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Analysis of the Relationship between Strategic Planning and Total Quality Management

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ABSTRACT : Total quality management (TQM) is a philosophy that provides many benefits such as more satisfied customers, reduced costs, higher quality products, and improved quality performance. Globalization, changes in technology, and increasing uncertainties in the market creates a new competitive environment for companies. TQM has an important role in the survival of companies in such an unpredicted environment when it is integrated with the strategic plans. In other words strategic planning is effective on the success of TQM. With this aim, the effect of strategic planning on total quality management success is investigated in this study. Accordingly, a literature review is made, hypotheses are developed, and the relationship between TQM and strategic planning is examined by using partial least squares technique (PLS). Results of the data analysis illustrates that companies need to attend more emphasis on quality results; information and analysis; top management commitment and leadership; and employee responsibility and involvement in order to successfully implement TQM.

Keywords: Strategic planning, total quality management (TQM), critical success factors.
Jel Code: O21, L15, D24

Stratejik Planlama ve Toplam Kalite Yönetimi Arasındaki İlişkinin Analizi

ÖZ: Toplam kalite yönetimi (TKY) daha fazla tatmin olan müşteriler, azalan maliyetler, daha yüksek kaliteli ürünler ve artan kalite performansı gibi birçok fayda sağlayan bir felsefedir. Küreselleşme, teknolojideki değişiklikler ve piyasadaki artan belirsizlikler firmalar için yeni bir rekabet çevresi yaratmıştır. TKY, stratejik planlara entegre edildiğinde böyle tahmin edilemez bir çevrede firmaların hayatta kalmasında önemli bir role sahiptir. Bir başak deyişle, stratejik planlama TKY'nin başarı üzerinde etkilidir. Bu amaçla, bu çalışmada stratejik planlamanın toplam kalite yönetiminin başarısı üzerindeki etkisi araştırılmıştır. Buna bağlı olarak, bir literatür araştırması yapılmış, hipotezler geliştirilmiş ve TKY ile stratejik planlama ilişkisi kısmi en küçük kareler yöntemi (PLS) kullanılarak incelenmiştir. Very analizi sonuçları göstermiştir ki, firmalar TKY'yi başarılı bir şekilde uygulamak için kalite sonuçlarına; bilgi ve analize; üst yönetimin katılımına ve liderliğine ve çalışan sorumluğuna ve bağlılığına daha fazla önem atfetmelidir.

Anahtar Kelimeler: Stratejik planlama, toplam kalite yönetimi, kritik başarı faktörleri.
Jel Kodu: O21, L15, D24

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1. INTRODUCTION

In today's highly competitive and global world companies should have the ability of meeting the changing needs and expectations of their customers. Besides that, companies also need to offer high-quality products with value and meet the delivery dates. Total quality management is a management system that improves the quality and the competitiveness of companies. It helps them in improving their competitive capabilities while increasing the standard of their products and services and as a result, companies can improve themselves all the time which in turn will be a key for business success. If properly implemented companies' market share will increase, quality will improve, the cost will be lowered and quick response will be possible. TQM is an important issue in increasing the market share and achieving success in local and global markets.

Strategic planning could be defined as an approach used for deciding what an establishment should do, how and why (Bryson, 2004). Total Quality Management engaged in the strategy of the organizations and at the beginning of this engagement we see the strategic planning. The integration of TQM and strategic planning could offer the organization a higher level of success in other words the combination of total quality management and strategic planning offer a corporation with the tools to achieve a competitive advantage within the marketplace since they create a synergy in today's highly global and competitive world (Butz Jr, 1995).

Drawing on the pertinent literature, this study contributes to the existing literature in a number of ways. First, there are several studies linking strategic planning to TQM (Bader and Braude, 1995; Butz Jr, 1995; Oschman, 2017) there is a lack of understanding about how strategic planning affects the success of TQM. Second, the study aims to provide evidence to relatively scarce empirical research by using a relatively large sample of manufacturing firms operating in a wide variety of industries. Third contribution of this study is its examination of the link between strategic planning and TQM in the context of a key emerging country, Turkey.

The remainder of this paper is organized as follows. The next section provides a brief review of the literature and based upon the literature the hypotheses of the study are set. The methodology of the research is presented in the third section. In section 4the results are discussed and it is followed by conclusion.

2. LITERATURE REVIEW AND HYPOTHESES

TQM is a strategy used for gaining and/or sustaining competitive advantage in the market. Hence it must be considered and used at the strategical level (Reed et al., 2000). Strategic plans include quality goals, in many TQM related studies, it is supposed that TQM should be linked to the organization's strategy. Since the environment in which the firm operates is changing unprecedently, surviving in this business environment has vital importance for the companies. One of the survival philosophy implemented by the companies is TQM because it brings success in the market. Actually, TQM must be fully integrated into the strategy and operation of the business, and in order to accomplish this integration we have to start with strategic planning. If the integration is accomplished, occurred synergy will strengthen the effect of strategic planning and TQM and causes a big success in the market (Butz Jr, 1995). The strategic planning aspect to help the application of TQM in order to boost certain business activities that companies want to do better than the competition and create a competitive advantage for them (Oschman 2017).

Arshida (2013) and_Araújo and Sampaio (2014)_indicate that one of the critical steps neededto adopt an experienced culture of excellence within organizations when applying the TQM methodology is a

formalized strategic planning aspect. Kantardjieva (2015) found that strategic planning requires constant infusion as one of the most critical success factors and foundations for the implementation of TQM in order to ensure sustainable product and service fitness. Mohammad Mosadeghrad (2014) and Munizu (2013) point out strategic planning as a factor in the implementation and simulation of TQM approaches.

The research based on this article discussed the use of strategic planning to help the introduction of TQM in order to fill the gap in literature. The research question is therefore as follows in this study: is there a direct correlation between strategic planning and TQM?

2.1 Total Quality Management (TQM)

Total quality management becomes a necessary factor in the sustainability of organizations. In order to gain and/or sustain the competitiveness in the market TQM allows companies to reach a high level of differentiation, to satisfy customers' demand, to raise the corporate image, while decreasing costs by eliminating defects and delays, and wasted time that enable to improve the processes of companies (Claver et al., 2003). In other words TQM is a business management strategy that improves the quality of organizations and provides value to customers (Lee et al., 2010; Projogo and Sohal, 2004). TQM is based upon a culture that enables to satisfy the customers via continuous improvements. However the culture changes according to one industry to another, it improves the company while decreasing costs (Bayraktar, et al., 2008; Kanji and Wallace, 2000).

TQM is an applied management methodology aimed at continuously improving people's organizational efficiency, processes (including services) and environments that will always surpass customer expectations, which in turn increases the higher productivity benefit and reduces the cost of achieving competitive edge (Kingsley et al., 2014). According to Kanji and Asher (1993), total quality management is related to continuous improvement of the performance of individuals, groups and organizations. Lai and Cheng (2003) examined the relationship between quality management practice and quality outputs, and investigated the activities of quality in various industries and compared them. Motivational performance, marketing performance, productivity performance, social performance were taken as the variable of quality outputs after TQM implementation.

TQM provides benefits such as improving business processes, providing customer needs, providing a high degree of differentiation, strengthening the brand image, reducing the loss of time and correcting errors and reducing costs. On the other hand, total quality management poses some problems in practice. Therefore, companies should pay attention to some factors when implementing total quality management (Claver et al., 2003).

In order to evaluate the success of TQM, companies are using critical success factors. Based upon the literature review, it can be said there are many measures used in the evaluation of the success of TQM. Therefore most used critical success factors in the literature are chosen in this study and they are classified according to the classifications used in the studies of Saraph et al. (1989), Ang et al. (2000), Claver et al. (2003), Projogo and Sohal (2006), Yusr et al. (2017). Critical success factors (CSF) influencing the successful implementation of total quality management are defined as top management commitment and leadership, customer satisfaction, employee responsibility and involvement, quality results, product/service design, education and training, supplier quality management, process management, information and analysis, and important innovations. In the following section these critical success factors will be explained in detail.

CSF 1: Top Management Commitment and Leadership

The success of TQM is based on top management commitment and leadership since TQM starts at the top level and top management is responsible for developing a TQM culture (Aquilani et al., 2017; Brah and

Lim, 2006). The responsibilities include communicating a quality commitment, encouraging the workers for changes, making their own decisions, and motivating all employees for the adoption of TQM (Claver et al., 2003; Coşkun, 2011).

CSF 2: Customer Satisfaction
However, some scholars define customer satisfaction as a result of TQM implementation it is one of the main critical success factors of TQM (Aquilani et al., 2017). In order to meet the customer expectations, organizations have to make a clear definition of customers. If we consider the production process, each step is a customer of its previous steps. Therefore, it can be said that customer satisfaction is directly related with the purpose of TQM (Coşkun, 2011).

CSF 3: Employee Responsibility and Involvement
A vital principle of TQM is that everyone in the organization is responsible for quality. Therefore, employee involvement and responsibility is necessary for implementing TQM successfully. Employees are responsible for improving the processes via using their abilities and skills (Aquilani et al., 2017).

CSF 4: Quality Results
In order to see the results of quality, companies should monitor the product/service quality, measure the productivity and the decrease in cost, and calculate the waiting and re-processing time and waste, and evaluate the success of employees (Ang et al., 2000).

CSF 5: Product/Service Design
Saraph et al. (1989) emphasizes the manufacturability, features, quality, and prevention of the frequent redesign of products and services.

CSF 6: Education and Training
Training and education for managers and employees is a key critical success factor of successful TQM implementation (Aquilani et al., 2017; Claver et al., 2003).

CSF 7: Supplier Quality Management
In order to improve the quality of goods and services organizations have to use suppliers which meet the quality specifications those are determined by the organizations (Aquilani et al., 2017).

CSF 8: Process Management
The process is defined as the production process which is composed of a series of activities used in the transformation of inputs to outputs. Since one output of a process could become an input for another, in order to improve the quality, companies need to improve the processes. Processes are improved by adding value, increasing quality standards and improving productivity (Aquilani et al., 2017; Coşkun, 2011).

CSF 9: Information and Analysis
Companies should collect and manage all quality relevant data, monitor and analyze the processes in order to correct the problems and facilitate continuous improvement. Companies get the data from internal and external channels which include customers, processes, suppliers, competitors, and employees (Aquilani et al., 2017). After gathering the data companies using TQM use different kind of techniques like cause-effect diagrams, histograms, Pareto diagrams, control diagrams and relations diagrams, etc. in order to make relevant analysis (Coşkun, 2011). Data collection and analysis is the main step of making decision (Brah and Lim, 2006).

CSF 10: Important innovations
Establishing innovative business processes and implementing product/service innovations to improve quality are the main drivers of this factor (Ang et al., 2000).

2.2 Strategic Planning (SP)

Strategic planning is different than the traditional long-range planning and conventional program planning since it looks at the big picture. Strategic planning activities are started with defining the vision and mission. After this step the purpose and the competitive weapons of the company which have an impact on the mission and strategies are determined. In the third step SWOT analysis is conducted. In other words the strengths and weaknesses of the company, and the opportunities and threats in the external environment are analyzed. Beside that the company has to consider the stakeholders' needs and expectations (Coskun, 2011; Projogo and Sohal, 2004).

Strategic planning is an empirical process that involves evaluating the future, identifying the desired goals in the sense of that future, designing alternative courses of action to achieve those goals, and choosing a course of action from these alternatives. It is planned in advance, defining what an agency will do and when (Bader and Braude, 1995). Strategic planning involves setting out corporate objectives, organizing business, human and corporate systems to achieve these objectives, planning and implementing plans, motivating employees, evaluating performance, in other words controlling the progress of the plan (Özgüner and Özgüner, 2015).

Strategic planning is used for predicting and anticipating changes within the business environment and positioning the corporation to respond. Organizations should develop an edge within the marketplace that differentiates the organization from all rivals. In order to meet the demand in the market, quality is one of the most competitive weapons. After defining the mission, vision and values, strategic planning will take place. Strategic planning is a long term planning of specific activities to align the mission, vision, and values of the organization with the environment in which it operates. Strategic planning differs from tactical plans. Tactical plans based upon a short term view, whereas the strategic plans draw the outlines. That means strategic planning is a crucial learning activity for the organizations whereas action plans could be thought as the application step of strategic planning (McClamroch et al., 2001). Table 11 shows the dimensions of strategic planning and their sources of reference.

2.3 Total Quality Management and Strategic Planning

Based upon the arguments, it can be said that when strategic planning and TQM are integrated, they can be most effective. If strategic plans don't include improvements in quality, it is not enough strategic as we considered. Especially the organizations that are competing on customer satisfaction, should consider the quality as a part of their strategic planning process. On the other hand organizations those wanting to be successful in quality management, need to create quality plans in connection with their strategic objectives. Only the organizations that have a clear vision and focus on quality activities could achieve quality improvements (Özgüner and Özgüner, 2015). Like strategic planning, (TQM) is a management approach that focuses on the outcomes of the organizational process (Bader and Braude, 1995).

Strategic management is essentially a dimension of TQM which is accepted as a new management philosophy all over the world. Therefore, total quality management and strategic management concepts should be carried out together.

Oschman (2017) examines the significant role of strategic planning as a core dimension in successfully implementing TQM. According to Oschman's research (2017) when strategic planning helps workers to efficiently manage their daily tasks, the more strategic planning techniques are applied. and TQM implementation will be better. According to Butz (1995) the full integration of TQM with strategic planning provides the path, reasoning and background for a productive TQM initiative. TQM's collective strength and strategic planning assess the organization's ultimate potential for building sustainable

capacity so that its scope offers organizational versatility by increasing its range of responses to emerging opportunities and threats (Hoang et.al, 2010).

Similarities and differences between strategic planning and total quality management are listed below (Kantardjieva, 2015; Line, 1994):

1) Each of TQM and strategic planning defined as the clearly set mission and objectives;
2) Strategic planning is a plan but total quality management is a set of principles and techniques;
3) Each of them refers to the action not theory;
4) Each of them needs an absolute commitment of top management;
5) Each of them needs the participation of all of the workers, in TQM organizations need to integrate the involvement, whereas in strategic planning it is left to preference;
6) Each of them needs a cultural change, but in TQM it is explicit and in strategic planning it is something to look forward to;
7) Each of them concentrate on the users/consumers, in total quality management it's essential, and in strategic planning it's expected to become apparent at the beginning of the process;
8) Each of them requires a process analysis; it should be explicit in total quality management, and implicit in strategic planning;
9) Each of them implies improvement- – total quality management in detail and strategic planning in general;
10) Each of them contains supervision and analysis, in total quality management it's more explicit;
11) Strategic planning includes only key workers, in total quality management everybody, on each level is involved;
12) Strategic planning functions from upward to downward and total quality management in reverse.

Based upon the literature we can simply draw our research model in Figure 1.

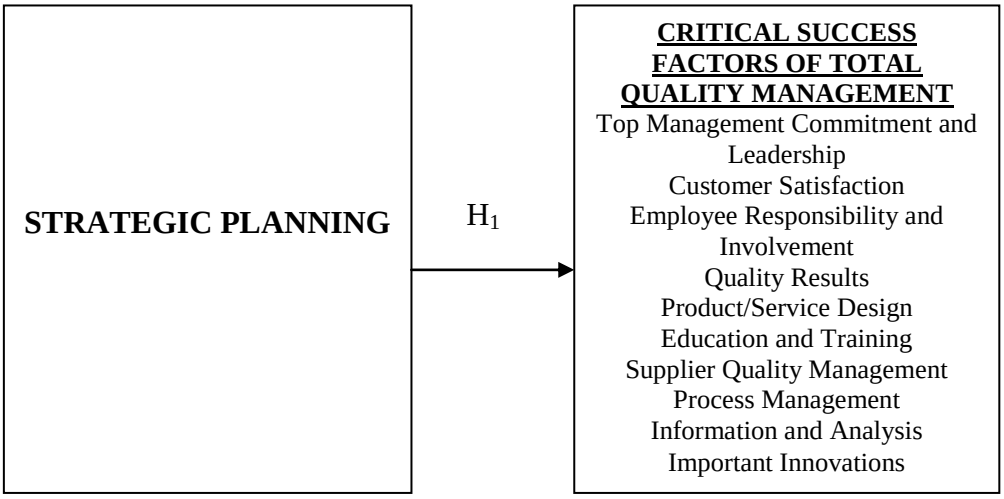

Figure 1. Research Model

Between strategic planning and total quality management, we expect that:

H1: There is a positive relationship between strategic planning and total quality management.
H1a: There is a positive relationship between strategic planning and top management commitment and leadership.

H1b: There is a positive relationship between strategic planning and customer satisfaction.

H1c: There is a positive relationship between strategic planning and employee responsibility and involvement.

H1d: There is a positive relationship between strategic planning and quality results.

H1e: There is a positive relationship between strategic planning and product/service design.

H1f: There is a positive relationship between strategic planning and education and training.

H1g: There is a positive relationship between strategic planning and supplier quality management.

H1h: There is a positive relationship between strategic planning and process management.

H1i: There is a positive relationship between strategic planning and information and analysis.

H1j: There is a positive relationship between strategic planning and important innovations.

3. METHODOLOGY

3.1 Sample and Data Collection

With the purpose of investigating the relationships between total quality management and strategic planning, a survey instrument was developed.

Table 1. Characteristics of the Sample

Industry	**Percent (%)**
Food and beverages	15.5
Textile, apparel and leather	15
Metal	12.5
Automobile	11
Construction	7
Machinery and equipment	6.5
Paper, paper products, printing, publishing	6
Energy	5
Chemicals	3.5
Plastic	3
Stone and earth-based products	2.5
Wood products and furniture	2.5
Drug	2.5
Mine and mine products	2
Electronic	1.5
Cleansers	1
Tobacco	1
Agricultural chemicals	1
Glass	0.5
Aviation	0.5

Age	**Percent (%)**
0 – 6 year	2
7 – 16 year	13
17 – 26 year	18.5
27 – 36 year	24
37+	42.5
No. of Workers	**Percent (%)**
≤50	1,5
51 – 100	3
101 – 150	6
151 – 200	3.5
201 – 250	5
≥251	81
Size	**Percent (%)**
Big Sized	81
SMEs	19
Capital	**Percent (%)**
Domestic	81
Foreign	6
Mixed	13

The questionnaire was pre-tested several times to ensure that the wording, format, and sequencing of questions were appropriate. Occasional missing data on variables was handled by replacing them with the mean value. The percentage of missing data across all data was calculated to be relatively small.

Data for this study was collected using a structured questionnaire that was distributed to the first top 1,000 firms of Turkey operating in different sectors in Turkey. The sample was selected from the database of Istanbul Chamber of Industry. Questionnaires are posted to all top 1,000 firms and a total of 200 responses are received.

It was requested that the questionnaire be completed by a production manager, a plant manager, or a general manager. The responses indicated that a majority of the respondents completing the questionnaire were in fact members of the top management.
The sample consists of firms from a wide variety of industries including a wide variety of industries. Based upon Table 12, it can be said that most of the companies are in the food and beverages industry (15.5%), working 37 years and up, and most of them are big sized companies (81%).

3.2 Measurement of Variables

Based upon the literature, a set of ten critical success factors that are applicable for evaluating the success of TQM were identified. On each of these dimensions respondents were asked to evaluate their critical success factors of implementing total quality management on a 5 point Likert scale.

Strategic planning was evaluated by using a five-item scale that is drawn from previous studies (Ang et al., 2000; Projogo and Sohal, 2006). Relying on a five-point scale (ranging from "strongly disagree" to 5 "strongly agree"), the respondents were asked to indicate their companies view to the given statements.

Table 2 shows the critical success factors of TQM and strategic planning dimensions, and their sources of reference.

Table 2. TQM and strategic planning dimensions, and their sources of reference

CSF 1		**Sources of reference**
1.1	Our company has clear quality goals identified by top management	Yusr, 2017
1.2	Our company has created quality culture	Ang et al., 2000
1.3	Our company has formulated vision and mission.	Ang et al., 2000
1.4	Our company has communicated quality values to staff.	Ang et al., 2000
1.5	Our company has facilitated communication between top management and other staff.	Ang et al., 2000
CSF 2		**Sources of reference**
2.1	We actively and regularly seek customer inputs to identify their needs and expectations.	Projogo and Sohal, 2006
2.2	We always maintain a close relationship with our customers and provide them an easy channel for communicating with us.	Projogo and Sohal, 2006
2.3	Customer needs and expectations are effectively disseminated and understood throughout the workforce.	Projogo and Sohal, 2006
2.4	We have an effective process for resolving customers' complaints.	Projogo and Sohal, 2006
2.5	We measure customer satisfaction.	Ang et al., 2000
CSF 3		**Sources of reference**
3.1	Employees are recognized for superior quality performance	Saraph et al., 1989
3.2	Quality issues are handled by effective supervision.	Saraph et al., 1989
3.3	Employee satisfaction is formally and regularly measured in our company.	Projogo and Sohal, 2006
3.4	We involve staff in quality improvement.	Ang et al., 2000
3.5	In our company, employees' performance is measured and recognized in order to support quality programs	Claver et al., 2003
CSF 4		**Sources of reference**
4.1	We actively and regularly measure good/service quality.	Saraph et al., 1989
4.2	We actively and regularly measure productivity.	Saraph et al., 1989
4.3	We actively and regularly measure reductions in operational costs.	Saraph et al., 1989
4.4	We monitor waste such as waiting, re-do work, and damage to equipment.	Saraph et al., 1989
4.5	We actively and regularly evaluate employee satisfaction.	Saraph et al., 1989
CSF 5		**Sources of reference**
5.1	We actively monitor new product/service design reviews before the product/service is produced and marketed	Saraph et al., 1989
5.2	In the product/service design process the implementation/manufacturability is considered.	Saraph et al., 1989

Table 2. TQM and strategic planning dimensions, and their sources of reference (Cont'd)

CSF 5 (Cont'd)		**Sources of reference**
5.3	We actively create coordination among affected departments in the product/service development process.	Saraph et al., 1989
5.4	Quality is emphasized by sales, customer service, marketing, and PR personnel.	Saraph et al., 1989
5.5	Quality of new products/services emphasized in relation to cost or schedule objectives.	Saraph et al., 1989
CSF 6		**Sources of reference**
6.1	We provide training for employees in problem solving.	Saraph et al., 1989
6.2	We provide team building and group dynamics training for employees in the division.	Saraph et al., 1989
6.3	Quality-related training given to hourly employees throughout the division.	Saraph et al., 1989
6.4	Specific work-skills training (Technical and vocational) is given to hourly employees throughout the division.	Saraph et al., 1989
6.5	Quality-related training is given to managers and supervisors throughout the division.	Saraph et al., 1989
CSF 7		**Sources of reference**
7.1	Our company relies on its supplier process control.	Saraph et al., 1989
7.2	We have a strong interdependence of supplier and customer.	Saraph et al., 1989
7.3	Our purchasing policy emphasizing quality rather than price.	Saraph et al., 1989
7.4	Our company establishes long-term relationships with suppliers.	Projogo and Sohal, 2006
7.5	Supplier makes the quality control.	Saraph et al., 1989
CSF 8		**Sources of reference**
8.1	Our limitations and steps of processes are clear.	Saraph et al., 1989
8.2	We use statistical control charts to control processes.	Saraph et al., 1989
8.3	We continuously control and improvement the key processes.	Claver et al., 2003
8.4	We try to prevent faulty products/services.	Claver et al., 2003
8.5	We make an extensive use of statistical techniques (e.g. SPC) to improve the processes and to reduce variation.	Projogo and Sohal, 2006
CSF 9		**Sources of reference**
9.1	The level of newness (novelty) of our firm's new products is high.	Projogo and Sohal, 2006
9.2	The use of latest technological innovations in our new products is high.	Projogo and Sohal, 2006
9.3	The speed of our new product development is high.	Projogo and Sohal, 2006
9.4	The number of new products our firm has introduced to the market is high.	Projogo and Sohal, 2006
9.5	The number of our new products that is first-to-market (early market entrants) is high.	Projogo and Sohal, 2006

Table 2. TQM and strategic planning dimensions, and their sources of reference (Cont'd)

CSF 10		**Sources of reference**
10.1	Up-to-date data and information of company's performance is always readily available for those who need it.	Projogo and Sohal, 2006
10.2	Our company has an effective performance measurement system to track overall organizational performance.	Projogo and Sohal, 2006
10.3	We provide professional staff with decision support tools such as statistical techniques and cause-effect diagrams.	Ang et al., 2000
10.4	We produce comprehensive information for different levels of need.	Ang et al., 2000
10.5	We improve information consistency.	Ang et al., 2000
Strategic Planning		**Reference Sources**
1.	We identify strategic issues.	Ang et al., 2000
2.	We have a comprehensive and structured planning process which regularly sets and reviews short and long-term goals	Projogo and Sohal, 2006
3.	We analyze strategic issues	Ang et al., 2000
4.	We make strategic decisions	Ang et al., 2000
5	.We formulate strategic plans	Ang et al., 2000

4. RESULTS AND DISCUSSION

The data analysis was conducted by using partial least squares technique (PLS). Smart PLS program was used for conducting the research. According to Rosipal and Kramer (2006), partial least squares technique is a very powerful tool which applied in many areas of research, especially in social sciences. In data analysis, we first make an assessment of the outer model and then we will assess the inner model in order to find out the effect of strategic planning on the success of quality management.

4.1 Assessing the Outer Model

Based upon the study of Hair et al. (2014), outer model tests validity and reliability. Since the items used for evaluating strategic planning and success of TQM are obtained from different studies, reliability test is conducted for measuring that all of the items measure the same construct. In order to evaluate the reliability and validity, composite reliability (CR) and average variance extracted (AVE) were computed for all constructs. For each indicator which has an outer loading more than 0.70, and the constructs' average variance extracted (AVE) is 0.50 or more (Yusr et al., 2017; Hair et al., 2014) the convergent validity is supported. The results of testing the outer model's reliability and validity are shown in Table 3. All of the items meet the requested threshold. After this analysis we examine discriminant validity. Discriminant validity represents to which extent the construct is empirically distinct from other constructs (Hair et al., 2014).

Table 3. The Reliability and Validity of the Constructs

Critical Success Factors	Cronbach's Alpha	Composite Reliability	Convergent Validity (Outer Loadings)	Average Variance Extracted
CSF 1	**0.897**	**0.924**		**0.708**
1.1			0.785	
1.2			0.843	
1.3			0.848	
1.4			0.838	
1.5			0.891	
CSF 2	**0.884**	**0.915**		**0.684**
2.1			0.834	
2.2			0.853	
2.3			0.799	
2.4			0.823	
2.5			0.824	
CSF 3	**0.900**	**0.926**		**0.715**
3.1			0.883	
3.2			0.832	
3.3			0.818	
3.4			0.857	
3.5			0.835	
CSF 4	**0.882**	**0.914**		**0.680**
4.1			0.765	
4.2			0.858	
4.3			0.863	
4.4			0.846	
4.5			0.788	

Table 3. The Reliability and Validity of the Constructs (Cont'd)

Critical Success Factors	Cronbach's Alpha	Composite Reliability	Convergent Validity (Outer Loadings)	Average Variance Extracted
CSF 5	**0.892**	**0.921**		**0.700**
5.1			0.834	
5.2			0.796	
5.3			0.868	
5.4			0.826	
5.5			0.857	
CSF 6	**0.917**	**0.938**		**0.750**
6.1			0.870	
6.2			0.885	
6.3			0.868	
6.4			0.847	
6.5			0.860	
CSF 7	**0.854**	**0.896**		**0.633**
7.1			0.841	
7.2			0.852	
7.3			0.773	
7.4			0.772	
7.5			0.733	
CSF 8	**0.882**	**0.913**		**0.678**
8.1			0.794	
8.2			0.831	
8.3			0.843	
8.4			0.830	
8.5			0.818	
CSF 9	**0.900**	**0.926**		**0.714**
9.1			0.848	
9.2			0.847	
9.3			0.846	
9.4			0.859	
9.5			0.823	
CSF 10	**0.897**	**0.924**		**0.708**
10.1			0.811	
10.2			0.867	
10.3			0.842	
10.4			0.858	
10.5			0.827	
Strategic Planning	**0.943**	**0.957**		**0.816**
1			0.905	
2			0.872	
3			0.907	
4			0.893	
5			0,938	

Table 4 shows that the average variance extracted square root value exceeds the values of all correlations. This procedure was recommended by Fornell and Larcker (1981). In Table 14, the square root of the AVE is located in the diagonal part of the correlation matrix and these values are greater than all the values in corresponding rows and columns, attesting the discriminant validity of the constructs used in our measurement model. Consequently, the model satisfies the requirements of goodness and the measurement is reliable. Therefore, the inner model of the research could be assessed in the next step.

4.2 Assessing the Inner Model

This section has many steps. Coefficient of determination (R^2), cross-validated redundancy (Q^2), path coefficients, and the effect size (f^2) are analyzed in this section. The R^2 is a measure of the model's predictive accuracy (Yusr et al., 2017). In interpreting the R^2, we use 0.75, 0.50, and 0.25 rule which describes substantial, moderate, or weak levels of predictive accuracy respectively (Hair et al., 2011; Henseler et al., 2009).

As seen from the Table 5, the R^2 value of total quality management success factors are in the moderate range indicating that customer satisfaction, product/process design, information and analysis, top management commitment and leadership, quality results, and employee responsibility and involvement had a moderate effect on innovation performance. However process management, supplier quality management, education and training are just a little bit higher than the 0.25 threshold, the important innovations have weakest effect in this model.

Another criterion used in the evaluation of inner model is the effect size (f^2). The effect size is small if f^2 is 0.02; medium if f^2 is 0.15 and large if f^2 is 0.35 (Hair et al., 2014). Based upon the f^2 values it can be said that the effect sizes of customer satisfaction, product/service design, information and analysis, top management commitment and leadership, quality results, supplier quality management, and employee responsibility and involvement are large. However the effect size of important innovations, process management is medium.

And the last criterion is Cross-validated redundancy (Q^2). After running the blindfolding process the Q^2 can be evaluated (Yusr et al., 2017). Hair et al. (2014) emphasize that the smaller the difference between predicted and original values has the greater the Q^2 and the model's predictive accuracy. Therefore Q^2 have to have a value larger than zero. Based on the result all of the values are above the zero.

Table 4. The discriminant validity of the constructs

		1	2	3	4	5	6	7	8	9	10	11
1	**Top Management Commitment and Leadership**	**0.842**										
2	**Customer Satisfaction**	0.570	**0.827**									
3	**Employee Responsibility and Involvement**	0.682	0.677	**0.845**								
4	**Quality Results**	0.668	0.582	0.664	**0.825**							
5	**Product/Service Design**	0.590	0.581	0.669	0.620	**0.836**						
6	**Education and Training**	0.645	0.655	0.758	0.598	0.584	**0.866**					
7	**Supplier Quality Management**	0.532	0.605	0.699	0.577	0.576	0.628	**0.795**				
8	**Process Management**	0.612	0.558	0.744	0.651	0.607	0.700	0.615	**0.823**			
9	**Information and Analysis**	0.665	0.678	0.839	0.643	0.641	0.729	0.626	0.731	**0.845**		
10	**Important Innovations**	0.327	0.380	0.480	0.334	0.437	0.383	0.388	0.463	0.527	**0.841**	
11	**Strategic Planning**	0.637	0.552	0.617	0.656	0.581	0.533	0.515	0.505	0.648	0.415	**0.903**

Table 5. R^2, f^2, Q^2 Values for Assessment of Inner Model

	R^2	f^2	Q^2
Top Management Commitment and Leadership	0.41	0.68	0.27
Customer Satisfaction	0.30	0.44	0.19
Employee Responsibility and Involvement	0.38	0.62	0.25
Quality Results	0.43	0.76	0.27
Product/Service Design	0.34	0.51	0.22
Education and Training	0.28	0.40	0.19
Supplier Quality Management	0.27	0.36	0.15
Process Management	0.26	0.34	0.16
Information and Analysis	0.42	0.72	0.28
Important Innovations	0.17	0.21	0.11

After testing and evaluating the values, the next step will be assessing the structural model via running the PLS algorithm to identify the path coefficient and bootstrapping algorithm to determine the significance level of the obtained coefficients. Table 16 illustrates the path coefficient and the bootstrapping result. As shown in Table 6, all the formulated hypotheses are supported by the result of the study with a significance level of 1 percent. So it can be said that there is a relationship between strategic planning and total quality management success.

Table 6. Result of Hypotheses Testing

Hypotheses	**Path coefficients**	**SE**	**t-value**	**p-value**	**Decisions**
Strategic Planning ->Top Management and Leadership	0.637	0.045	14.258***	0.000	Supported
Strategic Planning -> Customer Satisfaction	0.552	0.046	11.876***	0.000	Supported
Strategic Planning -> Employee Responsibility and Involvement	0.617	0.043	14.310***	0.000	Supported
Strategic Planning -> Quality Results	0.656	0.041	16.007***	0.000	Supported
Strategic Planning ->Product/Service Design	0.581	0.052	11.211***	0.000	Supported
Strategic Planning -> Education and Training	0.533	0.049	10.841***	0.000	Supported
Strategic Planning -> Supplier Quality Management	0.515	0.053	9.744***	0.000	Supported
Strategic Planning -> Process Management	0.505	0.060	8.358***	0.000	Supported
Strategic Planning -> Information and Analysis	0.648	0.038	16.929***	0.000	Supported
Strategic Planning -> Important Innovations	0.415	0.060	6.910***	0.000	Supported

Note: ***p<0.001

5. CONCLUSION AND IMPLICATIONS

Based upon the findings of related studies, this study has provided a strong empirical justification for the framework that illustrates the causal relations between strategic planning (SP) and total quality management (TQM) within the context of large scale Turkish manufacturing companies. The finding that SP is positively and significantly related to TQM critical success factors' dimensions is in line with earlier studies that have examined the positive and significant relationship between SP and TQM (Butz Jr, 1995; Reed et al., 2000; Line, 1994; Kantardjieva, 2015; Kumar and Sharma, 2017).

With a broader view it can be said that this study has an important contribution to the existing literature by conducting a study that exhibits the use of strategic planning as a tool in successful TQM implementation in an emerging country context which could be an important step of development in such countries.

5.1. Managerial Implications

This study offers a number of managerial implications. First of all, this study develops and validate a multi-dimensional construct for critical success factors of TQM which provides managers a useful tool for evaluating the success of their TQM implementation. Second, by making the analysis of the relationship between SP and the critical success factors of TQM in an emerging country. In order to successfully implement TQM firms tend to attend more emphasis on quality results; information and analysis; top management commitment and leadership; employee responsibility and involvement respectively. These three issues have to be emphasized for long term , in other words based upon the findings of this study,

managers have to incorporate their efforts to adapt and implement TQM successfully to their broader strategic plans.

5.2. Limitations and Future Research

It should also be considered that this study is subject to some limitations. First, the study is focused on Turkish manufacturing companies which narrow the generalization of the findings to other sectors as well as other countries. It is hoped to extend the study collecting data from other emerging countries and from service industry. Besides, it will also be useful to include the developed countries, examine, and compare other emerging and developed countries in order to draw the big picture.
Second, future studies may include moderator variables such as firm size, age, foreign equity share, etc. in the model in order to provide more insight regarding this issue.
Third while conducting the research, the data were collected form a single respondent in each firm that might cause response bias. Therefore future studies could use the data from multiple respondents and/or use longitudinal data in order to prevent this problem.

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