(ISSN: 0973-7049(P))

The Bioscan AN INTERNATIONAL QUARTERLY JOURNAL OF LIFE SCIENCES 21(4): 413-437 2026 www.thebioscan.com

Modeling the Relationship Between Learning Outcomes and Employability of Management Graduates: Evidence from Haryana, Punjab, and Himachal Pradesh

Prachi, Monika Gulati

[1]Research Scholar, Maharishi Markandeshwar Institute of Management, MM (Deemed to be University), Mullana, Ambala
[2]Assistant Professor, Maharishi Markandeshwar Institute of Management, MM (Deemed to be University), Mullana, Ambala

DOI: https://doi.org/10.63001/tbs.2026.v21.i04.pp413-437

Keywords:
Learning Outcomes, Employability, Partial Least Squares Structural Equation Modeling, Universities

Article Info

Received:23.10.2026

Accepted: 10.11.2026

Published: 20.11.2026

Executive Summary
The research presented in this paper investigates the role of the learning outcomes in developing attributes among management graduates. To evaluating the impact of learning outcomes on employability from management graduates' perspectives, towards selected Universities of Haryana, Punjab and Himachal Pradesh. Management graduates are considered as a prominent stakeholder. The research is descriptive in nature and the data collected from 385 management graduates of selected Universities. Management Graduates of selected Universities contributed their opinion regarding impact of learning outcome on employability. To achieve the objective, hypotheses were designed and analysed using the Partial least square structure modelling. The Structural analysis identified constructs of learning outcomes as a significant factor in enhancing employability of management graduates. The reliability of all associated constructs is more than 0.9. To improve the Graduates employability, the administrations of higher education institutes (HEI) of Haryana, Punjab and Himachal Pradesh should implement learning outcomes by following the useful recommendations from this research.

1. INTRODUCTION

The landscape of management education in India has seen significant changes, particularly across various states, as the demand for skilled professionals has steadily increased over the years. Universities have played a vital role in shaping the workforce, making it crucial to evaluate the educational outcomes they offer and their impact on graduate employability. One of the primary challenges in management education has been enhancing employability skills, which has been widely recognized (Malgorzata Erikson, 2019). Management education aims to equip Graduates with a broad range of managerial knowledge and competencies, with increasing emphasis on aligning these skills with job requirements. In addition to expertise in specific subjects, Graduates must also focus on enhancing teamwork and communication abilities (Inter-University Council for East Africa, 2014). India's traditional educational system, rich with principles, values, and ethos, has been inherited over many years. However, the colonial education system and the emphasis on English created challenges for

many young people (Hillage et.al 1998) focus on the educational outcomes of various universities, analysing practices related to employability skills, and exploring definitions of employability, necessary skills, and employer expectations. By this point, employability had become a more pressing concern than unemployment in India. Data from 2023 highlighted that only a small percentage of management graduates were considered adequately qualified. Employability involves an individual's ability to secure, sustain, and seek new employment. This concept goes beyond simply having a job, focusing on the ability to perform tasks effectively and continually improve skills for lifelong employability. By 2024, the USEM model (Knight and Yorke, 2004), which defines employability as a combination of understanding, skills, productivity, and metacognition, gained significant traction in the educational sector. The impact of these learning outcomes on employability has become a critical area of exploration. Graduates who possess relevant skills and practical knowledge are more likely to secure and excel in their careers. Aligning academic programs with industry expectations has been shown to directly influence graduates' job readiness, adaptability, and career success (Farhana Akmal, 2021).

Over the years, the job market for professional graduates has become more competitive. Career opportunities in 2024 have favored those with strong employability skills that employers value. However, data from 2023 indicated that only around 30% of candidates attending interviews were selected (Nisha & Rajasekaran, 2018). One of the main factors contributing to this selection rate has been the lack of proficiency in English and the employability skills necessary for today's workforce. As a result, higher education institutions have been urged to equip Graduates with the skills required for the workplace, a challenge that became even more pressing by 2022 (Cimatti, 2016). This global trend toward skill development, which has been growing since 2020, focuses on preparing graduates to meet the ever- evolving job market needs (Abelha, Fernandes, et al., 2020). By 2022, the operational environment for organizations had shifted significantly, transforming the skills and knowledge employers sought. In 2023, employers increasingly valued dynamic individuals with diverse skill sets and strong academic credentials (Pinto, 2018). Governments and employers have continued to place substantial responsibility on Higher Education Institutions (HEIs) to provide the workforce for various industries (Ahsan et. al., 2020). For better align with evolving market demands & prepare

graduates more effectively, integrating a Quality Management System into HEIs emerged as a key strategy in 2022. This approach helped institutions stay aligned with the changing needs of the workforce, fostering a culture of continuous improvement and excellence (Waleed Mugahed Al-Rahmi et al., 2022).The role of educational technology in improving learning outcomes has shown both progress and challenges. Technology as a part of learning outcome including learning management systems, mobile apps, virtual reality, artificial intelligence, promises more personalized, engaging, and accessible learning experiences (Oyebola Olusola Ayeni et al.,2024). It has enabled innovative teaching methods like blended learning, flipped classrooms, and project-based learning they emphasizing student-centered approaches. Key findings highlight that effective integration requires thoughtful alignment with curriculum goals and meeting diverse learner needs. Faculty competence and ongoing professional development are crucial for success. Additionally, addressing the digital divide and ensuring equitable access to technology is vital for all Graduates, regardless of their background (Hamzah et al., 2023) examined the impact of Project-Based Learning (PjBL) and Problem-Based Learning (PBL) models, alongside self-confidence, on short-distance running performance in Sports Education. Both PjBL and PBL significantly improved Graduates' learning outcomes, while self-confidence also played an important role in enhancing performance However, when combined, these factors did not have a significant impact on learning outcomes, suggesting that while each element contributed individually, their interaction may not be as influential in this context (rahmitasafitri et al.,) Associated to outdated research, this mixes up multiple technologies such as IoT, AI, and creating a comprehensive management Graduates' system. The professional young people graduating from different educational institutions face a dynamic and demanding professional market today; career chances are greater for graduates who possess employability skills that employers value. However, only about 30% of candidates who participate in interviews are selected (Nisha & Rajasekaran, 2018), with one significant factor being a lack of proficiency in english and the employability skills required for today's professionals. Consequently, higher education institutions must equip graduating Graduates with the skills necessary for the workplace, as this has become an urgent issue (Cimatti, 2016). The current study examined the management graduate's perspective for the employability from constructs

designed for measuring impact of learning outcomes on employability these are Design of the Course Content (DCC), Interaction and Involvement (II), Assessment and Grading Methods (AGM), and Student-Centric Learning Methods (SCLM) have a statistically significant positive impact on Employability (E).

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Employability is intensely influenced by numerous constructs affecting Learning outcomes, including Design of the Course Content (DCC), Interaction and Involvement (II), Assessment and Grading Methods (AGM), and Student-Centric Learning Methods (SCLM) have a statistically significant positive impact on Employability (E). According to the Taxonomy (1956) theory that provides a framework for circular design that underscore creative thinking and critical skills that are essential for employability. The (QM) Quality Matters framework highpoints the values of aligning course content with clear learning to foster graduates' engagement and success (Anderson & Dron, 2011). Furthermore, faculty interaction with graduates, as emphasized by facilitates critical thinking and cognitive growth, which are crucial for employability. particularly formative assessments, play a critical role in capturing both soft skills and academic that align with recruiter expectations. Still, student-centric learning methods rooted in constructivist theories to enhance essential competencies such as teamwork and communication, directly impacting employability outcomes (Fernandes et. al., 2020). Universities like international and career services contribute to preparing graduates for the employability, ensuring that graduates own the required skills to navigate the modern labour market. This inclusive approach not only equips graduates with technical knowledge but also fosters adaptability and critical thinking abilities important for success in dynamic job environments as

such management universities play a vital role in bridging the gap between academic preparation and real-world demands, ultimately enhancing Graduates' readiness for their future careers. Management education requires critical thinking, as it helps to analyze strategies and make decisions. (Roque, 2024) investigated how solo and group projects differ in their effectiveness with regard to the acquisition of critical thinking skills in university graduates. Individual tasks helped to promote independence, invention, and self-reflection, and pair activities promoted cooperating, taking a perspective and solving problems together. It was found that deeper cognitive activity is achieved through individual activities, whereas group interactions support creativity through diversity of perspectives after the research was done using social and experiential learning theories. Balanced combination of the two strategies helps to develop the entire analytical skills that are essential to effective leadership/organizational problem-solving of the management graduates.



Figure:1. Constructs for Management Graduates

2.1 DESIGN OF COURSE CONTENT

The connection between learning outcomes, student performance, and aspects of instruction and teaching is

complex, and finding ways to increase student completion rates in Massive Open Online Courses (MOOCs) does not automatically equate to establishing the quality of these courses. Similar to traditional head-on education, high transitory rates are not permanently reliable indicators of meaningful student learning. Therefore, it is essential to investigate the pedagogical aspects of MOOCs, such as how courses can be better aligned with the diverse needs of Graduates and how numerous course designs strategies such as tailored learning, live examples, project based learning, and practical learning affect student engagement, satisfaction, achievement, and holding rates (Admiraal, W.F. et al., 2017).

The materials used in teaching play a crucial role in supporting Graduates with different learning styles and enhancing meaningful learning. These materials, including instructional videos, electronic resources, e-books, and sets of exercises, form the backbone of the teaching-learning process. In addition to these, social media tools such as discussion groups, blogs, web forums, social networking sites, wikis, and podcasts are widely used to encourage Graduates to engage, collaborate, and co-construct knowledge (Collier T, & Schneider, 2021). In terms of course design, professors formulate syllabus with formative intentions in mind, establishing objectives that are directly related to promoting meaningful student learning. These objectives are a part of the didactic design and guide the actions required to achieve the desired student outcomes. According to the definition provided by Lozano and Lara, the curriculum can be viewed as a field of research and critical analysis that fosters processes aimed at generating more coherent relationships between knowledge and actions intended for social use. Understanding specific curricula involves learning within the context in which they are developed and exploring how educational practices and outcomes are shaped by their underlying configurations (Fernando Moreira et al., 2022). A curriculum can also be seen as a semi-structured education policy for particular topic or expertise. The prime purpose of teaching designs is to convey knowledge in a way that can be widespread and communal across the teaching community. In traditional classroom settings, there is typically no explicit requirement to document these teaching strategies or patterns, as they are often unique to individual educators or institutions. This lack of standardization in documentation practices can lead to significant variation in how teaching strategies are shared across educational contexts (Michael Derntl, 2019).

Recent findings from course redesigns, such as those based on the Quality Matters (QM) framework, have demonstrated that while student perceptions of learning processes may decrease, student performance measured in terms of course outcomes can improve significantly after the redesign. This insight highlights a critical realization: initial assumptions about the relationship between student perceptions and performance may not always align with actual results, suggesting the need for a more nuanced approach to course design and evaluation. By rethinking the interplay between teaching materials, course design, student engagement, and curriculum development, we can develop more effective strategies for improving student learning experiences and outcomes in both MOOCs and traditional educational settings. Thus, the following mention Hypothesis formed:

H_1: Design of course content has a significant impact on Employability of Management Graduates in selected universities of Haryana, Punjab and Himachal Pradesh

2.2 INTERACTION AND INVOLVEMENT

Interaction and community are crucial elements in the design of learning activities. Examples such as combined ventures, discussion mediums, and evaluation tasks are crucial for Graduates to participate with each other and the course content in various ways. The configuring of student interactions with faculty & their creation of digital content to prove their learning was also emphasized by faculty members. Additionally, to participants emphasized the significance of Graduates collaborating using different types of sources, not just verbal communication & mails (Florence Martin, 2019). Another member suggested the formation of learning communities to enhance interface and providing support services to address the specific requirements of Graduates (Fayer, 2014). Meeting beginner needs and involvement opportunities for interaction were important themes that high-quality faculty deemed important when designing a course content that impact employability. The importance of meaningful interaction for effective education has been widely recognized. Beyond allowing Graduates to obtain academically relevant information, increased interaction between Graduates and faculty has been shown to positively influence graduates' thinking processes, problems resolving strategies, and interest in broader life goals. Enhancing interaction is also a strategy university may use in an era of diminishing resources and diminishing student registrations to improve student satisfaction with specific programs, thus attracting and retaining well

capable and motivated graduates. Even though many universities are determined to upsurge student-faculty interaction, much of this struggle is taking place without a clear understanding of how the nature and frequency of interaction relate to various student outcomes (Richard L. Harpel, 2018).

In blended learning environments, interaction, head-on support, learning management education system technology & tools excellence are chief factors. The (LO) learning outcomes include student satisfaction, skills, performance, intrinsic motivation, employability and knowledge construction. Detecting the main forecasters of learning outcomes in blended learning will help to notify planners in preparing and designing these innovative learning environments. The design features under investigation include interactions, the quality of technology, head-on support, and resources within the learning management system (Edmond Kagambe, 2017). Thus, the following mention Hypothesis formed:

H_2: Interaction and involvement of faculty have a significant impact on Employability of Management Graduates in selected universities of Haryana, Punjab and Himachal Pradesh

2.3 ASSESSMENT AND GRADING METHODS

Quality assessment and monitoring systems are essential tools that enable organizations to manage, evaluate, and continually improve the quality of the products or services they provide. These systems play a crucial role in ensuring that the outcomes align with customer needs and expectations, enhancing the organization's competitive advantage while promoting greater operational efficiency. Quality assessment frameworks are specifically designed to identify, assess, and enhance quality management processes within organizations, ensuring compliance with established standards or internal benchmarks. Below are some of the most commonly used quality assessment frameworks (Whetten, D. A. 2007). study examining the link between the institutional features of universities and the employability of their graduates in ASEAN countries utilized an advanced machine learning method called hyper box mechanism learning. This approach resulted in the creation of five distinct rule-based classifiers, trained on statistical data derived from the QS Asia University rankings2020. While machine learning models have their limitations, the rules generated through this analysis reveal significant patterns within the data. The findings indicate that aspects such as institutional exploration and internationalization are positively

associated with higher levels of graduate employability. These attributes reflect the commitment of institutions to invest in higher education and the development of human resources. However, it is important to clarify that these associations do not establish direct causality (K.B. Avisoa, F.P.A. Demeterio, 2021).

Furthermore, a study focusing on young adults in Spain during times of economic downturn, such as the recent recession, revealed that specific factors namely Career Exploration Skills (CES), Proactive Initiative (PI), and Career Planning (CP)significantly impacted perceptions of employability. In challenging job market conditions, CES becomes more critical, while the influence of Proactive Initiative (PI) wanes due to the scarcity of available opportunities. Conversely, Career Planning (CP) becomes more vital, suggesting that young job seekers are likely to adopt a more flexible and adaptive approach to navigating an uncertain labour market. These findings highlight the need for higher education institutions (HEIs) to collect graduates' views on their employability at graduation, as this information is valuable for developing policies aimed at improving graduate outcomes. Developing key learning skills is essential for securing entry-level roles, and maintaining a mindset focused on continuous skill development is vital for ensuring long-term career growth in an ever-evolving labour market (Tee-Hwa Low, Jose Ramos, 2021). Thus, the following mention Hypothesis formed:

H_3: Assessment and Grading methods have a significant impact on Employability of Management Graduates in selected universities of Haryana, Punjab and Himachal Pradesh

2.4 STUDENT-CENTRIC LEARNING METHODS

Learning skills are vital for entry-level jobs, and a mindset of continuous skill development is crucial for long-term employability in evolving labour markets (Moxey and Syed Abdul Quddus 2022). Although some soft skills cannot be cultivated in the classroom, a blend of traditional and student-centred teaching methods is necessary to nurture these skills. Collaboration among various stakeholders and the role of career services in HEIs are also pivotal, as labour market demand significantly influences graduates perceived employability. Ultimately, addressing the challenge of graduate employability requires HEIs and graduates to develop effective strategies for securing meaningful and sustainable employment in a competitive job market. If graduates' employability depends more on resources than on skills alone, a stronger emphasis on

building these resources is essential for achieving positive outcomes. Focusing on individual perceptions, shaped by both internal and external factors, is vital, as (Rothwell and Rothwell 2017) define employability as the ability to navigate the labour market to realize potential through prospective employment, contingent upon knowledge, skills, and attitudes, a notion supported by (Behle 2020). As the workforce evolves, future skill demands will increasingly focus on soft skills and technological competencies. To address this, Indonesia's government plans to enhance the quality of education by integrating employability skills into all subjects, as outlined in the (RPJM 2020-2024). Programs that incorporate active learning methodologies, seches unruly based learning & experiential activities, have remained shown to significantly rally graduates' critical thinking, teamwork, & communication skills, essential for success in the business world (Freeman et al., 2014; Prince, 2004). Moreover, the integration of soft assistances training within management education is vital, as employers increasingly prioritize these competencies alongside technical knowledge (Dale & Wield, 2007). Studies suggest that management institutes that adopt a holistic approach to learning outcomes incorporating cognitive, emotional, and practical dimensions are more effective in preparing graduates for the complexities of modern business environments (Hattie & Timperley, 2007; Voigt et al., 2018). Overall, the literature underscores the importance of continuous assessment and refinement of learning outcomes to ensure that management education remains relevant and impactful. Graduates' expectations and experiences significantly influence their perceptions of management education. Thus, the following mention Hypothesis formed:

H_4: Student-centric learning methods have a significant impact on Employability of Management Graduates in selected universities of Haryana, Punjab and Himachal Pradesh

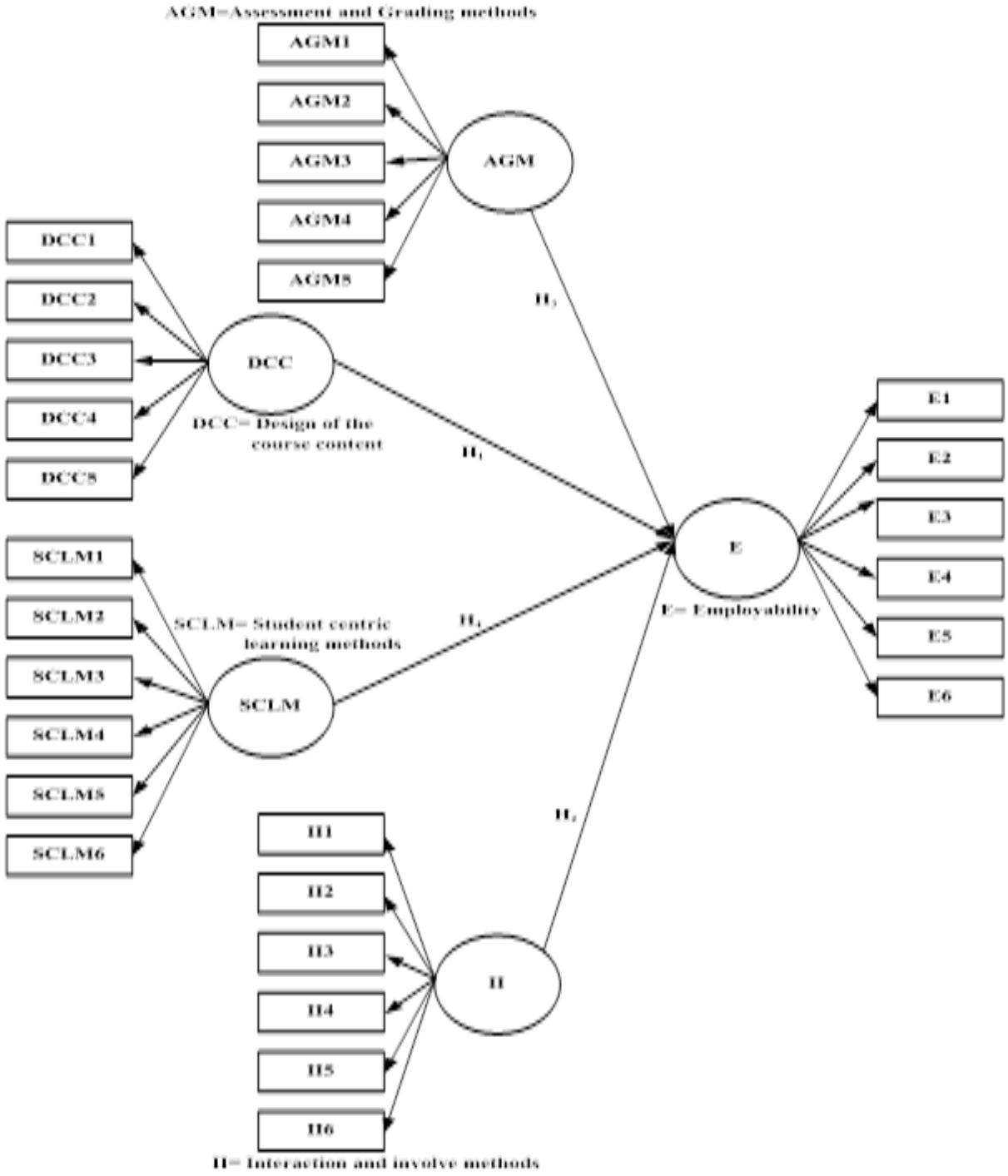

Figure 2: Conceptual Research Framework

Source: Author

Thus, the above mentioned all the constructs are part of learning outcomes because they are affecting the employability of management graduates. It is also very clear from above mentioned four hypothesis conceptual research framework in Figure 2 and 2.2. explains the research framework for the analysis of this study that helps in exploring the impact of

all constructs related to learning outcome and its impact on employability.

3. METHODS

3.1 Participants and Procedure

The hypothesis propounded were tested by employing primary data collected from management graduates located in selected universities of Haryana, Punjab and Himachal Pradesh. It is observed that radiates of management course select the institution for further study on the basic of their placement records and their accreditations. the study was voluntary and at the discretion of the Graduates. Out of 500 distributed questionnaires, 385 completed and useable responses were received, indicating an 77% response rate.

For this research my respondents are management graduates' faculty and recruiters. It provides an introductory understanding of the individuals of the sample population.

Table 1: Demographic Profile

Factors	Demographic Profile	Frequency	Percentage
Gender	Male	172	44.68%
	Female	213	55.32%
Age	20to 22	284	73.77%
	23 to 25	81	21.04%
	Above 25	20	5.19%
Universities	O. P. Jindal Global University, Sonipat	23	5.97%
	Maharishi Markandeshwar (Deemed to be) University	94	24.42%
	Amity University, Gurugram	21	5.45%
	Lovely Professional University, Jalandhar	28	7.27%
	Chandigarh University, Mohali	63	16.36%
	Chitkara University, Rajpura	24	6.23%
	Shoolini University, Solan	51	13.25%
	Jaypee University of Information Technology, Solan	29	7.53%
	Baddi University (BUEST), Baddi	52	13.51%
	Finance	88	22.86%
	Marketing	184	47.79%

Specialization	Human Resource	50	12.99%
	Hospitality	2	0.52%
	Information Technology	34	8.88%
	Others	27	7.01%

Source: Author's compilation

The gender distribution of the respondents indicates that female participants constitute the larger proportion of the sample, accounting for 55.32% (n = 213), whereas male respondents represent 44.68% (n = 172). Although females are slightly more represented than males, the distribution reflects participation from both genders and provides a reasonably balanced representation of male and female from management graduates. This distribution enables the research to incorporate viewpoint from respondents belonging to both gender groups while examining the factors associated with learning outcomes and employability of management graduates.

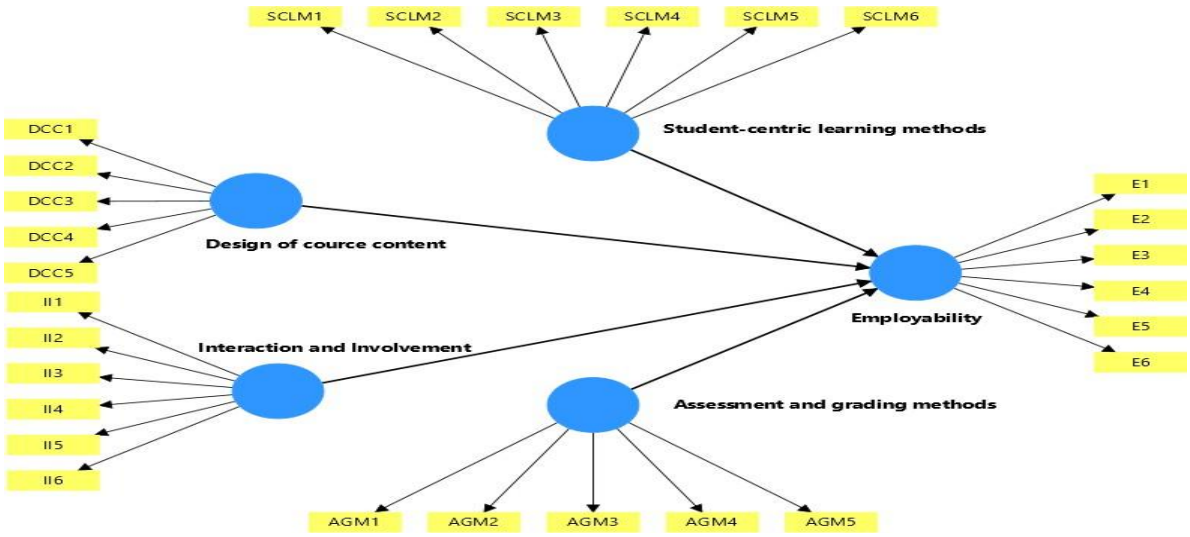

Figure 2.2 Constructs for Management Graduates

Note: Design of course content (DCC), Interaction and Involvement (II), Student-centric learning methods (SCLM), Assessment and grading methods (AGM), Employability (E)

With regard to age, the respondents are predominantly concentrated in the 20 to 22 years category, which comprises 73.77% (n = 284) of the total sample. This is followed by respondents aged 23 to 25 years, representing 21.04% (n = 81), while only 5.19% (n = 20) of the participants are above 25 years of age. The substantial representation of respondents between 20 and 22 years suggests that the sample

largely consists of young management graduates who are either completing their management education or are at the initial stage of entering the employment market. Their responses are therefore particularly relevant for understanding the relationship between educational experiences, learning outcomes, skill development, and employability.

The respondents were drawn from nine selected universities located across Haryana, Punjab, and Himachal Pradesh, providing representation from different institutional settings. Maharishi Markandeshwar (Deemed to be University), Mullana contributes the largest share of respondents, with 24.42% (n = 94) of the sample. It is followed by Chandigarh University, Mohali, with 16.36% (n = 63) respondents, and Baddi University (BUEST), Baddi, with 13.51% (n = 52). Shoolini University, Solan, accounts for 13.25% (n = 51) of the respondents, while Jaypee University of Information Technology, Solan, contributes 7.53% (n = 29). Lovely Professional University, Jalandhar, represents 7.27% (n = 28), followed by Chitkara University, Rajpura, with 6.23% (n = 24). O. P. Jindal Global University, Sonipat contribute 5.97% (n = 23) and Amity University, Gurugram contribute 5.45% (n = 21) of the respondents. The variation in respondent representation across universities reflects differences in sample size obtained from the selected institutions. At the same time, the inclusion of universities from three states provides a broader institutional context for examining the learning outcomes and employability of management graduates. In terms of specialisation, Marketing accounts for the highest proportion of respondents, with 47.79% (n = 184) of the sample. Finance is the second-largest specialisation, representing 22.86% (n = 88) of the respondents, followed by Human Resource Management, which accounts for 12.99% (n = 50). Respondents specialising in Information Technology

constitute 8.88% (n = 34), whereas 7.01% (n = 27) belong to other areas of specialisation. Hospitality represents the smallest group, comprising only 0.52% (n = 2) of the sample. The dominance of marketing and finance graduates indicates that these two specialisations constitute a substantial portion of the management graduate

functional areas of management education. the demographic profile indicates that the sample is primarily composed of young management graduates, with a slightly higher representation of females and a strong presence of graduates specialising in Marketing and Finance. The respondents are distributed across selected universities in Haryana, Punjab, and Himachal Pradesh, thereby providing universities and geographical diversity to the research. Such a composition is appropriate for examining learning outcomes and employability, as the respondents are largely at a stage where the knowledge, skills, competencies, and educational experiences acquired through management programs are directly relevant to their transition into employment.

The non-probability sampling method was used for selecting the Graduates from Haryana, Punjab and Himachal Pradesh. Table-1. explains the demographic profile of 385 Graduates included in the sample. The big Cluster of respondents are Female 213 with the highest age group of 20-22 is 74%, This proposes that the sample mainly consists of young management Graduates, likely pursuing higher education. In footings of academic affiliation, a significant portion of respondents 26% are from Maharishi Markandeshwar (Deemed to be) University, followed by 7% from Amity University, Gurugram, 5% from O. P. Jindal Global University, Sonipat 5% from Lovely Professional University Jalandhar, 12% from Chandigarh University, Mohali. 9% from Chitkara University, Rajpura, 15% from Shoolini University, Solan, 8% from Jaypee University of Information Technology, Solan and 14% from Baddi University (BUEST), Baddi. Regarding specialization, Marketing is the most popular field with 48% of respondents, followed by Human Resources at 13%, Finance at 23%, Hospitality at 1%, Information technology 9% and from others 7%.

3.2 MEASURES

The following six section consist of scale items that capture the construct such as Design of the Course Content (DCC),

Interaction and Involvement (II), Assessment and Grading Methods (AGM), and Student-Centric Learning Methods (SCLM) have a statistically significant positive impact on Employability (E), statements were evaluated on a five-point Likert scale, where one indicated strongly disagree and five indicated strongly agree. Following Hinkin's (1998) recommendation, a pilot study was performed, so that the reliability and validity of the adopted statements could been referred. Internal consistency of the constructs which adequately fulfils Hairetal.'s (2022) requirement of a minimum value of 0.7. Taking into account the outcomes of the pilot study, a comprehensive survey was initiated. construct was measured by using 5 items explained in following table: 2.

Table 2: Measurements

Construct	Item	Statements	References
Design of the course Content	DCC1	Clarity of core course	Anderson
	DCC2	Clarity on the lecture delivered by the faculty	Michael Derntl, 2019
	DCC3	Use innovative methods for instruction	Quddus 2022
	DCC4	Efficient utilisation of lecture time	Gupta, O. J. (2021).
	DCC5	Kev insights from each course/component	Gupta, O. J. (2021).
Interaction and Involvement	II1	Improved communication skills	Anderson (2011)
	II2	Opportunities to present ideas	Anderson (2011)
	II3	Ability to resolve challenging questions	Loilatu, S. H (2023)
	II4	Access to instructor support when needed	Michael Derntl, 2019
	II5	Opportunity to give feedback when needed	Michael Derntl, 2019
	II6	Effective student-faculty interaction	Farhana Akmal, 2021
Assessment and grading methods	AGM1	Advance notice of grading patterns	Gupta, O. J. (2021).
	AGM2	Clarity of exam topics and syllabus	Sadiq, S. (2021
	AGM3	Coverage of relevant topics for evaluation	Maher, A. (2004)
	AGM4	Feedback on assessment and projects	Sadiq, S. (2021)
	AGM5	Effectiveness of course content and assessment methods	Kilag, O. K. (2023
Student-centric learning methods	SCLM1	Individual/group activities	Quddus 2022
	SCLM2	Corporate engagements	Quddus 2022
	SCLM3	Business events and fests	Sutrisno, A. (2023
	SCLM4	Industrial visits	Farhana Akmal, 2021
	SCLM5	Summer/winter internships	Maher, A. (2004)
	SCLM6	Research project work	Kilag, O. K. (2023

Table: 3 explains the Factor Loading/weights to demonstrates strong relationship among all the construct and items of learning outcomes that must exceed the recommended threshold of 0.70, indicating that each item loads significantly impact on its respective latent variable.

Table 3: Assessment of Loading/weights, Reliability and Convergent Validity

CONSTRUCT	AGM	DCC	E	II	SCLM	rhoA	CR	AVE	Cronbach's alpha
AGM1	0.927					0.964	0.972	0.875	0.964
AGM2	0.925								
AGM3	0.943								
AGM4	0.941								
AGM5	0.940								
DCC1		0.922				0.964	0.972	0.872	0.963
DCC2		0.940							
DCC3		0.937							
DCC4		0.929							
DCC5		0.941							
E1			0.900			0.966	0.973	0.856	0.966
E2			0.938						
E3			0.929						
E4			0.940						
E5			0.908						
E6			0.935						
II1				0.931		0.967	0.973	0.857	0.967
II2				0.927					
II3				0.934					
II4				0.907					
II5				0.935					
II6				0.923					
SCLM1					0.928	0.962	0.969	0.841	0.962
SCLM2					0.912				
SCLM3					0.916				
SCLM4					0.899				
SCLM5					0.916				
SCLM6					0.929				

Source: PLS SEM output

In Table 3: evaluated convergent and internal validity using Partial Least Square structural modelling (PLS-SEM). The value of rhoA is above 0.7, within the threshold limit (Hair et al., 2022) thereby establishing the construct's reliability. Average alteration extracted scores, to regulate the convergent validity, are also higher than the threshold limit. moreover composite reliability measure the internal consistency among all the indicators with single latent factor constitutes range from

0.969 to 0.973 both of which exceed the standard benchmark of 0.70, confirming high internal consistency and Cronbach's alpha values range from 0.962 to 0.967.The Average Variance Extracted (AVE) values, all well above the 0.50 threshold, further support convergent validity by showing that a substantial proportion of variance is captured by the constructs relative to measurement error. Furthermore, the rhoA values align closely with Composite Reliability CR, providing further support for construct reliability.

Table 4: Discriminant Validity- Fornell-Larker Criterion

CONSTRUCT	AGM	DCC	E	II	SCLM
AGM	0.935				
DCC	0.788	0.934			
E	0.808	0.734	0.925		
II	0.858	0.800	0.811	0.926	
SCLM	0.861	0.778	0.841	0.833	0.917

Source: PLS SEM output

The Discriminant validity from Fornell-Larker criterion and Heterotrait-monotrait ratio (HTMT) Matrix is analysed followed by establishing the discriminant validity of the measurement model. Discriminant validity is determined by the Fornell-Larcker criterion, which assesses whether the square root of the average variance extracted on the diagonal is greater than the inter-construct correlations values (Fornell-Larker, 1981). This criterion confirms the presence of discriminant validity at the item level. In Table No. 4 Discriminant validity-Fornell-Larker criterion Shows that Design of course content (DCC), Interaction and Involvement (II), Assessment and grading methods (AGM), Student-centric learning methods (SCLM), having significant inter construct relation with each other.

Table 5: Discriminant Validity-Heterotrait-Monotrait Ratio (HTMT) Matrix

CONSTRUCT	AGM	DCC	E	II	SCLM
AGM					
DCC	0.818				
E	0.837	0.761			
II	0.888	0.829	0.839		
SCLM	0.893	0.808	0.872	0.863	

Source: PLS SEM output

Heterotrait-monotrait ratio (HTMT)-Matrix is a new standard proposed by Henseler's standard, that clarifies the correlation among four constructs i.e.

Design of course content (DCC), Interaction and Involvement (II), Assessment and grading methods (AGM), Student-centric learning methods (SCLM), explains there is a significant relationship among Learning outcome and employability of management graduates of selected universities of Haryana, Punjab and Himachal Pradesh, which is also suitable for further analysis (Table 5).

STRUCTURAL MODEL

The structural equation model to evaluate learning outcomes as shown in Figure 2 demonstrates that Design of Course Content (DCC), Interaction and Involvement (II), Assessment and Grading Methods (AGM), and Student-centric Learning Methods (SCLM) all positively contribute to Employability (E). The path coefficients indicate that DCC5- 0.935, II5- 0.935, AGM3- 0.943 SCLM6- 0.925 and E4-.940, has the strongest influence employability. All constructs are measured with high reliability, as shown by strong factor loadings. The model accounts for 0.754% of the variance in employability R^2 = 0.754, demonstrating substantial explanatory power. These results highlight that active, Graduates focused learning approaches and engagement strategies play a more critical role in enhancing employability than traditional course content design. Therefore, to better prepare Graduates for the job market, educational institutions should emphasize experiential learning, practical skill development, and active student engagement, rather than relying solely on theoretical or content-heavy course structures.

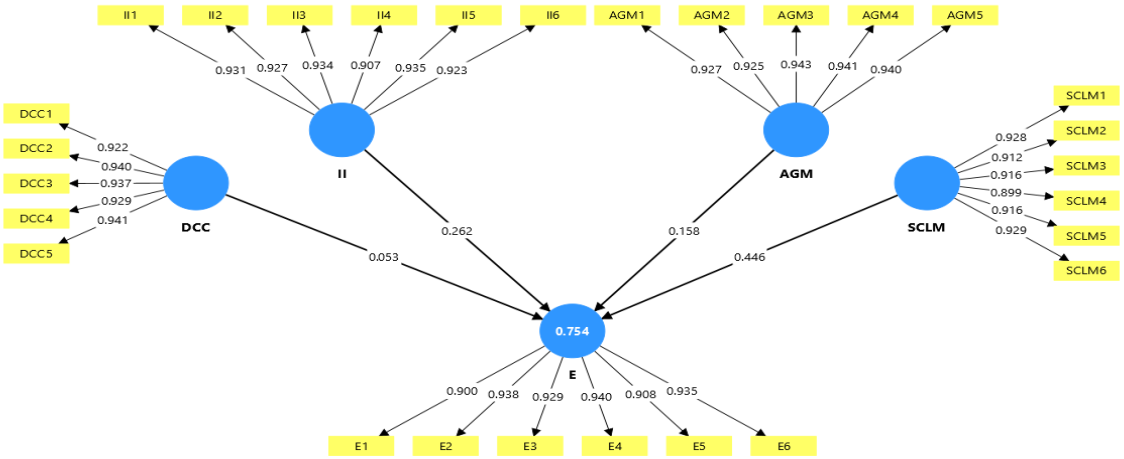

Figure 2: Structural Equation Model

Design of the Course Content (DCC), Interaction and Involvement (II), Assessment and Grading Methods (AGM), student-centric Learning Methods (SCLM). Employability (E).

Source: PLS SEM output

Path analysis and Hypothesis decision shown in Table 6 explores the structural model results indicate that all four constructs Design of the Course Content (DCC), Interaction and Involvement (II), Assessment and Grading Methods (AGM), and Student-Centric Learning Methods (SCLM) have a statistically significant positive impact on Employability (E). Each constructs items exhibit high T-statistics (ranging from 50.732 to 59.928) with p-values of 0.000, confirming that the relationships are highly significant at the 0.001 level. This strongly supports the hypotheses that DCC, II, AGM, and SCLM predictors of learning outcomes have significant impact on Employability

.

Table 6: Path Analysis and Hypothesis Decision

Construct	T statistics	P values	Hypothesis
DCC1	51.149	0	Supported
DCC2	55.769	0	
DCC3	50.732	0	
DCC4	52.065	0	
DCC5	52.598	0	
II1	54.591	0	Supported
II2	55.179	0	
II3	57.041	0	
II4	56.380	0	
II5	59.078	0	
II6	57.005	0	
AGM1	56.255	0	Supported
AGM2	59.445	0	
AGM3	58.574	0	
AGM4	55.265	0	
AGM5	57.349	0	
SCLM1	54.770	0	Supported
SCLM2	59.358	0	
SCLM3	53.283	0	
SCLM4	55.755	0	
SCLM5	57.643	0	
SCLM6	59.928	0	
E1	54.241	0	Supported
E2	59.176	0	
E3	58.932	0	
E4	57.058	0	
E5	58.447	0	
E6	57.623	0	

Source: PLS SEM output

The consistently high T-values across all items reinforce the strength and consistency of these relationships, validating the relevance of these educational components in enhancing Graduates' employability through learning outcomes.

DISCUSSION

This research explores Impact of learning outcomes on employability focusing that how learning outcomes (Design of course content, Interaction and involvement, Assessment and grading methods and student centric learning method) impact employability of management graduates. Bloom's Taxonomy, which underlines critical thinking, decision making is a useful tool in improving learning outcomes. However, it can limit flexibility in teaching methods of faculty. When applied effectively in universities, frameworks like Bloom's theory can enhance Graduates' cognitive and creative skills, leading to improved academic routine, as shown in studies like (SyafaLisaholit's 2023).

Employability is a most important key factor in Graduates' growth and in educational experiences. Studies by GUPTA O. J. (2021) highlight that university research, Placements and internationalization influence employability. Integrating active learning methods, such as case studies and internships, can enhance employability-related skills like teamwork, thinking ability and problem-solving (Freeman et al., 2014).

The research methodology, which includes a questionnaire designed for respondents and its results are interpreted by using SPSS and PLS-SEM, ensures the reliability of findings, with high Cronbach's alpha values confirming data consistency. The study reveals significant differences in learning outcomes of universities impact on the employability of Graduates, highlighting the importance of aligning curriculum with industry requirements. Overall, the study highlights the need for universities to adopt industry-relevant teaching practices and technology to better prepare Graduates for the job market.

CONCLUSION

Learning Outcomes are the leading participant in the employability of management graduates of selected universities. Learning outcomes output (Design of the Course Content, Interaction and Involvement, Assessment and Grading Methods and Student-Centric Learning Methods) becomes the input of employability of management graduates. However, graduates learning outcomes is significantly impacting their employability. The Partial least square structure modelling, path coefficients indicate that DCC5- 0.935, II5- 0.935, AGM3- 0.943 SCLM6- 0.925 has the strongest influence on the employability, if these are over improved this will increase the chance of employability of management graduates of selected universities of Haryana, Punjab and Himachal Pradesh.

THEORETICAL AND PRACTICAL IMPLICATION

This research improves the understanding of how learning outcomes relay to employability of management Graduates, confirming the value of structured outcomes for future achievement while highlighting the limitations of traditional frameworks. It highlights the necessity of real-world experiences & employability skills for holistic student development for their employment, with a focus on their soft skills like communication, decision making and problem-solving, which align with recent findings on the growing importance of employability in the career market. Furthermore, universities factors such as teaching methods, real life internship exposer and industry experience significantly influence Graduates' perceptions of their employability. The research suggests that universities must rescript prospectuses to incorporate experiential learning and practical skills development in management education, and provide opportunities for internships programs and industry collaborations. It also strains the requirement for ongoing assessment and adaptation of design of the course content, interaction and involvement, assessment and grading methods, student-centric learning methods teaching methods to meet the both academic& employability standards, while fetching with Graduates to guarantee their expectations align with educational goals, eventually bridging the gap between academic learning outcomes and employability of management graduates.

DIRECTION FOR FUTURE

RECOMMENDATION

Despite the respected insights provided by this study, there are certain boundaries and limitation is the focus on management courses in universities located in Haryana, Punjab and Himachal Pradesh, to stunned the limitations of this research, future study might enlarge the sample size to include a wider range of universities and select the different graduation course across diverse regions and states, both within India and internationally. Moreover, since the research trusts on Graduates' self-described data, there is a budding for prejudgment, as a scholars might exaggerate their perceived employability or satisfaction with their learning outcomes. Another limitation is the cross-section nature of the data, which offers only a view point of a Graduates at a single point of time, without tracking their development throughout their educational journey of masters. Moreover, while the study applied a structured questionnaire, it might not capture the whole range of factors influencing learning outcomes (LO) and employability (E), such as family background, personal characteristics or peer influence.

.

REFERENCES

- maher, a. (2004). learning outcomes in higher education: implications for curriculum design and student learning. journal of hospitality, leisure, sport & tourism education (oxford brookes university), 3(2).
- whetten, d. a. (2007). principles of effective course design: what i wish i had known about learning-centered teaching 30 years ago. journal of management education, 31(3), 339-357.
- anderson, t., & dron, j. (2011). three generations of distance education pedagogy. international review of research in open and distributed learning, 12(3), 80-97.
- swan, k., matthews, d., bogle, l., boles, e., & day, s. (2012). linking online course design and implementation to learning outcomes: a design experiment. the internet and higher education, 15(2), 81-88.
- swan, k., matthews, d., bogle, l., boles, e., & day, s. (2012). linking online course design and implementation to learning outcomes: a design experiment. the internet and higher education, 15(2), 81-88.
- davis, d., seaton, d., hauff, c., & houben, g. j. (2018, june). toward large-scale learning design: categorizing course designs in service of supporting learning outcomes. in proceedings of the fifth annual acm conference on learning at scale (pp. 1-10).
- pilli, o., & admiraal, w. (2017). Graduates' learning outcomes in massive open online courses (moocs): some suggestions for course design. journal of higher education/yükseköğretimdergisi, 7(1).
- huizenga, j. c., ten dam, g. t., voogt, j. m., & admiraal, w. f. (2017). teacher perceptions of the value of game-based learning in secondary education. computers & education, 110, 105-115.
- nisha, s. m., & rajasekaran, v. (2018). employability skills: a review. iup journal of soft skills, 12(1), 29-37.
- bakhru, k. m. (2018). aligning teaching methods for learning outcomes: a need for educational change in management education using quality function deployment approach. international journal of learning and change, 10(1), 54-69.
- erikson, m. g., & erikson, m. (2019). learning outcomes and critical thinking–good intentions in conflict. studies in higher education, 44(12), 2293-2303.
- abelha, m., fernandes, s., mesquita, d., seabra, f., & ferreira-oliveira, a. t. (2020). graduate employability and competence development in higher education—a systematic literature review using prisma. sustainability, 12(15), 5900.
- pauceanu, a. m., rabie, n., & moustafa, a. (2020). employability under the fourth industrial revolution. economics & sociology, 13(3), 269.
- huang, c. h. (2021). using pls-sem model to explore the influencing factors of

learning satisfaction in blended learning. education sciences, 11(5), 249.

- akmal, f., shah, a. a., & sarwar, m. (2021). analysis of gap between expected and achieved levels of skills related learning outcomes of graduates.
- srivastava, m. k., & gupta, o. j. (2021). management research in private institutions of india: opportunities and challenges. journal of contemporary issues in business & government, 27(3).
- mendoza, w., ramírez, g. m., gonzález, c., & moreira, f. assessment of curriculum design by learning outcomes (lo). educ. sci. 12, 541 (2022).
- cepeda-carrión, g., hair, j. f., ringle, c. m., roldán, j. l., & garcía-fernández, j. (2022). guest editorial: sports management research using partial least squares structural equation modeling (pls-sem). international journal of sports marketing and sponsorship, 23(2), 229-240.
- shafait, z., khan, m. a., bilan, y., & oláh, j. (2021). modeling the mediating roles of self-directed learning and knowledge management processes between emotional intelligence and learning outcomes in higher education. plos one, 16(7), e0255177.
- müller, c., & mildenberger, t. (2021). facilitating flexible learning by replacing classroom time with an online learning environment: a systematic review of blended learning in higher education. educational research review, 34, 100394.
- asim, h. m., vaz, a., ahmed, a., & sadiq, s. (2021). a review on outcome based education and factors that impact student learning outcomes in tertiary education system. international education studies, 14(2), 1-11.
- ng, p. m., chan, j. k., wut, t. m., lo, m. f., & szeto, i. (2021). what makes better career opportunities for young graduates? examining acquired employability skills in higher education institutions. education+ training, 63(6), 852-871.
- prilop, c. n., weber, k. e., & kleinknecht, m. (2021). the role of expert feedback in the development of pre-service teachers' professional vision of classroom management in an online blended learning environment. teaching and teacher education, 99, 103276.
- collier, t. (2021). student perceptions about metacognitive learning strategies in introductory biology courses (doctoral dissertation, walden university).
- wickramasinghe, g. l. d., & perera, m. p. a. (2022). total productive maintenance, affective commitment and employee retention in apparel production. merits, 2(4), 304-313.
- addolorato, s., garcía-unanue, j., gallardo, l., & garcía-fernández, j. (2022). fitness industry business models: from the traditional franchising chain to the fitness boutique. podium, 11(1), 1-25.

- sanjani, m. a. f., ridlo, m. h., & yanti, l. s. (2023). investigating the holistic management in increasing graduates'competence in madrasa based on pesantren. pedagogik: jurnal pendidikan, 10(2), 226-239.
- abdulla, m. s., & abish, w. aaby, peter 1043, 1046 abasiattai, monday b. 2344 abba, isa alkali 3516 abba yacob/abba yaqob. see: taurin de cahagne, mgr.
- basori, b., sajidan, s., akhyar, m., &wiranto, w. (2023). blended learning model towards vocational Graduates' learning outcomes: a scoping review. international journal of evaluation and research in education, 12(1), 205-215.
- lisaholit, s., &loilatu, s. h. (2023). the effect of contextual teaching and learning (ctl) model on biology learning outcomes of bacteria concepts in class x Graduates of ma aliyah alhilal namlea. jurnal scientia, 12(03), 3710-3716.
- deiparine, j., glenn, a., groenewald, e., zamora, m., pansacala, n., & kilag, o. k. (2023). enhancing student engagement: an exploration of five high-impact teaching practices. excellencia: International Multi-disciplinary Journal of Education (2994-9521), 1(6), 498-508.
- Sutrisno, A. (2023). Skilling the demographic bonus: Progress and gaps in Indonesian employment strategies. In Sustainable and Dynamic Graduate Employability (pp. 162-184). Routledge India.
- Hoque, N., Uddin, M., Ahmad, A., Mamun, A., Uddin, M. N., Chowdhury, R. A., & Noman Alam, A. H. M. (2023). The desired employability skills and work readiness of graduates: Evidence from the perspective of established and well-known employers of an emerging economy. Industry and Higher Education, 37(5), 716-730