



**MEASURING LATENT VARIABLE ON TOTAL
QUALITY MANAGEMENT (TQM) AND SUSTAINABLE
PERFORMANCE IN MALAYSIA HOTEL INDUSTRIES
USING MULTI CRITERIA DECISION MAKING (MCDM)
APPROACH: A SEQUENTIAL EXPLORATORY MIXED
METHOD DESIGN**

by

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LIST OF ABBREVIATIONS

AHP	Analytic Hierarchy Process
ANP	Analytic Network Process
ARIADNE	Alternative Ranking Interactive Aid based on Dominance structural information Elicitation
AVE	Average Variance Extracted
BA	Bayesian Analysis
CB-SEM	Covariance-Based Structural Equation Modeling
CFA	Confirmatory Factor Analysis
CO ₂	Carbon Dioxide
CODASID	Concordance and Discordance Analysis Similarity Ideal Designs
COPRAS	Complex Proportional Assessment of Alternatives
CR	Composite Reliability
CV	Convergent Validity
CVC	Cross-Validated Communalities
CVR	Cross Validated Redundancy
DANP	DEMATEL-ANP
DEA	Data Envelopment Analysis
DEMATEL	Decision Making Trial and Evaluation Laboratory
DRSA	Dominance Based Rough Set Approach
DV	Discriminant Validity
E&E	Electrical and Electronics
ELECTRE	Elimination and Choice Translation Reality
EPA	Environmental Protection Agency
ER	The Evidential Reasoning Approach
ERA	Evidential Reasoning Approach
f^2	Effect Size
GAIA	Geometrical Analysis for Interactive Aid
GDP	Gross Domestic Product
GDSS	Group Decision Support System
GM	Geometric Mean
GNI	Gross National Income
GP	Goal programming

LIST OF ABBREVIATIONS

GRA	Grey Relational Analysis
GRIP	Generalised Regression with Intensities of Preference
HOPIE	Holistic Orthogonal Parameter Incomplete Estimation
HQM	Hotel Quality Manager
HTMT	Heterotrait-Monotrait ratio of correlations
ICT	Information and Communications Technology
ISM	Interpretive Structural Modeling
ISO	International Organisation for Standardization
LL	Lower Level
LVS	Latent Variable Scores
MACBETH	Measuring Attractiveness Categorial Base Evaluation Technique
MAGDM	Multi Attribute Group Decision Making
MAGIQ	Multi Attribute Global Inference of Quality
MAH	Malaysian Hotel Association
MAPPAC	Multi-criterion Analysis of Preference by means of Pair wise Actions and Criterion Comparisons
MAUT	Multi-Attribute Utility Theory
MCDM	Multi Criteria Decision Making
MCRID	Multiple Criteria Robust Interactive Decision
MOORA	Multi-Objective Optimization on the Basis of Ratio Analysis
MTTP	Malaysia Tourism Transformation Plan
MYR	Malaysia Ringgit
NATA	New Approach to Appraisal
NGTP	National Green Technology Policy
NIS	Negative ideal Solution
NKEA	National Key Economic Area
NRM	Network Relationship Map
NTP	National Transformation Programme
P/G%	Policy Goal Percentaging Analysis
PAIRS	Preference Assessment by Imprecise Ratio Statements
PAPRIKA	Potentially All Pairwise Rankings of All Possible Alternatives
PC	Pairwise Comparison
PIS	Positive Ideal Solution
PLS-SEM	Partial Least Square-Structural Equation Modeling

LIST OF ABBREVIATIONS

PRAGMA	Preference Ranking Global Frequencies Multicriterion Analysis
PRIME	Preference Ratios in Multiattribute Evaluation
PROMETHEE	Preference Ranking Organisation Method Enrichment Evaluation
Q ²	Predictive Relevance of Model
QFD	Quality Function Deployment
QM	Quality Management
R ²	Coefficient of Determination
RAIM	Randomization Aggregated Indices Method
RBV	Resource Based View
RICH	Rank Inclusion in Criteria Hierarchies
RPM	Robust Portfolio Modeling
SAW	Simple Additive Weighing
SD	Standard Deviation
SEM	Structural Equation Modeling
SIR	Superiority and Inferiority Ranking
SMAA	Stochastic Multicriteria Acceptability Analysis
SMART	Simple Multi-Attribute Rating Technique
SMARTER	SMART Exploiting Ranks
SPSS	Statistical Package for Social Sciences
STEM	Step Method
T&T	Travel and Tourism
TACTIC	Treatment of Alternatives According To Importance of Criteria
TBL	Triple Bottom Line
TOPSIS	Technique for Order Preference by Similarity to Ideal Solution
TQM	Total Quality Management
UL	Upper Level
UTA	Utilities Additive Method
VA	Value Analysis
VE	Value Engineering
VIF	Variance Inflation Factor
VIKOR	ViseKriterijumska Optimizacija I Kompromisno Resenje
WPM	Weighted Product Model
WSM	Weighted Sum Method

LIST OF SYMBOLS

A	Alternative
a	Performance Value
C	Nodes
C_n	Decision Criteria
c	Column
D	Normalised Initial Direct-Relation Matrix
E	Decision Elements
H	Number of Experts
I	Identity Matrix
N	Matrix Size
r	Row
T	Total Relation Matrix
W	Priority Vector
X^*	Answer Matrix for DEMATEL

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Pengukuran Pemboleh Ubah Pendam Antara Pengurusan Kualiti Menyeluruh (TQM) Dan Prestasi Kelestarian Dalam Industri Hotel Malaysia Menggunakan Pendekatan Multi-Kriteria Membuat Keputusan (MCDM): Reka Bentuk Kaedah Campuran Penerokaan Berturutan

ABSTRAK

Industri hotel adalah industri yang mempunyai buruh yang intensif dan dicirikan oleh ciri-ciri seperti kadar pusing ganti jumlah kakitangan yang tinggi, perkhidmatan / produk yang unik, dan tenaga buruh sementara. Industri ini juga didominasi oleh beberapa organisasi besar dan banyak organisasi kecil. Bukti dari pelbagai sumber menunjukkan bahawa firma besar lebih cenderung untuk melaksanakan program Pengurusan Kualiti Keseluruhan (TQM) daripada firma kecil. Manfaat TQM termasuk komitmen pekerja yang berkesan, peningkatan kepuasan kerja dan motivasi antara pekerja, peningkatan prestasi organisasi dan lain-lain lagi. Walau bagaimanapun, tidak ada bukti empirikal menunjukkan bahawa ahli akademik menilai hasil fenomena TQM dalam industri hotel Malaysia terutamanya bagi hotel empat dan lima bintang. Kajian ini bertujuan untuk meninjau isu-isu ini dengan menilai fenomena TQM yang dilaksanakan oleh organisasi hotel empat dan lima bintang berlokasi di Semenanjung Malaysia. Oleh itu, tesis ini mengamalkan pendekatan kaedah campuran penerokaan berturutan yang dicerminkan dalam metodologi penilaian. Fasa pertama mengumpul data kualitatif dari organisasi hotel melalui wawancara separa berstruktur. Matlamat Fasa 1 adalah untuk mengenal pasti amalan TQM yang telah dilaksanakan, dan untuk mengenal pasti pemboleh ubah pendam baru yang mungkin wujud di kalangan entiti hotel. Hasil fasa pertama menunjukkan bahawa etika perniagaan muncul sebagai dimensi baru yang perlu ditekankan dalam industri hotel agar industri hotel dapat bertahan dalam tempoh yang lebih lama. Kesimpulan Tahap 1 juga mengenal pasti hubungan antara TQM dan prestasi kelestarian, TQM dan etika perniagaan, etika perniagaan dan prestasi kelestarian, serta kesan pengantara etika perniagaan antara TQM dan prestasi kelestarian. Penyelidikan fasa kedua mempertimbangkan dan menilaikan kehadiran hasil yang telah dikenal pasti dari Tahap 1 dan memfokuskan pada hubungan antara konstruk. Hubungan antara TQM dan prestasi kelestarian, TQM dan etika perniagaan, etika perniagaan dan prestasi kelestarian, serta kesan pengantaraan etika perniagaan antara TQM dan prestasi kelestarian didapati adalah positif dan signifikan. Akibatnya, cadangan itu menyarankan bahawa organisasi hotel akan mendapat manfaat dari segi peningkatan prestasi kelestarian dengan penggunaan TQM yang berkesan dan juga pengamalan etika perniagaan.

Measuring Latent Variable on Total Quality Management (TQM) and Sustainable Performance in Malaysia Hotel Industries using Multi Criteria Decision Making (MCDM) Approach: a Sequential Exploratory Mixed Method Design

ABSTRACT

The hotel industry is labour intensive and characterised by features such as high staff turnover, unique end service/product, as well as transient labour force. The industry is also dominated by a few large hotel organisations and many small organisations. Evidence from various sources suggested that large firms are more likely to implement Total Quality Management (TQM) programs than small firms. Benefits of TQM include increased employees commitment, enhanced job satisfaction and motivation among employees, improved organisational performance and the list goes on. Nonetheless, there is no empirical evidence that academicians evaluate the outcomes of TQM phenomena within Malaysia hotel industries especially for four and five star hotels. This research set out to explore these issues by evaluating TQM phenomena implemented by four and five star hotel organisations within Peninsular Malaysia. Therefore, this thesis adopted a sequential exploratory mixed methods approach which was reflected in the evaluation methodology. The first phase collected qualitative data from hotel organisations through semi-structured interviews. The aim of Phase 1 was to identify what TQM practices were implemented, and to identify the possible new latent dimension inherent within the hotel entities. The results of phase one showed that business ethics emerged as a new dimension that need to be emphasised within hotel industries in order to sustain in longer period. The conclusion of Phase 1 also identified the relationship between TQM and sustainable performance, TQM and business ethics, business ethics and sustainable performance, as well as mediating effect of business ethics between TQM and sustainable performance. The second phase of the research measured the presence of the intended outcome identified from Phase 1 and focused on the relationship between the constructs. The relationship between TQM and sustainable performance, TQM and business ethics, business ethics and sustainable performance, as well as mediating effect of business ethics between TQM and sustainable performance were found to be statistically positive and significant. As a result, the research recommends that hotel organisations that adopt effective TQM and conduct business ethics as core element, will lead to increased sustainable performance.

CHAPTER 1: INTRODUCTION

1.1 Introduction

Overall, this chapter is divided into nine sections. Sections 1.2 and 1.3 discuss the background of study and problem statement, respectively. Next, the study's objectives are presented in Section 1.4, while the following section lists the research questions. Section 1.6 emphasises the significance of this study, whereas Section 1.7 describes the scope of study. Finally, definitions of key terms are shown in Section 1.8 and this chapter ends with Section 1.9, which presents the organisation of this thesis.

The tourism industry has experienced continuous growth since the 1950s and is one of the remarkably swift growing economic industries in the globe, with an annual growth rate ranging from 3% to 7% (Cohen & Cohen, 2015a), despite the fact that extremist assault in tourist regions as well as well-being and security issues concerning natural disasters (United Nations World Tourism Organisation, 2013). Tourism industry activities have notably conduced towards reinforcing the economy of various realms, encompassing developing countries. Not only that, the tourism industry plays a major part in the global economy by supplying a variety of amenities and services. In the hospitality industry, it is anticipated that hotels will keep on to execute vigorously beyond 2016 since the average GDP growth stays positive (Euromonitor International, 2016). Talabi (2015) reported that the hotel industry is a crucial part in the widespread hospitality industry that occupies a vital place in the economy of most countries, whereby this industry is forecasted to generate about USD 555 billion in revenue in 2020. Incessantly, 180,000 hotels were in

effective status far-flung in 2014, offering roughly 17 million rooms in totality (Smith Travel Research Global, 2014). For instance in Canada, in 2014, there were incessantly 8,000 hotel units providing 440,000 guest rooms, engaging 287,000 individuals, and creating more than \$ 16 billion per annum in revenue (Hotel Association of Canada, 2014).

In Malaysia, tourism is the second immense foreign exchange generator after the manufacturing industry, taking up for 5.7% of direct and 14.9% of indirect contribution to the Gross Domestic Product (GDP) in 2014, and this is anticipated to expand by 4.5% annually to Malaysia Ringgit (MYR) 262.2 billion by 2025 (Hospitality Valuation Services, October 2015). Malaysia has proven its ability in the tourism sector by being listed among the top 10 tourism destinations (Malaysian Investment Development Authority, 2015). Furthermore, income from the tourism sector was forecasted to rise by 4.0% in 2013 and by 4.6% pa between 2013–2022, generating MYR 90.7 billion in 2022 (World Travel and Tourism Council, 2012). This demonstrates that tourism sector is one of the prospective sectors that will facilitate the progress of Malaysia (Islam & Karim, 2011). On the other hand, the accommodation sub-sector in Malaysia has expanded 7.0% during the first half of 2014 (January to June 2014: 6.1%), due to the expansion in the total hotel rooms supply from 189,843 in 2013 to 197,030 at the end of June 2014, among them Kuala Lumpur proceeded to conduce the highest supply at 17.4% (Malaysia Economic Report, 2015). These statistics support the Malaysia Tourism Transformation Plan (MTTP), which is one of the strategies implemented to attain National Key Economic Area (NKEA), with the aim to transform Malaysia into a high-income nation by 2020.