

UNIVERSITAS ISLAM KALIMANTAN MUHAMMAD ARSYAD AL BANJARI BANJARMASIN

PERINGKAT AKREDITASI "BAIK SEKALI" SK BAN-PT No. 687/SK/BAN-PT/Ak.KP/PT/X/2023

KAMPUS: JL. ADHYAKSA NO. 2 KAYU TANGI BANJARMASIN-70123. TELP/FACS. (0511).3304352.www.uniska-bjm.ac.id

SURAT KLARIFIKASI CEK PLAGIASI DAN INDEKS PRIMARY SOURCES

Nomor:143/UNISKA/P.15/2024

Yang bertanda tangan di bawah ini Rektor Universitas Islam Kalimantan Muhammad Arsyad Al-Banjari Banjarmasin.

Nama

: Prof. Ir. Abd. Malik, S.Pt, M.Si, Ph.D., IPU., ASEAN., Eng

NIK/NIDN

: 060105197/1113096701

i angkau (

Pangkat/Gol. Ruang : Pembina/IVc

Jabatan

: Rektor

Dengan ini menyatakan klarifikasi perihal hasil cek plagiasi menunjkan angka diatas 25% dan Indeks Primary Sources diatas 3% terhadap hasil publikasi.

Atas nama:

Nama

: Hairul., SE.,MM

NIK/NIDN

: 069908141/1125096201 : Penata Tingkat I/ IIIc,

Jabatan, TMT

Pangkat, Golongan Ruang, TMT

: Lektor (200), 01 September 2011

Bahwa Cek hasil plagiasi menggunakan software Turnitin, dengan hasil publikasi serta alas an klarifikasi dijelaskan sebagai berikut:

No	Hasil Publikasi	Alasan Klarifikasi			
1	Judul: Personality characteristics hampering the new	Pada saat dilakukan pengecekan			
	economic models	plagiasi menggunakan software			
	Penulis: Sulastini, Hairul, Ismi Rajiani, Edna Buyong	Turnitin pada tanggal 06 Februari			
		2024 didapatkan hasil plagiasi diatas			
	Jurnal Asian Journal Of Business and Management.	50%. Hal ini dikarenakan			
	Vol. 2 No. 2 (2014): April 2014. ISSN: 2321 –2802.	2. pengecekan plagiasi yang dilakukan			
	Penerbit: Asian Journal of Business and Management	jurnal tersebut terlebih dahulu terbit.			
	(AJBM)	Sedangkan hasil pengecekan plagiasi			
		yang dilakukan oleh admin jurnal			
	URL:	tidak pernah diberikan kepada			
	https://www.ajouronline.com/index.php/AJBM/article/view/	penulis dan menyatakan bahwa jurnal			
	1114	itu diterima dan telah terbit dan lolos			
	,	hasil uji plagiat.			
2	Judul: What Matters In Project Team management	Jurnal tersebut sudah terlebih dahulu			
		terbit, sedangkan pengecekan			
		plagiasi yang dilakukan oleh penerbit			
	Penulis: Aneta Pachura, Hairul	tidak diberikan kepada penulis dan			
		dinyatakan diterima dan lulus atas			

plagiat dilakukan Kembali pada Polish Journal of management Studies. Vol. 17 No. 2. 06 Februari ISSN: 2081-7452. Penerbit: Czestochowa University of tanggal 2024 menggunakan software Turnitin dan Technology didapatkan hasil uji plagiat diatas 50% hal ini disebabkan bahwa jurnal tersebut telah terpublikasi dijurnal URL: tersebut. https://yadda.icm.edu.pl/baztech/element/bwmeta1.element.b aztech-e173a9d9-6c97-4f41-85c9-e3bd6ecb17eb Judul: Total Quality Management As Managerial Jurnal tersebut sudah terlebih dahulu Tool Of Competitiveness In Enterprises sedangkan pengecekan Worlwide plagiasi yang dilakukan oleh penerbit tidak diberikan kepada penulis dan Penulis: Kiseľáková D., Hairul, Gallo P., Gallo P. jr., dinyatakan diterima dan lulus atas Čabinová V., Onuferová E hasil uji plagiat. Pengecekan uji plagiat dilakukan Kembali pada 06 tanggal Februari 2024 menggunakan software Turnitin dan Polish Journal of management Studies. Vol. 21 No. 2. didapatkan hasil uji plagiat diatas ISSN: 2081-7452. Penerbit: Czestochowa University of 50% hal ini disebabkan bahwa jurnal Technology tersebut telah terpublikasi dijurnal tersebut URL: https://yadda.icm.edu.pl/baztech/element/bwmeta1.element.b aztech-6ca56965-2164-4d18-80f0-dce4308aeac0 Judul: Managing Information Systems Jurnal tersebut sudah terlebih dahulu Bv IntegratingInformation Systems Success Model And terbit. sedangkan pengecekan The Unified Theory Of Acceptance And Usage Of plagiasi yang dilakukan oleh penerbit Technology ... tidak diberikan kepada penulis dan dinyatakan diterima dan lulus atas Penulis: Harlie M., Hairul, Rajiani I., Abbas E.W. hasil uji plagiat. Pengecekan uji plagiat dilakukan Kembali pada tanggal 06 Februari Polish Journal of management Studies. Vol. 20 No. 1. menggunakan software Turnitin dan ISSN: 2081-7452. Penerbit: Czestochowa University of didapatkan hasil uji plagiat diatas Technology 50% hal ini disebabkan bahwa jurnal tersebut telah terpublikasi dijurnal tersebut. URL: http://yadda.icm.edu.pl/yadda/element/bwmeta1.element.baz tech-d4d18a51-7001-47ab-8f46-62e84d4f779e Judul: Shifting From Asian To Western Model Of Jurnal tersebut sudah terlebih dahulu Leadership: The Role Of Organizational Culture sedangkan pengecekan Penulis: Rahmi Widyanti, Ismi Rajiani, Basuki, Hairul plagiasi yang dilakukan oleh penerbit tidak diberikan kepada penulis dan dinyatakan diterima dan lulus atas Polish Journal of management Studies. Vol. 22 No. 2 hasil uji plagiat. Pengecekan uji (2020). . ISSN: 2081-7452. Penerbit: Czestochowa plagiat dilakukan Kembali pada University of Technology Februari 2024 tanggal 06 menggunakan software Turnitin dan

https://pjms.zim.pcz.pl/resources/html/article/details

?id=211574

hasil uji plagiat. Pengecekan uji

didapatkan hasil uji plagiat diatas

50% hal ini disebabkan bahwa jurnal

tersebut telah terpublikasi dijurnal

		tersebut.
6	Judul: The Interdependence Of Total Quality Management And Organisational Learning To Managerial Innovation Penulis: Hairul, Periyadi Polish Journal of management Studies. Vol. 27 No. 1 (2023) ISSN: 2081-7452. Penerbit: Czestochowa University of Technology URL: https://pjms.zim.pcz.pl/resources/html/article/details?id=611205	Jurnal tersebut sudah terlebih dahulu terbit, sedangkan pengecekan plagiasi yang dilakukan oleh penerbit tidak diberikan kepada penulis dan dinyatakan diterima dan lulus atas hasil uji plagiat. Pengecekan uji plagiat dilakukan Kembali pada tanggal 06 Februari 2024 menggunakan software Turnitin dan didapatkan hasil uji plagiat diatas 50% hal ini disebabkan bahwa jurnal tersebut telah terpublikasi dijurnal tersebut.

Secara garis besar bahwa hasil publikasi telah terpublikasi antara tahun 2017 s/d 2023 dan pada tanggal tersebut diatas pada saat melakukan cek plagiasi Kembali, dikarenakan bukti plagiasi dilakukan oleh pemilik jurnal dan hasilnya tidak diberikan kepada penulis pada saat jurnal akan diterbitkan.

Demikian Surat klarifikasi ini dibuat dengan sebenar-benarnya untuk diketahu dan dipergunakan sebagai mestinya.

Banjarmasin, 06 Februari 2024 Pimpinan Perguruan Tinggi,

Rektor Uniska Banjarmasin

Prof. Ir. Abd. Malik, S.Pt, M.Si, Ph.D., IPU., ASEAN., Eng

NIK. 960 105 197

The Interdependence Of Total Quality Management And Organisational Learning To Managerial Innovation

by LABORATORIUM MANAJEMEN

Submission date: 06-Feb-2024 12:28PM (UTC+0530)

Submission ID: 2270174119

File name: PIMS 27 1 05.pdf (431.9K)

Word count: 6505

Character count: 37688

2023 Vol.27 No.1

THE INTERDEPENDENCE OF TOTAL QUALITY MANAGEMENT AND ORGANISATIONAL LEARNING TO MANAGERIAL INNOVATION

Hairul, Periyadi *

Abstract: In traditional business settings, organisational learning capability and total quality management are significant factors in pushing an innovation level. However, whether the same phenomenon will occur in higher educational institutions needs to be examined. The literature has different views on the success and applicability of Total Quality Management (TQM), organisational learning, and management innovation principles in Higher Education (HE). This article examines the crucial success aspects of TQM in private universities in Indonesia applying managerial innovation. Data was gathered by distributing questionnaires to 349 university faculty members. Factor Analysis was used to assess the construct commonalities, and multiple Regression Analysis was employed to examine the relationship among constructs. If HE adopts managerial innovation, training and learning, process management and benchmarking emerge as essential TQM success elements. It has been discovered that organisational learning, directly and indirectly, affects managerial innovation. This study highlights that organisational learning may strengthen and expand managerial innovation. Organisational learning is acquiring and enhancing new information and skills, enhancing an organisation's capacity for innovation.

Keywords: educational management, total quality management, organisational learning, managerial innovation, university

DOI: 10.17512/pjms.2023.27.1.05

Article history:

Received January 14, 2023; Revised January 31, 2022; Accepted February 17, 2023

Introduction

A rising corpus of economics and innovation studies research has improved our understanding of economic development and innovation drivers during the last two decades (Bergek et al., 2023). This literature has also stimulated discussion over the role and significance of innovation (Hunter et al., 2022). More lately, the role of innovation in solving significant societal concerns has become a component of this debate (Grebski and Mazur, 2022). The spike in interest in innovation policy, its spread into other policy domains, the increasing complexity of policymaking, and new emergent language create critical analytical problems regarding the thinking and actual landscape of innovation (Laasonen et al., 2022). While national governments

Periyadi, Islamic University of Kalimantan, Banjarmasin, Indonesia;

⊠email:periyadi401@gmail.com, ORCID:0009-0009-3753-7323

^{*} Hairul, Islamic University of Kalimantan, Banjarmasin, Indonesia;

POLISH JOURNAL OF MANAGEMENT STUDIES Hairul, Periyadi

remain key players in these arrangements, particularly in terms of budgetary, regulatory, and legal elements, shrinking public budgets and fierce global competition for relevant knowledge flows in terms of both human capital and ideas necessitate an immediate response from local, national, and international public policy regimes. As a result, governments at all levels emphasise research commercialisation as a vital driver of competitiveness and growth (Etzkowitz et al., 2022; Wróblewski, 2020).

In response to this problem, academia and practice focused more on university reform and accompanying innovations (Whittaker and Montgomery, 2022; Lis, 2021). Due to its intricacy, innovation has become one of the most frequently contested topics in higher education (Morawska-Jancelewicz, 2022). This is because science and technology outcomes continue to be impacted by innovation-driven policies in which universities play a central role (Liu et al., 2022). As the world transitions from industrial experience to knowledge as the primary driver of productivity growth, universities as sources of knowledge must also adapt to the changing circumstances. Universities' traditional power to generate new ideas and academic positions must be matched by the capacity to equip students, staff, and the university with the tools required to interact with industry and society at large (Southworth et al., 2023). Universities in Indonesia face this formidable obstacle. This is coupled with the implementation of the ASEAN Economic Community (AEC) in 2025, after which the government signed a free trade pact, resulting in increased competition among Indonesian universities, as well as between Indonesian universities and foreign universities, which may soon overwhelm Indonesian higher educations (Azman et al., 2023).

Education can only innovate and align with modern management once a client-focused and quality-oriented management system has been established (Savic, 2020). Besides, to innovate, educational organisations as a bridge between knowledge producers and researchers require significant transformation (Czerwińska and Piwowarczyk, 2022). TQM is a technique that can facilitate this change (Srivastava and Hussaini, 2023). According to Aljuwaiber (2022), TQM is a concept of continuous improvement that may equip educational institutions with skills and scientific instruments to meet their present and future demands and expectations (Kurowska-Pysz and Szyszka, 2022). Since educational organisations and institutions are the primary and decisive elements in developing human resources for innovative, productive, and service organisations in society (Kurowska-Pysz, 2020), there is a greater need than ever to study and implement the TQM principles in education.

Learning, dynamic structures, adaptability, and quality are the most crucial qualities of higher education in the twenty-first century (Fauzi, 2022). Thus, the higher education system must adapt to continual change to achieve tremendous success, and organisational learning is the most powerful tool for a more effective adaptation (Alerasoul et al., 2022). Organisational learning is a collective and collaborative learning process for dynamic and creative decision-making in response to changes

2023 Vol.27 No.1

in the organisation's internal and external environments (Schechter et al., 2022). On the other hand, the changing environment necessitates higher education managers to use their knowledge more and cope with uncertainty. This necessitates managers in higher education to accord innovation in management a high priority (Rajiani and Ismail, 2019). Higher education prioritises consumers and quality through TQM; it should include organisational learning and managerial innovation to provide students and society with better services (Sciarelli et al., 2020).

Previous studies in Indonesian public universities revealed hesitance toward innovation (Putro et al., 2022; Basuki et al., 2022). Due to the significance of TQM, organisational learning, and managerial innovation to the efficacy of educational organisations, and since no research studies have been conducted in the fastest-growing private university in Banjarmasin, Indonesia, the present study is conducted. This research identifies the status of these factors in different types of universities with diverse management, as well as their causal relationship.

Literature Review

TQM is a management philosophy that aims to increase customer satisfaction and organisational effectiveness. TQM principles have been used in manufacturing for a long time, but their application in services and higher education (HE), in particular, is relatively recent. Implementing TQM in HE is motivated by intensifying competition among institutions and labour market requirements (Fernandes and Singh, 2022). While numerous kinds of research exist on TOM's critical success factors (CSFs), there is no universally accepted list. One possible explanation for this lack of agreement is that these investigations are conducted in various circumstances. Current research on TQM deployment is conducted primarily in industrialised nations. It is necessary to examine essential success criteria to comprehend what determines the effective implementation of TQM in HE in developing nations. During TQM implementation, these essential success criteria might be the focus of management efforts. Nevertheless, most recent research focuses on customer attention and satisfaction, top management commitment and leadership, staff participation and teamwork, supplier management, training and learning, process management, benchmarking, quality information, and performance assessment (Budayan and Okudan, 2022).

The research demonstrates that TQM principles are context-dependent and not universally applicable in all circumstances (Haffar et al., 2022). This implies that the findings of TQM application studies conducted in developed nations and mostly in manufacturing sectors must be reconsidered for applicability in emerging countries and non-manufacturing sectors such as higher education. In addition, the literature findings on the value of TQM in education are contradictory (Jasti et al., 2022). Some authors believe that TQM values are equally applicable in higher education (Zalewska, 2021) and that TQM values are compatible with higher education (Nogueiro and Saraiva, 2023), while others argue that TQM values are marginally valuable for a dynamic and changing environment, which is a characteristic of

POLISH JOURNAL OF MANAGEMENT STUDIES Hairul, Periyadi

contemporary HE (Mathur et al., 2022). One probable explanation is that the effectiveness of TQM in higher education depends on how TQM is implemented, whether as a systematic collection of tools and procedures or as a systemic application of TQM principles across the HE. According to a new conclusion, universities and other Higher Education institutions are embracing TQM to keep rivals at bay due to the increased global education competitiveness (Nasim et al., 2020). The studies above provide a more profound knowledge of the implementation of TQM in education, and a larger perspective demonstrates that the fundamental TQM principles are applicable in higher education. Nogueiro and Saraiva (2023) discovered that several TQM elements play a crucial role in process improvement in higher education, including leadership, vision, measurement and evaluation, process control and improvement, programme design, quality system improvement, employee involvement, recognition and reward, evaluation and training, student focus, and other stakeholder focus. This demonstrates that TOM features are equally applicable in the context of higher education and that TQM could play an essential role in improving procedures and enhancing customer satisfaction.

Notwithstanding the real significance of technological innovation, another sort of innovation has effectively penetrated the realm of non-technology. HE has begun to deploy managerial innovation (Putro et al., 2022), a non-technological innovation that is more difficult to reproduce and may contribute to a sustainable competitive advantage (Mol, 2018). Top Indonesian colleges, such as the University of Indonesia, and Bandung Institute of Technology, are outstanding examples of institutions whose success is attributable to managerial rather than technological innovation. While managerial innovation is still relatively under-researched (Chin et al., 2021), more excellent knowledge of managerial innovation, particularly within educational organisations, should be a top priority on the research agenda (Horta and Santos, 2020). Managerial innovation is defined by Mol (2018) as the creation and implementation of a new management practice, process, structure, or technique that is designed to advance corporate goals. New management practises, processes, structures, and techniques entail respective changes in the day-to-day activities of managers as part of their job in the organisation (what managers do), the routines governing their work (how they do it), the organisational context in which their work is performed, and the techniques associated with their work (Rohlfer et al., 2021). Despite the recent surge in academic interest, managerial innovation remains an under-researched topic because most studies have examined how businesses may stimulate technology innovation (Ozturk and Ozen, 2021). However, innovation in a school context is frequently related to the perception of an inability to innovate meritoriously (Ismail et al., 2020). In other words, schools must demonstrate a business-like approach to innovation in which cost-efficient ideas are kept and less effective ones are abandoned. Since the Indonesian Ministry of Research and Higher Education began evaluating innovation alongside human resources, management, research, and students' accomplishment (Rajiani and Ismail, 2019), change has been applied progressively. Due to this occurrence, the direction of academies, costing,

2023 Vol.27 No.1

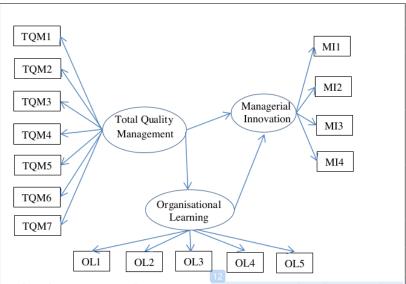
human resources, and general administration has been delegated to the university, profoundly impacting educational management. As a result, university leaders must pay close attention to developments and innovations in education, as the traditional university can no longer meet society's expanding demand (Moscardini et al., 2022). Organisational learning is a methodical approach to fostering collaboration inside a university to enhance competency, viability, and new product development (Subiyakto et al., 2020). Since the inception of the fifth discipline concept in 1990 (Senge and Von Ameln, 2019), it has been recognised as one of the essential management tools, along with the system approach, shared vision, personal mastery, mental models, and team learning. Personal mastery implies that learning cultivates personal potential to produce more optimal outcomes. Mental models reflect an individual's ever more straightforward view of the world. A shared vision is achieved by creating typical pictures of an ideal future and modifying guiding principles and activities. Team learning refers to a group's ability to develop its intelligence and capacities through communication and collective thought. The system approach is a way of thinking and a vocabulary used to describe and comprehend other forces and principles and to explain the interplay of various commands and principles that shape the behaviour of a system (Ghadermarzi et al., 2022).

The literature review reveals that most research in learning organisation and managerial innovation focuses on private companies emphasising assembly (Malik and Garg, 2020). In this approach, a report on the university setting is uncommon. In addition, studies on the impact of learning organisation on managerial innovation in Indonesian higher education still need to be included. This research investigates the potential relationship between learning organisation and managerial innovation in Indonesian private universities. According to Rehman and Iqbal (2020), managerial innovation is closely related to the learning organisation's elements. This feature enables an ongoing organisational learning process, encouraging collaborative, creative, and high-quality group practises (Alagaraja and Herd, 2022). Chen et al. (2022) demonstrated that TQM has a close association with organisational learning and concluded that organisational learning is TQM's end goal. Organisations using TQM are likelier to learn than those without it (Budayan and Okudan, 2022). While some studies have demonstrated a negative association between TQM and innovation efficiency (Attunes et al., 2021), others have indicated that TQM is one of the essential principles of innovation (Jiménez-Jiménez et al., 2020) and positively influences innovation (Albloushi et al., 2023). Tu and Wu (2021) have shown that organisational learning arising from external connections between employees and partners impacts the development of new goods and innovation. Organisational learning drives the organisation towards trust-based mutual communication and fosters a culture of knowledge sharing (Azeem et al., 2021). Consequently, organisational learning mediates between Total Quality Management and managerial innovation (Shuaib and He, 2022).

The following conceptual model is proposed based on the stated definitions and past research (Figure 1). The model is based on the six Malcolm Baldrige National

POLISH JOURNAL OF MANAGEMENT STUDIES Hairul, Periyadi

Quality Award (MBNQA) criteria for performance excellence leadership, strategic planning, customer focus, information and analysis, human resource development and management and process management (Lapoint, 2022).



Total Quality Management: Customer Focus, Top Management Commitment, Employee Involvement, Training and Learning, Process Management, Benchmarking and Quality Information. Organisational Learning: Personal Mastery, Mental Models, Shared Vision, System Approach, and Team Learning. Managerial Innovation: New Practices, New Processes, New Structures, and New Techniques.

Figure 1: Research Conceptual Model

Based on Figure 1, The hypotheses of the study are:

- H1: TQM positively and significantly affects organisational learning.
- H2: TQM positively and significantly affects managerial innovation.
- H3: Organisational learning directly, positively and significantly affects managerial innovation
- H4: Organisational learning meditates TQM and managerial innovation.

Research Methodology

This study is a quantitative investigation using a cross-sectional design. From 25 August 2022 to 1 January 2023, lecturers at five (5) private institutions in Banjarmasin, Indonesia, were sent a paper-based questionnaire using purposive

2023 Vol.27 No.1

sampling. This research focussed on the management of accredited universities (with grades B) offering graduate programs in South Kalimantan, which have management programs in their learning-instructing processes. University departments with B accreditation (very good) represent quality practice has been implemented. This research solicits the opinions of lecturers of graduate programs as a study population, for they have full knowledge of their departments. Four hundred (400) academics filled out our questionnaires, returning three hundred fortynine (349) valid responses (87% response rates). Seven self-assessment of TQM practise items were chosen to measure TQM procedures (Budayan and Okudan, 2022; Nogueiro and Saraiva, 2023). Senge and Von Ameln's (2019) model was applied to the five indicators used to quantify organisational learning components: system approach, shared vision, personal mastery, mental models, and team learning. Managerial innovation utilised four variables from a comparable study conducted at an Indonesian public university (Rajiani and Ismail, 2019). Each item was evaluated on a 7-point Likert scale, with "7" meaning a very strong agreement and "1" representing a very strong disagreement. Initially, scale reliability and descriptive statistical analyses were conducted on the study variables. Factor analysis (principal component analysis) is utilised to identify and combine TQM barrier variables in a weighted manner to form components that account for the greatest quantity of score variability. Factor loadings greater than 0.5 were used for factor classification, and the scale reliability value (alpha coefficient) for each factor was more significant than 0.70. Regression with multiple variables is used to predict and model responses to dependent variables.

Research Results and Discussion

The participants' demographic data revealed that 52.7% were male and 47.3% were female. 56.9%, 26.2%, 15.7%, and 1.2% of the university employees investigated were between the ages of 31-40, 20-31, 41-5 years, and >50 years. 34.5% of employees had worked for the organisation for 11 to 15 years, representing the highest frequency in terms of tenure. 64.88% had a master's degree, 27.36% had a doctorate, and 7.71% were full professors.

Principle component factor analysis with varimax rotation validated the underlying self-assessment of TQM practises, organisational learning, and management innovation. With a minimum loading of 0.706 (New Practices), the item loading range for each component (factor) was high. Steenkamp and Maydeu-Olivares (2023) state that a loading of 0.4 or greater is generally deemed suitable. As a result, the survey instrument was validated for construct validity. Table 1 displays the factor analysis results for each construct. The reliability coefficients of the independent variables (Managerial Innovation) and the dependent variables (TQM and Organizational Learning) were more than 0.70, which agrees with Kretzschmar and Gignac's suggestion (2019).

Respondents' perceptions of the level of TQM practises, organisational learning and managerial innovation were estimated using the various mean scores of the

POLISH JOURNAL OF MANAGEMENT STUDIES Hairul, Periyadi

constructs. The results are presented in Table 2. The mean score of constructs ranged from 3.6734 to 5.4814, with all two scores corresponding to a reasonable level and the rest being a moderate level of practice.

Table 1. Results of Factor Analysis and Scale Reliabilities

Table 1. Results of Factor Analysis and Scale Renabilities			
Items	Factor Loading	Reliability	
Customer Focus	0.827	0.760	
Top Management Commitment	0.819	0.763	
Employee Involvement	0.832	0.760	
Training and Learning	0.815	0.763	
Process Management	0.814	0.766	
Benchmarking	0.814	0.766	
Quality Information	0.801	0.806	
Personal Mastery	0.857	0.779	
Mental Models	0.863	0.781	
Shared Vision	0.828	0.784	
Team Learning	0.864	0.784	
System Approach	0.804	0.791	
New Practices	0.706	0.775	
New Processes	0.723	0.775	
New Structures	0.720	.773	
New Techniques	0.712	.809	

An overall mean score of 4.628 indicates that the university has a positive level of TQM implementation. This score is at the lower middle end of the seven-point Likert scale, where 7 represents the maximum positive evaluation, and 1 is the maximum negative evaluation, with 4 being the average value. This meant that equal importance had been given somewhat to all components of TQM procedures rather than highlighting individual TQM constructs. So, it is possible to conclude that TQM was regarded and applied half-heartedly.

2023 Vol.27 No.1

Table 2. Descriptive Statistics of Research Constructs

Table 2. Descriptive Statistics of Research Constructs				
Items	Mean	Std. Deviation	Ranks	
Customer Focus	3.810	1.9457	15	
Top Management Commitment	4.616	1.7241	11	
Employee Involvement	3.673	1.8575	16	
Training and Learning	4.974	1.8105	7	
Process Management	5.074	1.5812	6	
Benchmarking	5.481	1.4031	4	
Quality Information	4.770	1.9760	10	
TQM Overall Mean	4.628			
Personal Mastery	6.447	0.9623	1	
Mental Models	6.320	1.0143	2	
Shared Vision	4.8997	1.7432	9	
Team Learning	6.114	1.2496	3	
System Approach	3.851	1.92701	13	
Organisational Learning	5.526			
Overall Mean				
New Practices	5.151	1.7689	5	
New Processes	4.495	1.9082	12	
New Structures	3.836	2.0183	14	
New Techniques	4.920	1.880	8	
Managerial Innovation Overall Mean	4.601			

Benchmarking achieved the highest mean score of 5.16. This indicated that the university stressed the threat of competitors in the TQM implementation process. Process Management is the second most emphasised TQM construct, with an average score of 5.074. This demonstrated the university's emphasis on management and continuous process improvement.

On the other hand, the two lowest mean scores come from Customer Focus (3.810) and Employee Involvement (3.673). Both received negative scores and occupied all constructs' lowest ranks (15,16). This suggested that more effort should be focused on internal and external relationship management and justifying that some TQM elements are not applicable in the university setting (Haffar et al., 2022; Mathur et al., 2022; Jasti et al., 2022).

The results also indicate the importance of organisational learning and managerial innovation. A mean score of 5.52 indicates a positive level of organisational learning implementation. The mean score of constructs ranged from 3.851 to 6.447 with three scores corresponding to an excellent level: Personal Mastery (6.447), Mental Models (6.320), Team Learning (6.114) hold the first, second, and third positions in the construct, respectively. However, the lowest mean scores come System Approach (3.851). This suggests that more effort should be focused on describing and comprehending other forces and principles, explaining the interplay of various commands and principles shaping the behaviour of a system. In terms of managerial innovation, a mean score of 4.601 indicates that the university has begun to shift the

POLISH JOURNAL OF MANAGEMENT STUDIES Hairul, Periyadi

paradigm by implementing New Practices (5.151), New Processes (4.495), and New Techniques (4.920) but is hesitant to implement New Structures (3.836). (3.836). However, the finding contradicts public universities' findings (Putro et al., 2022; Basuki et al., 2022), considering new practises, processes, techniques and structures as irritation, not innovation. This is because the private university is designed and operated differently from the private sector regarding recruitment, career path, and work environment. A multiple regression analysis was conducted to determine the direct and indirect effect of TQM and organisational learning on managerial innovation. By applying implicit procedures, a positive, significant path confirms the mediation (Rasoolimanesh et al., 2021).

Table 3. Results of Multiple Regression Analysis

Independent			Standardised		
Variables	Unstandardise	ed Coefficients	Coefficients	t	Sig.
	В	Std. Error	Beta		
TQM	0.428	0.045	0.449	9.492	0.000
Organisational	0.412	0.051	0.383	8.093	0.000
Learning					
Dependent Variable: Management Innovation $R = 0.761$, R Square $= 0.580$					

The positive path in Table 3 implies that managerial innovation is greatly affected by TQM and organisational learning directly and indirectly. This means that all four hypotheses are accepted. The results also indicate that the TQM, organisational learning and managerial innovation are highly correlated (R of 0.761, R2 of 0.580); the TQM and organisational learning have significantly explained 58 per cent of the variance in managerial innovation. The results support the conclusion of a recent study (Jiménez-Jiménez et al., 2020) that TQM is one of the basic principles of innovation and positively promotes invention. Moreover, this study supports that organisational learning mediates TQM and managerial innovation (Shuaib and He, 2022). The assumption that TQM elements do not fit in HE (Mathur et al., 2022) did not support this research.

Managerial Implication

Some have questioned whether the critical TQM factors identified in the manufacturing sector in developed countries could be applied in entirely different contexts, such as HE in developing countries. This research identified seven critical success factors of TQM implementation in Indonesian private universities: customer focus, top management commitment, employee involvement, training and learning process management, benchmarking and quality information that must be fulfilled to implement managerial innovation supported with organisational learning. While the critical factors of HE, organisational learning and managerial innovation share certain parallels, the whole collection of critical factors in HE differs from the traditional critical factors mentioned in the literature. This shows that the unique processes of HE require various sets of essential success criteria while implementing TQM and organisational learning to boost managerial innovation. The leadership of

2023 Vol.27 No.1

universities and policymakers could focus on these factors to facilitate the implementation of managerial innovation.

Conclusion

Finally, the study provides an understanding of quality management practices and levels of organisational learning to implement managerial innovations in universities. However, based on the current state of its Total Quality Management practice, the university needs to catch up to the world-class standards of excellence of the Malcolm Baldrige National Quality Award (MBNQA). Indeed, two key elements of TQM: customer focus and employee engagement related to HR development, were rated lowest.

Since the results show a significant relationship between organisational learning and managerial innovation, it is recommended that higher education administrators play an essential role in achieving managerial innovation by creating the conditions of professional cooperation among teachers, designing courses based on learning the latest subjects, the university appropriately cooperates with other governmental and non-governmental organisations, provides new teaching facilities, changes the structure organisational structure of the university, revises the method of selecting professors, accepts suggestions and criticisms at the university. The university has a communication problem, which results in a low score for the systemic approach in the organisational learning structure.

Results are based on self-administered survey data, which may be subject to response bias. It is difficult to determine through surveys whether respondents' attitudes towards self-assessment are general or explicit. Since universities were the only subjects of this study, the reported result is not generalisable to other situations or contexts. Future research could focus on critical factors of TQM, organisational learning, and managerial innovation in other developing countries to determine if there are common critical factors for these structures in HE managerial environments.

References

- Alagaraja, M., Herd, A. M., (2022). Understanding Multi-level Learning in Organizations: A Comparison of Lean and the Learning Organization. *Performance Improvement Quarterly*, 34(4), 521-546.
- Albloushi, B., Alharmoodi, A., Jabeen, F., Mehmood, K. and Farouk, S., (2023). Total quality management practices and corporate sustainable development in manufacturing companies: the mediating role of green innovation. *Management Research Review*, 46(1), 20-45
- Antunes, M. G., Mucharreira, P. R., Justino, M. R. T., and Texeira-Quirós, J. (2021). Effects of Total Quality Management (TQM) dimensions on innovation-evidence from SMEs. Sustainability, 13(18), 10095.

POLISH JOURNAL OF MANAGEMENT STUDIES Hairul, Periyadi

- Azman, N., Sirat, M., Abdul Rahman, S., Ahmad, Y. and Komoo, I., (2023). Higher education leadership development in selected ASEAN countries: an exploratory study of challenges and prospects in public higher education institutions. *Compare: A Journal of Comparative and International Education*, 1-18.
- Azeem, M., Ahmed, M., Haider, S. and Sajjad, M., (2021). Expanding competitive advantage through organisational culture, knowledge sharing and organisational innovation. *Technology in Society*, 66, 101635.
- Basuki, B., Szczepańska-Woszczyna, K., Rajiani, I., Widyanti, R. and Kot, S., (2022). Working from home arrangement in delivering public service during the COVID-19 pandemic: innovation or irritation? Administration and Public Management Review, 39, 26-39.
- Bergek, A., Hellsmark, H. and Karltorp, K., (2023). Directionality challenges for transformative innovation policy: lessons from implementing climate goals in the process industry. *Industry and Innovation*, 1-30.
- Budayan, C., Okudan, O., (2022). Roadmap for the implementation of total quality management (TQM) in ISO 9001-certified construction companies: Evidence from Turkey. Ain Shams Engineering Journal, 13(6), 101788.
- Chen, C. K., Reyes, L., Dahlgaard, J. and Dahlgaard-Park, S. M., (2022). From quality control to TQM, service quality and service sciences: a 30-year review of TQM literature. *International Journal of Quality and Service Sciences*, 14(2), 217-237.
- Czerwińska, K., Piwowarczyk, A., (2022). The use of combined quality management instruments to analyze the causes of non-conformities in the castings of the cover of the rail vehicle bearing housing. *Production Engineering Archives*, 28(3), 289-294.
- Chin, T., Hu, Q., Rowley, C. and Wang, S., (2021). Business models in the Asia-Pacific: dynamic balancing of multiple cultures, innovation and value creation. *Asia Pacific Business Review*, 27(3), 331-341.
- Fauzi, M. A., (2022). E-learning in higher education institutions during COVID-19 pandemic: Current and future trends through bibliometric analysis. *Heliyon*, e09433.
- Fernandes, J. O., Singh, B., (2022). Accreditation and ranking of higher education institutions (HEIs): review, observations and recommendations for the Indian higher education system. *The TQM Journal*, 34(5), 1013-1038.
- Ghadermarzi, H., Ataei, P., Karimi, H. and Norouzi, A., (2022). The learning organisation approaches in the Jihad-e Agriculture Organisation, Iran. Knowledge Management Research and Practice, 20(1), 141-151.
- Grebski, M., Mazur, M., (2022). Social climate of support for innovativeness. Production Engineering Archives, 28(1), 110-116.
- Haffar, M., Al-Hyari, K. A., Djebarni, R., Al-Shamali, A., Abdul Aziz, M. and Al-Shamali, S., (2022). The myth of a direct relationship between organisational culture and TQM: Propositions and challenges for research. *The TQM Journal*, 34(5), 1395-1415.
- Horta, H., Santos, J. M., (2020). Organisational factors and academic research agendas: an analysis of academics in the social sciences. Studies in Higher Education, 45(12), 2382-2397
- Hunter, S. T., Walters, K., Nguyen, T., Manning, C. and Miller, S., (2022). Malevolent creativity and malevolent innovation: a critical but tenuous linkage. *Creativity Research Journal*, 34(2), 123-144.

2023 Vol.27 No.1

- Ismail, N., Kot, S., Abd Aziz, A. S. and Rajiani, I., (2020). From innovation to market: Integrating university and industry perspectives towards commercialising research output. Forum Scientiae Oeconomia, 8(4), 99-115.
- Jasti, N. V. K., Venkateswaran, V., Kota, S. and Sangwan, K. S., (2022). A literature review on total quality management (models, frameworks, and tools and techniques) in higher education. *The TQM Journal*, 34(5), 1298-1319.
- Jiménez-Jiménez, D., Martínez-Costa, M. and Para-Gonzalez, L., (2020). Implications of TQM in firm's innovation capability. *International Journal of Quality and Reliability Management*, 37(2), 279-304.
- Kretzschmar, A. and Gignac, G. E., (2019). At what sample size do latent variable correlations stabilise? *Journal of Research in Personality*, 80, 17-22.
- Kurowska-Pysz, J., (2020). The process of joint learning as a determinant of cross-border project management. Eastern Journal of European Studies, 11(SI), 47-76.
- Kurowska-Pysz, J., Szyszka, M., (2021). Assessment of Students' Benefits Resulting from their Participation in an Innovative Project: A Case Study. European Research Studies, 24, 40-51.
- Laasonen, V., Kolehmainen, J. and Sotarauta, M., (2022). The complexity of contemporary innovation policy and its governance in Finland. *Innovation: The European Journal of Social Science Research*, 35(4), 547-568.
- Lapoint, P. A., (2022). Malcolm Baldrige National Quality Award winners: A quantitative analysis between strategic planning and human resource variables. *Quality Management Journal*, 29(4), 289-298.
- Lis, M., (2021). Improving the Availability of University Offerings for the Business Sector Based on Blended Learning Tools. Cultural Management: Science and Education, 5(1), 93-103.
- Liu, X., Chai, J., Luo, Y., Wang, S. and Liu, B., (2022). How to achieve sustainable development: From the perspective of science and technology financial policy in China. *Environmental Science and Pollution Research*, 1-16.
- Malik, P., Garg, P., (2020). Learning organisation and work engagement: The mediating role of employee resilience. *The International Journal of Human Resource Management*, 31(8), 1071-1094.
- Mathur, S., Antony, J., Olivia, M., Fabiane Letícia, L., Shreeranga, B., Raja, J. and Ayon, C., (2022). An empirical study into the use of 7 quality control tools in higher education institutions (HEIs). The TQM Journal.
- Mol, M. J., (2018). Reflections on "the sources of management innovation" Mol and Birkinshaw, 2009. Journal of Global Scholars of Marketing Science, 28(3), 278-281.
- Morawska-Jancelewicz, J., (2022). The role of universities in social innovation within quadruple/quintuple helix model: Practical implications from Polish experience. *Journal* of the Knowledge Economy, 13(3), 2230-2271.
- Moscardini, A. O., Strachan, R. and Vlasova, T., (2022). The role of universities in modern society. Studies in Higher Education, 47(4), 812-830.
- Nasim, K., Sikander, A. and Tian, X., (2020). Twenty years of research on total quality management in Higher Education: A systematic literature review. *Higher Education Ouarterly*, 74(1), 75-97.
- Ozturk, E., Ozen, O., (2021). How management innovation affects product and process innovation in Turkey: the moderating role of industry and firm size. European Management Review, 18(3), 293-310.

POLISH JOURNAL OF MANAGEMENT STUDIES Hairul, Periyadi

- Nogueiro, T., Saraiva, M., (2023). TQM and SDGs for Erasmus+ Programme-Quality Education, Reducing Inequalities, Climate Change, Peace and Justice. Social Sciences, 12(3), 123.
- Putro, H. P. N., Hadi, S., Rajiani, I. and Abbas, E. W., (2022). Adoption of e-learning in Indonesian higher education: innovation or irritation?. Educational Sciences: Theory and Practice, 22(1), 36-45.
- Rajiani, I., Ismail, N., (2019). Management innovation in balancing technology innovation to harness universities performance in the era of community 4.0. Polish Journal of Management Studies, 19(1), 309-321.
- Rehman, U. U., Iqbal, A., (2020). Nexus of knowledge-oriented leadership, knowledge management, innovation and organisational performance in higher education. *Business Process Management Journal*, 26(6), 1731-1758.
- Rohlfer, S., Hassi, A. and Jebsen, S., (2022). Management innovation and middle managers: the role of empowering leadership, voice, and collectivist orientation. *Management and Organization Review*, 18(1), 108-130.
- Rasoolimanesh, S. M., Wang, M., Roldan, J. L. and Kunasekaran, P., (2021). Are we in the right path for mediation analysis? Reviewing the literature and proposing robust guidelines. *Journal of Hospitality and Tourism Management*, 48, 395-405.
- Savic, M., (2020). The Dawn of the Academic Revolution: An Individual Contribution to Shaping the Future of Universities. *World Futures Review*, 12(4), 385-395.
- Schechter, C., Qadach, M. and Da'as, R. A., (2022). Organisational learning mechanisms for learning schools. *The Learning Organization*, 29(2), 85-99.
- Sciarelli, M., Gheith, M. H. and Tani, M., (2020). The relationship between soft and hard quality management practices, innovation and organisational performance in higher education. *The TQM Journal*, 32(6), 1349-1372.
- Senge, P., Von Ameln, F., (2019). We are not in control—embrace uncertainty and trust in what emerges. Peter Senge on the legacy and future of Change Management. Gruppe. Interaktion. Organisation. Zeitschrift für Angewandte Organisations psychologie (GIO), 50(2), 123-127.
- Shuaib, K. M., and He, Z. (2022). Mediating effect of organisational learning and moderating role of organisational culture on the relationship between total quality management and innovation among manufacturing companies in Nigeria. *Total Quality Management and Business Excellence*, 1-36.
- Southworth, J., Migliaccio, K., Glover, J., Reed, D., McCarty, C., Brendemuhl, J. and Thomas, A., (2023). Developing a model for AI Across the curriculum: Transforming the higher education landscape via innovation in AI literacy. *Computers and Education:* Artificial Intelligence, 100127.
- Srivastava, S., Hussaini, N., (2023). Managing quality in higher education system: Insights from the literature. Management Research and Practice, 15(1), 63-79.
- Steenkamp, J. B. E., Maydeu-Olivares, A., (2023). Unrestricted factor analysis: A powerful alternative to confirmatory factor analysis. *Journal of the Academy of Marketing Science*, 51(1), 86-113.
- Subiyakto, B., Widyanti, R., Basuki, and Syaharuddin. (2020). Revitalising public university innovativeness through learning organisation. *Polish Journal of Management Studies*, 21(1), 369-381.

2023 Vol.27 No.1

- Tu, Y., Wu, W., (2021). How does green innovation improve enterprises' competitive advantage? The role of organisational learning. Sustainable Production and Consumption, 26, 504-516.
- Whittaker, J. A., Montgomery, B. L., (2022). Advancing a cultural change agenda in higher education: issues and values related to reimagining academic leadership. *Discover Sustainability*, 3(1), 10.
- Wróblewski, L., (2020). Building the Relationship Between Cultural Institutions and Citizens of a Small City Divided by the Border. *Cultural Management: Science and Education*, 4(1), 119-128.
- Zalewska, E., (2021). The application of continuous quality improvement methods at universities in the opinion of students and lecturers of the university of Lodz. *Folia Oeconomica Stetinensia*, 21(1), 175-190.

WSPÓŁZALEŻNOŚĆ CAŁKOWITEGO ZARZĄDZANIA JAKOŚCIĄ I ORGANIZACYJNEGO UCZENIA SIĘ DO INNOWACJI MENEDŻERSKICH

Streszczenie: W tradycyjnych środowiskach biznesowych zdolność do organizacyjnego uczenia się i całkowite zarządzanie jakością są istotnymi czynnikami wpływającymi na poziom innowacyjności. Należy jednak zbadać, czy to samo zjawisko wystąpi w instytucjach szkolnictwa wyższego. W literaturze istnieją różne poglądy na temat sukcesu i możliwości zastosowania całkowitego zarządzania jakością (Total Quality Management - TQM), organizacyjnego uczenia się i zasad innowacji w zarządzaniu w szkolnictwie wyższym (Heigher Education - HE). Niniejszy artykuł analizuje kluczowe aspekty sukcesu TQM na prywatnych uniwersytetach w Indonezji, stosujących innowacje w zarządzaniu. Dane zostały zebrane poprzez rozprowadzenie kwestionariuszy wśród 349 członków kadry uniwersyteckiej. Analiza Czynnikowa została wykorzystana do oceny podobieństw konstruktów, a Analiza Regresji Wielokrotnej została zastosowana do zbadania relacji między konstruktami. Jeśli HE przyjmuje innowacje w zarządzaniu, szkolenia i nauczaniu, zarządzanie procesami i benchmarking wyłaniają się jako podstawowe elementy sukcesu TQM. Odkryto, że organizacyjne uczenie się, bezpośrednio i pośrednio, wpływa na innowacje menedżerskie. Niniejsze opracowanie podkreśla, że organizacyjne uczenie się może wzmocnić i rozszerzyć innowacje menedżerskie. Organizacyjne uczenie się polega na zdobywaniu i doskonaleniu nowych informacji i umiejętności, zwiększając zdolność organizacji do innowacji.

Słowa kluczowe: zarządzanie edukacją, całkowite zarządzanie jakością, organizacyjne uczenie się, innowacje menedżerskie, uniwersytet

全面质量管理与组织学习的相互依存关系**管理**创新

摘要:在传统的商业环境中·组织学习能力和全面质量管理是推动创新水平的重要因素。但是,同样的现象是否会出现在高等院校中·还有待考察。文献对全面质量管理(TQM)、组织学习和管理创新原则在高等教育(HE)中的成功和适用性有不同的

POLISH JOURNAL OF MANAGEMENT STUDIES Hairul, Periyadi

看法。本文探讨了印度尼西亚私立大学全面质量管理在应用管理创新方面的关键成功方面。 通过向 349 名大学教职员工分发调查问卷来收集数据。 因子分析用于评估结构的共性,多元回归分析用于检查结构之间的关系。 如果 HE 采用管理创新、培训和学习、过程管理和基准测试,就会成为 TQM 成功的基本要素。 已经发现,组织学习直接和间接地影响管理创新。 本研究强调组织学习可以加强和扩大管理创新。 组织学习是获取和增强新的信息和技能,增强组织的创新能力。

关键词:教育管理,全面质量管理,组织学习,管理创新,大学

The Interdependence Of Total Quality Management And Organisational Learning To Managerial Innovation

ORIGIN	ALITY REPORT	-		
3 SIMIL	% ARITY INDEX	21% INTERNET SOURCES	23% PUBLICATIONS	14% STUDENT PAPERS
PRIMAF	RY SOURCES			
1	busines:	sdocbox.com		6%
2	WWW.en	neraldinsight.co	m	4%
3	Clouser. universit	tzkowitz, James "Shaping the enty: Two experime vation in higher her Education, 2	ntrepreneurial nents and a pr reducation", In	oposal
4	Submitt Student Paper	ed to Far Easter	n University	2%
5	bibliotek Internet Source	kanauki.pl		2%
6	organiza organiza	adiono Sutanto. ational learning ational creativity on of Universiti	capability and on organizat	ional

Indonesia", Asia Pacific Management Review, 2017

Publication

7	Hamed Ghadermarzi, Pouria Ataei, Hamid Karimi, Arash Norouzi. "The learning organisation approaches in the Jihad-e Agriculture Organisation, Iran", Knowledge Management Research & Practice, 2020 Publication	1%
8	repo-dosen.ulm.ac.id Internet Source	1%
9	jie.qazvin.iau.ir Internet Source	1%
10	V. Arumugam, Hiaw Wei Chang, Keng-Boon Ooi, Pei-Lee Teh. "Self-assessment of TQM practices: a case analysis", The TQM Journal, 2009 Publication	1 %
11	www.researchgate.net Internet Source	1 %
12	Submitted to Colorado State University, Global Campus Student Paper	1 %
13	Volberda, Henk W., Frans A.J. Van Den Bosch, and Cornelis V. Heij. "Management Innovation: Management as Fertile Ground for Innovation: Management Innovation:	1%

Management as Fertile Ground for Innovation", European Management Review, 2013.

Publication

14	trepo.tuni.fi Internet Source	1 %
15	Submitted to Universitas Sebelas Maret Student Paper	<1%
16	Submitted to University of London External System Student Paper	<1%
17	Submitted to University of New South Wales Student Paper	<1%
18	www.ncbi.nlm.nih.gov Internet Source	<1%
19	Submitted to Kampala International University Student Paper	<1%
20	Submitted to Higher Education Commission Pakistan Student Paper	<1%
21	researchspace.ukzn.ac.za Internet Source	<1%
22	Muhammad Asif, Muhammad Usman Awan, Muhammad Khalid Khan, Niaz Ahmad. "A	<1%

model for total quality management in higher education", Quality & Quantity, 2011

Publication

23	www.economics-sociology.eu Internet Source	<1%
24	Submitted to University of Hull Student Paper	<1%
25	file.scirp.org Internet Source	<1%
26	pureportal.spbu.ru Internet Source	<1%
27	Ghada M. Ibrahim, Imtissal Bachir El Akkaoui, Mohammed Waleed Wahbi. "Total Quality Management as a Tool for Marketing Performance Improvement: A Case of Oil and Gas Company in Iraq", Open Journal of Business and Management, 2024 Publication	<1%
28	Zengjian Huang, Amna Shahzadi, Yaser Daanial Khan. "Unfolding the Impact of Quality 4.0 Practices on Industry 4.0 and Circular Economy Practices: A Hybrid SEM- ANN Approach", Sustainability, 2022 Publication	<1%
29	docplayer.net Internet Source	<1%

30

Yaowen Zhang. "Fostering Enterprise Performance Through Employee Brand Engagement and Knowledge Sharing Culture: Mediating Role of Innovative Capability", Frontiers in Psychology, 2022

<1%

Publication

31

Kabir Musa Shuaib, Zhen He. "Moderating role of organizational culture in the relationship between total quality management and organizational innovation among manufacturing SMEs in Nigeria", African Journal of Science, Technology, Innovation and Development, 2023

<1%

Publication

Publication

32

Pantelis Sotirelis, Evangelos Grigoroudis.
"Total Quality Management and Innovation:
Linkages and Evidence from the Agro-food
Industry", Journal of the Knowledge Economy,
2020

<1%

Exclude quotes

Off

Exclude matches

Off