

Case Study

Evaluating the Impact of Organizational Culture Features on Implementing Total Quality Management (TQM) by Focusing on the Business Ethics as a Mediator (Case Study: Shirin Asal Company)

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Abstract

This was an applied study regarding the objective and a descriptive-correlational one concerning the data collection approach, which was focused on evaluating the impact of organizational culture on applying total quality management along with stressing the mediating role of business ethics. A total of 148 employees of Shirin Asal Company (Tehran Branch) constituted the research statistical population that Cochran's formula was used to choose 106 subjects as the sample size by a simple random sampling method.

Standard questionnaires were employed to gather the essential data. The validity and reliability of variables were also examined and approved. The reliability rates for business ethics, organizational culture, and total quality management were calculated to be equivalent to 0.78, 0.89, and 0.90, respectively. The structural equation modeling method assisted with the Smart PLS2 software was utilized for data analysis. Revealed by the research findings, organizational culture influences business ethics and total quality management. Business ethics was also found to act as a mediating variable in the relationship between organizational culture and total quality management. In conclusion, organizational culture and business ethics affect the satisfactory implementation of TQM, which somehow requires managers and stakeholders to particularly consider these components.

Keywords

Organizational Culture, Business Ethics, Total Quality Management, Shirin Asal Company Employees

1. Introduction

Organizations are always in the quest for new solutions to improve performance and gain a competitive advantage. Quality management has been a widely used approach employed by organizations to enhance performance. This has turned the evaluation of factors effective on the successful implementation of total quality management into one of the most prominent research areas in total quality management. Thus, our effort in this study was set to assess the impacts of these two significant factors associated with their features and indices, i.e., organizational culture and business ethics, on the TQM.

The basic challenge of management in nowadays' constantly altering and dynamic environment is to survive, grow and succeed in sectors such as industry and commerce. Total quality management appears as a sort of philosophy and an attitude towards management that all employees, customers, and suppliers do their best to realize these goals based on this framework. However, other significant objectives are also pursued in the TQM besides the survival of the organization such as gaining customer satisfaction, providing high-quality products, reducing costs, and increasing the company's profitability. Naturally, establishing an inclusive quality management system effectively and efficiently is needed for the realization of these objectives, which is indeed subject to an accurate perception of the philosophy and its principles by managers and employees (Nizamabad et al., 2019).

Total quality management is an attitude that organizations with the participation of all employees, customers, and suppliers use as a basis to continuously enhance the quality aimed at gaining customer satisfaction (Nizamabad et al., 2019).

In 1995, organization X in Central Europe updated its core policies and quality was included in those policies for the first time. The superior management team performed a pilot TQM process to support this commitment to quality, which was supposed to be developed in later stages. But the management and supervisory employees unexpectedly stand against this change, leading to the TQM implementation failure (Tibor Tenji & Andrea Foley, 2019).

The TQM has been widely utilized by companies in the last fifty years with actually rarely reported optimal results by companies (Jayaram et al., 2010). based on evidence, three-quarters or almost all cases of TQM implementation have led to complete failure or brought serious problems, which have endangered the organizations' survival. Failure to pay attention to organizational culture seems to be the most mentioned reason for those failures according to the reports of several studies (Cameron & Quinn, 2005). Organizational culture is known as a system of common beliefs and values of an organization's employees with an influence on their behavior (Qoltash, 2013).

Although the development of the organizational culture that is recognized to be appropriate for TQM causes some changes in organizational culture that cannot be easily realized. However, applying this important issue requires changes in the paradigm and rebuilding social relations by all employees of the organization (Tibor Tenji & Andrea Foley, 2019), and business ethics can play a role in this paradigm shift and the reconstruction of social relations.

Organizational culture is a “multifaceted phenomenon”, which appears to be the nature of the organization. Thus, it depends on the situation instead of being transient. Moreover, in the early stages of implementing total quality management (TQM), when the quality culture has not yet been strongly established, the organizational culture would significantly influence the employees’ behavior (Zu et al., 2011). Therefore, organizational culture seems to be a more stable and appropriate predictor than the quality culture. Or, as Pierre (2003) puts it, unsuccessful TQM programs make the organization resilient to future learning and change. Therefore, evaluating the organizational culture may appear useful as a predictor of readiness to implement TQM before beginning such a structural change (Tibor Tenji & Andrea Foley, 2019).

Every society is shaped based on a specific culture with a set of moral principles embedded inside that follow that culture. Adherence to moral principles is stronger in some societies compared to other countries. Every job and profession follow some etiquette and principles. These principles governing the profession, when combined with the culture of a society, are influenced by that society, and thereby, a set of ethical principles is added to that profession; like the community of physicians or community of lawyers who follow certain ethical principles. Therefore, professional ethical principles are those principles that have governed that profession and must be observed. Ethics and social expectations have at least four values: Honesty, fairness, fidelity, trustiness and loyalty, and a sense of social responsibility (Ebrahim Nejad, 2015).

Miller et al. devised multiple dimensions of the inclusive measurement of business ethics (Miller & Woehr, 2002). They introduced the indicators that display the existence of business ethics as below: Comfort at work, focus on work, optimal use of time, effort, self-confidence (self-reliance), and fairness. Ethics may be seen as the study evaluation of criteria and rules, which are used as a guide of action and behaving of individuals and groups in doing acceptable things (Miller, 2002). Providing individuals with equal opportunities and individual freedom can bring optimal morality. Also, paying attention to ethical requirements can bring the trust and satisfaction of customers meanwhile maintaining the profitability of firms and the efficiency of production and distribution. In fact, the profitability of firms, efficiency of production and distribution, and customers’ trust and satisfaction are defined as other goals of TQM as well.

Work ethics involves a series of do’s and don’ts of an organization’s employees, committed by them to be observed aimed at realizing the quantitative and qualitative conditions thoroughly. However, achieving an ethical or morally oriented organization needs to develop ethical principles and standards in the organization and its strategies. Accordingly, creating a moral atmosphere in the organization will result in taking accurate and ethical decisions. On the other hand, such an approach will make employees show positive behaviors (Ebrahimnejad, 2015).

Business ethics is affected by the organizational culture in organizations. Organizational culture is a series of common meanings and values that links the members of the organization to each other (Quchani et al., 2017).

Organizational culture is recognized as a crucial tool for the growth and development or failure of organizations. Thus, organizational culture seems to rely on highly valuable ethical issues, which paves the ground to enhance organizational effectiveness (Hamidianpour, 2016). This study aims to utilize a theoretical model of organizational culture and business ethics for implementing total quality management (TQM), which is seen as a readiness assessment instrument to implement the TQM in the workplace. We will also seek to answer four questions:

1. Does organizational culture influence business ethics or is there a significant relationship between these two?
2. Does organizational culture influence business ethics or is there a significant relationship between these two?
3. Does business ethics affect the implementation of total quality management or is there a significant relationship between these two?
4. Does organizational culture affect the implementation of total quality management with an emphasis on the mediating role of business ethics or not?

2. Theoretical Foundations of Research

2.1 Organizational Culture

As a set of common beliefs and values, organizational culture has the potential to affect the behavior and thought of the organization's members and can be seen as a starting point for movement and dynamism or an obstacle to progress. Organizational culture is somehow considered as one of the most fundamental contexts of change and transformation in organizations.

Organizational culture encompasses a set of common and shared presumptions, values, and beliefs, which are reflected in the goals and activities of the organization, assisting the organization members to understand the process of doing their tasks (Liu et al., 2010, p. 375).

Organizational culture is somehow the internal kernel and uncertain structure of the organization, which is manifested based on the goals, technology, policy structure, performance, and products of the organization. The most apparent aspect and the manifestation of organizational culture can be found in the behavior of the organization's employees (Asadi & Seyyedzad, quoted by Sharifzadeh et al., 2019).

Organizational culture is defined as the core and major factor in shaping the procedures of the organization, integrating the capabilities of the organization, developing solutions to encounter problems as well as creating obstacles or facilitating the realization of the organization's goals. Individuals need to perform tailored to the expectations and cultural rules of the organization to succeed in the organization (Stieger et al., 2014).

Some define the relation of organizational culture to the organization as the relation of human personality to himself (Sharifzadeh et al., 2019). Organizational culture involves the system of fundamental beliefs and opinions, governing values, and behavioral patterns that the organization members generally are adhered to them and have been created and developed over time (Zarei Matin

quoted by Sharifzadeh et al., 2019).

Since the assumptions, beliefs, and expectations forming a culture have appeared over time seem credible to the members of the organization and, therefore, they are trained to the people who join the organization. These assumptions, beliefs, and expectations considerably influence the perception, thinking, feeling, and behavior of members of the organization (Langton, Robbins, & Judge, 2015, p. 332).

George Gordon has defined culture as follows by considering about 164 definitions of culture by various scientists:

“Culture is the pattern of common and fixed beliefs and values that develops in an organization over time” (Norouzi & Moghaddam, 2013, p. 117).

Denison (2000) believes that organizational culture possesses the following four characteristics (Salimi, 2017):

1. Involvement in work: Effective organizations empower their employees, establish the organization based on the workgroups axis, and develop human resource capabilities at all levels.
2. Compatibility (stability and integration): Research has demonstrated that most often effective organizations benefit from stability and integration the behaviors of their employees are rooted in fundamental values. Their leaders and followers are skilled at reaching an agreement (even when they have mutual views) and organizational activities are coordinated and correlated well. Organizations with such features have a strong and distinctive culture with a sufficient influence on their employees’ behavior.
3. Adaptability: The well-integrated organizations hardly change. Thus, internal integrity and external adaptability can be seen as advantages of the organization. Adaptable organizations are directed by customers, take risks, learn from their mistakes, and possess the capacity and experience of making changes. They are constantly improving their ability to value their customers.
4. Mission: Mission may be defined as the most important characteristic of organizational culture. Those organizations, unaware of where they are and what their current status is, often head astray. Successful organizations have a clear understanding of their goals and direction to define organizational and strategic goals and draw the vision of the organization.

2.2 Total Quality Management (TQM)

Total Quality Management (TQM) is an approach to improve the total competitiveness, effectiveness, and flexibility of an organization. It essentially appears as a method for planning and organizing and understanding each activity, which depends on all individuals at each level of the organization. TQM is also known as a way to screen the activities of individuals from doing futile efforts by leading them towards improvement processes, which can result in achieving the goals in a shorter time. Components such as the design, choosing technology and processes tailored to production, quality training, further participation of employees, attention to customers’ needs, and the need work assessment are emphasized in the TQM (Valmahdi, 2013).

The basis of TQM programs requires a distinct approach to improving the quality of production and service processes. The issue of quality control is not considered an activity apart from other production processes in the TQM. Rather, a set encompassing the production, delivery of products, and customer service is pursued. The TQM stressed the improvement of processes.

Improvement is considered a constant and new issue and a one-time action. Production (service) processes are constantly reviewed and inspected with a strive to minimize fluctuations, deviations, and shortcomings through comparison with planning standards.

The core goal of the TQM is focused on customer and client demands and attracting and retaining them in the short- and long-term aimed at obtaining a reliable competitive lever for the organization (Abdolshah, 2011).

The goals of the TQM are as follows:

1. Obtaining complete customer satisfaction at the lowest cost
2. Participation of all employees to eliminate mistakes and prevent losses, and thereby, their better motivation
3. Quality maintenance and continuous improvement
4. The design and selection of technologies and processes appropriate for the production
5. Objective quality training
6. Work assessment
7. Paying attention to the optimal point of life cycle costs
8. More productivity and added value
9. Higher standards
10. Improved systems and procedures (Nezamabad et al., 2019)

The Tools Required to Employ TQM are as Below

1. Training: Training seems to be essential to empowering employees to participate at all levels of the organization. Some of these trainings should focus on identifying the organization's domestic and foreign customers, their needs, and the ability of teamwork problem-solving.
2. Quality structure: The improvement process should be supported by a structure expanded to all levels of the organization.
3. Statistical control: A set of statistical methods should be applied in the organization to measure and analyze the results.
4. Teamwork: Individuals should be capable of work with groups permanently or temporarily to solve problems (Moghimi and Ramazan, 2015).

2.3 Business Ethics

Understanding what is right or wrong and acceptable or unacceptable based on organizational and social expectations forms business ethics. Ethics involves an inclusive area of diverse business activities. The active management of ethical risks leads the organization through crises and increases financial success (Ferrell and Ferrell, 2016). Business ethics is a branch of applied (scientific) ethics

that examines ethical and spiritual principles or the arising ethical issues in the business environment. Business ethics refers to adhering to professional rules and standards in daily business activities, including the production of goods and providing services meanwhile observing ethical principles (Khalil Nejad & Gol Mohammadi, 2020).

Ethics in business has existed since the creation of the business. In the beginning, business ethics has been so simple and understandable: Customers should not deceive their customers, and customers should not stay away from customers. As much as new innovations found their way into the business environment, the business faced more complexities, and similarly, more opportunity was created for the incidence of immoral behavior. To put it simply, ethics refers to “knowing the right from the wrong and then move toward doing the right and avoiding the wrong” (Eidi et al., 2016).

Business ethics is recognized not only as a maintaining factor of the organization but also a competitive element for survival in the business environment. The prosperity of business based on ethical methods in today’s world has led to its continuation and survival (Eidi et al., 2016).

Business ethics involves adhering to professional rules and standards in daily business activities, including the production of goods and providing services meanwhile observing ethical principles (Agha Mohammadi et al., 2018). Business ethics is often defined as doing a good job (Ferrell et al., 2019). Expanding business ethics can result in further success of business owners by creating a spirit of mutual trust between business owners and customers (Akbari & Faham, 2016).

Business ethics includes the set of all principles and norms that determine the behavior of the organization and forms the infrastructure of these principles, values, culture, philosophy, etc. of the organization. According to Huimin Veryan (2011), business ethics include the compatibility of the organization’s performance with the law, the existence of an efficient standard (ethical charter), and the ability to implement legal standards. Accordingly, the business ethical standards for an organization should also be based on internal values (ethical principles), and have a legal basis as well (Mohammadi, Khalilnejad, & Golmohammadi, 2020).

Miller et al. (2002) have introduced business ethics indices as follows: Comfort at work, focusing on work, optimal use of time, effort, self-confidence, fairness.

2.4 Research Background

Akbari (2002) did a research in a manufacturing company of disposable medical supplies to examine and understand the organizational culture and determine its relationship with the development of the TAM dimensions. The results found a significant relationship between the TQM variable and the dimensions of organizational culture as well as a positive correlation.

Mossadegh Rad (2006) investigated the impact of organizational culture on the successful implementation of TQM in 12 university hospitals of Isfahan. The results of his research suggested that organizational culture significantly affects the success of the TQM implementation. The success of implementing TQM in hospitals benefiting from moderate organizational culture and biological structure is higher than hospitals with a poor organizational culture and mechanical and bureaucratic

structure (Mossadegh Rad, 2006).

The findings of Zu et al.'s study (2010) demonstrated different effects of various types of culture on the implementation of TQM measures. In this study, Zu et al. (2010) surveyed 226 manufacturing plants operating in various industries in the United States. According to their research, a significant and positive relationship was found between the three groups, developmental, and rational cultures, and various TQM measures. However, no significant relationship was seen between hierarchical culture and the TQM practices.

Dahlgard et al. (2011) concluded in their study that the TQM (Total Quality Management) is largely associated with intangible factors of leadership, management of people, and changing partnerships so that a new organizational culture is created to support and improve the core activities of the organization. Accordingly, they recognized the development of organizational culture as a prominent factor for the success of the implementation of TQM.

Another research showed that creating a supportive culture can strengthen the individual's readiness for organizational change, and thereby, leads to their increased involvement in the implementation of TQM (Total Quality Management) (Haffar et al., 2014). In a study performed by Quchani et al. in 2017 focused on examining the relationship between organizational culture and professional ethics from the perspective of the faculty members of North Khorasan University of Medical Sciences, the findings revealed no significant correlation between organizational culture and professional ethics.

In 2015, in a research entitled "Professional ethics and its relationship with organizational culture among the employees of the General Directorate of Islamic Culture and Guidance of West Azerbaijan, Soleimanzadeh and Firooz Rad method found a relationship between the two variables of professional ethics and organizational culture, suggesting that, as the adherence to the professional ethics of employees in the organization increases, the level of their organizational culture will enhance as well.

Also, it was concluded in a research entitled "Examining the relationship between organizational culture and business ethics based on Robbins model" that the organizational culture influences business ethics (Hamidianpour & Afrakhteh, 2016).

The findings of another study showed that developing strategic proportion in the organization requires harmony and consistency between ethical matters and the TQM framework (Camillus, 2011).

Moreover, another research has indicated that the basic principles of work ethics need to be consistent with the TQM framework aimed at creating a continuous fit and quality accordingly (Jebri, 2012).

It should be noted here that the researcher found no research based on three variables of organizational culture, total quality management, and business ethics or examining the features of organizational culture to implement the TQM with an emphasis on the mediating role of business ethics. Therefore, in the researcher's opinion, this study is innovative regarding the research topic.

2.5 The Research Conceptual Model

Based on the theoretical foundations, the research conceptual model was designed and structured. This study involves three variables of organizational culture, total quality management, and business ethics,

in which, organizational culture appears as the independent variable, total quality management acts as the final dependent variable, and business ethics plays the role of mediating variable. The dimensions for each variable are shown in Figure 1.

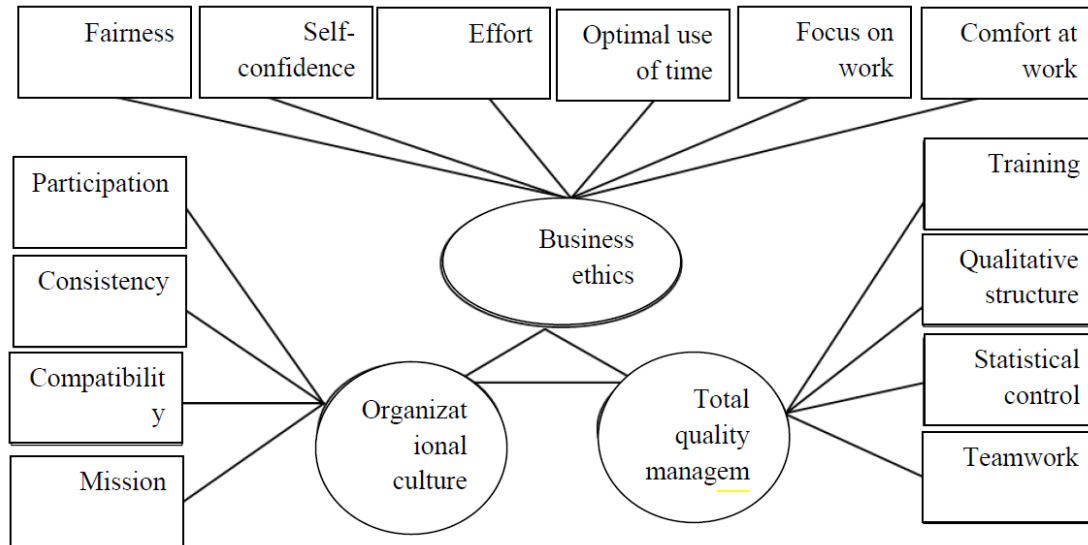


Figure 1. The Research Conceptual Model

2.6 Research Hypotheses

1. Organizational culture has a positive and significant impact on total quality management in Shirin Asal Company (Tehran).
2. Organizational culture has a positive and significant impact on business ethics in Shirin Asal Company (Tehran).
3. Business ethics has a positive and significant impact on total quality management in Shirin Asal Company (Tehran).
4. Organizational culture has a positive and significant impact on total quality management with the mediating role of business ethics in Shirin Asal Company (Tehran).

2.7 Data Collection

We used three methods to collect the required data as follows:

1. Documentary and library studies (with a complete review of library documents and resources such as reference books, theses, research proposals, and scientific-research articles in various journals)
2. Searching in electronic resources (to get informed of the research done and scientific communicating and interacting with other researchers)
3. Field studies (collecting data and information in the context of the research variables in the studied statistical population with the standard questionnaire designed for the research).

The questionnaires were distributed among the employees of Shirin Asal Company, Tehran branch, which and were then collected after being completed.

3. Research Methodology

This was an applied study regarding the objective and a descriptive-correlational one concerning the data collection approach. A total of 148 employees of Shirin Asal Company (Tehran Branch) constituted the research statistical population that Cochran's formula was used to choose 106 subjects as the sample size by a simple random sampling method. A few standard questionnaires were employed to gather the essential data, which are described in Table 2.

The structural equation modeling method with the partial least squares (PLS) approach and Smart PLS software were utilized for data analysis. Structural equation modeling consists of two parts of the measurement model and structural model and the model variables are classified into two latent and observed categories. Latent variables are used at different levels.

The measurement model section contains includes questions related to each dimension associated with that dimension and the relationships between questions and dimensions are analyzed in this section. The structural model section also includes all the constructs of the main research model and the correlation rate and relationships between them will be evaluated at this stage.

We also evaluated the content and face validity of the questionnaire. Moreover, we provided the questionnaire to the faculty members of the Management Department of the Islamic Azad University, South Tehran Branch. After summarizing their comment and opinions, the final questionnaire was corrected and modified. The convergent validity and the measurement model recognition of the research constructs were examined in the structural equation modeling section. Finally, the reliability of the questionnaire was evaluated using Cronbach's alpha coefficient.

Table 1. The Index for Measuring Research Variables

Variable	Measurement Index	Source
Organizational Culture	Participation	Denison (2000)
	Compatibility	
	Adaptability	
	Mission	
Business Ethics	Comfort at work	Miller et al. (2002)
	Focusing on work	
	Optimal use of time	
	Effort	
	Self-confidence	
	Fairness	
Total Quality Management	Training	Moghimi et al. (2015)
	Qualitative structure	
	Statistical control	
	Teamwork	

3.1 Research Findings

Based on the demographic statistical results of the respondents regarding age, 19% of the respondents were under 30, 45% between 30 and 40, and 36% were over 40 years old. In the context of education, 5% had a degree under diploma, 25% had a diploma, 14% had an associate degree, 42% had a bachelor's degree, 12% had a master's degree, and 2% had a doctorate. In the area of work experience, 42% had a history of less than 5 years, 36% between 5 and 10 years, 14% had a history between 10 and 15 years, and 8% had more than 15 years of work experience.

The partial least squares (PLS) method criteria were utilized to examine the reliability of the questionnaire. The reliability is assessed in this method based on three criteria:

1. Factor loads measurement
2. Cronbach's alpha
3. Composite reliability

The results of the factor load measurement are provided in Table 2. It should be noted the factor load of all items has to be higher than 0.4 for measuring the factor load. The validity of the questionnaire was examined through two convergent and divergent criteria using the partial least squares method. The convergent validity indicates the ability rate of the indices of a dimension in explaining that dimension. For an acceptable divergent validity, the research model constructs need to have more correlation with their questions than with other constructs (Hulland, 1999).

The convergent validity was assessed using the average variance extracted (AVE). The convergent validity of the measurement tool is confirmed if the value of this criterion exceeds 0.4. As seen in Table 3, all validity values indicate the appropriate convergence of the questionnaire.

Table 2. The Results of the Research Model Variables

Variable	Item	Factor load	T value	Variable	Item	Factor load	T value
Organizational culture	Q1	0.815	17.57	Business ethics	Q8	0.857	19.66
	Q2	0.841	22.27		Q9	0.780	13.29
	Q3	0.901	44.83	Total quality management	Q10	0.884	14.55
	Q4	0.863	30.77		Q11	0.886	28.46
Business ethics	Q5	0.751	6.30	Q12	0.872	25.97	
	Q6	0.751	13.81	Q13	0.864	31.09	
	Q7	0.787	9.49	Q14	0.810	17.08	

As seen in Table 3, all validity values indicate an appropriate convergence of the questionnaire. Also, as shown in the matrix below (Table 3), the values of the main diameter of the matrix (the square root of the AVE coefficients of each construct) are higher than the quantitative values (correlation coefficients between each construct and other constructs), suggesting the acceptability of divergent validity of constructs.

Table 3. The Results of Reliability and Validity of the Research Measurement Tool

Variables	Business ethics	Organizational culture	Total quality management	AVE	Composite reliability	Cronbach's alpha
Business ethics	1			0.612	0.863	0.787
Organizational culture	0.493	1		0.698	0.920	0.892
Total quality management	0.588	0.637	1	0.728	0.930	0.906

The relationships between the variables were examined using the structural model in the PLS method that the results were recorded in two modes of significance numbers and standard estimation. The “Bootstrapping” command of the Smart PLS software was initially used to confirm the research hypotheses, which output includes the T coefficients (Figure 2). When the T-values fall mostly within the range of higher than +1.96 and lower than -1.96, it suggests the significance of that factor, and subsequently, confirms the research hypotheses. As can be seen in Figure 2, the coefficients of T among the three main constructs of the study are all higher than 1.96, implying the acceptance of the research hypotheses.

The cause and effect relationship between variables was assessed following a standard investigation using the software. As seen in Figure 3 (implementing the model in standard estimation mode), the relationship between the three main research constructs is significant and direct.

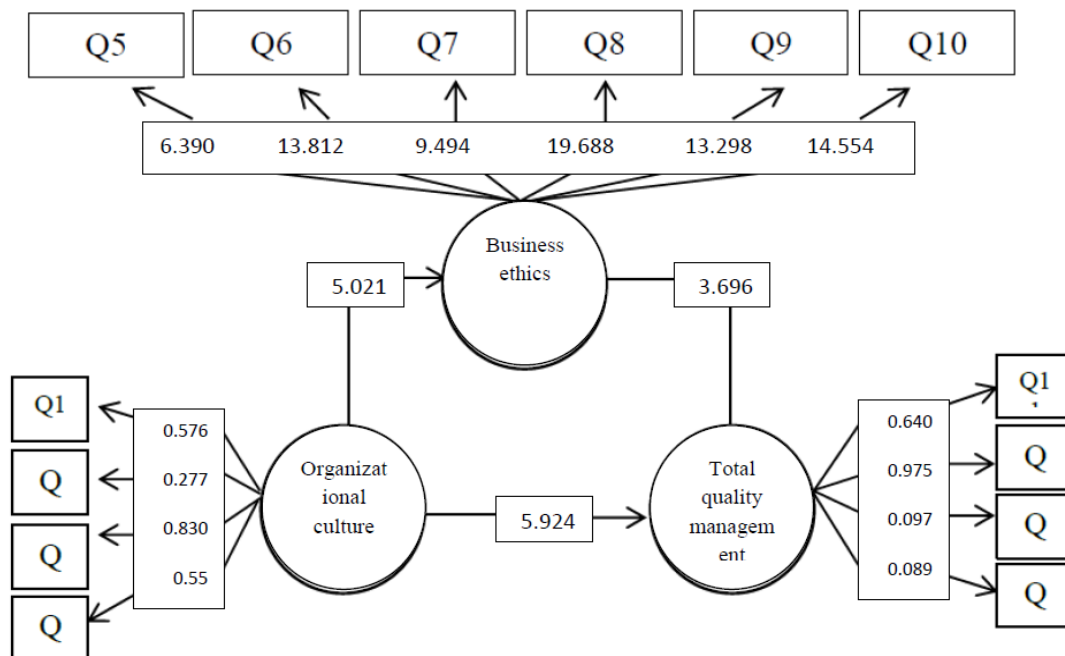


Figure 2. Implementing the Model in the Numbers Significance Mode

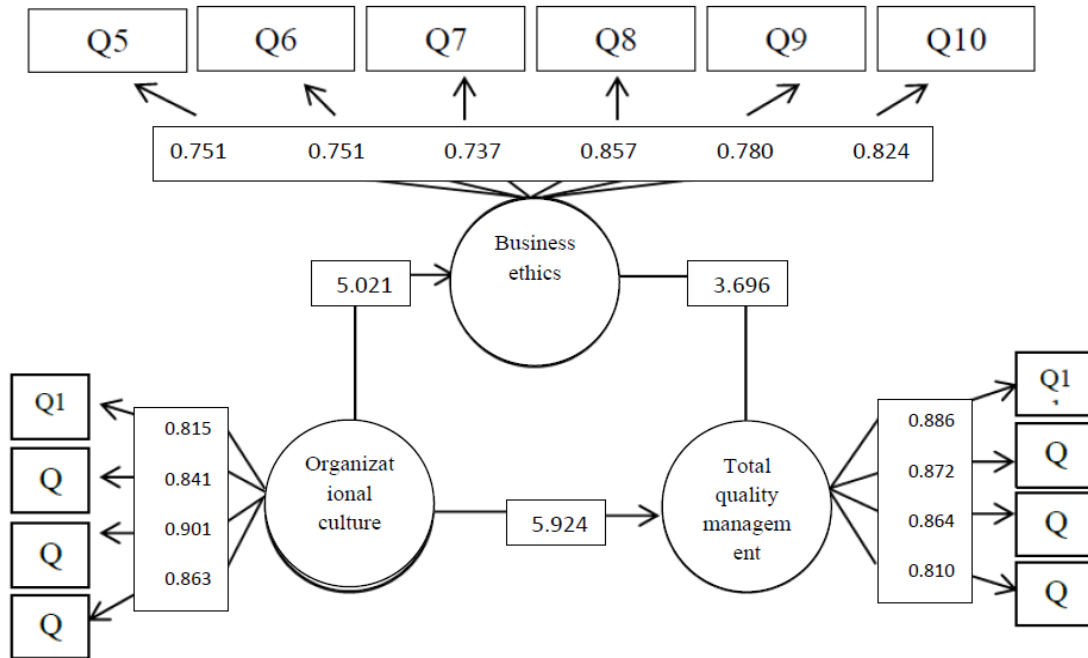


Figure 3. Implementing the Model in the Standard Estimation Mode

The results of the research hypotheses are summarized in Table 4.

Table 4. The Results of Testing Hypotheses

Hypotheses	T-value	Path coefficients	Test result
Hypothesis 1: Organizational culture affects the implementation of TQM.	5.924	0.459	Confirmed
Hypothesis 2: Organizational culture affects business ethics.	5.021	0.494	Confirmed
Hypothesis 3: Business ethics affects the implementation of the TQM.	3.696	0.362	Confirmed
Hypothesis 4: Organizational culture affects the implementation of the TQM through the mediator variable business ethics.	0.178	18.55	Confirmed

Hypothesis 1: Organizational culture affects the implementation of total quality management. Since the significance coefficient of this path is equal to 5.924 and higher than the value of 1.96, this hypothesis is confirmed at a confidence level of 95%; i.e., the TQM indices increase by improving the organizational culture features.

Hypothesis 2: Organizational culture affects business ethics. Since the significance coefficient of this path is equal to 5.021 and higher than the value of 1.96, this hypothesis is confirmed at a confidence level of 95%; i.e., the components of business ethics also increase by improving the organizational culture features.

Hypothesis 3: Business ethics affect the implementation of TQM. Since the significance coefficient of

this path is equal to 3.696 and higher than the value of 1.96, this hypothesis is confirmed at a confidence level of 95%; i.e., the TQM indices increase by enhancing the components of business ethics.

Hypothesis 4: Organizational culture affects the implementation of the TQM through the mediator variable business ethics. Since the significance coefficient of this path is equal to 18.55 and higher than the value of 1.96, this hypothesis is confirmed at a confidence level of 95%; i.e., by increasing the mediating effect of business ethics on the relationship between organizational culture and total quality management, this relationship increases by 0.178.

3.2 Model Fitting

The overall model fit was evaluated using the Goodness of Fit (GOF) index. Two indicators of the average communality and R^2 were used to calculate the GOF index. The GOF index was obtained as 0.05 for the model, which is higher than the acceptable minimum (0.36). Therefore, the research model has a good fit.

Table 5. The Values of Communality and R^2

Variable	Business ethics	Organizational culture	Total quality management
Communality	0.612	0.698	0.728
R^2	0.244	-	0.505

4. Discussion & Conclusion

This study was designed and conducted to examine the effect of organizational culture on total quality management (TQM). According to the findings, besides confirming the main hypothesis suggesting the effect of organizational culture on the TQM, the sub-hypotheses of the research such as the effect of organizational culture on business ethics, the impact of business ethics on the TQM, as well as the mediating effect of business ethics on the relationship between organizational culture and the TQM were also confirmed.

The confirmation of the research first hypothesis indicated that organizational culture has a positive and significant effect on the TQM and the features of organizational culture such as participation, adaptability, mission, and compatibility have a direct impact on the TQM indices such as training, qualitative structure, statistical control, and teamwork. In this context, the results of studies done by Akbari (2002), Mossadegh Rad (2006), Dahlggrd et al. (2011), Haffar et al. (2014), and Tenji and Foley (2019) are consistent with this research, suggesting the presence of an effective relationship between organizational culture and total quality management.

The confirmation of the research second hypothesis indicated that organizational culture has a positive and significant effect on business ethics and the features of organizational culture such as participation, adaptability, mission, and compatibility are effective on the components of business ethics like comfort

at work, focusing on work, optimal use of time, effort, self-confidence, and fairness. In this regard, the results of studies by Soleimanzadeh and Firooz Rad (2015) and Hamidianpour and Afrakhteh (2016) are consistent with this research that according to them, organizational culture affects business ethics.

The confirmation of the research third hypothesis indicated that business ethics has a positive and significant effect on total quality management and the features of business ethics such as comfort at work, focusing on work, optimal use of time, effort, self-confidence, and fairness are effective on the dimensions and indicators of total quality management such as training, qualitative structure, statistical control, and teamwork. In this regard, the results of studies by Camillus (2011) and Jebri (2012) are consistent with this research who stated that the basic principles of work ethics should be tailored to the TQM framework and developing a strategic fit in the organization requires consistency of ethics and the TQM framework.

The confirmation of the research fourth hypothesis indicated that organizational culture has a positive and significant effect on the TQM with the mediating role of business ethics and the components of organizational culture such as compatibility, participation, adaptability, and mission and the components of business ethics such as comfort at work, focusing on work, optimal use of time, effort, self-confidence, and fairness affect the indices of total quality management such as training, qualitative structure, statistical control, and teamwork and have a positive and significant effect on them.

Therefore, due to the results of testing four research hypotheses, one can conclude that preparing the organizational culture features, as well as the requirements of the business ethics framework, are necessary for the successful implementation of the TQM. Hence, some suggestions will be presented accordingly.

5. Research Suggestions and Limitations

5.1 Suggestions

- By considering rewards and privileges for those employees who actively cooperate in groups with adhering to ethical principles and values in their work activities, the managers of Shirin Asal Company provide the conditions and context of teamwork and group cooperation of individuals in the organization. This can be realized by appreciating the groups and employees leading in accountability and observing the standards of business ethics in the organization during a ceremony at the end of the year.
- Managers need to adopt measures and solutions (by holding symposiums, brainstorming techniques, etc.) to further interact and communicate (organization and employees) with customers. Active networking and communication with customers and stakeholders inside and outside the organization will result in more trust and empathy between the organization and stakeholders and contribute to the organization to actively operate in fulfilling its obligations and meeting the needs.
- Holding seminars and training courses in the area of social responsibility and business ethics aimed at enhancing the awareness of staff and online periodical assessment of the level of accountability and business ethics observance from the perspective of customers and stakeholders.

- Making efforts to involve employees in programs and decision-making processes, identifying and eliminating barriers and challenges of employees' participation in activities, emphasizing the values of cooperation and collaboration to carry out activities in the organization, and resolving and eliminating injustices and discrimination in labor relations between employees, more management flexibility to conduct the TQM.
- benefiting from the TQM features, including participation and teamwork, the managers have to provide a platform, through which, the employees can present new ideas and solutions regarding new services, entering new markets, increasing product sales, etc. Also, they should empower members of the organization by encouraging the ideas of creative individuals.
- The organization should hold conferences to teach business ethics indicators such as how to be fair at work or how to focus on work or what are the components of optimal use of time. These trainings will further enhance business ethics, which also has a direct effect on the TQM.

5.2 Suggestions to Researchers for Future Studies

- We suggest to other researchers to do research in future studies on the mechanism that can operationalize the preparing process of organizational culture characteristics and business ethics framework to implement the TQM.

5.3 Research Limitations

This study was conducted on the respected employees of Shirin Asal Company (Tehran Branch), which is one of the subsidiaries of Shirin Asal Company Factory in Tabriz. Due to intercity travel restrictions as well as extensive closures because of the COVID-19 pandemic, we could not collect a broader and more diverse statistical sample. In a proper situation, we could use the statistical population of the central factory of Shirin Asal Company to make our research more comprehensive.

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