mediating analysis (J. F. Hair Jr et al., 2021a; Kock, 2011).

First, The PLS-SEM results reveal that the path coefficient of the direct relationship from UA to OP is significant. This implies that the first criterion for examining the mediation is established.

Second, in light of the PLS-SEM results, it was determined that the relationship between UA and SM is significant. This means that the second criterion for testing the mediation is established.

Last, based on the PLS-SEM results, it was identified that the relationship between SM and OP is significant. This suggests that the third criterion for investigating the mediation is met.

Accordingly, the three criteria are met. Therefore, it can be concluded that SM partially mediates the relationship between UA and OP (Complementary Mediation, see Hair et al., 2021, p 243). Hence, the results support hypothesis H4 ($\beta = 0.169$, $t = 1.997$, $p < 0.046$).

This finding is in congruence with Brock's (1997) study, which found that implementing effective and suitable strategies is associated with greater effectiveness for colleges with high autonomy. Furthermore, this finding underlines the pivotal role of SM as the bridge connecting UA with better OP outcomes (Kallio et al., 2020; Unger et al., 2020a).

6.5.1 The mediating effects of Strategic management in the relationships between Organisational Autonomy and Organisational Performance

Based on the PLS-SEM, it was found that OA has an indirect positive impact on OP through SM in Indian universities (H4a). Hence, H4a is supported.

Since OA has no direct effect on OP but an indirect effect through SM, it can be established that SM fully mediates the relationship between OA and OP (Indirect-only mediation).

This finding is consistent with the theoretical argument of Estermann et al., (2009) and Rónay and Niemczyk (2022), who contended that SM could play a mediating role between OA and OP.

Furthermore, this finding emphasises that SM practices serve as a mediating instrument between OA and OP since OA provides universities with the freedom to make decisions. At the same time, SM practices allow universities to harness this freedom of making decisions to achieve better OP by establishing explicit goals, making instructed decisions, and adjusting to changing settings.

6.5.2 *The Mediating Effects of Strategic Management in the Relationships Between Financial Autonomy and Organisational Performance*

Drawing upon the PLS-SEM, it was found that the direct effect of FA on OP is statistically non-significant. Similarly, it was observed that the direct effect of FA on SM is statistically non-significant. Accordingly, it was found that the indirect effect of FA on OP through SM is statistically non-significant. Hence, H4b was not supported. This finding shows that SM does not mediate between FA and OP at Indian universities.

In point of fact, the data analysis (see section 6.5.2) reveals that there is no effect size of FA on both OP ($f^2 = 0.002$) and SM ($f^2 = 0.003$), which means that the level of FA is not high enough to impact them. Hence, this result emphasises the necessity to remove the financial constraints inflicted on Indian universities (Kohtamäki, 2022b; Shin et al., 2022a). This will positively affect SM practices and, in turn, enhance OP (Unger et al., 2020b).

6.5.3 *The Mediating Effects of Strategic Management in the Relationships Between Academic Autonomy and Organisational Performance*

Following the PLS-SEM analysis, it was observed that AA has no indirect effect on OP through SM in Indian universities ($\beta = 0.042$, $t = 1.273$, $p < 0.203$) despite having a significant, direct and positive effect on OP and SM. This is because the path coefficient (β)

concerning its link with SM is low ($\beta = 0.151$), and the significance value (p-value) is close to being statistically insignificant ($p < 0.047$). Hence, H4c is not supported.

Since AA directly affects OP and SM but not indirectly through SM, it can be established that SM does not mediate the relationship between AA and OP (Direct-only non-mediation).

This finding contradicts the theoretical claim by Estermann et al., (2011), who contended that SM practices could mediate the link between AA and OP.

The reason for not supporting the claim that SM mediates the relationship between AA and OP could be attributed to the context of this study, that is, India. Another reason could be that financial considerations override academic priorities, leading to the development of ineffective strategies that decrease OP effectiveness (Mizrahi, 2021).

6.5.4 *The Mediating Effects of Strategic Management in the Relationships Between Staffing Autonomy and Organisational Performance*

Based on the PLS-SEM, it was revealed that SA has an indirect positive impact on OP through SM in Indian universities. Hence, H4c is supported.

Given that SA directly affects OP and SM as well as the indirect effect of SA on OP through SM, it can be established that SM partially mediates the relationship between SA and OP (Complementary mediation).

This finding is consistent with the theoretical view of (Estermann et al., (2009, 2011) and Pruvot and Estermann (2017), who claimed that SA could positively affect SM and SM, in turn, influences OP positively. Furthermore, this finding underlines that SM practices act as an instrument between SA and OP since SA leverages the universities' abilities to attract qualified and competent academics as well as the administrative staff (Kohtamäki, 2022b; Sethy, 2021)

who will be responsible for developing, implementing and evaluating strategies of the universities (Hovdhaugen et al., 2013) which intended to improve OP (Kupriyanova et al., 2020a).

6.6 Chapter Summary

This chapter presented a discussion of the findings of this study. It discussed the results of the direct effect of UA and its dimensions on OP and SM. Furthermore, it elaborated on the findings of the direct impact of SM and its components/ practices on OP. Finally, it addressed the mediating role of SM in the link between UA and its dimensions and OP.

Chapter 7: Conclusion, Implications, recommendations and Limitations

7.1 Introduction

This chapter presents the conclusion and discusses this study's implications for theory and practice and its limitations. Also, it suggests a new scope for further studies.

It begins with the conclusions of the study. Next, the implications for theory and practice, followed by recommendations for the policymakers of Indian higher education and leaders of universities. Eventually, this study's limitations and directions for future studies are presented.

7.2 Conclusion

The current study seeks to add to the existing literature on the effect of UA and its dimensions on OP. Furthermore, it also explores the impact of UA and its dimensions on SM. In addition, it investigates the effect of SM and its individual components/practices on OP. Last, it explores the mediating role of SM in the relationship between UA and its dimensions and OP at Indian universities.

Based on the existing literature, the study develops a conceptual model that includes three constructs with 12 sub-constructs or dimensions: four on UA, four on SM and four on OP.

This study helps to address the knowledge gap determined in the literature that there are few existing empirical studies investigating the effect of UA on OP and SM. Previous studies have acknowledged the need to grant UA to increase SM capability and improve OP (Alexiadou & Rönnerberg, 2022; Choi, 2019). Kohtamäki and Balbachevsky (2019) stressed the

positive consequences of granting universities the autonomy to strengthen their planning abilities and, in turn, yield better performance. According to Agasisti and Shibanova (2022), universities without autonomy struggle to improve their efficiency and productivity because they cannot make decisions concerning, for instance, allocating resources, increasing their ability to compete for resources, designing flexible operational management systems, or adopting flexible human resource management systems.

The role of SM has received growing attention in higher education literature and has evolved as critical to better-accomplishing universities' objectives (Parakhina et al., 2017). For instance, Angiola et al. (2019) emphasised the significant role of SM practices for universities when attempting to achieve the desired outcomes.

To further understand the benefits of UA and its linkage with OP, this study used related theories that can help define the phenomena. Accordingly, the RBV (J. Barney, 1991) was used to explain the relationship between UA and OP (Priem & Butler, 2001) and also to describe the link between UA and SM (Christensen, 2016) and explains the link between SM and OP (J. B. Barney, 2001).

Prior studies in higher education have examined the effect of UA on OP as a unidimensional construct. In contrast, this study has tested UA's dimensions as individual sub-constructs since UA consists of a multidimensional concept (De Boer & Enders, 2017a; Iwinska & Matei, 2014; Rónay & Niemczyk, 2022). Furthermore, it has examined UA, where its three dimensions (OA, SA, and AA) (Enders et al., 2013) were considered as its indicators (two-stage approach) (J. Hair Jr et al., 2017a). Similarly, previous studies in SM have extensively underexamined SI and SE compared with SF (Egorov & Platonova, 2022). Conversely, the current study has addressed all the components of SM including (SP, SF, SI and SE) and their effects on OP.

The literature on higher education has indicated that UA could lead to better SM practices, and these practices will, in turn, help achieve superior performance. Nevertheless, empirical studies on whether SM is affected by UA rarely exist. Similarly, no empirical evidence has been found on whether SM could play a mediating role in the relationship between UA and OP. In addition, there is a notable lack of empirical studies concerning the effects of SM components or practices on OP.

The current study adopts a positivist philosophy to examine the direct and indirect effects of UA and its dimensions on OP through SM. The positivist philosophy investigates causal claims by formulating hypotheses based on existing theories that rely on quantitative data by identifying patterns and relationships through these data. This helps refine and revise the theories (Saunders et al., 2012). Consequently, this study adopts a deductive approach and a quantitative method as a suitable research methodology to address the research questions.

In light of this, a self-administered questionnaire was used to collect the data comprising 60 closed questions, 21 on UA dimensions, which include OA, FA, SA and AA; 23 questions on SM, which includes SP, SF, SI and SE; 16 questions on OP that encompasses four dimensions which are research, teaching, service and financial performance. After that, 534 questionnaires were distributed to the targeted respondents, out of which 232 were returned. This makes a 43.4% response rate. The collected data were then analysed through PLS-SEM to unveil the interrelationships in the conceptual model.

Consequently, it was found that UA as a second-order construct has significant, direct and positive effects on OP. This result underlines the significance of UA, as it leads to improved OP for universities. Furthermore, the current study reported that OA has no effect on OP, which contradicts prior studies that noted that it has a significant, direct and positive impact on OP. This finding implies that the OA of universities is restricted to unimportant rules. Likewise,

this study reported that FA has no effect on OP, which contradicts the claims that it has a significant, direct and positive impact on OP. This finding implies that FA might be limited at Indian universities by regulatory factors that influence OP. However, FA is seen as a crucial dimension of UA. To this end, the financial constraints imposed on Indian universities should be removed to ensure their survival and growth since it enables them to effectively manage their resources and ensure financial stability (Ovchinnikova et al., 2022; Piironen, 2013; Stachowiak-Kudła & Kudła, 2017). In addition, this study highlighted the fact that AA has a significant, direct and positive effect on OP. This finding demonstrates the importance of the AA that allows universities to improve their OP by enabling intellectual freedom in research and teaching, knowledge creation and dissemination, and ensuring that education remains relevant and responsive to societal needs. Besides, this study underscores the fact that SA has a significant direct and positive effect on OP. This indicates that SA equips universities with the capabilities and freedom to recruit academic and administrative staff with the required qualifications and competencies to reach better OP. Moreover, it was observed that OA has a significant direct and positive effect on SM. This indicates that OA allows universities to make decisions and exercise choices with full freedom regarding SM.

To sum up, UA and its three dimensions, that are, OA, SA and AA, moderately explain OP with $R^2 = 0.422$. In addition, the main hypothesis, H1, was supported, as sub-hypotheses H1a and H1c, but hypotheses H1b and H1d were not supported. These findings answered Q3.

As noted earlier in Chapter 5, the findings of this study revealed that UA as a second-order construct has significant, direct and positive effects on SM. This result highlights the consequence of UA, which enables universities to practice SM effectively. This finding supported H2.

The findings determine that dimensions of UA affect the practices of SM. The results present that OA has a significant direct and positive effect on SM. This result indicates that OA enables universities to make decisions with complete freedom concerning SM. This finding also supported H2a. In addition, the findings showed that FA does not affect SM. This finding suggests that the level of FA is low in influencing SM practices of Indian universities. Thus, this finding highlights the need to remove the financial restrictions foisted on Indian universities to impact their SM practices positively. This finding was not supported H2b.

Furthermore, the findings demonstrated that AA has a significant direct and positive effect on SM. This finding underlines the pivotal role of AA in elevating the SM practices of universities and driving their long-term success and competitiveness. This finding supports H2c. Besides, the findings indicated that SA has a significant direct and positive effect on SM. This stresses that a high SA equips universities with the capacity to effectively handle their human resources management, which will lead to effective and successful SM practices. This finding supported H2d. These findings answered Q2.

As mentioned in Chapter 5, this study's findings demonstrated that SM as a second-order construct, including SP, SF, SI and SE, has significant, direct and positive effects on SM. This finding emphasises the critical role of SM in improving OP. This finding supported H3. In addition, the findings exhibit that SP has a significant, direct and positive effect on OP. This finding highlights the importance of SP as an indispensable managerial practice for universities committed to achieving superior OP. This finding supported H3a. Besides, the findings displayed that SF has a significant, direct and positive impact on OP. This finding underscores the vital function of practical SF in enhancing OP if productively carried out. This finding supports H3b.

Further, the findings depicted that SI has a significant, direct and positive impact on OP. This finding underlines that the effectiveness of a university's strategies solely relies on their implementation since, without proper implementation, the designed plans will adversely affect OP. This finding supported H3c. Also, the findings illustrated that strategy evaluation has a significant, direct and positive impact on OP. This finding underlines the importance of SE for better OP. Since it involves a persistent monitoring system of the universities' OP, enabling the accomplishment of set objectives and verifying either the success or failure of their defined strategies. This finding supported H3d. These findings answered Q3.

Finally, the result of this study indicated that SM partially mediates the relationship between UA and OP (Complementary mediation). Further, the relationship between OA and OP is fully (Indirect-only mediation). In addition, SM does not mediate the link between FA and OP (No-effect non-mediation). Besides, SM does not mediate the relationship between AA and OP (Direct-only non-mediation). Last, SM partially mediates the relationship between SA and OP (Complementary mediation). This finding supported H4d. These findings answered Q4.

This study's set research question and problem addresses the lack of models designed to examine the direct and indirect impact of UA on both OP, and SM within higher education literature. In light of this, this study can fill the existing research gaps by testing theories and providing an empirical, theoretical, and methodological understanding of the phenomena from an academic standpoint from a non-western country, particularly India. This study will be the first of its kind since it is one of the first studies focusing on the role of UA in enhancing SM practices and OP of Indian universities in pursuit of playing a more significant role in contributing to the constant growth of the country.

7.3 The Study Implications

The designed model, the research methodologies used, and the research findings have made significant theoretical and practical contributions to higher education literature by examining the relationship between UA, OP, and SM with evidence from one of the fastest-growing countries, India. As such, the following two sub-sections will delve into this study's theoretical and practical implications.

7.3.1 *Implication for Theory*

From a theoretical perspective, this study adds to the existing body of higher education literature by developing a comprehensive conceptual framework. This framework incorporates UA as a central construct, along with its sub-constructs/dimensions (Organizational Autonomy, Financial Autonomy, and Academic Autonomy), as well as SM as another central construct, with its sub-constructs or components/practices (strategic planning, strategy formulation, strategy implementation and strategy evaluation), and finally, OP sub-constructs/dimensions (research, teaching, service and financial). This theoretical approach offers a more nuanced understanding of how these interrelated aspects function within the context of Higher Education. Unlike previous research that presents UA as a single/unidimensional construct, the current framework explains its four dimensions, uncovering the complex dynamics at play.

This study makes several contributions to the literature. First, the current study addresses a notable gap in the literature by offering a comprehensive investigation into the impact of UA as a single construct and its individual dimensions on OP. This approach is in contrast to previous studies that predominantly focused on UA as a single construct, overlooking the distinct effect of its four dimensions on OP. By unweaving the four sub-

constructs/dimensions, the current study demonstrates that each sub-construct of UA may have a different level of effect on the OP of the universities. This detailed understanding could encourage scholars further to consider the application of UA in the theoretical model.

Furthermore, this study thoroughly presents an original contribution to the management of higher education literature by exploring the effects of UA as one construct and its four specific dimensions on SM. This represents a pioneering effort to understand how UA can empower universities to engage more effectively in SM practices. The findings suggest that UA as one construct, particularly in organisational, staffing and academic areas, play a critical role in shaping SM practices, offering a new perspective for further theoretical and practical explorations. In addition to this, our study provides a comprehensive understanding of the effects of SM as one construct and its components/practices on OP. This differs from other studies focusing on SM as one construct/unidimensional construct without delving into specific practices/dimensions.

Finally, the current study also contributes significantly to the higher education management literature by investigating the mediating role of SM in the link between UA (and its individual dimensions) and OP. Importantly, this examination is considered the first empirical attempt to explore SM mediating effect in these nexuses, providing both theoretical as well as imperial understanding of how it can act as a bridge between UA and OP. This insight could also lead to further research that improves the understanding of SM in universities and its potential to derive success.

This study addresses several critical gaps in the literature. Firstly, it responds to the calls made by Agasisti and Shibanova (2022), De Boer and Enders (2017a) and Enders et al. (2013), who have emphasised the need for more research on the specific effects of UA dimensions on OP. By addressing these calls, the current study not only fills these gaps but

also lays the basis for further research to establish new research based on its findings. Additionally, our research explores the theoretical arguments put forth by various authors, such as Alexiadou and Rönnerberg (2022), Estermann (2014), Kupriyanova et al. (2020a) and Shin et al. (2022a), who suggest that UA may enhance universities' strategic capacity, offering empirical evidence that supports or refines these theories. Furthermore, this study addresses the call made by Elbanna et al. (2020) for more investigations into the impact of specific SM practices, such as SI and SE, on OP.

This study further enriches the higher education management literature by validating the reliability and validity of the measures used to assess UA, SM, and OP in the unique geographical context of India. This substantiates methodological contribution and ensures that further studies can rigorously use these measures in another context, thereby enhancing the generalisability and applicability of the study's findings.

Lastly, this study enriches the literature by utilising the fundamental theoretical principles of the RBV to investigate how UA can promote effective SM practices, resulting in superior OP.

Lastly, the current study leverages the Resource-Based View (RBV) to explore how UA can facilitate effective SM practices, bringing about better OP. This study extends the theory's initial conceptualisation by using RBV in the context of higher education management. It offers unique insights into how universities can leverage their resources (University autonomy, Strategic practices) to achieve the set strategic goals and objectives.

7.3.2 Implications for Practice and Recommendations

The current study provides some practical implications and recommendations for Indian HE policymakers and leaders of Indian universities.

The findings revealed that the current degree of OA in Indian universities has an insignificant impact on OP. This suggests a need for policymakers to reassess the structures of Indian universities and form policies to expand OA; therefore, they can be better equipped to make autonomous decisions that lead to improved OP. The design of such policies should be accompanied by a profound understanding of the Indian context, ensuring that OA is granted to empower the universities effectively.

Second, the findings indicated that FA has exhibited an insignificant effect on OP. Consequently, policymakers should consider the potential benefits of granting universities full FA to strengthen their financial standing. Universities can mitigate reliance on a single funding source by diversifying revenue streams through industry partnerships, consultancy services, and expanded research endeavours. This financial diversification can also enhance institutional stability and facilitate the development of market-responsive academic programs, thereby contributing to improved overall OP.

Third, the findings unveiled that AA has a direct effect on OP. This indicates that AA holds paramount significance for universities' OP. Consequently, policymakers should prioritise boosting the AA of Indian universities in order to allow them to tailor their research agendas, curricular offerings, and admission processes to attract top-tier students. This AA is essential to fostering a teaching and research-oriented culture, promoting innovation and ensuring high-quality academic programs in pursuit of achieving excellence in research, teaching, and societal contributions, meeting the evolving demands of various stakeholders, which eventually leads to superior OP.

Fourth, findings showed a direct and positive effect of SA on OP. Therefore, policymakers should consider measures that increase SA, allowing universities to make autonomous decisions concerning hiring, promotion, dismissing and compensation that align

with their long-term goals. This autonomy is critical for universities to attract and retain top-talent faculty and staff members and boost a productive academic and managerial environment, thereby enhancing OP.

Fifth, the findings demonstrated the direct and positive impacts of OA, AA and SA on SM; this study emphasises the pivotal role of empowering universities with substantial autonomy to enable them to engage in SM practices actively since this autonomy becomes a cornerstone for their success. Accordingly, Policymakers should recognise autonomy as a strategic tool enhancer that allows universities to align their SM practices with their ultimate institutional goals. Hence, policymakers should provide full OA, AA and SA to the universities. This empowerment grants universities the authority to make strategic decisions aligned with their distinct needs and objectives.

Sixth, granting full FA to universities will play a vital role in the success of their SM practices. This autonomy allows universities to allocate the necessary resources more effectively to translate their strategic vision into concrete actions by facilitating effective implementation strategies to fulfil their strategic goals and objectives. Hence, policymakers should consider how to design policies to grant universities FA that, in turn, will be used as a catalyst to empower the execution of their strategic plans, thereby bridging the gap between aspiration and realisation.

Seventh, the significant relationship between UA and OP through the mediating role of SM highlights the importance of SM practices. Therefore, policymakers and leaders of the universities recognise that UA alone is insufficient on its own to guarantee optimal OP; it must be coupled with robust SM practices to fully realise its potential benefits. By fostering a solid alignment between UA and SM, universities can better integrate their resources and capabilities with their strategic objectives, resulting in superior OP.

Eighth, SM is widely adopted within for-profit and non-for-profit organisations worldwide. Hence, it cannot be overlooked in Indian universities. The results of the current study explain the significant role of each component of the SM process in enhancing OP. Therefore, the leaders of Indian universities must engage rigorously in integrated SM practices to achieve better performance.

7.4 Limitations and Future Research

Despite the effort in designing this study to achieve its aim and objectives, as with any study, it has some existing limitations that suggest potential opportunities for future research.

First, this study measured the constructs using a cross-sectional questionnaire subjected to common method bias. Future studies should use different time horizon techniques, such as longitudinal data collection design, to minimise this issue.

Second, the drawing on the findings of this study that unexpectedly revealed no significant effect of organizational, financial, and academic autonomy on OP, either directly or indirectly through SM. While the current study provides valuable insights into the complex dynamics between these variables, further research is needed to explain the underlying reasons for these counterintuitive results. Qualitative studies exploring the contextual factors, institutional cultures, and decision-making processes within Indian universities could offer deeper insights into the barriers hindering the positive impact of organisational, financial, and academic autonomy on OP, either directly or indirectly through SM.

Third, the present study focused on investigating the direct effect of UA on both SM and OP and SM on OP within the Indian public and private universities context. As such, it did not delve into the potential moderating effects of contextual factors, such as university type (central, state, private, deemed-to-be universities), on these links. Future research could

explore the moderating roles of these constructs to provide a more nuanced understanding of the UA-OP-SM and SM-OP nexus in the Indian higher education landscape. By comparing these different types of universities, researchers can determine potential contextual factors that may strengthen or weaken the observed relationships.

Fourth, this study's conceptual model has the potential to add other constructs. Thus, exploring the effect of UA on other constructs such as Total Quality Management, University Internationalisation, and University Social Responsibility would be a stimulating topic for future research.

Finally, this study adds to the existing knowledge by providing new insights into the impact of UA on OP through the mediating effect of SM in a specific context, that is, India. Hence, future studies could use the proposed model in other settings to validate the results.

7.5 Chapter Summary

This chapter addressed the conclusion, contribution, and limitation of this study. Further, it provided some directions for future studies.

References

- Abosede, A. J., Obasan, K. A., & Alese, O. J. (2016). Strategic management and Small and Medium Enterprises (SMEs) development: A review of literature. *International Review of Management and Business Research*, 5(1), 315.
- Adam, E. (2020). 'Governments base performance-based funding on global rankings indicators': A global trend in higher education finance or a global rankings literature fiction? A comparative analysis of four performance-based funding programs. *International Journal of Educational Development*, 76, 102197.
- Afdal, H. W. (2013). Policy making processes with respect to teacher education in Finland and Norway. *Higher Education*, 65(2), 167–180.
- Agarwal, P. (2006). *Higher education in India: The need for change*. Working paper.
- Agasisti, T., & Shibanova, E. (2022). Actual autonomy, efficiency and performance of universities: Insights from the Russian case. *International Journal of Public Administration*, 45(2), 121–134.
- Aghion, P. (2009). *Growth and education*.
- Aghion, P., Dewatripont, M., Hoxby, C., Mas-Colell, A., & Sapir, A. (2010). The governance and performance of universities: evidence from Europe and the US. *Economic Policy*, 25(61), 7–59.
- Al Hijji, K. Z. (2014). Strategic management model for academic libraries. *Procedia-Social and Behavioral Sciences*, 147, 9–15.
- Alabi, A. T., & Jelili, M. O. (2023). Clarifying likert scale misconceptions for improved application in urban studies. *Quality & Quantity*, 57(2), 1337–1350.

- Albadry, O. M. (2016). *Strategic Management and its impact on university's Service Quality: The role of Organisational Commitment*.
- Alderman, G. (1996). Audit, assessment and academic autonomy. *Higher Education Quarterly*, 50(3), 178–192.
- Alexiadou, N., & Rönnberg, L. (2022). Reading the Internationalisation Imperative in Higher Education Institutions: External Contexts and Internal Positionings. *Higher Education Policy*, 1–19.
- Almanasreh, E., Moles, R., & Chen, T. F. (2019). Evaluation of methods used for estimating content validity. *Research in Social and Administrative Pharmacy*, 15(2), 214–221.
- Altbach, P. G. (2014). India's higher education challenges. *Asia Pacific Education Review*, 15, 503–510.
- Anderson, D., Johnson, R., & Training, E. (1998). *University autonomy in twenty countries*. Department of Employment, Education, Training and Youth Affairs Canberra.
- Andrews, R., Beynon, M. J., & Genc, E. (2017). Strategy implementation style and public service effectiveness, efficiency, and equity. *Administrative Sciences*, 7(1), 4.
- Andrews, R., Boyne, G. A., Law, J., & Walker, R. M. (2009). Strategy formulation, strategy content and performance: An empirical analysis. *Public Management Review*, 11(1), 1–22.
- Angiola, N., Bianchi, P., & Damato, L. (2019). How to improve performance of public universities? A strategic management approach. *Public Administration Quarterly*, 43(3), 372–400.
- Angom, S. (2021). Autonomy and academic freedom in Indian private universities. *IRSFOE* 2021, 16.

- Ansoff, H. I. (1991). Critique of Henry Mintzberg's 'The design school: reconsidering the basic premises of strategic management.' *Strategic Management Journal*, 12(6), 449–461.
- Ansoff, H. I., Kipley, D., Lewis, A. O., Helm-Stevens, R., & Ansoff, R. (2018). *Implanting strategic management*. Springer.
- Antonowicz, D., & Jongbloed, B. W. A. (2015). *University governance reform in the Netherlands, Austria, and Portugal: Lessons for Poland*.
- Asif, M., Raouf, A., & Searcy, C. (2013). Developing measures for performance excellence: is the Baldrige criteria sufficient for performance excellence in higher education? *Quality & Quantity*, 47, 3095–3111.
- Asif, M., & Searcy, C. (2014). A composite index for measuring performance in higher education institutions. *International Journal of Quality & Reliability Management*.
- Bagire, V. A., & Namada, J. M. (2011). Strategic Management in Africa: Tracing Gaps in Sustainable Business Development. *Journal of Marketing Development and Competitiveness*, 5(7), 72–80.
- Bailey, A., Johnson, G., & Daniels, K. (2000). Validation of a multi-dimensional measure of strategy development processes. *British Journal of Management*, 11(2), 151–162.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120.
- Barney, J. B. (2001). Is the resource-based “view” a useful perspective for strategic management research? Yes. *Academy of Management Review*, 26(1), 41–56.
- Barney, J. B., & Arikan, A. M. (2005). The resource-based view: origins and implications. *The Blackwell Handbook of Strategic Management*, 123–182.

- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173.
- Basu, A., Banshal, S. K., Singhal, K., & Singh, V. K. (2016). Designing a Composite Index for research performance evaluation at the national or regional level: ranking Central Universities in India. *Scientometrics*, 107, 1171–1193.
- Bayenet, B., Feola, C., & Tavemier, M. (2000). Strategic management of universities evaluation policy and policy evaluation. *Higher Education Management*, 12(2), 65–80.
- Becker, J.-M., Klein, K., & Wetzels, M. (2012). Hierarchical latent variable models in PLS-SEM: guidelines for using reflective-formative type models. *Long Range Planning*, 45(5–6), 359–394.
- Belgaroui, R., & Hamad, S. Ben. (2021). The good practices of academic autonomy as mechanism of governance and performance of higher education institutions: case of the university of Sfax. *International Journal of English Literature and Social Sciences*, 6(1), 177–184.
- Berdahl, R. (1990). Academic freedom, autonomy and accountability in British universities. *Studies in Higher Education*, 15(2), 169–180.
- Bernard, H. R. (2013). *Social research methods: Qualitative and quantitative approaches*. Sage.
- Béteille, A. (2005). Universities as public institutions. *Economic and Political Weekly*, 3377–3381.
- Bhushan, S. (2019). Contesting the present in the evolution of public higher education. *The Future of Higher Education in India*, 1–20.

- Bladh, A. (2007). Institutional autonomy with increasing dependency on outside actors. *Higher Education Policy*, 20, 243–259.
- Bleiklie, I., & Michelsen, S. (2013). Comparing HE policies in Europe: Structures and reform outputs in eight countries. *Higher Education*, 65, 113–133.
- Blom, R., Voorn, B., & Borst, R. T. (2022). HRM autonomy, integration and performance in government agencies: tests of necessity and sufficiency. *Public Management Review*, 1–19.
- Boateng, P. A., & Karikari, A. F. (2015). Managerial Characteristics and the Strategic Planning Process-Performance Link. *Journal of Higher Education Theory & Practice*, 15(6).
- Boldt, D. B. (1991). University Strategic Management: A Businessman' s View. *International Journal of Educational Management*, 5(5).
- Bolland, E. J. (2020). Evolution of strategy: origin, planning, strategic planning and strategic management. In *Strategizing: New Thinking about Strategy, Planning and Management* (pp. 25–48). Emerald Publishing Limited.
- Borrero, S., Acosta, A., & Medina, A. F. (2020). Culture, strategy formulation, and firm performance: a meta-analysis. *Academia Revista Latinoamericana de Administración*.
- Bower, J. L. (1982). Business policy in the 1980s. *Academy of Management Review*, 7(4), 630–638.
- Boyd, B. K., & Reuning-Elliott, E. (1998). A measurement model of strategic planning. *Strategic Management Journal*, 19(2), 181–192.
- Boyne, G. A., & Walker, R. M. (2010). Strategic management and public service performance: The way ahead. *Public Administration Review*, 70, s185–s192.

- Brock, D. M. (1997). Strategy, autonomy, planning mode and effectiveness: a contingency study of business schools. *International Journal of Educational Management*, 11(6), 248–259.
- Bryman, A. (2001). *Social Research Methods 4th ed.* Oxford university press.
- Bryman, A., & Bell, E. (2011). *Business research methods 3rd ed.* New York. Oxford Press.
- Bui, K. VT (2002). First-generation college students at a four.
- Bryson, J., & George, B. (2020). Strategic management in public administration. In *Oxford Research Encyclopedia of Politics*.
- Bryson, J. M. (2015). Strategic planning for public and nonprofit organizations. In *International Encyclopedia of the Social & Behavioral Sciences: Second Edition* (pp. 515–521). Elsevier Inc.
- Bryson, J. M., Crosby, B. C., & Ackerman, F. (2004). Strategic planning in a collaborative setting. *Strategic Planning for Public and Non-Profit Organizations*, 377–391.
- Bryson, J. M., & Roering, W. D. (1988). Initiation of strategic planning by governments. *Public Administration Review*, 995–1004.
- Buluma, P. I., Keror, I. K., & Bonuke, J. M. (2013). Institutional Related Factors Affecting the Implementation of Strategic Plans in Local Authorities in Kenya: A Case of Municipal Council of Eldoret. *International Journal of Business and Management*, 8(10), 81.
- Cameron, D. R. (1978). The expansion of the public economy: A comparative analysis. *American Political Science Review*, 72(4), 1243–1261.
- Carter, R. L. (2006). Solutions for missing data in structural equation modeling. *Research & Practice in Assessment*, 1, 4–7.

- Carvalho, A., Leitão, J., & Alves, H. (2022). Leadership styles and HEI performance: relationship and moderating factors. *International Journal of Leadership in Education*, 1–37.
- Carvalho, T., & Diogo, S. (2018). Exploring the relationship between institutional and professional autonomy: a comparative study between Portugal and Finland. *Journal of Higher Education Policy and Management*, 40(1), 18–33.
- Chaffee, E. E. (1985). *The concept of strategy: From business to higher education (Vol. 1)*. New York: Agathon Press.
- Chahal, N., & Dar, H. (2015). Higher education sector in India: Challenges of sustainability. *International Journal of Management Research and Reviews*, 5(3), 159–169.
- Chen, S., Wang, H., & Yang, K. (2009). Establishment and application of performance measure indicators for universities. *The TQM Journal*, 21(3), 220–235.
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern Methods for Business Research*, 295(2), 295–336.
- Choi, S. (2019). Identifying indicators of university autonomy according to stakeholders' interests. *Tertiary Education and Management*, 25(1), 17–29.
- Christensen, R. K. (2016). *The Vagary and value of resource dependence in understanding institutions of higher education*. JSTOR.
- Clark, B. R. (1998). *Creating entrepreneurial universities: organizational pathways of transformation*. *Issues in Higher Education*. ERIC.
- Coakes, S. J., & Steed, L. (2009). *SPSS: Analysis without anguish using SPSS version 14.0 for Windows*. John Wiley & Sons, Inc.

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* New York. NY: Academic, 54.
- Cohen, M. D., & March, J. G. (1974). *Leadership and ambiguity: The American college president*.
- Collis, J., & Hussey, R. (2009). *Business research: A practical guide for undergraduate and postgraduate students*. Palgrave macmillan.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Crocetta, C., Antonucci, L., Cataldo, R., Galasso, R., Grassia, M. G., Lauro, C. N., & Marino, M. (2021). Higher-order PLS-PM approach for different types of constructs. *Social Indicators Research*, 154, 725–754.
- Daigneault, M. (2016). Charting a new direction. *Credit Union Management*, 39(4), 48–51.
- Dandira, M. (2011). Involvement of implementers: missing element in strategy formulation. *Business Strategy Series*.
- David, F. R., David, F. R., & David, M. E. (2017). *Strategic management: concepts and cases: A competitive advantage approach*. Pearson New York, NY, USA.
- Dawes, J. (2008). Do data characteristics change according to the number of scale points used? An experiment using 5-point, 7-point and 10-point scales. *International Journal of Market Research*, 50(1), 61–104.
- De Boer, H., & Enders, J. (2017a). Working in the shadow of hierarchy: organisational autonomy and venues of external influence in European universities. *Managing Universities: Policy and Organizational Change from a Western European Comparative Perspective*, 57–83.

- De Boer, H., & Enders, J. (2017b). Working in the shadow of hierarchy: organisational autonomy and venues of external influence in European universities. *Managing Universities: Policy and Organizational Change from a Western European Comparative Perspective*, 57–83.
- De Boer, H., & Enders, J. (2017c). Working in the shadow of hierarchy: organisational autonomy and venues of external influence in European universities. *Managing Universities: Policy and Organizational Change from a Western European Comparative Perspective*, 57–83.
- Della Porta, D., & Keating, M. (2008). 16 Comparing approaches, methodologies and methods. Some concluding remarks. *Approaches and Methodologies in the Social Sciences*, 316.
- Dess, G. G., & Miller, A. (1998). Strategic management: Mission and the general environment. *Leading Organizations: Perspectives for a New Era*, 261–278.
- Diamantopoulos, A., & Winklhofer, H. (2001). Index construction with formative measurement models: Interpretation and modeling implications. *Journal of Marketing Research*, 38(2), 269–277.
- Do, H. T. H., & Mai, A. N. (2022). Policies on university autonomy in Vietnam. *Journal of Further and Higher Education*, 46(5), 575–585.
- Do, N. M. (2019). An overview of strategic responses of Vietnamese higher education institutions. *International Journal of Educational Management*, 34(1), 35–44.
- Dobbins, M., Knill, C., & Vögtle, E. M. (2011). An analytical framework for the cross-country comparison of higher education governance. *Higher Education*, 62, 665–683.

- Donkor, J., Donkor, G. N. A., & Kwarteng, C. K. (2018). Strategic planning and performance of SMEs in Ghana: The moderating effect of market dynamism. *Asia Pacific Journal of Innovation and Entrepreneurship*, 12(1), 62–76.
- Dooris, M. J., Kelley, J. M., & Trainer, J. F. (2004). Strategic planning in higher education. *New Directions for Institutional Research*, 2004(123), 5–11.
- Dyson, R. G. (2004). Strategic development and SWOT analysis at the University of Warwick. *European Journal of Operational Research*, 152(3), 631–640.
- Egorov, A., & Platonova, D. (2022). Perception of strategies by university middle managers: is there any relationship with actual universities' operations? *Tertiary Education and Management*, 1–17.
- Elbanna, S. (2010). Strategic planning in the United Arab Emirates. *International Journal of Commerce and Management*.
- Elbanna, S. (2013). Processes and impacts of strategic management: evidence from the public sector in the United Arab Emirates. *International Journal of Public Administration*, 36(6), 426–439.
- Elbanna, S., Al Katheeri, B., & Colak, M. (2020). The harder firms practice strategic management, the better they are. *Strategic Change*, 29(5), 561–569.
- Elbanna, S., Andrews, R., & Pollanen, R. (2016). Strategic planning and implementation success in public service organizations: Evidence from Canada. *Public Management Review*, 18(7), 1017–1042.
- Enders, J., De Boer, H., File, J., Jongbloed, B., & Westerheijden, D. (2011). Reform of higher education in Europe. In *Reform of higher education in Europe* (pp. 1–10). Brill Sense.

- Enders, J., De Boer, H., & Weyer, E. (2013). Regulatory autonomy and performance: The reform of higher education re-visited. *Higher Education*, 65, 5–23.
- Eriksen, B. H. (2008a). Strategic Planning and Firm Performance. *Designing Organizations*, 225–238.
- Eriksen, B. H. (2008b). Strategic planning and firm performance: The influence of organizational context. *Designing Organizations: 21st Century Approaches*, 225–238.
- Estermann, T. (2014). Designing strategies for efficient funding of universities. *2nd EUA Funding Forum University of Bergamo*. Retrieved October, 8, 2020.
- Estermann, T., Nokkala, T., & Steinel, M. (2009). *University autonomy in Europe*. European University Association Brussels.
- Estermann, T., Nokkala, T., & Steinel, M. (2011). University autonomy in Europe II. *The Scorecard*. Brussels: European University Association.
- Etonyeaku, C. C., Adepoju, A. O., Abayomi, M. A., & Jesuleye, O. A. (2022). Effect of internal factors on strategic management practices of deposit money banks in South West, Nigeria. *International Journal of Strategic Change Management*, 8(1), 21–58.
- Fantauzzi, C., Colasanti, N., Fiorani, G., & Frondizi, R. (2021). Sustainable strategic planning in Italian higher education institutions: A content analysis. *International Journal of Sustainability in Higher Education*, 22(5), 1145–1165.
- Felt, U., & Glanz, M. (2002). University autonomy in Europe: Changing paradigms in higher education policy. *Bologna: Magna Charta Observatory*.
- Fernandez, R., Kozlowski, S. W. J., Shapiro, M. J., & Salas, E. (2008). Toward a definition of teamwork in emergency medicine. *Academic Emergency Medicine*, 15(11), 1104–1112.

- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Fu, S. (2023). University Administrative Management System Reform. In *The Chinese Path Toward a Leaner Government* (pp. 259–270). Springer.
- Fumasoli, T., Gornitzka, Å., & Maassen, P. (2014a). *University autonomy and organizational change dynamics*.
- Fumasoli, T., Gornitzka, Å., & Maassen, P. (2014b). *University autonomy and organizational change dynamics*.
- Gandhi, M. M. (2013). Autonomy and accountability in higher education an Indian perspective. *IOSR Journal of Research & Method in Education*, 3(5), 33–37.
- George, B., Walker, R. M., & Monster, J. (2019). Does strategic planning improve organizational performance? A meta-analysis. *Public Administration Review*, 79(6), 810–819.
- George, B., Worth, M. J., Pandey, S., & Pandey, S. K. (2023). Strategic management of social responsibilities: a mixed methods study of US universities. *Public Money & Management*, 1–11.
- Glaister, K. W., Dincer, O., Tatoglu, E., Demirbag, M., & Zaim, S. (2008). A causal analysis of formal strategic planning and firm performance: Evidence from an emerging country. *Management Decision*, 46(3), 365–391.
- Gluck, F. W. (1985). A fresh look at strategic management. *Journal of Business Strategy*, 6(2), 4–19.
- Goldsmith, A. A. (1995). *Making managers more effective: Applications of strategic management*. USAID.

- Goldsmith, A. A. (1996). Strategic thinking in international development: Using management tools to see the big picture. *World Development*, 24(9), 1431–1439.
- Gomez, C. L. V., & Giroto, M. (2015). Strategic Management in Universities: A conceptual framework based on Ibero-American higher education systems. *Strategic Management of Universities in the Ibero-America Region: A Comparative Perspective*, 1–43.
- Goodell, Z. G. (2005). *Faculty perceptions of academic freedom at a metropolitan university: A case study*. Virginia Commonwealth University.
- Grant, R. M. (1991). The resource-based theory of competitive advantage: implications for strategy formulation. *California Management Review*, 33(3), 114–135.
- Gray, D. E. (2021). Doing research in the real world. *Doing Research in the Real World*, 1–100.
- Groves, R. E. V., Pendlebury, M. W., & Stiles, D. R. (1997). A critical appreciation of the uses for strategic management thinking, systems and techniques in British universities. *Financial Accountability & Management*, 13(4), 293–312.
- Gupta, A. (2011). Deemed universities in India: Confusion reigns. *International Higher Education*, 63.
- Gupte, M. (2015). INDIAN SYSTEM OF HIGHER EDUCATION WITH SPECIAL REFERENCE TO THE CONSTRAINTS IMPAIRING THE QUALITATIVE GROWTH OF THE SYSTEM. *Abhinav International Monthly Refereed Journal of Research in Management & Technology*.
- Gurkov, I., Morgunov, E., & Saidov, Z. (2017). Robustness and flexibility of human resource management practices: The results of a repeated survey of Russian subsidiaries of multinational corporations. *Employee Relations*, 39(5), 594–625.

- Gurley, D. K., Peters, G. B., Collins, L., & Fifolt, M. (2015). Mission, vision, values, and goals: An exploration of key organizational statements and daily practice in schools. *Journal of Educational Change*, 16, 217–242.
- Hacker, C. M. (2001). The quest for gold: Applied psychological skills training in the 1996 Olympic Games. *Journal of Excellence*, 4, 5–20.
- Hague, P. N., & Jackson, P. (2002). Market research: a guide to planning, methodology and evaluation. (*No Title*).
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate Data Analysis With Readings*, Englewood Cliffs, NJ: Prentice Hall.
- Hair, J. F., Black, W. C., & Babin, B. J. (2010). *RE Anderson Multivariate data analysis: A global perspective*. New Jersey, Pearson Prentice Hall.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis (Vol. 6)*.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–152.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019a). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019b). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019c). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24.

- Hair, J. F., Sarstedt, M., & Ringle, C. M. (2019). Rethinking some of the rethinking of partial least squares. *European Journal of Marketing*.
- Hair Jr, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, 109, 101–110.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021a). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021b). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.
- Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*.
- Hair Jr, J. F., Sarstedt, M., Matthews, L. M., & Ringle, C. M. (2016). Identifying and treating unobserved heterogeneity with FIMIX-PLS: part I—method. *European Business Review*.
- Hair Jr, J., Hult, F., GTM, R. C., & Sarstedt, M. (2017a). *A primer on partial least squares structural equation modeling (PLS-SEM)(ed.) Sage Publications, Thousand Oaks*.
- Hair Jr, J., Hult, F., GTM, R. C., & Sarstedt, M. (2017b). *A primer on partial least squares structural equation modeling (PLS-SEM)(ed.) Sage Publications, Thousand Oaks*.
- Hair Jr, J., Page, M., & Brunsveld, N. (2019). *Essentials of business research methods*. Routledge.
- Håkonsson, D. D., Burton, R. M., Obel, B., & Lauridsen, J. T. (2012). Strategy implementation requires the right executive style: Evidence from Danish SMEs. *Long Range Planning*, 45(2–3), 182–208.

- Heaton, S., Teece, D., & Agronin, E. (2023). Dynamic capabilities and governance: An empirical investigation of financial performance of the higher education sector. *Strategic Management Journal*, 44(2), 520–548.
- Heiberger, R. M., Holland, B., Heiberger, R. M., & Holland, B. (2015). Bivariate Statistics—Discrete Data. *Statistical Analysis and Data Display: An Intermediate Course with Examples in R*, 539–576.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In *New challenges to international marketing*. Emerald Group Publishing Limited.
- Hill, C. W. L., Jones, G. R., & Schilling, M. A. (2014). *Strategic management: Theory & cases: An integrated approach*. Cengage Learning.
- Holmén, J. (2022). The autonomy of higher education in Finland and Sweden: Global management trends meet national political culture and governance models. *Comparative Education*, 58(2), 147–163.
- Hovdhaugen, E., Frølich, N., & Aamodt, P. O. (2013). Informing Institutional Management: institutional strategies and student retention. *European Journal of Education*, 48(1), 165–177.
- Hu, J., Liu, H., Chen, Y., & Qin, J. (2018). Strategic planning and the stratification of Chinese higher education institutions. *International Journal of Educational Development*, 63, 36–43.

- Husain, S., & Mushtaq, M. (2010). Academic Ranking of Indian Central Universities in Science and Technology as Represented in Science Citation Index–Expanded: Scientometric Study (2005–2009). *Collnet Journal of Scientometrics and Information Management*, 4(2), 81–90.
- Hussein, N., Mohamad, A., Noordin, F., & Ishak, N. A. (2014). Learning organization and its effect on organizational performance and organizational innovativeness: A proposed framework for Malaysian Public Institutions of Higher Education. *Procedia-Social and Behavioral Sciences*, 130, 299–304.
- I. Williams Jr, R., L. Morrell, D., & V. Mullane, J. (2014). Reinvigorating the mission statement through top management commitment. *Management Decision*, 52(3), 446–459.
- Iwinska, J., & Matei, L. (2014). University Autonomy-A Practical Handbook. *Central European University Yehuda Elkana Center for Higher Education Budapest, Hungary*.
- Jarvis, C. B., MacKenzie, S. B., & Podsakoff, P. M. (2003). A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of Consumer Research*, 30(2), 199–218.
- Jauch, L. R., & Glueck, W. F. (1988). Strategic management and business policy. (*No Title*).
- Jayaram, N. (2013). India: Streamlining the Academic Profession for a Knowledge Economy. In *The Global Future of Higher Education and the Academic Profession: The BRICs and the United States* (pp. 93–125). Springer.
- Jiang, N., & Carpenter, V. (2013). A case study of issues of strategy implementation in internationalization of higher education. *International Journal of Educational Management*, 27(1), 4–18.

- Joshi, K. M. (2015). Higher education, social demand, and social equity in India. In *Higher Education in the Brics Countries: Investigating the pact between higher education and society* (pp. 125–147). Springer.
- Junaidah, J., Basyar, S., Pahrudin, A., & Fauzan, A. (2020). Strategic Management Roadmap: Formulation, Implementation, and Evaluation to Develop Islamic Higher Education Institution. *Tadris: Jurnal Keguruan Dan Ilmu Tarbiyah*, 5(2), 335–347.
- Kabir, S. M. H. (2007). Strategic Planning in Municipal Government: the Case of City of Ottawa/LA PLANIFICATION STRATEGIQUE DANS LE GOUVERNEMENT MUNICIPAL: CAS DE LA VILLE D'OTTAWA. *Canadian Social Science*, 3(5), 5.
- Kabui, C. A., Machuki, V. N., Yabs, J. K., & Njihia, J. M. (2018). Strategic Planning Process Intensity and Formality Impact on the Performance of Accredited Universities in Kenya. *International Journal of Business and Management*, 13(9), 153.
- Kallio, T. J., Kallio, K.-M., & Blomberg, A. (2020). From professional bureaucracy to competitive bureaucracy—redefining universities' organization principles, performance measurement criteria, and reason for being. *Qualitative Research in Accounting & Management*.
- Kandiyoti, D., & Emanet, Z. (2017). Education as battleground: The capture of minds in Turkey. *Globalizations*, 14(6), 869–876.
- Kang, G., & Fredin, A. (2012). The balanced scorecard: the effects of feedback on performance evaluation. *Management Research Review*, 35(7), 637–661.
- Karran, T. (2009). Academic freedom in Europe: time for a Magna Charta? *Higher Education Policy*, 22, 163–189.
- Kenny, D. A. (2016). *Moderation*.

- Khanal, K. P. (2021). Financing higher education in India. *University of Oslo*.
- Kim, H.-Y. (2013). Statistical notes for clinical researchers: assessing normal distribution (2) using skewness and kurtosis. *Restorative Dentistry & Endodontics*, 38(1), 52–54.
- Knott, J. H., & Payne, A. A. (2004). The impact of state governance structures on management and performance of public organizations: A study of higher education institutions. *Journal of Policy Analysis and Management*, 23(1), 13–30.
- Kock, N. (2011). Using WarpPLS in e-collaboration studies: Mediating effects, control and second order variables, and algorithm choices. *International Journal of E-Collaboration (IJeC)*, 7(3), 1–13.
- Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of E-Collaboration (Ijec)*, 11(4), 1–10.
- Kohtamäki, V. (2022a). Autonomy-driven segmentation for competition among Finnish universities: Leaders' perceptions. *Studies in Higher Education*, 47(1), 67–79.
- Kohtamäki, V. (2022b). Autonomy-driven segmentation for competition among Finnish universities: leaders' perceptions. *Studies in Higher Education*, 47(1), 67–79.
- Kohtamäki, V., & Balbachevsky, E. (2019). An explorative study of the consequences of university autonomy in Finland and Brazil. *Higher Education Quarterly*, 73(3), 328–342.
- Koteen, J. (1997). *Strategic management in public and nonprofit organizations: Managing public concerns in an era of limits*. Greenwood Publishing Group.
- Kotler, P., & Murphy, P. E. (1981). Strategic planning for higher education. *The Journal of Higher Education*, 52(5), 470–489.

- Koufteros, X., Babbar, S., & Kaighobadi, M. (2009). A paradigm for examining second-order factor models employing structural equation modeling. *International Journal of Production Economics*, 120(2), 633–652.
- Krishna Shrestha, B., & Ram Gnyawali, D. (2013). Insights on strategic management practices in Nepal. *South Asian Journal of Global Business Research*, 2(2), 191–210.
- Kumar, V., Akhter, Y., & Ji, G. (2022). Performance-based evaluation and funding model for central universities in India: a preliminary assessment. *Quality in Higher Education*, 28(3), 380–397.
- Kumar, V., & Balaji, B. P. (2021). Correlates of the national ranking of higher education institutions and funding of academic libraries: An empirical analysis. *The Journal of Academic Librarianship*, 47(1), 102264.
- Kupriyanova, V., Bennetot Pruvot, E., & Estermann, T. (2020a). Autonomy, efficiency and effectiveness—opportunities for higher education: A Pilot Study. *European Higher Education Area: Challenges for a New Decade*, 437–453.
- Kupriyanova, V., Bennetot Pruvot, E., & Estermann, T. (2020b). Autonomy, efficiency and effectiveness—opportunities for higher education: A Pilot Study. *European Higher Education Area: Challenges for a New Decade*, 437–453.
- Kylaheiko, K., Puumalainen, K., Sjögrén, H., Syrjä, P., & Fellnhofer, K. (2016). Strategic planning and firm performance: A comparison across countries and sectors. *International Journal of Entrepreneurial Venturing*, 8(3), 280–295.
- Lazarova, M., Peretz, H., & Fried, Y. (2017). Locals know best? Subsidiary HR autonomy and subsidiary performance. *Journal of World Business*, 52(1), 83–96.

- Lebens, M., & Euske, K. (2006). *A conceptual and operational delineation of performance. Business Performance Measurement*. Cambridge University Press Cambridge.
- Lee, N., & Lings, I. (2008). *Doing business research: a guide to theory and practice*. Sage.
- Lestari, Y. D., Nadia, F. N. D., Sukoco, B. M., Ahlstrom, D., Widiyanto, S., Susanto, E., Nasution, R. A., & Fauzi, A. M. (2021). Dynamic managerial capability, trust in leadership and performance: the role of cynicism toward change. *International Journal of Leadership in Education*, 1–31.
- López-Morales, J. S., Huerta-Estévez, A., Andrade-Estrada, M. G., & Zarrabal-Gutiérrez, C. G. (2020). Corporate social responsibility in ports of Latin America. *Marine Economics and Management*, 3(1), 13–26.
- Lyn, J. C. I., & Muthuveloo, R. (2019). Investigating technology and organizational performance of private higher learning institutions in Malaysia. *The International Journal of Information and Learning Technology*.
- Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing Research*, 35(6), 382–386.
- Maaranen, K., Stenberg, K., Sintonen, S., Kynäslähti, H., Jyrhämä, R., & Byman, R. (2023). University faculty leaders' views of teacher educators' professional development. *Journal of Education for Teaching*, 49(1), 21–36.
- Maassen, P., Gornitzka, Å., & Fumasoli, T. (2017). University reform and institutional autonomy: A framework for analysing the living autonomy. *Higher Education Quarterly*, 71(3), 239–250.
- Madeshia, P. K., & Verma, S. (2020). Review on higher education in India. *J. Crit. Rev.*, 7(10), 1161–1164.

- Mai, A. N., Do, H. T. H., Mai, C. N., & Nguyen, N. D. (2022). Models of university autonomy and their relevance to Vietnam. *Journal of Asian Public Policy*, 15(3), 394–410.
- Mandal, D. (2021). Current Issues and Problems of Higher Education in India. *IISRR-International Journal of Research*, 7, 22–30.
- Martin, M. (1992). *Strategic management in Western European universities*. Unesco.
- Mathew, A. (2016). Reforms in higher education in India: A review of recommendations of commissions and committees on education. *CPRHE Research Papers*, 1–70.
- McNabb, D. E. (2013). *Nonsampling error in social surveys*. Sage publications.
- Mekonnen, G. T., Kilpatrick, S., & Kenny, J. (2022). Constrained autonomy: academics and institutional leaders empowerment in Ethiopia in the context of the Bologna Process. *Journal of Further and Higher Education*, 46(2), 143–158.
- Meyer. (2016). Researching Efficiency in Local Governments. *Government Finance Review*.
- Michavila, F., & Martinez, J. M. (2018). Excellence of universities versus autonomy, funding and accountability. *European Review*, 26(S1), S48–S56.
- Miller, C. C., & Cardinal, L. B. (1994). Strategic planning and firm performance: A synthesis of more than two decades of research. *Academy of Management Journal*, 37(6), 1649–1665.
- Mintzberg, H. (1990). The design school: reconsidering the basic premises of strategic management. *Strategic Management Journal*, 11(3), 171–195.
- Mintzberg, H., & Fredrickson, J. (1990). Strategy formulation: Ten schools of thought. *Perspectives on Strategic Management*. Cambridge, MA: Ballinger.

- Mizrahi, S. (2021). Performance funding and management in higher education: The autonomy paradox and failures in accountability. *Public Performance & Management Review*, 44(2), 294–320.
- Moreno-Carmona, C., Feria-Domínguez, J. M., & Merinero-Rodríguez, R. (2022). Are university management teams strategic Stakeholders within higher education institutions? A Clinical Study. *Economics and Sociology*, 15(1), 141–159.
- Morgan, A. (2004). Higher education reform in the Balkans: The Bologna process. *International Higher Education*, 34.
- Muizniece, L. (2021). University autonomy and commercialization of publicly funded research: The case of Latvia. *Journal of the Knowledge Economy*, 12, 1494–1516.
- Myers, M. D., & Klein, H. K. (2011). A set of principles for conducting critical research in information systems. *MIS Quarterly*, 17–36.
- Nedbalová, E., Greenacre, L., & Schulz, J. (2014). UK higher education viewed through the marketization and marketing lenses. *Journal of Marketing for Higher Education*, 24(2), 178–195.
- Ngo, H. T., Tran, P. C., Nguyen, T. T., Doan, D. T., & Ngo, H. T. (2022). Factors affecting academic staff development in the context of university autonomy through the lens of stakeholders: a case study from Tay Nguyen University, Vietnam. *Journal of Applied Research in Higher Education*, ahead-of-print.
- Nguyen, H. T. L., & Van Gramberg, B. (2018). University strategic research planning: a key to reforming university research in Vietnam? *Studies in Higher Education*, 43(12), 2130–2147.

- Nguyen, T. L. H. (2016). Building human resources management capacity for university research: The case at four leading Vietnamese universities. *Higher Education*, 71(2), 231–251.
- Nickel, S. (2011). Strategic management in higher education institutions—approaches, processes and tools. *Leadership and Governance in Higher Education*, 2, 1–28.
- Nickerson, J. (2010). Oliver Williamson and his impact on the field of strategic management. *Journal of Retailing*, 86(3), 270–276.
- Noble, C. H. (1999). The eclectic roots of strategy implementation research. *Journal of Business Research*, 45(2), 119–134.
- Nokkala, T. (2009). University autonomy in Europe I, Exploratory study. *The European University Association*, 45.
- Nurmandi, A., & Purnomo, E. P. (2011). Making the strategic plan work in local government: A case study of strategic plan implementation in yogyakarta special province (ysp). *International Review of Public Administration*, 16(2), 143–164.
- Nutt, P. C., & Backoff, R. W. (1992). Strategic management of public and third sector organizations: A handbook for leaders. (*No Title*).
- Ocak, S., Aladag, O. F., Koseoglu, M. A., & King, B. (2022). Barriers to strategy implementation in turkey's healthcare industry: hospital manager perspectives. *Hospital Topics*, 100(4), 196–204.
- Ogunmokun, G., Hopper, T., & McClymont, H. (2005). Strategy implementation and organizational performance: A study of private hospitals. *Proceedings of the Australasian Business and Behavioural Sciences Association Conference (ABBSA 2005)*.

- Orosz, K. (2018). Interconnected dimensions of university autonomy in Europe. *European Higher Education Area: The Impact of Past and Future Policies*, 639–649.
- Ovchinnikova, O., Kokuytseva, T., & Butrova, E. (2022). Financial Stability of University as Factor Improving the Competitive Ability of the National Economy. *Proceeding of the International Science and Technology Conference "FarEastCon 2021"*, 583–589.
- Owolabi, S. A., & Makinde, O. G. (2012). The effects of strategic planning on corporate performance in university education: A study of Babcock University. *Kuwait Chapter of the Arabian Journal of Business and Management Review*, 2(4), 27.
- Oyedijo, A. (2012). Antecedents and performance outcomes of strategic planning in Nigerian public universities. *International Journal of Asian Social Science*, 2(4), 448–461.
- Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS*. Routledge.
- Pandey, A. K., & Rizvi, S. M. H. (2018). Private universities' participation in open and distance learning for enhanced access to higher education among underserved in India. In *Optimizing Open and Distance Learning in Higher Education Institutions* (pp. 213–227). IGI Global.
- Pandey, I. M. (2004). Governance of higher education institutions. *Vikalpa*, 29(2), 79–84.
- Parakhina, V., Godina, O., Boris, O., & Ushvitsky, L. (2017). Strategic management in universities as a factor of their global competitiveness. *International Journal of Educational Management*, 31(1), 62–75.
- Pattnaik, S. (2019). Working with second-order construct in measurement model: An illustration using empirical data. In *Methodological issues in management research: Advances, challenges, and the way ahead*. Emerald Publishing Limited.

- Pearce, J. A., Robinson, R. B., & Subramanian, R. (2000). *Strategic management: Formulation, implementation, and control*. Irwin/McGraw-Hill Columbus, OH.
- Pihie, Z. A. L., & Akmaliah, Z. (2009). Entrepreneurship as a career choice: An analysis of entrepreneurial self-efficacy and intention of university students. *European Journal of Social Sciences*, 9(2), 338–349.
- Piironen, O. (2013). The transnational idea of university autonomy and the reform of the Finnish universities act. *Higher Education Policy*, 26, 127–146.
- Pingle, S., & Natashaa, K. (2011). Performance management in institutes of higher education, through balanced scorecard. *Ganpat University-Faculty of Management Studies Journal of Management and Research (GFJMR)*, 2, 1–20.
- Plant, T. (2009). Holistic strategic planning in the public sector. *Performance Improvement*, 48(2), 38–43.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531–544.
- Poister, T. H. (2010). The future of strategic planning in the public sector: Linking strategic management and performance. *Public Administration Review*, 70, s246–s254.
- Priem, R. L., & Butler, J. E. (2001). Is the resource-based “view” a useful perspective for strategic management research? *Academy of Management Review*, 26(1), 22–40.
- Pruvot, E. B., & Estermann, T. (2017). University autonomy in Europe III. *The Scorecard*, 76.

- Pūraitė, A., Pranevičienė, B., & Vasiliauskienė, V. (2017). State financing impact on autonomy of HEIs and its link with economic activities of universities. *Engineering Economics*, 28(5), 564–574.
- Raghunadhan, T. (2009). Strategy: A Pedagogy for Efficient, Accountable and Socially Responsive Higher Education. *Global Business & Management Research*, 1(1).
- Rahimnia Alashloo, F., Castka, P., & Sharp, J. M. (2005). Towards understanding the impeters of strategy implementation in higher education (HE) A case of HE institutes in Iran. *Quality Assurance in Education*, 13(2), 132–147.
- Rahuma, A., & Fethi, S. (2022). A new approach to evaluate environmental strategy: Empirical evidence from international petroleum companies using the balanced scorecard model. *Business Strategy and the Environment*, 31(7), 3152–3165.
- Rajkhowa, G. (2013). Cross border higher education in India: Challenges and opportunities. *International Journal of Organizational Analysis*, 21(3), 471–484.
- Ramkumar, D. (2022). Barrier-free Higher Education for the Visually Challenged. *Disability Rehabilitation Management Through ICT*, 27.
- Rana, S., Verma, S., Haque, M. M., & Ahmed, G. (2022). Conceptualizing international positioning strategies for Indian higher education institutions. *Review of International Business and Strategy*, 32(4), 503–519.
- Ranjan, R. (2014). Private universities in India and quality of education. *International Journal of Humanities Social Sciences and Education (IJHSSE)*, 1(9), 140–144.
- Ravi, S., Gupta, N., & Nagaraj, P. (2019a). *Reviving higher education in India*.
- Ravi, S., Gupta, N., & Nagaraj, P. (2019b). *Reviving higher education in India*.

- Rehman, U. U., & Iqbal, A. (2020). Nexus of knowledge-oriented leadership, knowledge management, innovation and organizational performance in higher education. *Business Process Management Journal*, 26(6), 1731–1758.
- Rhoades, G. (2000). Who's doing it right? Strategic activity in public research universities. *The Review of Higher Education*, 24(1), 41–66.
- Rigdon, E. E. (2012). Rethinking partial least squares path modeling: In praise of simple methods. *Long Range Planning*, 45(5–6), 341–358.
- Roberts, K. J. (2018). Community engagement in Indian higher education: financial and partnership trends. *International Journal of Educational Development*, 58, 95–105.
- Rónay, Z., & Niemczyk, E. K. (2022). Institutional Autonomy and Academic Freedom in the Light of National Regulatory Frameworks: Glance at Hungary and South Africa. *Bulgarian Comparative Education Society*.
- Rowley, G. (1997). Mergers in higher education: A strategic analysis. *Higher Education Quarterly*, 51(3), 251–263.
- Ruane, J. M. (2016). *Introducing social research methods: Essentials for getting the edge*. John Wiley & Sons.
- Sahney, S., & Thakkar, J. (2016). A comparative assessment of the performance of select higher education institutes in India. *Quality Assurance in Education*, 24(2), 278–302.
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In *Handbook of market research* (pp. 587–632). Springer.
- Sarstedt, M., Ringle, C. M., Henseler, J., & Hair, J. F. (2014). On the emancipation of PLS-SEM: A commentary on Rigdon (2012). *Long Range Planning*, 47(3), 154–160.

- Sarwar, H., Ishaq, M. I., & Franzoni, S. (2022). Influence of HRM on CSR and performance of upscale hotels in developed and developing countries. *Environment, Development and Sustainability*, 1–23.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Pearson education.
- Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research Methods for Business Students*, 6th edn, sn. *Essex: Pearson Education Limited*.
- Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research methods for business students* , *Pearson Education Limited, England*.
- Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* eight edition. *QualitativeMarket Research: An International Journal*.
- Sawhney, S. (2018). *Simplified Strategic Management Framework for Tier Two Higher Education Institutions in India*.
- Sawhney, S., Gupta, A., & Kumar, K. (2017). A case for strategic management in higher education in India. *Leadership, Innovation and Entrepreneurship as Driving Forces of the Global Economy: Proceedings of the 2016 International Conference on Leadership, Innovation and Entrepreneurship (ICLIE)*, 403–410.
- Sawhney, S., Kumar, K., & Gupta, A. (2019). Adopting strategic management in higher education in India: need, challenges and ideas. *International Journal of Management Practice*, 12(2), 246–260.
- Sawhney, S., Sharma, K. K., & Gupta, A. (2020). Penetration and prevalence of strategic management in higher education institutions in India. *Journal of Engineering Education Transformations*, 33(3), 7–18.

- Schmid, J., & Pathak, R. (2017). The anatomy of collaboration in international development practice: comparative insights from Nigeria and Ghana. *Development in Practice*, 27(4), 487–502.
- Segars, A. H., Grover, V., & Teng, J. T. C. (1998). Strategic information systems planning: Planning system dimensions, internal coalignment, and implications for planning effectiveness. *Decision Sciences*, 29(2), 303–341.
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons.
- Sequeira, A. H. (2011). *Strategic Management Practices in Centrally Funded Technical Institutions (CFTIs) in India*.
- Sethy, S. S. (2021). ‘Academic freedom’ in Indian higher education setting. *Asian Journal of University Education (AJUE)*, 7(2), 39–49.
- Shah, M. (2013). Renewing strategic planning in universities at a time of uncertainty. *Perspectives: Policy and Practice in Higher Education*, 17(1), 24–29.
- Shah, M., & Nair, S. (2011). The influence of strategy and external quality audit on university performance: An Australian perspective. *Tertiary Education and Management*, 17, 139–150.
- Shahin, A. (2011). A conceptual model of group technology and lean production for productivity enhancement. *European Journal of Business and Management*, 1(1), 42–54.
- Shattock, M. (2000). Strategic management in European universities in an age of increasing institutional self reliance. *Tertiary Education & Management*, 6(2), 93–104.
- Shattock, M. (2010). *EBOOK: Managing Successful Universities*. McGraw-Hill Education (UK).

- Shattock, M. (2014). The context of ‘modernising’ reforms in university governance. In *International trends in university governance* (pp. 15–28). Routledge.
- Shawyun, T. (2010). Developing and actioning strategic planning in higher education institutions. *Center for Excellence, Assumption University of Thailand. Kingdom of Thailand. Assumption University Press: Bangkok, Thailand.*
- Shin, J. C., Li, X., Nam, I., & Byun, B.-K. (2022a). Institutional autonomy and capacity of higher education governance in South Asia: A comparative perspective. *Higher Education Policy*, 1–25.
- Shin, J. C., Li, X., Nam, I., & Byun, B.-K. (2022b). Institutional autonomy and capacity of higher education governance in South Asia: a comparative perspective. *Higher Education Policy*, 35(2), 414–438.
- Shmueli, G., Ray, S., Estrada, J. M. V., & Chatla, S. B. (2016). The elephant in the room: Predictive performance of PLS models. *Journal of Business Research*, 69(10), 4552–4564.
- Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J.-H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019). Predictive model assessment in PLS-SEM: guidelines for using PLSpredict. *European Journal of Marketing*.
- Sidhu, J. (2003). Mission Statements:: Is it Time to Shelve Them? *European Management Journal*, 21(4), 439–446.
- Siegel, D. S., & Leih, S. (2018). Strategic management theory and universities: An overview of the Special Issue. *Strategic Organization*, 16(1), 6–11.

- Siekkinen, T., Pekkola, E., & Kivistö, J. (2016). Recruitments in Finnish universities: practicing strategic or pathetic HRM? *Nordic Journal of Studies in Educational Policy*, 2016(2–3), 323–16.
- Smits, P., & Champagne, F. (2020). Governance of health research funding institutions: an integrated conceptual framework and actionable functions of governance. *Health Research Policy and Systems*, 18, 1–19.
- Sorooshian, S., Norzima, Z., Yusof, I., & Rosnah, Y. (2010). Effect analysis on strategy implementation drivers. *World Applied Sciences Journal*, 11(10), 1255–1261.
- Stachowiak-Kudła, M., & Kudła, J. (2017). Financial regulations and the diversification of funding sources in higher education institutions: selected European experiences. *Studies in Higher Education*, 42(9), 1718–1735.
- Stainton, T. (1994). *Autonomy and social policy: Rights, mental handicap, and community care*.
- Stockwell, B. , and C. J. (2016). *Making Strategic Planning Work*.
- Stransky-Can, K. (2022). In Between New Public Management and Network Governance in Austria, Finland and Scotland: Potential Conflicts in Autonomy Understandings of Governments and Universities. *Journal of the Knowledge Economy*, 1–25.
- Stukalina, Y. (2014). Strategic management of higher education institutions. *Organizacijų Vadyba: Sisteminiai Tyrimai*, 70, 79–90.
- Tabatoni, P., Davies, J., & Barblan, A. (2000). *Strategic management and universities' institutional development*. European University Association, EUA.

- Taylor, J., & Machado, M. D. L. (2006). Higher education leadership and management: From conflict to interdependence through strategic planning. *Tertiary Education and Management*, 12(2), 137–160.
- Taylor-Powell, E., & Marshall, M. G. (1998). *Questionnaire Design: Asking questions with a purpose*. Cooperative extension service, university of wisconsin-extension.
- Teresi, J. A., Yu, X., Stewart, A. L., & Hays, R. D. (2022). Guidelines for designing and evaluating feasibility pilot studies. *Medical Care*, 60(1), 95–103.
- Thorpe, E. R., & Morgan, R. E. (2007). In pursuit of the “ideal approach” to successful marketing strategy implementation. *European Journal of Marketing*.
- Tilak, J. B. G., & Tilak, J. B. G. (2018). Private higher education in India. *Education and Development in India: Critical Issues in Public Policy and Development*, 535–551.
- Tjahjadi, B., Soewarno, N., Astri, E., & Hariyati, H. (2019). Does intellectual capital matter in performance management system-organizational performance relationship? Experience of higher education institutions in Indonesia. *Journal of Intellectual Capital*, 20(4), 533–554.
- Tran, Q., Nguyen, T., Nguyen, H., Tran, T., & Nguyen, D. (2023). Factors affecting the linkage between public universities, in the context of university autonomy: Case study in Vietnam. *International Journal of Data and Network Science*, 7(1), 439–448.
- Turcan, R. V, Reilly, J. E., & Bugaian, L. (2016). *(Re) discovering university autonomy: the global market paradox of stakeholder and educational values in higher education*. Springer.

- Umashankar, V., & Dutta, K. (2007). Balanced scorecards in managing higher education institutions: an Indian perspective. *International Journal of Educational Management*, 21(1), 54–67.
- Unger, M., Marsan, G. A., Meissner, D., Polt, W., & Cervantes, M. (2020a). New challenges for universities in the knowledge triangle. *The Journal of Technology Transfer*, 45, 806–819.
- Unger, M., Marsan, G. A., Meissner, D., Polt, W., & Cervantes, M. (2020b). New challenges for universities in the knowledge triangle. *The Journal of Technology Transfer*, 45, 806–819.
- Usoh, E. J., & Preston, G. (2017). Strategic planning and performance measurement for public universities in Sulawesi, Indonesia; quantitative approach. *International Journal of Social Sciences*, 3(3), 174197.
- Varghese, N. V, & Malik, G. (2015). *India higher education report 2015*. Routledge.
- Varghese, N. V, & Malik, G. (2019). Institutional autonomy and governance of higher education institutions in India. In *The governance and management of universities in Asia* (pp. 43–55). Routledge.
- Varghese, N. V, & Martin, M. (2013). Governance reforms and university autonomy in Asia. *International Institute for Educational Planning (IIEP)*, 50.
- Vergis, E. (2014). The challenges facing higher education in India. In *A comparative analysis of higher education systems* (pp. 89–109). Brill.
- Verhoest, K., Peters, B. G., Bouckaert, G., & Verschuere, B. (2004). The study of organisational autonomy: a conceptual review. *Public Administration and Development: The International Journal of Management Research and Practice*, 24(2), 101–118.

- Verhoest, K., Verschuere, B., Peters, B. G., & Bouckaert, G. (2004). Controlling autonomous public agencies as an indicator of New Public Management. *Management International*, 9(1), 25–35.
- Voorn, B., Borst, R. T., & Blom, R. (2022). Business techniques as an explanation of the autonomy-performance link in corporatized entities: evidence from Dutch Municipally owned corporations. *International Public Management Journal*, 25(5), 660–676.
- Wahyuni, D. (2012). The research design maze: Understanding paradigms, cases, methods and methodologies. *Journal of Applied Management Accounting Research*, 10(1), 69–80.
- Westerheijden, D. F., de Boer, H. F., Jongbloed, B. W. A., Enders, J., Cremonini, L., File, J. M., Huisman, J., Kovac, A., & de Weert, E. (2010). *Progress in higher education reform across Europe. Governance Reform. Volume 1: Executive Summary main report*.
- Wheelen, T. L., & Hunger, J. D. (2012). *Strategic Management and Business Policy toward global sustainability 13th ed*. Pearson Education, Inc., publishing as Prentice Hall.
- Wu, W., Chou, C. H., & Wu, Y. (2004). A study of strategy implementation as expressed through Sun Tzu's principles of war. *Industrial Management & Data Systems*, 104(5), 396–408.
- Zabalawi, I., Kordahji, H., & Picone, C. (2020). Reforming higher-education governance: a case study of Jordan. *Higher Education in the Arab World: Government and Governance*, 191–218.
- Zangouezinezhad, A., & Moshabaki, A. (2011). Measuring university performance using a knowledge-based balanced scorecard. *International Journal of Productivity and Performance Management*.

- Zhao, X., Lynch Jr, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37(2), 197–206.
- Zinchenko, D., & Egorov, A. (2019). Efficiency modeling of russian universities. *HSE Economic Journal*, 23(1), 143–172.
- Zumitzavan, V., & Imsuwan, T. (2014). The impact of different styles of ‘learning’ and categorisations of ‘organisational strategies’ on ‘organisational performance’: A case of University Industry in Thailand. *WSEAS Transactions on Business and Economics*, 11, 359–368.

Appendix

Appendix I. Plagiarism Report



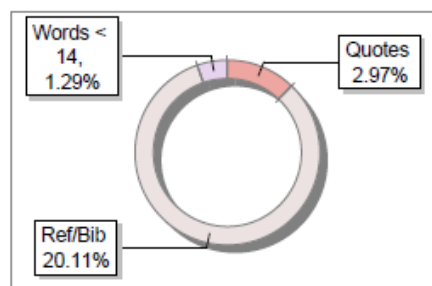
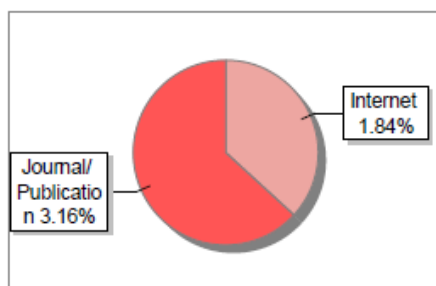
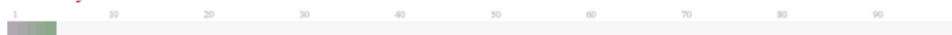
The Report is Generated by DrillBit Plagiarism Detection Software

Submission Information

Author Name	ABDULLAH YAHIA
Title	University Autonomy and its impact on Universit..
Paper/Submission ID	1073500
Submitted by	asstlib2@unigoa.ac.in
Submission Date	2023-11-02 11:15:02
Total Pages	256
Document type	Thesis

Result Information

Similarity **5 %**



Exclude Information

Quotes	Excluded
References/Bibliography	Excluded
Sources: Less than 14 Words Similarity	Excluded
Excluded Source	0 %
Excluded Phrases	Not Excluded

A Unique QR Code use to View/Download/Share Pdf File



Appendix 2. Questionnaire



गोंय विद्यापीठ

ताळगांव पठार,

गोंय - ४०३ २०६

फोन : +९१-८६६९६०९०४८

फॅक्स : +०९१-८३२-२४५११८४/२४५२८८९



Goa University

Taleigao Plateau, Goa-403 206

Tel : +91-8669609048

Fax : +091-832-2451184/2452889

E-mail : registrar@unigoa.ac.in

Website : www.unigoa.ac.in

(Accredited by NAAC with Grade 'A')

GU/GBS/2021/

Date: 29/11/2021

Dear Participant,

You are invited to participate in a research survey conducted by Mr. Abdullah Y.A. Al Gharsi, who is a PhD researcher at Goa University, Goa business School, Department of Management Studies. The purpose of the study is to explore the relationship between University Autonomy, Strategic Management, and Organizational Performance in Indian Public and Private University. Therefore, you are requested to kindly complete the questionnaire. The survey shouldn't take more than 20 minutes.

The survey will not collect any identifiable information and no one will be able to associate your response to you.

Thank you in advance for taking the time, co-operation and consideration in completing this survey

If you have any question about the survey, please do not hesitate to contact me at my email address: nirmala@unigoa.ac.in

Thank you in advance for very much for taking the time, co-operation and consideration in completing this survey.

Dr. R. Nirmala (Ph. D. Guide),
Management Discipline,
Goa Business School,
Goa University

Part One: Personal and General Information (Please indicate your answer by clicking one of the answers)

1. **Name (Optional)** :..... 2. **School/Department (Optional)**:.....

3. **Name of the University (Optional)**:

4. **Gender:** Male ☐ Female ☐

5. **Years of experience:** within 5- 10 Years ☐ 10-15 Years ☐ More than 15Years ☐

6. **Your Designation:** Professor ☐ Associate Professor ☐ Assistant Professor ☐

7. **Your Administrative Role/Position:**
Vice-Chancellor ☐ Registrar ☐ Dean ☐ Assistant Dean ☐ Head of Department ☐ Other:.....

8. **Type of Your University:**
Central University ☐ Public University ☐ Private University ☐ Deemed University ☐

Part Two: University Autonomy

Please indicate your level of agreement with each of the following statements using a five-point agree-disagree rating scale, where 1= strongly disagree, 2= Somewhat disagree, 3= Neutral, 4= Somewhat agree, 5= strongly agree.

Statements		Strongly Disagree 1	Somewhat Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
1	Our University determines and conducts the selection procedure for the appointment of the executive head					
2	Our University has complete autonomy to decide the recruitment rules for the appointment of the executive head					
3	Our University does not have the right to remove the executive head from the office					
4	Our University defines the length of the executive head's term of office					
5	Our University can freely decide to include external members in its governing bodies					
6	Our University can freely establish new faculties, departments, and research institutes or restructures existing ones without external approval					
7	Our University can autonomously allocate the public funding, according to its needs					
8	Our University can freely retain and accumulate the surplus of its public funding					
9	Our University's government grants do not depend on the surplus we generate					
10	Our University can freely borrow and raise money from different sources without the approval of external authorities					

11	Our University needs permission from external authorities before buying, selling, or building facilities					
12	Our University freely sets the level of tuition fees for Indian students and foreign students (at Bachelor, Master, and doctoral level)					
13	Our university sets freely the recruitment procedures for appointing academic and administrative staff					
14	Our University determines freely the salaries of academic and administrative staff					
15	Our University decides freely on the dismissal of academic and administrative staff					
16	Our University decides freely on the promotion of academic and administrative staff					
17	Our University decides freely on the overall number of its students without the interference of an external authority					
18	Our University sets up the admission criteria for the selection of its students (at Bachelor, Master and doctoral level)					
19	Our University opens and closes freely degree programmes without approval of an external authority (at Bachelor, Master and doctoral level)					
20	Our University designs the content of its degree programmes and courses					
21	Our University can freely select appropriate Quality Assurance Mechanisms according to its needs					
22	Our University can freely choose Quality Assurance Agencies including agencies from other countries, according to its needs					

Part Three: Strategic Management:

Please indicate your level of agreement with each of the following statements using a five-point agree-disagree rating scale, where 1= strongly disagree,

2= Somewhat disagree, 3= Neutral, 4= Somewhat agree, 5= strongly agree.

Statements		Strongly Disagree	Somewhat Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
1	Our University has a clear vision statement that defines its long-term future					
2	Our University has a clear mission statement that emphasizes its uniqueness and identity					

3	Our University has clearly defined organizational values which are collective beliefs about what the university stands for					
4	Our University has clear long-term goals					
5	Our University has annual objectives that clearly express how to achieve the long-term goals					
6	Our University analyzes the related external environmental aspects to determine the opportunities and threats					
7	Our University analyzes its internal aspects to increase its strengths and avoid weaknesses					
8	Our University achieves a good fit between the external and internal environmental aspects					
9	Our University has instructions and written guidelines to structure its strategic plan					
10	Our University accurately evaluates multiple alternatives before deciding a strategy					
11	The strategies of our University emerge gradually as the university responds to the need to change					
12	There is no formal documentation for the planning process and outputs in our University					
13	Our University develops specific initiatives and projects to put its strategic plan into action					
14	The annual budget of our University strongly supports meeting the objectives and priorities established in the strategic plan					
15	Once plans are made by our university, no changes are allowed for a significant period of time					
16	Our university communicates to its employees when and how the strategies will be carried out					
17	The annual evaluations of top, middle and lower managers are based largely on their contribution to the successful accomplishment of the strategic objectives					
18	Our University uses various types of performance measures (financial and non-financial) to evaluate its strategic plan					
19	Our University benchmarks its performance against other universities					
20	Our University uses performance measures to track the implementation of initiatives and projects called for by the strategic plan					
21	Our University uses the results of performance measurement to track the accomplishment of the objectives stated in the strategic plan					
22	Our University regularly reports the performance measures associated with the strategic plan to the concerned departments and sections					

23	Our University takes corrective actions based on the reported performance measures					
----	--	--	--	--	--	--

Part Four: Dimensions of Organizational Performance

Please indicate your level of agreement with each of the following statements using a five-point Poor-Outstanding rating scale, where 1= Poor, 2= Fair, 3= Good, 4= Excellent, 5= Outstanding.

Statements		Poor 1	Fair 2	Good 3	Excellent 4	Outstanding 5
1	The average number of research publications (including journal papers, conference papers, books, and monographs) published by our University in the last three-year period has been					
2	The average number of research projects obtained by our University in the last three-year period has been					
3	The percentage of the faculty of our University who have attended conferences and seminars in the last three-year period has been					
4	The percentage of the faculty of our University being members on the editorial boards/reviewers' panels of journals in the last three-year period has been					
5	The number of the faculty members of our University who received awards for teaching in the last three-year period has been					
6	The average subjects per course offered by our University in the last three-year period have been					
7	The average number of new courses offered by our University in the last three-year period has been					
8	The average number of courses incorporating new technology being introduced by our University in the last three-year period has been					
9	The participation of our University in the curriculum development of other Higher Education Institutes in the last three-year period has been					
10	The community service activities undertaken by our University in the last three-year period has been					
11	The percentage of faculty participation in Policy-making boards and committees in the last three-year period has been					
12	The number of companies involved in joint activities with our University in the last three-year period has been					
13	The income generated from research projects by our University in the last three-year period has been					
14	The income generated from tuition fees by our University in the last three-year period has been					
15	The total teaching and research costs of our University in the last three-year period has been					

16	The grants/endowments received from the industry by our University in the last three-year period has been					
----	---	--	--	--	--	--

Thank you for your time and kind participation

Appendix 33. Harman's one-factor test

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	21.030	35.049	35.049	21.030	35.049	35.049
2	5.243	8.738	43.788			
3	4.372	7.287	51.075			
4	2.903	4.838	55.913			
5	2.080	3.467	59.380			
6	1.775	2.959	62.339			
7	1.465	2.442	64.780			
8	1.217	2.028	66.809			
9	1.116	1.860	68.669			
10	.983	1.639	70.308			
11	.907	1.512	71.820			
12	.857	1.429	73.249			
13	.832	1.386	74.635			
14	.792	1.319	75.954			
15	.729	1.215	77.169			
16	.704	1.174	78.343			
17	.683	1.138	79.481			
18	.632	1.054	80.535			
19	.603	1.005	81.540			
20	.596	.993	82.532			

21	.568	.946	83.479			
22	.540	.901	84.379			
23	.516	.860	85.239			
24	.500	.833	86.073			
25	.468	.780	86.852			
26	.461	.768	87.620			
27	.427	.711	88.332			
28	.417	.694	89.026			
29	.413	.689	89.715			
30	.380	.633	90.348			
31	.372	.620	90.969			
32	.354	.590	91.559			
33	.348	.579	92.138			
34	.328	.547	92.685			
35	.306	.511	93.195			
36	.289	.482	93.678			
37	.282	.470	94.147			
38	.261	.434	94.582			
39	.252	.420	95.001			
40	.238	.397	95.398			
41	.226	.377	95.776			
42	.219	.365	96.140			
43	.197	.329	96.469			
44	.193	.321	96.790			
45	.183	.304	97.094			
46	.176	.294	97.388			
47	.161	.268	97.656			
48	.157	.261	97.917			

49	.151	.252	98.169			
50	.143	.239	98.408			
51	.131	.218	98.626			
52	.127	.212	98.838			
53	.119	.198	99.036			
54	.110	.183	99.219			
55	.100	.167	99.386			
56	.094	.157	99.543			
57	.085	.142	99.685			
58	.079	.131	99.816			
59	.065	.108	99.924			
60	.045	.076	100.000			
Extraction Method: Principal Component Analysis.						

Appendix 3. Test of equality of variance

Independent Samples Test											
Constructs	Items	Equal Variance	Levene's Test for Equality of Variances								
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
										Lower	Upper
University Autonomy	OA1	Equal variances assumed	0.465	0.499	-.400	38	0.692	-0.200	0.501	-1.213	0.813
		Equal variances not assumed			-.400	37.648	0.692	-0.200	0.501	-1.214	0.814
	OA2	Equal variances assumed	0.584	0.450	0.201	38	0.842	0.100	0.497	-0.906	1.106
		Equal variances not assumed			0.201	37.389	0.842	0.100	0.497	-0.907	1.107
	OA3	Equal variances assumed	1.701	0.200	-.2356	38	0.024	-1.150	0.488	-2.138	-.0162
		Equal variances not assumed			-.2356	36.978	0.024	-1.150	0.488	-2.139	-.0161
	OA4	Equal variances assumed	0.084	0.773	-.0765	38	0.449	-0.350	0.458	-1.276	0.576

	Equal variances not assumed			-0.765	37.986	0.449	-0.350	0.458	-1.276	0.576
OA5	Equal variances assumed	1.265	0.268	0.285	38	0.777	0.150	0.526	-0.915	1.215
	Equal variances not assumed			0.285	37.060	0.777	0.150	0.526	-0.916	1.216
OA6	Equal variances assumed	1.163	0.288	0.391	38	0.698	0.200	0.512	-0.836	1.236
	Equal variances not assumed			0.391	37.589	0.698	0.200	0.512	-0.836	1.236
FA1	Equal variances assumed	0.011	0.918	-0.355	38	0.724	-0.150	0.422	-1.005	0.705
	Equal variances not assumed			-0.355	37.942	0.724	-0.150	0.422	-1.005	0.705
FA2	Equal variances assumed	0.095	0.760	-0.228	38	0.821	-0.100	0.438	-0.987	0.787
	Equal variances not assumed			-0.228	37.918	0.821	-0.100	0.438	-0.987	0.787
FA3	Equal variances assumed	0.136	0.714	-1.003	38	0.322	-0.400	0.399	-1.207	0.407
	Equal variances not assumed			-1.003	38.000	0.322	-0.400	0.399	-1.207	0.407
FA4	Equal variances assumed	1.858	0.181	0.818	38	0.418	0.400	0.489	-0.590	1.390
	Equal variances not assumed			0.818	37.214	0.418	0.400	0.489	-0.590	1.390
FA5	Equal variances assumed	0.861	0.359	-0.659	38	0.514	-0.300	0.455	-1.221	0.621
	Equal variances not assumed			-0.659	37.531	0.514	-0.300	0.455	-1.222	0.622
FA6	Equal variances assumed	1.288	0.264	-0.324	38	0.748	-0.100	0.309	-0.726	0.526
	Equal variances not assumed			-0.324	34.697	0.748	-0.100	0.309	-0.728	0.528
SA1	Equal variances assumed	0.128	0.723	-1.022	38	0.313	-0.350	0.342	-1.043	0.343
	Equal variances not assumed			-1.022	35.645	0.314	-0.350	0.342	-1.045	0.345
SA2	Equal variances assumed	0.787	0.381	0.362	38	0.719	0.100	0.276	-0.459	0.659
	Equal variances not assumed			0.362	36.129	0.719	0.100	0.276	-0.460	0.660
SA3	Equal variances assumed	0.661	0.421	-0.190	38	0.850	-0.050	0.263	-0.583	0.483

		Equal variances not assumed			-0.190	37.591	0.850	-0.050	0.263	-0.583	0.483
	SA4	Equal variances assumed	0.264	0.610	-0.511	38	0.612	-0.150	0.294	-0.744	0.444
		Equal variances not assumed			-0.511	37.996	0.612	-0.150	0.294	-0.744	0.444
	AA1	Equal variances assumed	3.018	0.090	1.009	38	0.320	0.250	0.248	-0.252	0.752
		Equal variances not assumed			1.009	27.688	0.322	0.250	0.248	-0.258	0.758
	AA2	Equal variances assumed	1.022	0.318	0.972	38	0.337	0.250	0.257	-0.271	0.771
		Equal variances not assumed			0.972	31.664	0.339	0.250	0.257	-0.274	0.774
	AA3	Equal variances assumed	0.764	0.388	-0.500	38	0.620	-0.200	0.400	-1.009	0.609
		Equal variances not assumed			-0.500	37.723	0.620	-0.200	0.400	-1.009	0.609
	AA4	Equal variances assumed	0.935	0.340	0.932	38	0.357	0.200	0.215	-0.234	0.634
		Equal variances not assumed			0.932	35.741	0.358	0.200	0.215	-0.235	0.635
	AA5	Equal variances assumed	0.595	0.445	-0.806	38	0.425	-0.150	0.186	-0.527	0.227
		Equal variances not assumed			-0.806	37.877	0.425	-0.150	0.186	-0.527	0.227
	AA6	Equal variances assumed	0.070	0.793	1.158	38	0.254	0.300	0.259	-0.224	0.824
		Equal variances not assumed			1.158	30.733	0.256	0.300	0.259	-0.229	0.829
Strategic Management	SP1	Equal variances assumed	0.003	0.955	-0.386	38	0.702	-0.100	0.259	-0.624	0.424
		Equal variances not assumed			-0.386	34.900	0.702	-0.100	0.259	-0.626	0.426
	SP2	Equal variances assumed	2.054	0.160	0.372	38	0.712	0.100	0.269	-0.445	0.645
		Equal variances not assumed			0.372	26.249	0.713	0.100	0.269	-0.453	0.653
	SP3	Equal variances assumed	2.348	0.134	0.000	38	1.000	0.000	0.290	-0.587	0.587
		Equal variances not assumed			0.000	28.823	1.000	0.000	0.290	-0.593	0.593
	SP4	Equal variances assumed	0.421	0.520	-0.454	38	0.653	-0.150	0.331	-0.819	0.519

	Equal variances not assumed			-0.454	32.851	0.653	-0.150	0.331	-0.823	0.523
SP5	Equal variances assumed	1.309	0.260	0.000	38	1.000	0.000	0.326	-0.660	0.660
	Equal variances not assumed			0.000	31.706	1.000	0.000	0.326	-0.664	0.664
SP6	Equal variances assumed	0.011	0.918	-1.099	38	0.278	-0.400	0.364	-1.137	0.337
	Equal variances not assumed			-1.099	37.318	0.279	-0.400	0.364	-1.137	0.337
SP7	Equal variances assumed	0.555	0.461	-1.371	38	0.178	-0.450	0.328	-1.115	0.215
	Equal variances not assumed			-1.371	33.740	0.179	-0.450	0.328	-1.117	0.217
SP8	Equal variances assumed	0.016	0.901	-1.513	38	0.139	-0.500	0.330	-1.169	0.169
	Equal variances not assumed			-1.513	37.222	0.139	-0.500	0.330	-1.169	0.169
SF1	Equal variances assumed	3.353	0.075	-0.134	38	0.894	-0.050	0.373	-0.804	0.704
	Equal variances not assumed			-0.134	30.962	0.894	-0.050	0.373	-0.810	0.710
SF2	Equal variances assumed	1.349	0.253	0.320	38	0.750	0.100	0.312	-0.532	0.732
	Equal variances not assumed			0.320	30.334	0.751	0.100	0.312	-0.537	0.737
SF3	Equal variances assumed	3.595	0.066	-0.723	38	0.474	-0.200	0.277	-0.760	0.360
	Equal variances not assumed			-0.723	29.179	0.476	-0.200	0.277	-0.766	0.366
SF4	Equal variances assumed	0.067	0.797	-0.505	38	0.616	-0.200	0.396	-1.001	0.601
	Equal variances not assumed			-0.505	37.973	0.616	-0.200	0.396	-1.001	0.601
SI1	Equal variances assumed	1.976	0.168	-0.555	38	0.582	-0.150	0.270	-0.697	0.397
	Equal variances not assumed			-0.555	34.126	0.582	-0.150	0.270	-0.699	0.399
SI2	Equal variances assumed	2.174	0.149	-0.832	38	0.411	-0.250	0.301	-0.859	0.359
	Equal variances not assumed			-0.832	36.587	0.411	-0.250	0.301	-0.859	0.359
SI3	Equal variances assumed	0.591	0.447	-0.384	38	0.703	-0.100	0.261	-0.627	0.427

		Equal variances not assumed			-0.384	37.816	0.703	-0.100	0.261	-0.628	0.428
	SI4	Equal variances assumed	0.154	0.697	-0.357	38	0.723	-0.100	0.280	-0.667	0.467
		Equal variances not assumed			-0.357	36.423	0.723	-0.100	0.280	-0.668	0.468
	SI5	Equal variances assumed	0.083	0.775	-1.636	38	0.110	-0.500	0.306	-1.119	0.119
		Equal variances not assumed			-1.636	37.524	0.110	-0.500	0.306	-1.119	0.119
	SE1	Equal variances assumed	0.036	0.851	-1.125	38	0.267	-0.400	0.355	-1.119	0.319
		Equal variances not assumed			-1.125	37.787	0.267	-0.400	0.355	-1.120	0.320
	SE2	Equal variances assumed	0.959	0.334	-0.317	38	0.753	-0.100	0.315	-0.738	0.538
		Equal variances not assumed			-0.317	35.607	0.753	-0.100	0.315	-0.740	0.540
	SE3	Equal variances assumed	0.008	0.928	-0.620	38	0.539	-0.200	0.323	-0.854	0.454
		Equal variances not assumed			-0.620	37.616	0.539	-0.200	0.323	-0.854	0.454
	SE4	Equal variances assumed	0.182	0.672	-1.082	38	0.286	-0.350	0.323	-1.005	0.305
		Equal variances not assumed			-1.082	36.965	0.286	-0.350	0.323	-1.005	0.305
	SE5	Equal variances assumed	0.046	0.831	-1.317	38	0.196	-0.450	0.342	-1.142	0.242
		Equal variances not assumed			-1.317	37.797	0.196	-0.450	0.342	-1.142	0.242
	SE6	Equal variances assumed	0.450	0.507	-0.912	38	0.367	-0.300	0.329	-0.966	0.366
		Equal variances not assumed			-0.912	36.613	0.368	-0.300	0.329	-0.967	0.367
Organisational Performance	RP1	Equal variances assumed	4.788	0.035	-0.954	38	0.346	-0.200	0.210	-0.624	0.224
		Equal variances not assumed			-0.954	32.596	0.347	-0.200	0.210	-0.627	0.227
	RP2	Equal variances assumed	7.019	0.012	-0.675	38	0.504	-0.150	0.222	-0.600	0.300
		Equal variances not assumed			-0.675	28.073	0.505	-0.150	0.222	-0.605	0.305
	RP3	Equal variances assumed	0.801	0.376	0.206	38	0.838	0.050	0.243	-0.441	0.541

	Equal variances not assumed			0.206	37.433	0.838	0.050	0.243	-0.441	0.541
RP4	Equal variances assumed	0.009	0.924	-0.704	38	0.486	-0.200	0.284	-0.775	0.375
	Equal variances not assumed			-0.704	37.974	0.486	-0.200	0.284	-0.775	0.375
TP1	Equal variances assumed	1.601	0.214	-0.339	38	0.736	-0.100	0.295	-0.697	0.497
	Equal variances not assumed			-0.339	36.181	0.736	-0.100	0.295	-0.698	0.498
TP2	Equal variances assumed	6.877	0.012	-1.013	38	0.318	-0.250	0.247	-0.750	0.250
	Equal variances not assumed			-1.013	32.768	0.319	-0.250	0.247	-0.752	0.252
TP3	Equal variances assumed	6.259	0.017	0.000	38	1.000	0.000	0.271	-0.549	0.549
	Equal variances not assumed			0.000	33.674	1.000	0.000	0.271	-0.551	0.551
TP4	Equal variances assumed	1.437	0.238	0.627	38	0.535	0.200	0.319	-0.446	0.846
	Equal variances not assumed			0.627	37.424	0.535	0.200	0.319	-0.446	0.846
SRP1	Equal variances assumed	0.014	0.907	-0.857	38	0.397	-0.250	0.292	-0.841	0.341
	Equal variances not assumed			-0.857	37.620	0.397	-0.250	0.292	-0.841	0.341
SRP2	Equal variances assumed	0.493	0.487	-1.042	38	0.304	-0.300	0.288	-0.883	0.283
	Equal variances not assumed			-1.042	37.902	0.304	-0.300	0.288	-0.883	0.283
SRP3	Equal variances assumed	0.155	0.696	-0.960	38	0.343	-0.300	0.312	-0.933	0.333
	Equal variances not assumed			-0.960	37.563	0.343	-0.300	0.312	-0.933	0.333
SRP4	Equal variances assumed	1.101	0.301	-0.794	38	0.432	-0.300	0.378	-1.065	0.465
	Equal variances not assumed			-0.794	37.150	0.432	-0.300	0.378	-1.065	0.465
FP1	Equal variances assumed	0.297	0.589	-0.779	38	0.441	-0.250	0.321	-0.900	0.400
	Equal variances not assumed			-0.779	36.903	0.441	-0.250	0.321	-0.900	0.400
FP2	Equal variances assumed	0.559	0.459	-0.519	38	0.607	-0.150	0.289	-0.735	0.435

		Equal variances not assumed			-0.519	37.737	0.607	-0.150	0.289	-0.735	0.435
	FP3	Equal variances assumed	0.395	0.533	-1.665	38	0.104	-0.450	0.270	-0.997	0.097
		Equal variances not assumed			-1.665	37.910	0.104	-0.450	0.270	-0.997	0.097
	FP4	Equal variances assumed	2.805	0.102	-1.543	38	0.131	-0.500	0.324	-1.156	0.156
		Equal variances not assumed			-1.543	31.574	0.133	-0.500	0.324	-1.160	0.160