

The Impact of Tqm Factors on Firms' Performance; With Reference To the Seafood Manufacturing Company in Sri Lanka

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Abstract: *The Study Is Based On Exploring Relationships Between Identified TQM Factors And Their Performance With Regard To Those Factors. A Questionnaire Was Given To A Group Of Employees In ABC Company In The Seafood Industry In Sri Lanka. The Importance Of TQM Factors Is Widely Recognized. Its Effect On Co-Worker Performance And Innovation Has Been Examined By Previous Research. Analysis Of The Data Obtained Shows A Positive Relationship Between The Implementation Of TQM Practices (Factors) And Firm Performance. This Study Too Is In The Same Direction. Thus Researchers Reviewed The Context As A Whole The Impact Of Innovation Performance And Employee Performance Are Complex In Extent. The Model Is Accepted To The Partially To The Considered Industry With The Results. This Study Has Important Implications For Managers. First, It Motivates Managers (And Provides A Justification) To Invest In The Time And Resources To Implement TQM Programs. Based On The Results Of This Study, The Implementation Of TQM Practices Is Associated With Enhanced Firm Performance. Second, Evidence From This Study Signals The Importance Of Developing An Environment Or "Culture" Of Support To Further Enhance The Performance Outcomes Of TQM Implementation.*

Keywords -*Total Quality Management, Performance Management, Firm Performance, Employee Performance*

I. Introduction

TQM Is A Management Philosophy That Seeks To Integrate All Organizational Functions (Marketing, Finance, Design, Engineering, Production, Customer Service Etc.) In Meeting Customer Needs And Organizational Objectives. The Core Ideas Of Total Quality Management (TQM) Were Introduced In The Mid - 1980's By W Edwards Deming, Joseph Juran, And Kaoru Ishikawa (Hackman, 1995). However It Is Generally Acknowledged That TQM Is Not A Clear Concept (Hackman And Wageman 1995)

TQM Is Generally Understood As An Integrated Organization Strategy For Improving Product And Service Quality (Waldman, 1994). Since The Mid-Eighties TQM Has Been Sold As A Near-Universal Remedy For A Range Of Organizational Problems, Such As Improved Organization Performance. This Is Remarkable Considering Academics Have Acknowledged For Many Years That Universal Principles Cannot Be Successfully Applied To Organizations. Contingency Theory With Its "No One Best Way" Dictum, Asserts That High Performance Is A Function Of The Alignment Between Organization Systems And Various Context Factors.

The Identification Of Contextual Factors Effecting The Successful TQM Implementation Has Thus Emerged As An Important Research Agenda (Douglas & Judge, 2001; Sadikoglu, 2004). Within The Context Of Successful TQM Implementation, There Is Increasing Recognition Of The Importance Of Human Factors In Quality Management (Brah, 2002; Chen, 1997; Foket Al., 2000; Golharet Al, 1997; Montes Et Al., 2003). Many Of The Basic Elements Of TQM Involve People, Such As Teamwork, Participative Management, Creativity, Effective Communication, Customer Feedback, Employee Involvement And Empowerment, Employee And Management Trust And Support (Allen, 1997). For An Organization To Realize The Benefits Of TQM, The Consideration Of Human Factors Is Critical For The Successful Implementation Of TQM. Human Factors Previously Identified In The TQM Literature Include Management (Leadership) Style, Type Of Employees, Departmental Interaction, Management Commitment, Employee's Attitude Toward Change, Authority To Empower Employees, Rewards/Recognition For Innovation And Citizenship Behaviors (Mann And Kehoe, 1995; Montes Et Al., 2003) This Study Examines Two Human Factors: Co-Worker Support And Organization Support These Two Support Variables Are Consistent With The View That Employees' Perception Of Tolerance, Support, Cohesion And The Intrinsic Acknowledgement Of Employees Organizational Contributions Are Important Factors In The Successful Implementation Of TQM (Montes Et Al., 2003). TQM Implemented Within A Supportive Organization Environment Is More Likely To Motivate Employees To Work Harder And Smarter In Achieving Quality Outcomes For The Organization (Hackman And Wageman, 1995) The Purpose Of This Study Is, Therefore, To Firstly Examine The Association Between The Implementation Of TQM Practices And Organization Performance, Given Past Equivocal Results; And Secondly, To Examine The

Moderating Effect Of Co-Worker Support And Organization Support On The TQM/Performance Relationship, Consistent With A Contingency Theory Approach.

II. Research Gap

The Effectiveness Of TQM As A System For Organizational Improvement Has Been Widely Reviewed In The literature. TQM Is An Important Management Tool, Which Can Offer Business With Stability, Growth, And Prosperity (Issac, 2004). In Order To Achieve The Requirement Of Quality, Companies Have To Put The Effort On The Implementation Of TQM. Therefore, Companies Will Introduce Quality Management Practice To Integrate internal Information Communications With TQM Philosophy Effectively. In Addition, The Application Of TQM Mechanisms Is Also Important To Develop The Relationship Between Organizations And Their Suppliers.

Moreover, The Application Of TQM Can Also Increase The Satisfaction Of The Customer By Providing Preeminent Products Or Services. The Success Of Every Quality Management Concept Depends On Its Successful Implementation Within The Company. In Practice, However, The Implementation Of TQM Is A Complex And Difficult Process And The Advantages Are Not Easily Achieved (Rad 2006). Therefore, Investigating Critical Factors That Determine The Success Of TQM Implementations Is Particularly Important. Studies Show That These Factors Have A Positive Influence On Firm Performance (Hietschold, 2014).

TQM Views An Organization As A Collection Of Processes. It Maintains That Organizations Must Strive To Continuously Improve These Processes By Incorporating The Knowledge And Experiences Of Workers. The Ultimate Goal Of Exploring The Research Context Is To Examine The Association Between TQM Practices And Performance Measures And To Identify Impact Of Employee Performance And Innovation Performance As Mediator

III. Theoretical Background

TQM Procedures In Manufacturing Process Yields Effective Production And Superior Level Of Quality. Emphasis Of Human Factors And Value Chain As A Whole TQM Outlook As Holistic Management Approach (Hietschold, Reinhardt, & Gurtner, 2014; Welikala And & Sohal, 2008; Demirbag, Tatoglu, Tekinkus, & Zaim, 2006). As Per The Applied Context, Following Variables Were Identified To Investigate; Training, Leadership, Information And Analysis, Employee Management, Process Management, Supplier Management, Continuous Improvement, And Customer Focus, And The Performance Measures Were Firm Performance, Employee Performance, And Innovation Performance Which Investigated In Turkey In Different Perspective (Sadikoglu & Zehir, 2010).

Training

Massive Improvements Will Yield Through Successful Empowerment And Involvement Of Employees To The TQM Practices That Achieve The Competitive Advantages For Establishment. Accordingly Mendes (2012) Stated That Training Of Quality Improves The TQM Procedures In Organizational Setting. To Form A HR Performance Evaluation Method Based On Quality Is Favorable To Include Factors Of Training Needs And Employee Motivation (Aquilani, Silvestri, Ruggieri & Gatti, 2017).

Leadership

The Existing Body Of Knowledge Derived Leadership Very Precisely On Organizational Setting And CSF Factor In TQM As Well. Empowering Employees To Solve Problems Creatively And Adapt Organization Setting Could Meticulously Define Leadership (Dedy Et Al., 2016). As Per The Understanding With Sadikoglu And Zehir (2010) Explained The Subordinates' Activities Can Be Organized And Motivated In Total Quality Setting By Leaders To Achieve The Common Goal Of The Organization.

Information And Analysis

Need Of Relevant Data To Measure, Scrutinize Or Review The Process Is Necessary Which Leads The Way Of Smoothly Achieving Of TQM Process. Timely Data And Information Will Provide For All Parties Of Organizational Setting To Enhance Efficiency, Innovation And Effectiveness Those Information Should Provide Reliability, High Quality And Timeliness (Sadikoglu & Zehir, 2010).

Employee management

Cross Teams Are Efficient In TQM Setting In Order To Anticipate Future Matters Which Support Explore, Design, Production, Sales And Planning Functions Instead On Single Decision Making As Per The Deming Explorations. Thus Employee Management Requires To Investigate As An Antecedent Impact On Performance.

Process Management

The Literature Reviews Process Management As Set Of Predetermined Methodologies, Components To Achieve Objectives. According To Sadikoglu And Zehir (2010), Separate Approaches Of Preventive And Proactive Are Included In Process Management.

Supply Management

Supplier Management Has Being Reviewed By Plethora Of Articles As Crucial For TQM As A Dimension, If The Concern Is Quality; Buyers Should Be Select On Quality In Spite Of Cost (Hackman & Wageman, 1995). It Was Discovered That Product Quality And Productivity Uplift With Specified Suppliers And Encourage Supplier To Enhance Quality (Ansari & Modarress, 1986; Kaynak, 2003) As Per The Plethora, No Of Researchers Explored Supplier Management Directly Impacts On Performance (Kaynak, 2003).

Continuous Improvement

Simply The Concept Understand By Researcher Is Endless Process Of Uplift Production Process To Next Level. New Advancements Can Satisfy Consumer Requirements As An Interrelated Chain (Dean Jr. & Bowen, 1994).

Customer Focus

Production Is Required To Be Focus On Fulfilling Consumer Requirements To Triumph Objectives. As Per The Deming (1986) Clearly Explained That The Importance Of Focusing On Consumer And Exceed The Expectation Which Ultimately Conquer The Objectives Of Production. Thus, Systematic Review Of Consumer Is Required, Which Lead The Producer To Identify Changes Of Demand, Consumer Preferences.

IV. Methodology

The Researchers Acknowledged Framework To Realize The Elements Of TQM Which Are Relating To Employee Innovation And Firm Performance. And Investigate Mediation Effect To Firm Performance By Employees And Innovations Reviewing Existing Body Of Knowledge. Further The Model Is Accepted (Sadikoglu & Zehir, 2010) Pre-Tested Model, It Applied To The Sea Food Manufacturing Industry (Refer Figure 4.1).

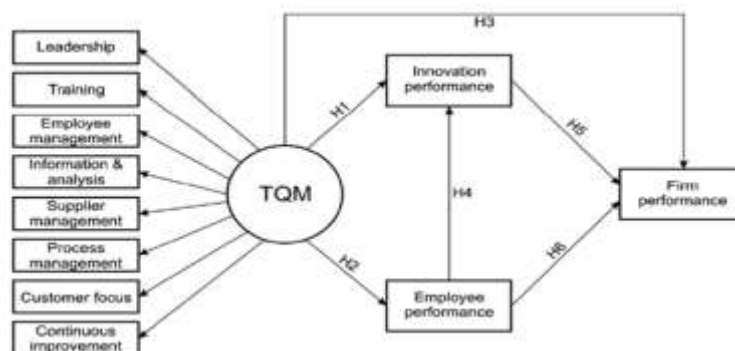


Figure 4.1: Conceptual Framework (Sadikoglu & Zehir, 2010)

The Cross Sectional Survey Methodology Was Used To Collect Data, For Probability Of Data Analyzed At 5 Percenterror Margin. TQM Factors And Performance Measures Were Investigated In Literature (Aquilani Et Al., 2017; Hietschold Et Al., 2014 & Dedy Et Al., 2016), The Results Vary In Different Context. Observed Sample Was Subjected To ISO Certified Plant Employees. Thus Random Sampling Was Used As Per The Pool Of Applicants. The Measurements Were Tested To Identify The Relationships, Impact And Mediation Impact, Thus Analyzed The Construct Using Statistical Tools Of Bivariate Correlation, Regression, And Descriptive Statistics To Investigate Positive Relationships And Impacts. As Per The Data Presentation Methods Tables, Bar Charts And Explanations Was Used.

V. Analysis And Discussion

Observed Sample Was 140 For The Considered Population Which Is Characterized In Table 5.1. The Data Was Normally Distributed. Analysis Was Performed To Observe Considered Model In Order To Prove

Hypotheses. Sample Was Adequate And Reliable For The Analysis Based On The Cronbach's Alpha Statistics Of 0.954.

Table 5.1: Reliability Statistics

Variable	Cronbach's Alpha	N Of Items
TQM	.959	40
IP	.530	2
EP	.180	3
FP	.519	5

Source: Developed By The Researchers

The Sample Description Was Analyzed As Bellow.

Table 5.2: Sample Description

	Category	Percentage
Employment	Top Management	8.6
	Middle Management	17.1
	Workers	74.3
Gender	Male	10.7
	Female	89.3
Service	1-5 Years	80
	6-10 Years	15.7
	11-15 Years	3.6
	16-20 Years	0.7
Department	Production	73.6
	QC	10.7
	QA	2.1
	Administration	6.4
	HR	4.3
	Finance	2.9
Education	O/L	74.3
	Degree	17.1
	M.S.C	8.6

Source: Developed By The Researchers

Researchers Were Analyzed The Data As Follows To Prove Hypotheses Use Of Correlation Analysis And Regression Which Describes Comprehensively Bellow With Output.

Table 5.3: Correlation Analysis

	TQM	EM Performance	Firm Performance	Innovation Performance
TQM	1	.892**	.866**	.861**
EM Performance	.892**	1	.732**	.720**
Firm Performance	.866**	.732**	1	.953**
Innovation Performance	.861**	.720**	.953**	1
	.000	.000	.000	.000

Source: SPSS Output Of Study Done By Researchers

H1. TQM Practices Are Positively Related To Innovation Performance.

Leadership Arrays The Character For A Quality. Quality Circles Or Quality Improvement Teams Will Help To Make Employees Feel They Are Valued, Respected, And Important. Employee Participation In Management And Problem-Solving, Importuning Their Ideas For Improving And Developing New Products And Methods. Also Vesting Them In Managing Their Daily Work And Teamwork Will Expand. Participative Guidance Motivates Employees Move Forward Their Individual Goals Which Directly Related With Organization's Goals. Employees Should Not Feel Fear Or Job Insecurity In A Total Quality Setting And Management Initiates Open Communication Between Employees And Management About Empowerment. So That Employees Will Feel A Sense Of Ownership. Research Outputs Shows The Extent To Which Different Factors Are Discrete. As Annex 01 and Tables shows, The Correlation Coefficients Between TQM Factors Directly Effect To The innovation Performance Of The Workers. The Bivariate Correlations Factor Of The TQM Index With Innovation Performance Indicates 0.816. Also These Correlations Are Statistically Significant At The 0.000 level; There Is Strong Criterion-Related Validity.

H2. TQM Practices Are Positively Related To Employee Performance

Effective Teamwork Can Increase Employees' Acquaintance Of Their Jobs And The Evenness Of Their Exertions Also It Will Help To Improve Operations Performance Such As Reduced Charge And Improve The Finish Product Quality. Statistical Analyses Of Related, Up-To-Date, Unswerving, Information Will Aid Monitoring Of The Management Systems And Processes For Civilizing Performance In A Total Quality Setting (Gluckmanand, 1993; Hackman &Wageman,1995). The Bi-Variate Correlations Factor Of The TQM Index With Employee Performance 0.882. Also These Correlations Are Statistically Significant At The 0.000 Level, There Is Strong Criterion-Related Validity.

H3. TQM Practices Are Positively Related To Firm Performance.

Satisfied And Motivated Employees Will Contribute To Improving Quality, Generating New Ideas For Product, Service, Or Process Improvements, And Introducing New Products Or Services In The Marketplace In A Timely And Effective Way. The Bivariate Correlations Factor Of The TQM Index With Employee Performance 0.866. Also These Correlations Are Statistically Significant At The 0.000 Level.

H4. Employee Performance Is Positively Related To Innovation Performance.

Businesses Bringnew Products To Encounter Changing Customer Expectations, To Improve Customer Satisfaction And Loyalty And Thereby To Become Competitive In The Market. New Productwill Reduce Cost And Can Meet Customers' Demands (Fuentes, Saez, &Montes 2004) Growth Product Quality (Prajogo&Sohal, 2003) And Development Process. The Bivariate Correlations Factor Of The Employee Performance With Innovation Performance 0.720. Also These Correlations Are Statistically Significant At The 0.000 Level, There Is Strong Measure Related Validity.

H5. Innovation Performance Is Positively Related To Firm Performance.

Contracting Of New Employees Always Very Expensive (Monk &Wagner, 2006). In A Total Quality Scenery, Problems Occur Since Of Employees, Because They Are Given Necessary Training Or Transferred To Other Positions, Rather Than Hiring New Employees. This Practice Will Make The Firm Develop By Saving The Engagement Cost (Goetsch& Davis, 2006; Monkand, 2006). The Bivariate Correlations Factor Of The Innovation Performance With Firm Performance 0.953. Also These Correlations Are Statistically Significant At The 0.000 Level, There Is Strong Measure Related Validity.

H6. Employee Performance Is Positively Related To The Firm Performance.

As Per The Observations Of Sadikoglu And Zehir(2010) Finds That TQM Contributions Improve Firm Performance Over The Employee Performance Indirectly. Furthermore, Less No Of Empirical Evidence On Impact Of TQM Practices On Employee Performance (Sila, 2007).While Researchers Investigated Strong Positive Relationship Between Constructs (.732) With Significant Level Of .000 (Table 5.2).

H8. The Impact Of TQM Practices On Firm Performance Is Mediated By Innovations Performance

Table 5.4 : Model Summary Of IP, TQM & FP

R	R Square	Adjusted R Square	Std. Error Of The Estimate	Durbin-Watson
.957 ^a	.916	.915	.13962	2.272

Source: SPSS Output Of Study Done By Researchers

Table 5.5:Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.082	.099		.822	.413
TQM	.161	.045	.174	3.572	.000
Innovation Performance	.809	.049	.803	16.471	.000

Source: SPSS Output Of Study Done By Researchers

When Observe The Measurements As Per Hypotheses, Researcher Tested The Impact Of TQM Factors To Innovation Performance Which Found To Be Strong Impact (0.792) Refer Annexure A. The Impact Of Innovation Performance And Firm Performance Also Reflected Very Strong Impact Towards Firm Performance.Furtherconsider The Mediation Role Of Innovation Performance, It Fitted On The Context 91.5% As Per The Model Applicability. Indeed, Empirical Research Addressing Successful TQM Implementation Is "Carrying Out" For A Contingency Theory Approach: While Most Studies Report A Positive Relationship Between TQM And Performance (Brah Et Al., 2002; Hendricks &Singhal, 2001;Kaynak, 2003; Terziovski&Samson, 1999).

H7. The Impact Of TQM Practices On Firm Performance Is Mediated By Employee Performance

Table 5.6: Model Summary Of TQM, EM And FM

R	R Square	Adjusted R Square	Std. Error Of The Estimate	Durbin-Watson
.870 ^a	.757	.754	.23712	2.609

Source: SPSS Output Of Study Done By Researchers

Table 5.7 : Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.016	.175		5.801	.000
EM_Performance	-.212	.099	-.199	-2.134	.035
TQM	.967	.086	1.043	11.193	.000

Source: SPSS Output Of Study Done By Researchers

Mediator Impact Of Employee Performance Indicate The Model Adequacy With Firm Performance 75.4 Percent. In Comparative The Impact Of TQM Factors With Employee Performance Directed Researchers To Identify 75.4 Percent Model Adequacy At Significant Level. The Impact Of Employee Performance On Firm Performance Identified As Strong Impact 0.778 But 53.5 Percent Of Model Adequacy (Refer Annexure B) In Further Investigations. As Per The Context, Employee Performance Partially Mediate The Firm Performance.

VI. Conclusion

Factors Of TQM Is Severely Impact And Related With Performance Of The Context. TQM Factors Are Positively Related To The Firm Performance Denoting Strong Positive Relationships. Controversially, The Mediator Impact Of Innovation Performance Indicated Full Impact And Employee Performance As A Mediator Interfere To The Model Partially. But While Consider The Finding Separately Generated Solid Combination Between Constructs.

Thus Researchers Reviewed The Context As A Whole The Impact Of Innovation Performance And Employee Performance Are Complex In Extent. The Model Is Accepted To The Partially To The Considered Industry With The Results.

This Study Has Important Implications For Managers. First, It Motivates Managers (And Provides A Justification) To Invest In The Time And Resources To Implement TQM Programs. Based On The Results Of This Study, The Implementation Of TQM Practices Is Associated With Enhanced Firm Performance. Second, Evidence From This Study Signals The Importance Of Developing An Environment Or “Culture” Of Support To Further Enhance The Performance Outcomes Of TQM Implementation.

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Annexure A

Table 1: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.917	.153		5.987	.000
	TQM	.792	.040	.861	19.896	.000

A. Dependent Variable: Innovation_Mean

Annexure B

Table 2: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.867	.241		3.600	.000
	EM_Performance	.778	.062	.732	12.607	.000

A. Dependent Variable: Firm_Performance