

# Examination of intellectual capital components in textile sector: A research on Turkish textile companies

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## Abstract

*In this era of globalization of competition, what makes companies valuable is the knowledge, non-financial capabilities and values they possess. Neither the concept of intangible assets nor “the difference between the market value of companies and the book value” obtained from their financial statements can fully explain this. These values that provide competitive advantage to companies are used together with financial term and expressed as intellectual capital. The high level of intellectual capital contributes to both the sustainability of firms and the national economy. In this respect, this study aims to analyze the intellectual capital practices of companies operating in the textile sector in Turkey. The scope of the study consists of*

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*small and medium sized textile companies producing in Istanbul and the qualitative research method is preferred as the method. Participants were asked questions about the practices of intellectual capital in their firms, whose main components are human capital, structural capital and customer capital. Research findings show that in the context of human capital, firms are aware of the importance of qualified employees to themselves, but they fail to invest in employees. Structural capital is the most problematic component of firms. The results show that companies have important deficiencies not only in terms of technology but also in terms of research and development, knowledge production, data storage, protection and use. In terms of customer capital, firms are better off than the other two components. It has been determined that the majority of companies give great importance on customer relations in an intense competitive environment, but it is not sufficient in the context of measuring customer satisfaction.*

**Keywords:** *intellectual capital, sustainability, human capital, structural capital, customer capital*

## **Tekstil sektöründe entelektüel sermaye bileşenlerinin incelenmesi: Türk tekstil şirketleri üzerine bir araştırma**

### **Öz**

*Rekabetin globalleştiği çağımızda, firmaları değerli kılan sahip olduğu bilgiler, finansal olmayan yetenekler ve değerlerdir. Ne maddi olmayan varlıklar kavramı ne de firmaların “piyasa değeri ile finansal tablolarından elde edilen defter değeri arasındaki farkı» bunu tam olarak açıklayabilmektedir. Firmalara rekabet avantajı sağlayan bu değerler finansal terimle beraber kullanılarak entelektüel sermaye olarak ifade edilmektedir. Entelektüel sermaye düzeyinin yüksekliği, hem firmaların sürdürülebilirliğine hem de ülke ekonomisine büyük katkı sağlamaktadır. Bu doğrultuda bu çalışma, Türkiye’de tekstil sektöründe faaliyet gösteren firmalarda entelektüel sermaye uygulamalarını analiz etmeyi amaçlamaktadır. Çalışmanın kapsamını*

*İstanbul'da üretim yapan küçük ve orta büyüklükteki tekstil firmaları oluşturmakta olup, yöntem olarak nitel araştırma yöntemi tercih edilmiştir. Katılımcılara, temel bileşenleri insan sermayesi, yapısal sermaye ve müşteri sermayesi olarak kabul edilen tekstil firmalarındaki entelektüel sermaye uygulamaları ile ilgili sorular yöneltilmiştir. Araştırma bulguları, insan sermayesi bağlamında, firmaların kalifiye çalışanların kendileri açısından öneminin farkında olmalarına karşın, çalışanlarına yatırım yapmada yetersiz kaldıklarını göstermektedir. Firmaların en sorunlu oldukları bileşen ise yapısal sermayedir. Sonuçlar, firmaların sadece teknolojik olarak değil, araştırma geliştirme, bilgi üretimi, saklanması, korunması ve kullanılması açısından da önemli eksiklikleri olduğunu göstermektedir. Firmalar müşteri sermayesi bağlamında ise, diğer iki bileşene göre daha iyi durumdadır. Firmaların büyük kısmının yoğun rekabet ortamında müşteri ilişkilerine büyük önem verdiği, ancak müşteri memnuniyetinin ölçülmesi bağlamında yeterli olmadığı saptanmıştır.*

**Anahtar Kelimeler:** Entelektüel sermaye, sürdürülebilirlik, insan sermayesi, yapısal sermaye, müşteri sermayesi

## Introduction

The value of a company is expressed not only by current assets, fixed assets or capital in the balance sheet, but also by its capabilities, knowledge and intangible capital. The difference or ratio between the market value (MV) and the book value (BV) of the company are numerically expressed by some authors as intellectual capital (Çetin, 2005; Barut et al., 2019). Tseng and Goo (2005) stated that a significant portion of the value of information-based companies is composed of intangible assets and emphasized that the value of the total assets in the company's balance sheets could not accurately represented the real value of the company.

Bukh et al. (2001) opposed these views and stated that intellectual capital (IC) is neither market value nor book value. According to the authors, the  $IC = MV - BV$  equation means a change in accounting rules, which will produce a different intellectual capital. According to this perspective; if intellectual capital is accepted as such a residual given by the equation, IC has to be

accepted as a function of the accounting rules used to construct the book value and this approach leads to wrong conclusions.

“Intangible assets”, “intellectual property”, “intellectual assets” and “knowledge-based assets” are discipline-specific terms that are often used interchangeably and synonymously to refer to what at it most articulate has become intellectual capital (Moore & Craig, 2008). However, from an organizational point of view, intellectual capital can be considered as knowledge, experience and human resource capital, which provides an enterprise with competitive advantage and contributes to the creation of added value (Barut et al., 2019). Since non-financial capital elements affect the financial performance of the enterprise, the examination of intellectual capital is important both for business and socio-economic aspects (Yüksel, 2018).

Therefore, this study aims to analyze intellectual capital practices in companies operating in the textile sector in Turkey. The textile sector, which is the scope of the research, is a sector that produces not only products such as clothes, curtains, carpets, towels, but also products used in many areas from construction to the defense industry. Intense competition in the sector obliges firms to invest in intellectual capital components.

The qualitative research method was used in the study. In the literature, intellectual capital has been analyzed by linear methods on large, institutional and public firms, but small and medium-sized firms have not been adequately studied. The focus of this study is small and medium-sized firms. In this respect, this study aims to fill the gap in the literature.

In the conceptual framework section of the study, definitions of intellectual capital and literature review are presented. That section also focuses on the components of intellectual capital. In the next section, information is given about the financial and social dimensions and the Turkish textile sector and the applications of intellectual capital in the sector. The methodology of the research and the tools used are explained in the next section and then the findings are presented. The final section contains the results and suggestions.

## **Conceptual framework and literature review**

In this section, the conceptual framework of intellectual capital is explained and the studies on this subject are given in the literature.

Many definitions of intellectual capital have been made in the literature. The common characteristics of these definitions are that intellectual capital provides competitive advantage to enterprises, can be converted into value and profit, creates added value and consists of knowledge, skills and experience of the enterprise and its employees (Barut et al., 2019).

Although the concept of intellectual capital dates back to the 1960s, one of the first organizational definitions in this regard belongs to Stewart (1991). Stewart stated that each company depended on knowledge, patents, processes, management skills, technologies, information about customers and suppliers, and defined this knowledge as intellectual capital. This definition emphasizes the importance of knowledge by considering intellectual capital as the “sum of the past”.

It is possible to define intellectual capital in relation to the term “capital”. Accordingly, intellectual capital is the knowledge that can be converted into income and this information can be defined as a whole of employees’ ideas, innovations, technologies, computer programs, designs, data usage skills, relationships, processes, creativity and publications (Akın, 2019).

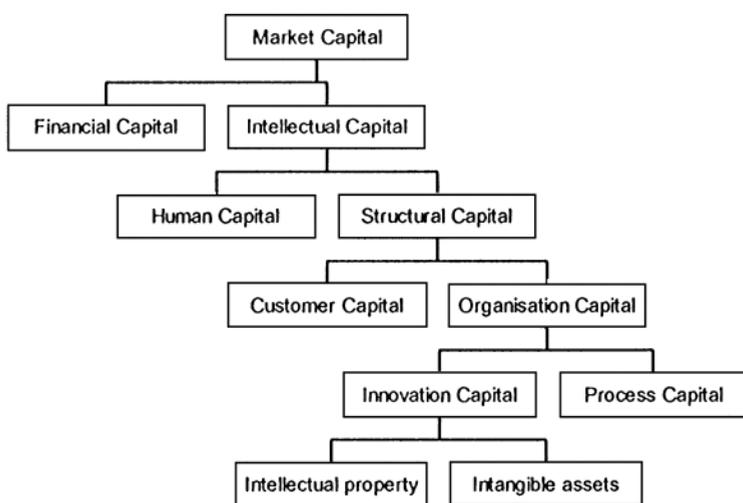
It should be noted, however, that intellectual capital is not limited to the past and the present, but that the main aspect is the future. Joshi and Ubha (2009) stated that the future driving forces of the economy would no longer be capital, land or equipment and in the knowledge economy, intangible assets, people and their knowledge would be the main drivers of market value. Therefore, it can be said that information based assets are more critical than physical production factors in the process of creating value in the future (İşseveroğlu & Ercan, 2019). In this respect, intellectual capital is the main source of the sustainability of the competitive advantage of enterprises (Zor & Cengiz, 2013).

In addition to these definitions and approaches, intellectual capital has been handled in different aspects in the literature. In some of these studies,

intellectual capital was examined with financial perspective (Bukh et al., 2001; Çıkırıkçı & Daştan, 2002; Çetin, 2005; Barut et al., 2019), in some of them technological issues were discussed (Joshi & Ubha, 2009; İşseveroğlu & Ercan, 2019), and in others, intellectual capital was examined with organizational culture (İpçioğlu & Şahin, 2012).

When the growing intellectual capital literature is examined, it is observed that the components of intellectual capital are concentrated in three main components: human capital, structural capital and customer capital (relational capital) (Bontis, 1998; Çıkırıkçı & Daştan, 2002; Ölçer & Şanal, 2007; Kurgun & Akdağ, 2013; Gogan, 2014; Sarıay & Özulucan, 2017; Örgün & Kalay, 2018).

Edvinsson (1997), took the concept of intellectual capital more comprehensively and presented a model including financial elements such as market capital, financial capital and intangible assets. (Figure 1). According to the author, intellectual capital is an element of market capital and consists of human capital and structural capital. Customer capital and organization capital constitute the entire structural capital. Structural capital includes innovation capital as well as process capital, indicating that firms that are not capable of innovation are actually insufficient in terms of intellectual capital.



*Figure 1. Intellectual Capital Model (Edvinsson, 1997)*

Human capital covers what employees bring to value-added processes. Learning and education, experience and expertise, creativity, staff attitude and various competencies such as recruitment and training play an important role in the development of human capital (Yılmaz & Kumkale, 2019). This type of capital also includes the values, business culture and philosophy of the business (Çetin, 2005). Attributing values to human capital is expected to help managers make decisions about capital budgeting, reducing staff turnover, human capital and education and development investments (Kaya, 2019).

The concept of structural capital refers to a mixture of many elements, such as hardware and software, databases, patents, information technologies, created by the enterprise, based on the capabilities and methods of the enterprise (Kurgun & Akdağ, 2013; Örgün & Kalay, 2018). Ölçer and Şanal (2007) stated that the following elements are also necessary in structural capital:

- *“Production or collection of information about products or services, customers and competitors*
- *Systems to provide rapid information sharing within the enterprise*
- *Knowledge development*
- *Adapting technological developments to business processes*
- *Research and development activities”*

Bontis (1998) stated that without structural capital, intellectual capital would just be human capital and emphasized that “the structure” contained elements of efficiency, transaction times, procedural innovativeness and access to information for codification into knowledge. Because even if human capital and relationship capital are high, if there is a bad structural situation, the necessary and sustainable performance will not be provided and thus the intellectual capital in these elements will not be evaluated (Yılmaz & Özer, 2019).

The third generally accepted component of intellectual capital is customer capital. From a financial perspective, customers are the most important component of the “Revenue” portion at the top of the income statement,

indicating that all other activities have been realized in the “past”. But in strategic terms, customer capital is far beyond that, and it actually shows the “future” of the firm. Customer capital is the company’s connection with customers and other stakeholders that create value through loyalty, brand perceptions, strong integrations, feedback and quality (Yılmaz & Kumkale, 2019). Thus, customer capital consists of managing customer satisfaction, customer complaints system, market audits and accessing new markets (Gogan, 2014).

These three components of intellectual capital should not be separated from each other. Adapting human resources to the culture of the firm, ensuring employee loyalty to the firm, having a strong structural capital network in the firm, and customer capital that directly affect the profitability of the firm interact with each other and these are directly related to organizational culture (İpçioğlu & Şahin, 2012).

## **Financial and social aspects of Turkish textile sector and intellectual capital**

By ensuring employment opportunities with production and sales volume, the textile sector always be at the fore and has accelerating effect as thinking Turkey’s economy. Notably, after the 1980’s, with applied economic programme and transition to free market economy, weight of this sector increased dramatically. The main power behind this process was facilities and incentives ensured by the government. The sector has evolved from a position that sells only raw materials such as cotton and yarn or works for the domestic market to a manufacturer producing quality products and has also become a pioneer in exports.

According to the Turkish Exporters’ Assembly data, in 2018, while Turkey’s textile export volume reached 12,4 billion dollars, garment industry export reached 17,6 billion dollars. When the data is considered, it is seen that the total contribution of the textile sector to Turkey’s economy is 30 billion dollars. On the other hand, when taking into account eleven months total data, in 2019, export volume is appointed as 27,5 billion dollars (TIM, 2019).

According to 2017 data, Turkey's place in the world textile industry can be demonstrated in the following statistics (UIB, 2018):

- *“As of the end of 2017, it is the seventh largest textile exporter country in the world,*
- *It is the seventh largest ready-to-wear exporter,*
- *It is the fourth largest exporter of space textiles,*
- *It is the third big denim fabric exporter,*
- *It is Europe's third largest garment supplier,*
- *It is the third country in the world to export the most denim fabrics,*
- *Turkey's share in world textile exports is about 3%, in the space and in the home textiles are 4,5% and technical textiles are %1,5.”*

It can be possible said that many of the textile sector's subbranches labor intensive sector. Despite the fact that labor costs in Turkey are below the European average, they are high compared with competitors from China and other Asian countries (Uyanık & Çelikel, 2019). For this reason, Turkey doesn't have cost advantage relative to competing countries. Hence, to can compete, Turkey should give importance to intellectual capital components.

In terms of human capital, it should be noted that the textile sector has to work with skilled workers as well as unqualified employees. There is a competition in this sense, not only country scale, but also within country. So that, companies should pay attention to keep their critical employees in their companies and not lose them to their competitors. From this point forth, their commitment to the firm is a critical issue. In the meantime, textile companies have to increase both the knowledge and skills of the workers while controlling the labor costs.

Another component of intellectual capital is also structural capital. Although the textile sector is a human driven sector, it is also intertwined with technology. Thereby, it is necessary to follow and develop new technology. The majority of textile companies in Turkey is composed of small and medium-sized enterprises. It can be clearly said that improving

these companies' competition power may contribute economy much more. According to researches on this subject, the most important problem with technology development is not market failures, but the lack of sufficient R&D projects (Ölçer & Şanal, 2007). In this respect, Turkish companies need to carry out R&D process in order to gain competitive advantage over China and other Asian countries. In addition to this, it is also important to keep the information and to monitor the competitors.

On the other hand, customer capital becomes prominent as the most important issue for Turkish textile companies. In this context, ensuring customer satisfaction, storing customer information, developing customer relations and using them in decision processes are among the critical issues.

## **Research on intellectual capital practices in the Turkish textile sector**

### **Aim and scope of the research**

The aim of this research is to analyze the situation of the companies operating in the textile sector in Turkey in terms of intellectual capital components. In the literature, intellectual capital has been analyzed mainly on large, institutional and publicly listed firms, and small and medium-sized firms have not been adequately studied. The focus of this study is small and medium-sized firms. In this respect, it aims to fill the important gap in the literature. The scope of the research consists of 20 managers from 11 companies operating in the textile sector in Istanbul.

### **Research Model**

While the research model was designed, theoretical and empirical studies on intellectual capital were studied in the literature. As described in the conceptual framework section, the model is based on the following components:

- 1-Human capital,
- 2-Structural capital
- 3-Customer capital

In accordance with the following research methodology, the aim is not to establish a linear relationship between firms and intellectual capital components. However, the limits of sub-components were determined and the participants were prevented from leaving the subject.

## Research Method

The qualitative research method was used in the study. In quantitative research, there is an orientation based on hypotheses, and in qualitative research, the problem situation related to the event or phenomenon being analyzed is transformed into a question sentence (Baltacı, 2019). Interviews were conducted with the managers of 11 different companies ranging from 50-100 employees operating in Istanbul in order to provide the data. Within the framework of the question sentences given in Table 1, it is aimed to put forward practices related to intellectual capital components based on semi-structured questions.

*Table 1. Interview questions*

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### Intellectual Capital Interview Questions

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1. When a position deficit occurs in the department you are managing, what are the features you are looking for when selecting the appropriate? When you consider your company, is training/education more important or experience for you? Why?
2. Do you encourage your employees to attend work-related courses or trainings during working hours? Do you provide courses and training opportunities for employees who are not able to work outside of working hours?
3. What are your practices to keep your qualified employees in the company? How do you ensure employee commitment to the company?
4. What technological equipment is used in your department? Considering the textile sector, do you consider your company technologically sufficient?
5. How do you keep track of customer information, competitor information and work done within the company? Is there a server or database? Can anyone access the database quickly?
6. Is there a regular R&D process in your company? Since it is a textile company, is the R&D process seasonal or do you always follow the innovations?
7. How do you contact the customer? How do you improve customer relations?
8. Can you measure customer satisfaction? How do you evaluate customer satisfaction?

9. How do you resolve a customer problem when there is an error or problem in your department that could affect production? Do you work one-on-one with the customer during the solution production process or do you first seek solutions within the company?

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As can be seen, the first three questions are about human capital, the next three are about structural capital and the last three are related to customer capital.

### **Data collection method**

While collecting data in the research, firstly the literature was searched in detail and theoretical framework related to the components of intellectual capital was established. From this point of view, interview technique which is one of the qualitative research methods was used. The questions were divided into 9 groups which were prepared in a semi-structured way. Whereas the answers were taken, some managers were asked additional questions to contribute to the research. The interviews were conducted in December 2019.

### **Data analysis method**

In accordance with the research pattern, most of the interviews were conducted with records. Some participants opposed the voice recording and the interviews were completed by taking notes. After all interviews, managers were coded as M1, M2, M3, etc., records and notes were reviewed and analyzed with the help of Office programs. The frequency analysis method was applied on the classifiable subjects.

### **Research Findings**

Before proceeding with the research findings, statistics about the age, educational status and positions of the participants in the firms are presented in Table 2, Table 3 and Table 4.

*Table 2. Age range of participants*

Age Range	Managers	Frequency	%
25 - 30	M12	1	5.00%
31 - 40	M1, M2, M18	3	15.00%
41 - 50	M4, M5, M6, M7, M8, M11, M14, M15, M16, M17, M19, M20	12	60.00%
51 - 60	M3, M9, M10	3	15.00%
61 - 70	M13	1	5.00%
<b>Total</b>		<b>20</b>	<b>100.00%</b>

Table 2 shows the age range frequency analysis of the participants. In this case, 60% of them are between 41-50. 20% is under 40 but only one of them is under 30. Remained 20% is over 50 yet one manager is only over 60.

*Table 3. Education of participants*

Education	Managers	Frequency	%
Primary School	M1, M5, M6, M9, M13, M15	6	30.00%
Middle School	M8	1	5.00%
High School	M2, M4, M7, M10, M14, M17, M18, M19	8	40.00%
University	M3, M11, M12, M16, M20	5	25.00%
<b>Total</b>		<b>20</b>	<b>100.00%</b>

As shown in Table 3, only 25% of managers graduated from a university. But dense part of their education level as %40 is high school and following 30% is primary school. This situation shows the experience in the textile sector is more important than education in small and medium-sized firms.

*Table 4. Position of participants*

Position	Managers	Frequency	%
General Manager	M9, M11	2	10.00%
Production Manager	M1, M2, M3, M4, M5, M6, M7, M8, M10, M13, M15, M17, M18	13	65.00%
Marketing Manager	M12, M20	2	10.00%

Planning Manager	M14, M16	2	10.00%
Purchasing Manager	M19	1	5.00%
<b>Total</b>		<b>20</b>	<b>100.00%</b>

Table 4 shows the positions of managers in the firm. 65% of the managers within the scope of the research are managers of production departments.

Below are the findings about the answers to the research questions presented in Table 1 to the participants.

### 1. Preferred qualifications for recruitment - Experience or education

Firstly, it is aimed to determine the opinions of the managers about the selection of employees in human capital which is the first component of intellectual capital. The participants were first asked about the qualifications they were looking for when selecting employees, and then which of the education or experience options in their firms came to the fore. During the interview they were asked to explain the reasons for this. More than half of the managers (55%) answered this question as “experience”, while 30% stated that their previous work places and references gained weight. Only one participant answered “education”. Some of the prominent answers are as follows:

**M4:** “ *In the first place, I evaluate whether the employee is active or not. We care about computer knowledge. But not literally. Training and education are important for assistant applications. Experience is important in modelist applications.* ”

**M6:** “ *Education doesn’t matter, experience is required. First of all, we give priority to male candidates in our department because we need a great manpower in the department. He needs to be experienced. However, we also provide training to these workers if they are not experienced.* ”

**M11:** “ *He needs to be team spirit conscious because we work as a team while working here and we see our team as family. I also pay attention to communication skills, suitability for the position..* ”

**M14:** “ *Of course experience. We do business with experience, not with*

*diploma”*

**M16:** *“I check their job experience, references and flexibility for the group works. These three of them are very important for me. If one of them will be missing, we face some problems in production.... However, as a personal point of view, I pay attention on their experience”*

## **2. Training during work hours - Training after work hours**

Another criterion for measuring the value given to human capital is investment in employees. The most important of this investment is the training or courses given to them. Participants were asked whether they encouraged or provided employees with the opportunity to attend in courses and training during and after work hours.

Half of the managers stated that they provided training to employees during working hours and 25% encouraged them to attend the course. 25% of the participants claimed that such training was not needed. Outside working hours, 50% of managers emphasized that they did not provide such opportunities for their employees. Increasing the expertise of the employees by training will provide added value to both the employee and the company. However, there is concern about the high cost and labor loss. Prominent answers are:

**M2:** *“I can easily control whether they have attended training or courses during working hours. Instead of hiding what I know, I share it with them. But I don’t support courses outside of working hours because I can’t control and it will also be financially expensive.”*

**M15:** *“We have employees who go to courses with their own means to contribute to their development. Currently, we do not have such an institutional practice, we do not have financial support.”*

**M20:** *“A trained person can add a lot to both his work and himself. Our company can do this but it should be out of work as much as possible. I encourage the idea”*

### **3. Practices to keep qualified employees in the firm - Ensuring employee commitment to the firm**

Human capital is also interested in ensuring employee commitment. An employee who is connected to the company and his / her job often has a high level of work motivation, thus increasing productivity and contributing more to the company. The participants were first asked what they did to keep the employees in the company and then how they ensured their commitment to the company. During the interviews, participants were given examples such as performance appraisal, appreciation, premiums, celebrations, social activities and additional questions were asked to better understand this subject. Although the answers were scattered, it was found that 80% of the companies made various efforts to retain especially qualified employees. It was also determined that practices such as appreciation of employees with high performance, giving bonuses, gifts and promotions were performed. 73% of the respondents stated that they tried to create a family atmosphere besides the financial elements and they organized celebrations, dinners, picnics and social activities outside the company on special days. It was found that the remaining 27% of firms did not have such practices. Some of the prominent answers are as follows:

**M9:** *“I pay their salaries above the market. I think that’s important. We’re going to dinner together. Under the terms, we provide fuel allowance or special cards that can be used in supermarkets.”*

**M16:** *“ We’ve been drawing lots and giving presents to each other between us for there years. Besides, we have gold days. We are also collecting golds between us and give to one of the workers monthly. We also have off-site events such as excursions and picnics. Should we do such activities? Yes, I think we must!”*

**M17:** *“No incentives, bonuses and promotions. We appreciate the workers and tell the management if we are satisfied with an employee. We don’t have much activity outside of work. If the employee likes the environment we create in the business environment, his commitment increases. This type of situation depends on the person in this company. It is difficult to create a*

*family or intimacy environment in our sector and company.”*

**M18:** *“Appreciation is a priority because of motivation. If I think they deserve, I will recommend this situation to the management. In my opinion, creating a family atmosphere is more appropriate. Besides being a manager, it’s more important to me being a “sister” to them. Particularly, the assistants should be treated as a sister. Thus, they would be more loyal to their work and the company.”*

#### **4. Technology use and adequacy**

The second component of intellectual capital is structural capital. Among the structural capital elements are the technologies and technological capabilities of the companies. Accordingly, the participants were asked first about the technologies owned by the companies. The aim of this question is to prepare the participant for the next question. With the next question, it was tried to find out the managers’ opinion of whether their company is technologically sufficient. Only 25% of the managers found their companies technologically adequate, 40% considered their companies technologically good but thought they needed to be improved. While 10% of the managers found their companies insufficient but argued that they were in the process of development, the remaining 25% claimed that they thought their companies were inadequate and that there was no development. Some of the prominent answers are as follows:

**M9:** *“ Unfortunately, we are not a technologically advanced company because we are not in a physically suitable building. However, we can supply the necessary tools from outside.”*

**M11:** *“ We are in a kind of restructuring process right now. Therefore, I think we are enough however at the same time, we are improving ourselves.”*

**M12:** *“ I think our company is not enough technologically. We are weak in case of machines. We do not have required machines to support our automation system.”*

**M17:** *“ We’re technologically inadequate. When we compare it with competitors, our situation doesn’t seem good. As our company, we are far*

*behind the sector.”*

**M20:** *“ Our company is not bad however the server is crashing sometimes and there are some communication difficulties. When these problems will be solved, we will be better.”*

### **5. Database usage: Recording of customer information, competitor information and working processes**

Technical issues such as information production, storage, protection, utilization and accessibility of information are also examined within the structural capital. Companies that incorporate knowledge and technology into their business processes can provide a competitive advantage over their competitors. In this context, the managers were asked questions about this issue. The answers indicated that a significant portion of the companies covered by the research were inadequate in this subject. While 25% of firms applied traditional filing (paper filing) systems, 15% did not even have such a system. While 25% of companies worked with server or database, 35% had both traditional filing and server systems. However, in the interviews, it was observed that there was not enough coordination in the companies in general, while some companies had an advanced server system, while some companies used their own information systems in each department. This situation shows insufficiency in the use of information. While customer information was monitored for business purposes, it was observed that information about competitors was not kept systematically. Some of the prominent answers are as follows:

**M6:** *“ We don't need any server or file system.”*

**M7:** *“ We are using folder filing method and server but once a month we are making backup into special harddisks.”*

**M11:** *“ Each department has their own recording way and system. All of them keeping their outcomes both in folder and computers.”*

**M14:** *“ There is a server but we don't use it in our department.”*

**M18:** *“ We are filing (paper) and backing up with a special hard drive because we recently encountered cyber attacks. Therefore everything in our*

*section must be confidential.”*

## **6. Research and development process and adapting technological innovations to the company**

Research and development activities are the other subjects in the structural capital. Every company should improve itself in order to increase its competitive advantage and these developments should be regular. The participants were first asked whether there is a regular R&D activity or department in their company. Then, it was asked whether the R&D activities were carried out in a system and whether they continuously followed the innovations. Half of the companies did not have R&D activities, and the other half had employees who were also responsible for R&D. In addition, 55% of the participants stated that they regularly followed the innovations in the sector and 10% of them stated that they followed the season. The other 35% said they did not need such a thing. Here are some answers:

**M15:** *“We are searching for new designs or models. We can accept these searches as R & D.”*

**M16:** *“We do not have this kind of R&D department. Mostly, other departments are improving inside their department. We are following the innovations if it is necessary. Usually, it depends on the customer needs”*

**M19:** *“We are following continuously because every time we must aware of the market. If we stay in the back of the market, we will lose customers”*

**M20:** *“Right now, we do not have any department like this however we are planning to hire some textile engineers so there will be a good R&D department. Also, we are following the innovations continuously. I think a company must renew itself monthly or seasonally.”*

## **7. Customer relations, communication with customer, improving the customer relations**

Another component of intellectual capital is customer capital (relational capital). The participants were asked about this component and how they improved their communication and customer relations. In this subject, the answers differ on a firm basis. However, it was determined from the answers

that most of the companies attached great importance to customer relations in an intense competitive environment. On the other hand, some companies did not make much effort by relying on the quality of their products. It was observed that communication was provided more informally than formal channels. The findings indicated that especially the owners of the company played a key role in establishing the relationship with the customer. Here are some answers:

**M9:** *“In the past, we used to promote the product with the marketing department and provide such communication with the customer. Due to product quality, the customer started to sell our product instead of us. After that, we closed this marketing department. Therefore, we do not have any customer representative or marketing department.”*

**M11:** *“Mostly, owners of the company are improving these relations, we also trying to contact if something is too much necessary. I am general manager so sometimes I am going with customers to dinners or our company owners are going”*

**M13:** *“We are connecting our customers over internet. Most of the time, we don't go out for dinners or these kinds of activities. We create necessary connections over internet. Most of the time customer finds us and we are showing our products and quality.”*

**M18:** *“Mostly we are connecting by e-mails. According to situations, sometimes I am connecting to customer and sometimes boss connects by himself. But mostly our boss is responsible for these kinds of relations. He ensures a warmer environment by connecting to customer..”*

**M20:** *“ This is actually a matter of supply and demand. If there is a demand for your product, the customer comes and finds you. It doesn't matter how we communicate. It is important to connect with the customer. The most important issue is that the customer gets good service and feels safe. The firm's financial strength is important, it provides confidence. If a good conversation is established, it can give an excellent momentum with the customer.”*

## 8. Measurement and evaluation of customer satisfaction

Another important issue related to customer capital is ensuring customer satisfaction, measuring and evaluating satisfaction and making it permanent. The participants were asked questions about this subject. As all of the companies within the scope of the research are small and medium-sized enterprises, it was determined that customer satisfaction measurement systems in corporate firms were not available in the textile firms examined. However, it was observed that the companies followed their returns, repeat purchases and customer responses. It was understood that some firms did not make a special effort because the target group was certain. Here are some answers:

**M2:** *“We measure customer satisfaction with the feedback we receive from the product or products we send. It is very important to respond to the quality preferences of our customers.”*

**M3:** *“It may vary. I tell you the truth: we can't measure. Because we are a manufacturer of ribbon and the customer buys more than one product from us and some of them are very satisfied and some of them do not.”*

**M11:** *“Customer satisfaction assessments are usually made within the company. We hold individual and private meetings. According to the results of these meetings, we take measures or improve ourselves.”*

**M17:** *“I am checking the negative feedbacks. If there are two negative feedbacks, it can be solved and improved. However, if there are three and more negative feedbacks, we pay attention on these feedbacks and try to solve them immediately. More than three cannot be acceptable in production.”*

**M19:** *“We can measure them by repeat orders. I check the repeat orders in the system. As I see the amount of repeat orders are enough so I assume our customer satisfaction is high.”*

## 9. Problems with customers: Crisis management and solution

In the context of customer capital, another issue that needs to be examined is whether or not there is an institutional approach to solving problems that arise with the customer. This issue is also linked to crisis management. Companies that produce permanent solutions to customer problems and

make them a part of their business provide a competitive advantage over their competitors. Accordingly, the participants were asked questions about this subject. Although all of the answers show differences and subjectivity, it is seen that some of the companies try to go down to the source of the problem and some of them resort to temporary solutions. Some of the prominent answers are as follows:

**M4:** *“If we detect an error caused by our production, we will first discuss it within the company. If it does not affect the customer, we do not share it, but if there is a situation that affects the customer, we will contact the customer.”*

**M11:** *“We inform the customer with the solutions we find because we are sensitive about being honest.”*

**M12:** *“First of all, I find the source of problem. When I clarify the problem, I look for the solutions and create the best options. When I have the options, I share problem and solution options with my customer. Most of the time, I comment on the options and recommend the best option for us and for them.”*

**M13:** *“We are solving by ourselves. Later, we inform the customer. If our solution does not please the customer, we make discounts and trying to sell the products again. In any case, customer will be satisfied.”*

**M15:** *“We are connecting to customer and solve according to their wishes.”*

**M20:** *“The most wise way is to contact to related departments inside the company. After that, we share with the customer. The most important point here is to think about all of options and collect all the solutions. If you can't find the source of the problem and don't suggest a solution, informing the customer is not good. If you cannot solve it, you have to find the best solutions and inform the customers.”*

When the findings of the research are evaluated as a whole, it is found that there are significant deficiencies in the three important components of intellectual capital in the firms covered by the research. In the context of human capital, it is determined that firms are aware of the importance

of qualified employees for themselves, but they are inadequate to invest in employees.

The most problematic component of firms is structural capital. Research findings show that firms have significant deficiencies not only in terms of technology but also in terms of the production, storage, protection and use of information. The findings indicate that R&D activities were generally conducted on an individual basis, not on an institutional basis. In terms of customer capital, firms were in a better position than the other two components. It is seen that most of the companies attached great importance to customer relations in an intense competitive environment. It is determined that communication and continuity with the customer are not only formal but also informal channels and especially the owners and senior managers play an important role in this matter.

## **Conclusion**

The approach of not evaluating the companies with their tangible assets or accounting-based intangible assets is accepted not only in the field of accounting and finance but also in the field of management and is subject to many studies. In fact, this approach prevails at the root of the concept of intellectual capital. What differentiates a company from another company operating in the same sector is its ability, corporate structure, organization, knowledge, use of information, and customer relationships that take a long time to form. The intellectual capital approach integrates them into the concept of “capital” in financial terms without accepting them as abstract concepts. Although there is a difference in the definition of intellectual capital, there has been a consensus that “human capital”, “structural capital” and “customer capital” are the main components of intellectual capital. The increase in the intellectual capital level of the firms contributes both to the firms and the national economy financially.

From this viewpoint, this study aims to analyze intellectual capital applications conducted by firms which are in Turkey’s textile sector. The scope of the study consists of 20 managers of small and medium sized textile companies

producing in Istanbul. Qualitative analysis was chosen as the method. The participants were asked questions about the applications of intellectual capital components which were taken into consideration from semi-structured questions in the literature.

In the first part of the research, questions about human capital, which is the first component of intellectual capital, were asked. The findings of the research show that companies focus more on experience and references when choosing employee than education, and that education is not at the forefront. Firms are generally looking for internal solutions for employee training and development, and they are not willing to invest in this issue. Particularly some of the firms think that the trainings to be taken during working hours will cause labor loss. Another important finding about human capital is that firms want to retain their qualified employees. The results show that 80% of the companies have made various efforts to retain particularly qualified employees. It has been determined that practices such as appreciation of employees with high performance, giving bonuses, gifts and promotion are performed here. 73% of the respondents stated that they tried to create a family atmosphere besides the financial elements and they organized celebrations, dinners, picnics and social activities outside the company on special days.

Secondly, structural capital practices in firms were investigated. Research findings show that companies have important deficiencies not only technologically but also in terms of production, storage, protection and use of information. The research also examines the approach to knowledge management of the firms. One manager stated that his company was cyber-attacked, and as a solution, the traditional file system and information stored on portable hard drives. This can only give an idea for the perspective of small and medium enterprises for the textile industry. Another finding obtained from the study is that R&D activities are generally conducted on an individual basis, not institutionally.

Finally, customer capital practices were examined in this study. The firms within the scope of the research are found to be in a better position in terms of customer capital than human capital and structural capital components.

It has been determined that most of the companies attach great importance to customer relations in an intense competitive environment, and that communication and continuity with the customer is carried out not only through formal but also informal channels. However, it has been found that corporate customer satisfaction measurement systems and corporate crisis management are not available. In addition, in product-based crises, it is seen that some companies try to go down to the source of the problem and some others resort to temporary solutions.

The study is expected to make significant contributions to both the literature and policy makers. In the literature, intellectual capital has been analyzed by linear methods on large, institutional and public firms, and small and medium-sized firms have not been adequately studied. The focus of this study is small and medium-sized enterprises. In this respect, it aims to fill the gap in the literature.

The research does not aim to compare the components of intellectual capital in small and medium-sized enterprises with large-scale firms and not to reveal only negativities and deficiencies. The study firstly exposes the current situation in Turkish textile companies and discusses what may be the intellectual capital practices that give clues to future financial success.

The majority of textile firms are insufficient in terms of structural capital, especially technology, R&D and innovation. However, it should be emphasized that the responsibility should not only be placed on companies. It is not possible for firms to make structural capital improvements under current financial conditions. The problem cannot be expected to be solved only by giving low interest credit to these companies to purchase machines and computers. All problems in the sector, especially financial and intellectual capital components, should be analyzed with a holistic view. Following the developments in the world, instead of the “One size fits all” approach, strategies should be determined on the basis of textile sub-sectors. Short, medium and long term goals should be set instead of temporary solutions. In the sector, the level of education is insufficient not only on the basis of employees but also on the basis of managers. The results of the research reveal this. In this context, vocational training and consultancy support

should be provided to companies by both governmental and sectoral unions and it is recommended to increase university-industry cooperation.

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