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The Importance of Benchmarking for the Management of the Firm: Evaluating the Relation between Total Quality Management and Benchmarking

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Abstract

At present time, there has been a great change in technology due to the rapid development of technology, changing of economic conditions and the removal of borders in trade. With this change, the importance of knowledge has increased. In order to survive in the market and to ensure customer satisfaction, companies started to develop various methods. Benchmarking is one of the methods developed as a result of efforts to change and to be permanent in the market. Organizations need to be outward-oriented in order to identify the need for change and to provide a mechanism for change. Nowadays, obtaining information, accessing and learning information is more important than storing information, and benchmarking has been an important policy for the business management and supply chain of the company. This method enables companies to strengthen their weaknesses, to evaluate opportunities in the best way, to be customer oriented and to survive in a competitive environment within the corporate culture. In the scope of the study, the basic concepts of benchmarking and total quality management dual strategy, and the roadmap to be successful in this process are included. Sample sections-examples and information are given about how companies will apply the benchmarking method and which steps they should follow when making comparisons-benchmarking.

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1. Introduction

Bench mark is a unit of measurement and benchmarking is to perform this measurement. However, its Turkish meaning has not yet been set, benchmarking is defined in Turkish as; embracing as sample, taken as sample and in most cases as ‘comparison’ [1-3, 20]. In other words Benchmarking, is to compare the performance of any organization with another one who is standing as the ‘best in its class’ and hence trying to reveal the fact that how this best class organization has achieved this outstanding performance level, and using the relevant obtained

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information in its organization for providing a sample base for the future objectives and strategies [1, 2]. Benchmarking provides competitive advantage in the business world. It is a continual measurement that compares the in-company activities, processes or methods with other companies. Benchmarking, that means taken as a sample, to describe the ‘reference point’, is also can be defined as for an organization in order to enhance the competitive power, to review the business techniques of other organizations that having successful performance, and to compare those techniques with its own techniques and to implement that obtained information in its own organization. [1-4, 10-13].

2. The past of the of Benchmarking Concept and its Emergence

The word of “benchmark” apart from its technical meaning has also gained new meanings, and is transferred into business world with the form of “benchmarking” in the 1970’s. It has been positioned in the business literature as a management paradigm by targeting any better implementation and by including the relevant comparisons and adjustments. The founder of the Ford Company, Henry Ford, has developed the production line with running conveyor band system, by inspiring from a slaughter-house where he went there to visit one of his friends in 1912 in Chicago [7, 13-19]. He had observed that one of each butchers has been cutting the certain part of the carcass, and handing over his friend the rest of the carcass. He had later implemented this observation with only a slight difference in the car manufacturing. Instead of a steel rail that the hooks are slid over them, he developed a running conveyor band implementation. Again in 1950’s, the founder of Toyota, had sent his son-Eiji Toyoda, to the United States to review the auto manufacturing giants such as General Motors and Ford. Eiji Toyoda, has not been content with reviewing those automotive manufacturing organizations, but also made observations in the supermarkets. Toyoda has been impressed that the empty shelves in the supermarkets were also being re-filled rapidly and with regard to the needs at night. Upon his return to Japan, he initiated the early implementations of “just-in-time” or ‘exact time’ production that works with ‘zero stock’ [7, 8, 13-19]. Benchmarking today is not a new management technique, but its popularity has been raised. There are two basic reasons for that; the first one; Benchmarking has become a hot issue in the quality field. The second one, it is a criteria in the “National Malcolm Baldrige Quality Prize” implementations [2, 10, 13-15].

Xerox received this award, which is equivalent to the Japanese's most honored "Deming Award," thanks to the successful results of benchmarking [10]. Xerox, has investigated the physical integration of the components as well as they studied the production cost of these parts and tried to understand that how their competitors have achieved the production of these parts with lower costs. Sometime later, Xerox has adapted those implementations into their own production process and used in their business plans [10, 13-15]. Benchmarking Examples of Xeroxs are listed in Table 1.

Table 1. Benchmarking Examples that Xeroxs has Implemented Successfully [12]

Xerox’s Benchmarking Partners	Process that Benchmarking Performed
American Hospital Supply	Inventory Control
Ford Motor Company	Production Line Design
Florida Light and Power	Quality Assurance Process
Cummins Engine Company	Daily Production Planning
General Electric	Robot System
American Express	Invoicing & Receipt
Westinghouse	Stock Control, Barcode Implementation

After 1980’s benchmarking management that has gained wide using practice starting from USA toward Western Europe, is also being used by giant organizations today [3, 4]. As a Turkish experience, organizations in the Sabancı Holding frame; Beksa, Brisa, Dusa, Kordsa ve Olmuksa have initiated a study group named as ‘BENCHSA’ in order to possess a systematic structure for the benchmarking studies in 1997. They have handled the ‘benchmarking’ as a process and stressed on the continual improvement by attributing importance [9, 13].

3. General Errors Encountered in Benchmarking Application

Not being able to support the top management; the success of the benchmarking study depends, above all, on the fact that the enterprise accepts the fact that it needs this work and change. Hence, first of all the belief and support of the top management is essential. Otherwise, there will be difficulties in the implementation phase and the changes that are deemed necessary at the end of the study cannot be realized because they are not supported by the senior management [1-4].

One of the reasons why senior management did not support is that they think that comparison is a very expensive process. They argue that comparison is a long, exhausting process. A careful preparation and planning phase and working with a suitable team can be done in a very short period of time and avoiding unnecessary expenditures, so the benefits will ultimately meet the costs. Team members are not selected correctly and the team cannot understand the task; doing a benchmarking is first of all a team work. Care must be taken when creating the benchmarking team [18-20]. Volunteer participation should be provided to the team, experienced and trained people should be selected. Failure to relate the benchmarking to the wider studies and not to conform to the strategies, fail to determine compliance with strategies; benchmarking is one of one the many total quality management tools such as; problem solving, process development, shortening conversion time, lowering costs, etc. Benchmarking is an appropriate and complementary mean for these tools and should be used together in order to provide a higher value [1-4; 18-20].

(i) *The Purpose of Benchmarking*: The benchmarking practice involves having the two companies agree in advance to share information about their operations and methods. Both companies expect some gains from information exchange. While companies are free not to give the information they own, however, they do not consider each other to be rivals. *The goals of benchmarking can be listed as follows [14-19]*:

- Validating objectives, targets and applications,
- Reducing the costs,
- To change or strengthen the corporate culture,
- Helping to identify the goals and objectives of the organization,
- Identifying best practices to achieve goals and objectives,
- Ensuring the strategic management of the company,
- Revealing better practices within the company,
- Providing motivation in employees, Improving competitive advantage and company performance.

(ii) *The features of Benchmarking*: Cares about customer satisfaction in global order; pointing to customers has a mindset that takes principle that when someone else makes a mistake, they must do the right thing. This understanding provides openness, careful listening and observation necessary in organizations and encourages them. To better understand the characteristics of the benchmarking, it is necessary to explain what it does not mean [1, 10]: It is not a mechanism to prevent waste of resources. It is not a study that will be applied only once. It is not a research process that provides simple answers. It is not a copying, imitation, or industrial espionage. It is not a fast and simple process.

<i>The characteristics of the benchmarking are[1, 10]:</i>	<i>A good benchmarking study should have the following these characteristics[1, 10]:</i>
-It is a learning process from others, -It is a process that requires discipline, time and cost, -It is a continuous work, -It is a research process for providing information.	-It should be active and continuous change and development focused, - It should be carried out with an enterprising and positive approach, - It is the most valid evidence for change, -It is opened to new ideas and opinions, - It is aimed for applications, -It is oriented only for best practices, - Before considering others, requires knowing their own superiority, - Focuses on leadership position.

4. Benchmarking in Turkey

The changing management approach leads to the interest of the enterprises into benchmarking. Trainings on managerial tools are being given and practices are started. The Quality Association has made the benchmarking working group a committee and the committee continues its work in this field at full speed. One of the most intensive enterprises in this field is KALMER, Quality Management Center Training and Consultancy Company [5-8, 11, 14]. KALMER is an authorized distributor of US business enterprise "Juran Institute" which is one of the leading enterprises in quality management. KALMER has initiated its works in Turkey, in order to create "benchmarking database" and as of February 1996, has collected information on 72 enterprises who want to join the database network and a current list on this subject is being sent to these participants [10, 13]. The benchmarking studies in Turkey are being implemented by larger enterprises in most cases, especially by foreign partnership enterprises [13-19]. The administrative tool is not yet fully recognized. This is because firms do not want to provide information about development and progress techniques.

5. Benchmarking Process

The steps in which the preparation phase of the benchmarking process is concerned, the determination of the comparison process in the preparation phase, which is the first stage of the benchmarking process, is of great importance in terms of the efficient use of the resources and their effects on the goals and success of the organization. An organization that wants to conduct benchmarking should firstly recognize its customers and identify factors that satisfy customers. The main objectives of the organization and the business processes supporting them are determined and the processes are determined in order of importance and the subject of benchmarking is determined [5, 14-19]. The steps of benchmarking process are presented in Fig 1.

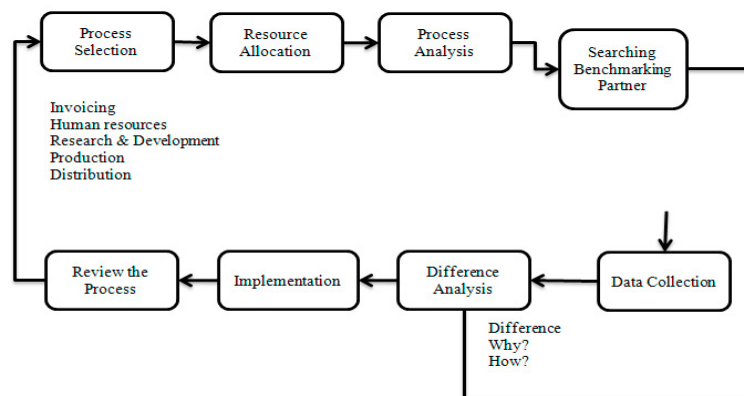


Fig.1 Benchmarking Process [5, adapted by authors]

The decision in which field to make a comparison-benchmarking is given by management as follows [5, 18-20]:

- Customers are identified.
- Critical success factors (factors satisfying customers) are defined.
- Identify the key business processes that affect the organization's critical success factors.
- The processes that provide the most impact to the organization goals are determined and prioritized.
- Critical success factors and performance measures of these processes are reviewed and the desired processes for maintaining development are determined.
- It is decided whether to exchange information from the framework of information sharing rules with the possible benchmark partner related to these processes. The main types of benchmarking (*Types of Process Benchmarking Studies*) can be summarized-defined as follows [14-19].

While it is possible to make benchmarking - comparisons between the units within the organization it is also probable to make benchmarking - comparisons with companies outside the organization.

Internal benchmarking: In this type of benchmarking, it is tried to determine best practices by making comparisons between transactions and processes within the organization itself.

Competitive benchmarking: It is very difficult process to settle the competing company for being benchmarking partner. This method tells you the position of you and your opponent, but does not tell you how the organization has reached that point.

Functional benchmarking: Since in this type of benchmarking is not obligatory for exposing to direct contact between competing companies, hence information sharing and cooperation opportunities are broader.

General benchmarking: The purpose of the general benchmarking, which is called generic, horizontal or best-in-class benchmarking, regardless of sector or subject worldwide, is to investigate and target a sample work as being in most successful manner that provides best realization for a process, a product, and a service.

6. Benchmarking In Total Quality Management Dynamics

The executives say that the new conditions bring new cases, which can only be overcome by new approaches. In this respect, the companies that are acting in this direction have begun to adopt the concept of Total Quality and the concept of being the best that aiming to renew with continuous improvement. The basis of management is the continuous development of the enterprise itself. As this is not enough, the organization compares itself to its competitors and the best in the world and adapts the applications to it and uses Benchmarking. Practitioners believe that benchmarking should be initiated in enterprises that already have an established quality understanding. When the process of comparison and emergence as a management tool is examined, it is seen that this managerial tool has shown a development trend in parallel with the development in Total Quality Management applications [19-21, 25].

These are the reasons why they see it as an integral part of Quality Management (6-9):

- Establishing targets for process development projects based on performance levels achieved by other companies.
- Identify better ways to establish processes; Prove that alternative methods can give better results for the realization of a process.
- Elimination of stereotyped assumptions and constraints; reducing subjectivity in decision making.
- Promoting new ideas.

6.1. Customer Orientation in Total Quality Management and Benchmarking

The complete and accurate identification and fulfillment of customer requests provides customer satisfaction and thus it is possible to expand market share and increase profitability by increasing sales. The basic principle of Total Quality Management is to create an organizational culture that adopts the understanding of customer demands. With the pressure of competition, businesses have reached a position that production level is proportional with the sales potential. It is only possible to determine the hidden requests of the customer as well as the visible requests of the customer by being close to the customer. The company that has seized, satisfied and held the customer is permanent in the market [6, 7, 14-19].

The goal of benchmarking is to make continuous improvements and implement changes in business products, methods and services. Therefore, benchmarking practices provide a better understanding of customer wishes and expectations. This is because customers are the most important data source at every stage of comparison. Processes showing the most significant impact on customer satisfaction and having critical values for long-term business success are taken into consideration [6-8, 23, 24].

6.2. Continuous Development in Total Quality Management and Benchmarking

Nowadays businesses are obliged to be customer oriented and maintaining continuous improvement and development conditions. Quality improvement activities are a process that will never end, and in this process, continuous improvement is the main objective in customer satisfaction and in the improvement of competition, efficiency, systems and human resources. The measurement is carried out to determine how much development is needed in the concerned process. Measurement allows the organization to evaluate priorities. Therefore, continuous improvement can be achieved only after measurements are made [11, 19, 21-25]. Figure 2 shows the stages of continuous development and benchmarking.

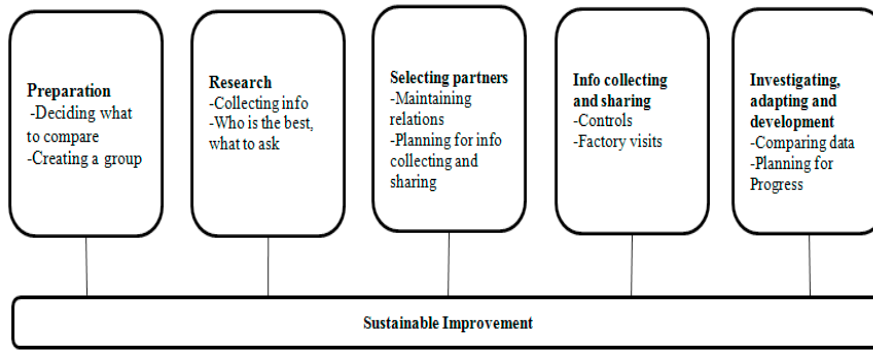


Fig. 2. Sustainable development and benchmarking process [7]

7. Benchmarking As a Model

In Turkey benchmarking implementing companies selecting their benchmarking partners mainly from the foreign organizations that is why relevant studies and their results are usually kept confidential. A model can be established to better identify this information in light of the explanations in the previous sections. Also some factors are used to establish a model for the destination of benchmarking. These are presented as below [5-8, 14-19]:

(i) External Environmental Factors: Today, raw materials and semi-finished products which are needed for production have been easily accessible from anywhere in the world and the changes have accelerated the product marketing of countries.

(ii) Organizational Factors: In organizational structures, the number of hierarchical steps can be reduced and transformed into a flexible structure and a customer-oriented structure that meets the demands of domestic and foreign customers.

Businesses also develop management philosophies with their organizational structures. A more participatory, more flexible, more management-based approach is preferred. For example, the Total Quality Management approach emphasizes the importance of continuous development and tries to ensure continuous improvement in the enterprises. The renewed management philosophy envisages full participation of all employees, prioritizing quality over other issues within the enterprise, and continuous improvement of processes. With the changes in the management philosophy, the managerial practices and the utilized managerial tools are also changed.

8. Application Examples from Turkey

The aim of Benchsa Group is to establish the necessary infrastructure for handling the benchmarking as a process and providing sustainability in a systematic way, and popularizing the implementations, and to review the efficiency of studies, hence providing continuous improvement state. Benchsa has carried out activities such as information sharing rules, creating a common database, establishing a common benchmarking procedure and maintaining educational activities. The database includes performance measurement results. Each year, databases are used to compare the values of the previous year. The benchmarking procedure created by the Group has been prepared and put into use according to the situation of the institutions in the comparison process. The properties of teamwork and consortium study are listed as below [7, 9]:

(i) Strengths of teamwork: Providing systematic in-house training and determining training efficiency, Effective data base, Proper and systematic reporting, Visualization.

(ii) Areas for improvement in teamwork: In-team efficiency assessment, Protection of voluntary participation, initial viability, Ensure that management ownership is more visible, Percentage of overlapping of topics covered with organizational objectives, Updating recognition and appreciation methods according to expectations.

(iii) Strong aspects of the consortium study: Clarity in the framework of information sharing rules, Completion of studies within the planned time due to geographical proximity, Provision of management support and resources, including the award-winning, benchmarking partners in the team, Benchsa's support for the team on the benchmarking methodology, Inclusion of process owners in the study. Process performance measurements are not used because they are different among the organizations. The results of the work of the consortium team; it will be used to improve the organization's own processes and to make new works by Benchsa. As another example, marketing and sales functions were selected for the first benchmarking study in the Eczacıbaşı Group. The reasons for this are that these functions are important for the Eczacıbaşı community and such a study will allow the sharing of knowledge and experiences among the community's drug, structure and consumer groups [2, 5].

A team was created for the benchmarking study. In creating the team, care was taken to include the persons who were directly responsible for and affected from the process and results to be compared in terms of the reliability and applicability of the study. In addition, marketing and sales functions have been ensured to be balanced within the team. At the next stage, the processes that constitute the marketing and sales functions were examined by the team and the processes that are critical for marketing and sales performance were selected [2, 5].

9. Application Examples of Benchmarking from the World

Rank Xerox was founded in 1956 by Xerox Corp. (USA) and Rank Organization (UK), and has successfully used the benchmark management tool for product distribution [5, 13].

Benchmarking study of Rank Xerox was initiated in 1988 and included part of Xerox's worldwide supply and distribution chain. Rank Xerox was having the opinion that it would be beneficial to apply just in time competition technology against to Japanese competition and they were able to reduce the inventories, stock costs and delays by this method. In addition, Xerox reduced the total number of suppliers from 3000 to 5000, increasing the quality of the auxiliary industry and the sensitivity to Xerox's requirements, reducing the amount of rejected parts in assembly lines from 1% to 0.025% and tripling its production [2, 5, 13].

(i) Creating an Integrated Supply Chain

Rank Xerox radically overhauled its supply and distribution chain and thought it could provide the balance between the level of service it wants to deliver and the cost of distribution and the amount of cash tied in the inventory [15, 22-24]. The company can provide more successful customer service as it keeps the inventory high.

(ii) Benchmarking Study of Rank Xerox

Rank Xerox wanted to solve two important problems that were interdependent. First, the company had a very high inventory and dropped the profit. Although a large amount of material was purchased, customers could not always be satisfied [15]. Secondly, the information contained in the order forms contained errors, the distribution dates were generally unacceptable, the customer was given insufficient information for the assembly of the machines, and the products were being distributed as some parts missing.

Surveys were applied to companies that accept benchmarking and face-to-face interviews were conducted. The questionnaire was prepared with the support of Rank Xerox staff to provide the highest possible contribution to improving the practices. The information collected had to be detailed. The questionnaire was prepared to include all the information from an organization's approach to ordering, from the way of order registering, the communication within the system, and the distribution of the final product. They worked with companies that responded to this survey. Rank Xerox also reorganized the measurement of logistics costs. Previously, only distribution costs were taken into account. With the renewed method, inventory, transportation and customs expenditures were taken into consideration. It was envisaged that the inventory requirements would be reduced by half while ensuring satisfaction for all customers through the renewed logistics process that is formed with regard to company objectives. Thus, it was aimed to get rid of the dilemma between serving and keeping costs under control [15, 13-25]. As a result of the surveys, it was observed that the number of satisfied customers increased by 10% and the costs decreased by 30% and the inventory levels decreased by 60%. As a result, Rank Xerox's performance in logistics-related issues came close to the best in the industry [2, 4, 5, 13].

(iii) IBM-Rochester- IBM-Rochester

IBM-Rochester, which wants to create Customer Satisfaction Management, decided to take the example of companies that are successful in this regard, ie to make comparisons. For this purpose, a procedure was prepared, goals and objectives were determined. The task of the team created to conduct the Customer Satisfaction Management project was to support IBM-Rochester's goal of being a leader in customer satisfaction. These are the things to do to achieve this [5, 8, 13]:

- Establish and direct a feedback program that will continuously control product and service satisfaction,
- Identify and clarify customer problems to highlight and improve customer satisfaction.

The benchmarking team consisted of experts working at IBM-Rochester's Customer Satisfaction department and experts responsible for solving the main problems. The benchmark list was created by the team after the customer satisfaction management process was thoroughly examined.

(iv) Choosing the right partner

If IBM were to remain in the industry alone, he could expect to be alone with his best rivals. However, IBM aimed to pass competitors in the industry. Therefore, he had to be able to go outside the sector in selecting the benchmark partner [3, 8, 12, 22-24]. As a result of the selection of the right partner, the team succeeds in communicating with those who care about customer satisfaction management. As a result of these evaluations, 2 candidates are determined. X is one of IBM's competitors in the same industry, Y is a big company in the automotive industry, Z is a large group of consumer credit companies, and W is a company specializing in the distribution of packaged products. It has been revealed that IBM-Rochester is one of the best in customer satisfaction management process. In the benchmarking study, where X and Y companies were selected as partners, IBM officials reached the following results [13, 20-24]:

1. IBM's Customer Satisfaction Management stages and methods were almost identical to Y Company.
 2. IBM's Customer Satisfaction Management costs were lower than others.
 3. IBM Rochester was the best in terms of participation and return in customer satisfaction research.
- When these changes were made, customer satisfaction level increased. External customer also started to increase continuously.

After the benchmarking application, IBM-Rochester decided to activate some decisions immediately. These new applications were [13, 15, 22-24]:

1. Redeeming free phone numbers assigned to customers will be minimized.
2. The company will then use only one Customer Satisfaction Survey form in its worldwide organization.
3. As the company X applied, what was done to solve common problems would be reported to the entire customer population with a newsletter.
4. Complaint and customer satisfaction survey results would be sent directly to the dealers.

10. Conclusion and Recommendations

Benchmarking should not be perceived as one-way information exchange or industrial espionage. Benchmarking that is the comparison of mutual exchange of information, is the most effective way for seeing the future, living the future from today by making the necessary breakthrough, and create a new future for the enterprise. In order for Benchmarking to be successful and effective, top management team work should be carried out with the lower cadres, targets should be determined explicitly and clearly, the results should be carefully analyzed and implemented.

In our country-Turkey, especially in the fields of industry, health, and education, with increasing competition and experiencing globalization, the companies are working to create a reliable information exchange environment. This concept, which has been started and implemented by companies which are in partnership with foreign enterprises, and spread across all sectors, not only provides the companies to get better, but also provides a significant power for the economy and development of the country in order to accelerate the flow of information from abroad and to work more effectively in the competitive environment.

In Turkey, this technical specialization that is manifested by in-house benchmarking practices leaving its place to the general benchmarking that is by a large majority performed by the benchmarking consultants. Benchmarking

databases that are attempted to create by the organizations such as KalDer and KALMER will make it easier for companies to practice.

References

- [1] Efil, İ., (1999). İşletmelerde Yönetim ve Organizasyon, 6.b., İstanbul: Alfa Yayınları.
- [2] Eker, S., (1996). "Kıyaslama Tekniği ve Eczacıbaşı Topluluğunda Kıyaslama Uygulamaları", Tüsiad- KalDer 5. Ulusal Kalite Kongresi Tebliğleri Kitabı, İstanbul: KalDer Yayınları, 13-14 Kasım.
- [3] Fisher, J. (1998). Çev.Ufuk Önen, Benchmarking Yoluyla Performans Nasıl Arttırılır, İstanbul: Rota Yayınları.
- [4] Yereli, A. N and Özer, P. (2001). "Türkiye’de Muhasebe Eğitiminde Benchmarking", Celal Bayar Üniversitesi İktisadî ve İdarî Bilimler Fakültesi Dergisi, 7(1), 209-218
- [5] KalDer Kıyaslama Grubu, (1998), Kıyaslama (Benchmarking), İstanbul: KalDer Yayınları.
- [6] Kavrakoglu, İ. (1998). Toplam Kalite Yönetimi, İstanbul: KalDer Yayınları.
- [7] Nemlioğlu, S. (1997). Benchmarking Kılavuzu, İstanbul: Arçelik Yayınları
- [8] Onay, I. (1993). Sürekli İyileştirme için Kıyaslama Yöntemi-Benchmarking, İstanbul: Netaş Yayınları.
- [9] Özçer, Y. (1998). "Benchsa Ekip Çalışmalarının Etkinliğinin Arttırılması", Tüsiad-KalDer 7.Ulusal Kalite Kongresi Tebliğleri Kitabı, İstanbul: KalDer Yayınları, 11-12 Kasım
- [10] Özer, P. (1999). Benchmarking, İstanbul: Vizyon Yayınları.
- [11] Şimşek, M. (2001). Toplam Kalite Yönetimi, 3.b.,İstanbul: Alfa Yayınları
- [12] Yereli, Ayşe N ve Özer, Pınar, (2001), "Türkiyede Muhasebe Eğitiminde Benchmarking", Celal Bayar Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, Cilt 7, Sayı: 1, s.209-218
- [12] Yüksel, O. (2003), Management & Functions, Operation Management for Entrepreneurs, (Compiler T. Durukan), Gazi Kitabevi , Ankara, p..94
- [13] Nurtaç, Z. (1997), İş Dünyasının Yeni Gözdesi Benchmarking, İstanbul: Arthur Andersen Yayınları.
- [14] Shirley, D.(1996), "Benchmarking", Work Study, 45(3), 18-20, MCB University Press.
- [15] Wah, F.S., Cheng, E.W.L. and Ho, D.C.K.(1998), "Benchmarking: A General Reading for Management Practitioners", Management Decion, 36/6, 407-418.
- [16] Per, V.F. and Hollensen, S. (2001), "The Process of Benchmarking, Benchlearning and Benchaction", The TQM Magazine, 13(1), 25-33.
- [17] Lay, G. and Glenn, E. (2000), "Benchmarking and Benchmarks: Regional Benchmarking and Economi Base Analysis", Economic Development Review, Summer, ss. 57-64.
- [18] Jacky, H., Francis, G., Hinton, M. and Mayle, D. (1998). "Best Practice Benchmarking: Delivering the Goods?", Total Quality Management, 9 (495), 121-125.
- [19] Rodriguez, C. S., Martinez-Lorente, A.R. and Clavel, J.G. (2003). "Benchmarking in the Purchasing Function and Its Impact on Purchasing and Business Performance", Benchmarking: An International Journal, 10(5). 457-471.
- [20] Viktor, S. (1995). Benchmarking, İstanbul: Kogem Yayınları, 21 p.
- [21] Madjid, T., Mahebbi, B. and Denis T. Kennedy, (2003), "Total Quality Index: A Benchmarking Tool for Total Quality Management", Benchmarking: An International Journal, 10(6), 507-527.
- [22] Watson, G. H. (1993). Strategic Benchmarking: How to Rate Your Company’s Performance Against the World’s Best, Canada: John Wiley and Sons, Inc.
- [23] Fernandez, P, McCarthy, I.P and Rakotobe-Joe, T. (2001). "An Evolutionary Approach to Benchmarking". Benchmarking: An International Journal, 8(4), 281-305.

- [24] Dean, E. and Kathawala, Y.(1997). “An Overview of Benchmarking Process: A Tool for Continuous Improvement and Competitive Advantage”, *Benchmarking for Quality Management & Technology*, 4(4), 229-243.
- [25] Akal, Z. (1993). “Toplam Kalite Yönetimi ve Performans Ölçme ve Değerlendirme Sistemleri”, *Verimlilik Dergisi Toplam Kalite Özel Sayısı*. MPM Yayınları: Ankara.