

Moayyad AL-FAWAEER¹

Collage of Business, Al - Zaytoonah University of Jordan, Jordan

Mousa KHAIREDDIN

Khawarizmi University Technical College, Jordan

THE IMPACT OF QUALITY MANAGEMENT(QM) ON JOB SATISFACTION ACROSS KNOWLEDGE SHARING AS A MODERATING VARIABLE IN GREATER AMMAN GOVERNORATE

Case
Study

Keywords

QM;
Leadership;
Employee Empowerment;
Continuous Improvement;
Job Satisfaction;
Knowledge Sharing

Abstract

The study analyses the impact of quality management (QM) on Job Satisfaction in Greater Amman Governorate and verifies the role of Knowledge sharing as a moderating variable on this impact. A simple random sample of 242 middle managers was selected. A questionnaire was developed and distributed to participants; 207 valid questionnaires were retrieved, at a 85.53% response rate. The subsequent statistical analysis of the collected data used both SPSS and AMOS computer programmes. The study based on the data analysis revealed that QM has a marked impact on job satisfaction and that knowledge sharing plays a significant role as a moderator in this impact.

¹ Corresponding author

INTRODUCTION

In the rapidly changing era of Information Technology, exposed to different cultures and people's changing needs and preferences, companies compete to exceed customers' expectations. They update and upgrade their employees' competencies and their competitive capabilities so as to meet customers' wants and obtain their satisfaction. Quality is an important competitive priority (Foster, 2016; Idris and Naqshbandi, 2019; Oakland, 2011; Phusavat and Kanchana, 2008; Hung, Hung & Lin, 2015). However, it varies from person to person, from place to place and from time to time so that what is essential today may become inessential tomorrow. Ward, McCreery, Ritzman & Sharma (1998) mentioned that the understanding of quality differs from person to person and function to function. There is an impressive number of definitions aiming to define the concept as accurately and comprehensively as possible. This makes quality a vital reason to improve job satisfaction, together with the interaction among employees, systems and products. Quality is not random; it is a science that has to be shared between supervisors and subordinates to achieve goals. Customers can provide adequate knowledge as to how to reach the level of quality that customer looks for.

The purpose of this study is to look into the impact of QM (through the interaction of three engagements: management engagement that is expressed by managers' leadership style, employee engagement expressed by employee empowerment, and process engagement expressed by continuous improvement) on job satisfaction across knowledge sharing as a moderating variable in Greater Amman Governorate in Jordan. The study focuses on three questions:

- Is there a direct impact of QM (through the interaction of its elements: leadership, employee empowerment, continuous improvement process) on job satisfaction in Greater Amman Governorate?
- Does knowledge sharing improve the impact of QM on job satisfaction in Greater Amman Governorate?

The study suggests a conceptual framework illustrating the relationships among variables as shown in Figure no. 1 and proposes the following hypotheses:

H1: Q M has a statistically significant impact on job satisfaction in Greater Amman Governorate.

The following sub-hypotheses derive from the 1st main hypothesis

- **H11:** Leadership styles in management have a statistically significant impact on job satisfaction in Greater Amman Governorate.

- **H12:** Employee empowerment has a statistically significant impact on job satisfaction in Greater Amman Governorate.

- **H13:** Continuous improvement process has a statistically significant impact on job satisfaction in Greater Amman Governorate.

H2: Knowledge sharing has a statistical significance in improving the impact of QM on job satisfaction in Greater Amman Governorate.

LITERATURE REVIEW

Quality Management (QM)

Quality in its simplest definitions is a general term applicable to any individual or comprehensive characteristic (Webster's Ninth New Collegiate Dictionary, 1983). It also means the degree of excellence and recognition, as defined by the Oxford Dictionary (1989), which can satisfy customers'/recipients' needs and preferences (Deming, 1986). TQM has also been analysed from several perspectives: thus, according to Chorn (1991), it is a new way of thinking about organization management. Longothesis (1997) saw it as a culture that promotes the concept of full commitment to customer satisfaction through continuous improvement and innovation in all areas of work. Oakland (2011) argued that it is a comprehensive approach aiming at improving competitiveness, efficiency and flexibility in the organization through planning, organizing and understanding each activity and involving each individual at any organizational level in the organization. Krajewski, Ritzman & Malhotra (2018) defined it as a philosophy that focuses on three principles in order to achieve high performance and process quality; these principles are related to customer satisfaction, employee participation, and continuous improvement. Campell and Rozsnayi (2002) held that QM is excellence, fitness for purpose, enhancement or improvement; they also believed that understanding the various perceptions of quality makes it easier to attain and provides bases for communication and planning. Foster (2016) stated that a correct implementation of QM will improve companies' effectiveness on the market and will bring about numerous advantages.

Prajogo and Sohal (2003) pointed out that QM has been addressed from several perspectives as illustrated in the literature in the field. Dow, Samson & Ford (1999), Flynn, Schroeder & Sakakibara (1995) and Powell (1995) discussed QM from three angles: customer focus, human resource focus and leadership focus. De Miranda (2003) and Prajogo and Hong (2008) paid more attention to strategic planning, leadership, information and analysis, customer focus, process management and people

management while Curkovic, Vickery & Droge (2000) stated that the most successful dimensions of TQM are customer focus, employee empowerment and top management support. Heizer, Render, Munson & Shachan (2017) were of the opinion that the development of ISO9000 standards as the quality system defined eight management principles where the first five include: leadership, customer satisfaction, continual improvement, employee involvement and process analysis. Bouranta, Psomas, Suárez-Barraza & Jaca (2019) held that the most important quality management factors in service companies are: top management practices, process management, employee management, customer focus and the level of knowledge and training of employees. Kaur, Singh & Singh (2019) also examined the most important six success factors in the overall quality management of the supply chain. He concluded that these factors are: top management commitment, customer focus, employee involvement, training and education, continuous improvement and process management. Based on the above literature the study groups the most important principles of QM into four main engagements: customer engagement (expressed by customer satisfaction), management engagement (expressed by leadership style and/or strategic planning), employee engagement (exemplified by employee empowerment) and process engagement (illustrated by continuous improvement). Three of these engagements are dealt with in this study because they are directly related to employee job satisfaction. Since quality management focuses on employee empowerment, it is necessary to raise employees' awareness about the principles of QM and train them how to use QM tools in their work. When top managers are highly committed to QM and act as quality leaders, they can inspire subordinates, which increases their attitude towards QM and its effective implementation. Continuous improvement is the essence of QM and plays a vital role in implementing it in a proper and efficient manner.

Leadership

Although there is no consensus on a commonly agreed upon definition of the leader, most of the definitions do not differ in terms of the characteristics and attributes of a leader; thus, generally a leader is defined as a person who can influence his/her followers to achieve certain goals. According to Burns (1978) a leader is a person who instills hope instead of controlling. A leader forms, develops, protects, adopts values and begins implementing them. A leader inspires his subordinates and shares knowledge and experience with a view to raise subordinates' motivation and morality. A leader is, in short, a person who takes their followers to a place they never imagine that they would be able to reach on their own.

Besterfield, Besterfield-Michna, Besterfield-Sacre, Besterfield & Urdhwareshe (2011) considered that managers should behave as leaders not as managers if they aim to succeed in managing quality in their organizations: they should be innovators rather than imitators, inspire employees rather than control them, develop instead of maintaining, think strategically rather than focus on short-term objectives, change and improve rather than keep the status quo. They should also improve their own knowledge and skills to implement QM. They should have a vision of QM, perform their own QM tasks by themselves without delegating them to others; they should foster transparency and disclosure and ensure the resources necessary for a successful application of quality management in the organization. Stephen Covey (1989) identified seven characteristics of an effective manager. Covey added that if a characteristic lies in the interaction of knowledge, skill and desire then there are seven characteristics:

1. Be proactive
2. Begin with the end in mind
3. Put first things first
4. Think how you win and others win
5. Try to understand others so that they understand you
6. Operate in synergy with others
7. Sharpen your sword- be always alert!

Employee empowerment

According to the Oxford Dictionary, Empowerment is the act of giving someone more control over their life or situation they experience at the moment. Tunks (1992) believed that empowerment makes a person believe that he or she can accomplish something on their own or with others. Honlund (1997) considered empowerment as the individual's independence and his control over their work. According to Conrad (1999) empowerment is achieved by sharing responsibility and contributing to decision-making in order to achieve loyalty. Besterfield et al. (2003) defines empowerment as the environment that enables people to have the ability, the commitment to be able to improve processes and take steps to satisfy customers. Khairuddin (2015) identified seven elements in a real empowered employee: competence (knowledge, skills, abilities), training (organized training process), incentives (tangible and intangible), confidence (respect and freedom), transparency (axis to information), authority (decision making), the sense of ownership (they feel they own their job). Considering the above-mentioned elements it is crucial for effective leaders to promote and develop employee empowerment as it is important for building organizational core competences as well as employee career planning. Thus, each employee is interested in acquiring new knowledge and skills and appreciates that his company invest in him. This

will enhance job satisfaction and improve their loyalty to their companies.

Continuous Improvement

Khairuddin (2015) held that quality is dynamic and it should encompass products, individuals, processes and environments in order to enable managers to cope with changes in customers' needs and desires. This is the essence of the concept of continuous improvement which must cover the main production system and its subsidiary systems from inputs (financial, physical, human and information resources), processes (technology, procedures, expertise) and outputs (goods, services and social responsibility) in order to ensure satisfaction of all stakeholders.

In an article published in the Quality Management Journal of the American Society of Quality, Smith (1994) identified five categories of problems that need to be addressed and improved:

- Compliance problems: such problems appear when the outputs of the production system are not conform to the specifications when compared to the required standards.
- Unstructured Problems: customers' reactions and feedback are not taken into consideration.
- Efficiency problems: such problems arise when there is a weakness in productivity or an increase in costs or waste of resources.
- Process Design Problems: such problems are due to poor design and use of inappropriate technology for required processes.
- Problems with Product Design: as a result of weakness in the design of the product so that it does not perform as designed or the performance does not satisfy the customer.
- Huffman (1997) identified four strategies for continuous improvement (in an article also published in Quality management Journal of the American Society for Quality). As each strategy begins with the letter R the structure is called the 4-Rs of Continuous Improvement:
- Repair: the mistakes are fixed until the product or process becomes better than before.
- Refinement: the process (efficiency and effectiveness) is improved in a gradual and cumulative manner.
- Innovation: this time a breakthrough occurs in the process of continuous improvement, resulting in the innovation of a new product or process.
- Reinvention: This is the most required strategy in continuous improvement and it is based on the fact that the current product or service cannot meet the needs of the customer so another method to achieve his/her satisfaction has to be discovered or invented.

Knowledge Sharing

According to Sang et al., (2019) many managers face problems when encouraging individuals to

share knowledge, especially in organizations where individuals feel that sharing their acquired knowledge with other employees will negatively affect their privileged position (Cabrera and Cabrera, 2005). Kim, Lee, Park & Yun (2015) stated that one of the key drivers and challenges of the 21st century is knowledge sharing. Therefore, sharing knowledge is one of the challenges faced by managers in organizations unless employees believe that this sharing will benefit them (Kim et al., 2015; Sang et al., 2019).

Knowledge has been and will always be the basis of both excellence and job satisfaction. The demand for organizations to be the best-in-class entities and acquire competitive advantage and excellence in performance has led to a dazzling evolution in Knowledge investment. Knowledge is the generator of Quality. Knowledge Management is defined as the process that creates, shares, distributes and uses knowledge in the organization (Darroch, 2003). It relies on processes of identification, capturing, development, sharing, dissemination, application and storage of information (Probst, Raub & Romhardt, 2000)..

Employees who acquire proper knowledge outperform competitors with better competitive advantage (Han & Anantatmula, 2007). Preparing employees for effective performance is based on sharing certain knowledge related to their tasks either by training them or enabling their access to web enabled information systems. Knowledge sharing is defined by Lin (2007) as a process of transferring knowledge and skills from one individual to another. The knowledge sharing process is important to:

1. Increase the company's long term sustainable competitive advantage (Lin, 2007; Wang, 2009).
2. Encourage creativity and innovation (Apostolou, Mentzas & Abecker, 2008).
3. Provide a place that generates information for decision making (Kearns & Lederer, 2001).
4. Increase economic landscape changes responsiveness. (Ruhi, 2003).
5. Enhance the attitudes of employees and encourage them to promote willingness and reliability in sharing knowledge (Connelly & Kelloway, 2003).

Job Satisfaction

De Menezes (2012) argued that job satisfaction may influence the links between quality management strategies and performance or other desired employee outcomes. Andrade and Westover (2018) stressed that the study of job satisfaction has been the focus of attention for many scholars and researchers from various academic fields, for more than sixty years. Job satisfaction remains the focus of management scientists (Aziri, 2011; Burgard & Görlitz, 2014; Brown & McIntosh, 1998; Hunt & Saul, 1975; Van Dierendonck, 2015; Wright & Kim,

2004; Yadav & Rangnekar, 2015). On the other hand, organizational managers consider Job satisfaction as a one of the most complex areas they face when managing their employees. Job satisfaction has influence on various aspects of organizational life, such as employee productivity (Ahmad, Jasimuddin & Kee, 2018; Kong, Jiang, Chan & Zhou, 2018; Orlenko, 2015), loyalty and absenteeism (Aziri, 2011). Aziri also stated that there is a considerable impact of employees' perceptions on the nature of their work and the level of overall job satisfaction and that financial compensation has a great impact on employees' overall job satisfaction. Brown & McIntosh (1998) held that managers should align the interests of employees to the interests of shareholders by implementing rewarding systems. This will increase employees' satisfaction and their loyalty to their jobs. Employee types differ and complement each other; the majority value financial rewards while some go for non-financial rewards. Job satisfaction is influenced more by short-term rewards than pleasure derived from social relationships or work intensity.

METHODOLOGY

Population and Participants

The research population consists of all the 650 middle managers working in Greater Amman Municipality in Jordan. A simple random sample of 242 managers was selected. The data collection tool was distributed to the sample members, 214 of which were recovered. Seven were incomplete and excluded so in the end there were 207 valid units, at a response rate of 85.53%.

Research Instrument

In order to collect primary data required for statistical analysis and testing hypothesis, a questionnaire was developed consisting of three parts: the first part was a cover letter inviting respondents to cooperate, the second part required them to collect data of the demographic characteristics of the participants, and the third part asked participants to collect the data needed to measure independent variable (quality management principles), dependent variable (job satisfaction) and moderate variable (knowledge sharing). The five-point Lickert scale was used to measure the responses. The respondents were required to rate certain features on a scale from 1-least important to 5-most important (the degree of importance in Greater Amman Municipality in Jordan).

The validity and reliability of the questionnaire were tested: thus a group of academics and quality experts reviewed the questionnaire and evaluated the validity of its criteria for collecting the necessary data. The observations were received and processed before distributing them to respondents. The internal

consistency of the instrument was tested by conducting the Chronbach - Alpha test. Results of the test varied between 0.82 – 0.85 and all of them were higher than the red line (0.6), which confirmed the instrument reliability.

Testing Hypotheses

Testing first main hypothesis H1 and its sub – hypotheses: H11, H12, H13

In order to test the first main hypothesis and its sub – hypotheses that are labeled in table (1), multiple linear regression analysis has been carried out by using the statistical package of social sciences SPSS - V22; all the results are shown in table (2).

The results, as shown in Table (2), indicate that QM with its three components (leadership, employee empowerment, and continuous improvement) has a significant impact on job satisfaction. The results indicated that the correlation coefficient between them is medium and positive ($R = 0.563$), and QM is responsible for 31.6% of the change that happened in job satisfaction during the experiment ($R^2 = 0.316$). The test also revealed that F- calculated was 31.314, which is higher than F-tabulated, which was 4.05. The significance level ($\alpha = 0.000$) was less than the test significance level ($\alpha \leq 0.05$). All these results provide statistical evidence of the impact and push us to reject the null hypothesis and accept the alternative hypothesis (H1) that states a collective impact of TQM principles (Leadership, Employee empowerment, and continuous improvement) on job satisfaction.

The results, in table (2), also reveal the impact of each of the three TQM dimensions on job satisfaction if they are treated individually and independent of the other two dimensions. T-Calculated of the three dimensions respectively are: 2.563, 3.867, & 8.27, all of them are higher than T-Tabulated = 20.1, the same concerning the significance level as the significance level of the three dimensions respectively are 0.011, 0.000, and 0.000 which are all less than test significance level ($\alpha \leq 0.05$). These results constitute statistical evidence that there is an impact for each dimension separately on job satisfaction. This makes us reject the three null hypotheses and accept the alternative hypotheses (H11, H12, and H13) that provide an impact for each: leadership, employee empowerment, and continuous improvement individually on job satisfaction.

Testing second main hypothesis H2

H2: Knowledge sharing has a statistical significance in improving the impact of QM on job satisfaction in Greater Amman Governorate.

In order to test the second main hypothesis, a statistical test called “path analysis test” or Bootstrapping analysis has been conducted using the

statistical computer program AMOS – V21, according to the following steps:

- Testing the model goodness by measuring both Composite Reliability (CR) and Average Variance Extracted (AVE) for each variable. The results as presented in table (3) show that the model is suitable for test because CR for the three main variables is respectively: 0.88, 0.85, 0.82 and all of them are higher than the test value ($CR \geq 0.7$). In the same manner, AVE of the three variables is respectively: 0.73, 0.68, 0.59, and all of them are higher than the test value ($AVE \geq 0.5$).
- Path Loading variables: The results are shown in table (4), and in Figure (2) reveal that all the loads of the main and sub-variables are accepted because all of them exceed the test load (≥ 0.55).
- Testing the impact of moderating variable: From the data available in table (5), we can estimate both indirect impact (β_i moderate) and total impact (β_t moderate) of knowledge sharing to measure its moderating role on the impact of QM on Job satisfaction as following:
The indirect impact of moderating variable β_i moderate = (β_d independent on moderate) \times (β_d moderate on dependent)
Indirect Impact of Knowledge sharing $\beta_i = 0.451 \times 0.505 = 0.2278$
The total impact of moderating variable β_t moderate = (β_d independent on dependent) – β_i moderate
Total impact of the moderating role of Knowledge sharing $\beta_t = 0.407 - 0.2278 = 0.179$
- Again to the test results presented in table no. 5 and after estimation of the indirect and total impact of the moderating variable, we conclude that both QM and knowledge sharing has an impact on job satisfaction if they are treated separately (t -calculated are respectively 3.41 & 2.704, and both of them are higher than t -tabulated = 2.1). When we make the statistical test of the impact of QM on job satisfaction with the existence of knowledge sharing as a moderator variable, knowledge sharing has an indirect role of 0.2278 on the slope of the relation and total impact on the test = 0.179. So, we reject the null hypothesis and accept the alternative hypothesis (H_2), which states that knowledge sharing has a statistical significance in improving the impact of QM on job satisfaction in Greater Amman Governorate.

CONCLUSIONS

This study was applied to one of the largest public service institutions in Jordan, the Greater Amman Municipality. The aim of this study was to verify the impact of QM through the interaction of three engagements (management engagement expressed by leadership style of managers, employee

engagement shown by employee empowerment, and process engagement illustrated by continuous improvement) on job satisfaction across knowledge sharing as a moderating variable. According to the statistical analysis and testing hypotheses, the study concluded that there is a statistically significant collective impact of the principles of QM (leadership, employee empowerment and continuous improvement) on job satisfaction and also revealed an individual impact of each of these principles on job satisfaction. In addition, it also identified an impact of knowledge sharing on job satisfaction and also highlighted that knowledge sharing plays a moderating role on the impact of QM on job satisfaction.

One of the limitations of the study is that it relied on the collection of data from the managers' evaluation of the paragraphs of the questionnaire to determine the relationships between the variables of the study. This requires special attention before generalizing the results. Also, the study did not include employees in the lower management, which may cause another limitation.

Overall, the current study supports evidence of administrative scope by supporting the theory that applying a quality management has a positive return on improving job satisfaction and also, reflects the important role of knowledge sharing in this relationship.

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List of figures and tables

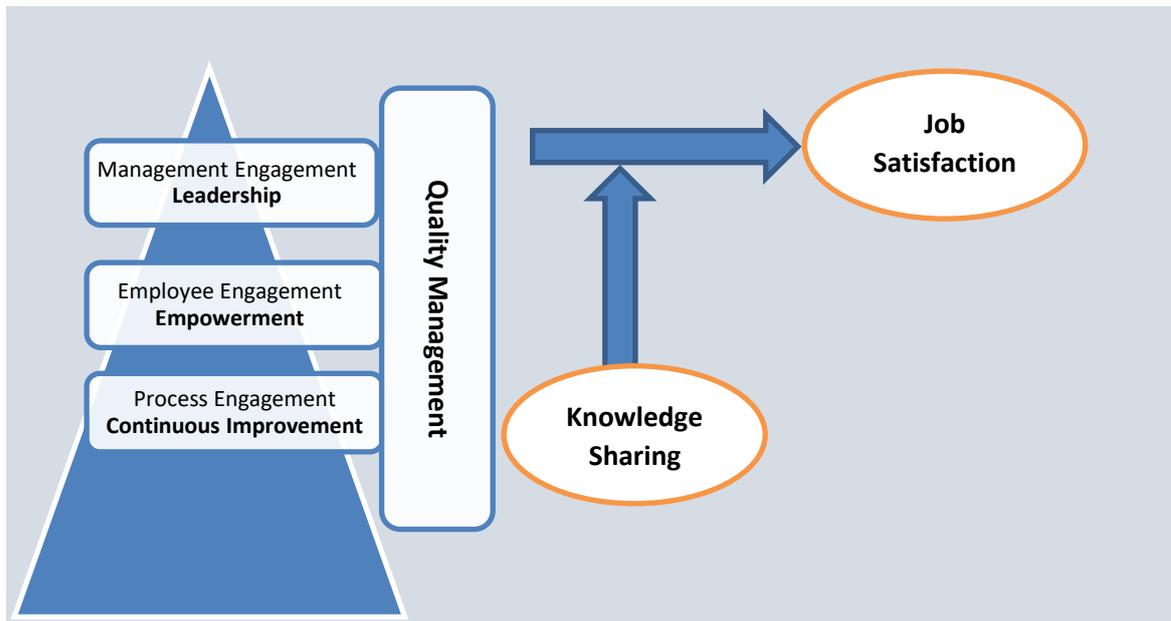


Figure no. 1
Research conceptual framework

Table no. 1
First main hypothesis H1 and its sub – hypotheses: H11, H12, and H13

Hypothesis	Text
H ₁	QM has a statistically significant impact on job satisfaction in Greater Amman Governorate.
H _{1.1}	Management leadership style has a statistically significant impact on job satisfaction in Greater Amman Governorate.
H _{1.2}	Employee empowerment has a statistically significant impact on job satisfaction in Greater Amman Governorate.
H _{1.3}	Process continuous improvement has a statistically significant impact on job satisfaction in Greater Amman Governorate.

Table no. 2
Multiple regression analysis to test H₁ and its sub – hypotheses: H₁₁, H₁₂, and H₁₃

Independent Variable	(R)	(R ²)	F	Df	Sig*	Dependent Variable	B	T	Sig*
Leadership	0.562	0.316	31.314	3	0.000	job satisfaction	0.178	2.563	0.011
Employee empowerment				203			0.230	3.867	0.000
Continuous improvement				206			0.565	8.270	0.000

* The impact is significant at level ($\alpha \leq 0.05$)

Table no. 3
Model goodness for Path Analysis

Variables	Composite Reliability (CR)	Average Variance Extracted (AVE)
QM	0.88	0.73
Job Satisfaction	0.85	0.68
Knowledge Sharing	0.82	0.59

$CR \geq 0.7$, $AVE \geq 0.50$, (Fornell & Larcker, 1981)

Table no. 4
Path Loading of Variables

Path	Load
Leadership → QM	0.82
Employee Improvement → QM	0.73
Infrastructure → QM	0.66
QM → Knowledge Sharing	0.61
QM → Job Satisfaction	0.74
Knowledge Sharing → Job Satisfaction	0.58

$Load \geq 0.55$ (Falk & Miller, 1992)

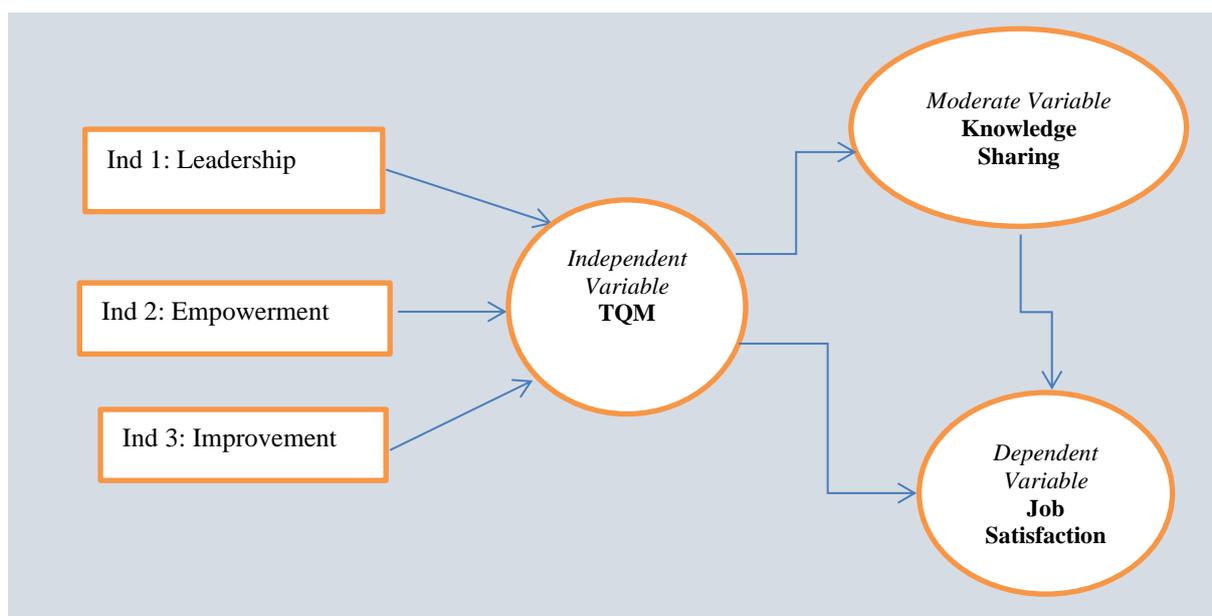


Figure no. 2
Loading Model of Path Analysis of Variables

Table no. 5
T- test of Path Analysis of Impact among Variables

Path	Direct Impact		Indirect	Total Impact	
	T	dβ		T	Tβ
QM on Knowledge Sharing	3.82	0.451		3.82	0.451
Knowledge Sharing on Job Satisfaction	2.704	0.505		2.704	0.505
QM on Job Satisfaction with Knowledge Sharing			0.2278		
QM on Job Satisfaction	3.41	0.407		3.41	0.179

β : regression coefficient of e equation; $y = a + \beta x$, t: student value, $t - tabulated = 2.1$