RECENT J. (2023), 70:132-141
https://doi.org/10.31926/RECENT.2023.70.132

Competitiveness Factors in Textiles and Composites Industry and Transformation into Value-Added Products

Mazyar AHRARI
Bursa Uludag University, Bursa, Turkey, mazyarahrari@uludag.edu.tr
Mehmet KARAHAN ✉
Bursa Uludag University, Bursa, Turkey, mkarahan@uludag.edu.tr
Nevin KARAHAN
Bursa Uludag University, Bursa, Turkey, nkarahan@uludag.edu.tr

Abstract
The world economy is significantly impacted by the textile and composites business, which is well-established in many nations. Many variables, including production costs, technology, product quality, innovation, and sustainability, affect how competitive this sector is. An important aspect in the industry's growth is the conversion of these factors into goods with value added. The cost of production is one of the key competitiveness considerations in the textile and composites sector. The sector requires a lot of manpower, thus increasing production efficiency, cutting waste, and streamlining the supply chain can lower production costs. Technology is another important component since it makes it possible to produce high-quality items with better functionality and performance. Innovation is also essential for competitiveness because it enables businesses to set their products apart from those of rivals and adjust to shifting consumer demands. Sustainability is a crucial component because customers are wanting more environmentally friendly items. Businesses that use sustainable methods can cut expenses, boost productivity, and draw in eco-aware customers. The growth and success of the textiles and composites business depend on the ability to turn these competitiveness characteristics into products with value added. Value-added goods distinguish themselves from commodity goods by offering special characteristics, capabilities, and advantages. In turn, this enables businesses to charge higher prices and make bigger profits.

Keywords
competitiveness, textiles, composites, high-value-added, sustainability, Bursa

1. Introduction

The textile sector has an important role in the economic growth and development of countries. With the earliest days of hand weaving and continuing into today's highly mechanized and technologically advanced industry, the textile industry has continuously developed and adapted to meet shifting customer demands and market situations. In recent years, the industry has become more competitive than ever, and businesses are under more and more pressure to set themselves apart from their rivals, save costs, and offer high-quality goods that fulfill the requests and expectations of their customers [1–3].

One of the key competitive elements in the textile sector is innovation. In a market that is competitive, businesses who can develop and introduce innovative new items that meet or surpass consumer expectations are more likely to prosper. Funding R&D, working with designers and other professionals in the field, or highlighting the newest trends and technologies are all examples of innovations. By placing an emphasis on innovation, businesses can set themselves apart from their rivals and occupy a special market niche. New materials and fibers, state-of-the-art manufacturing processes, and advanced digital technologies are all examples of innovations in the textile sector. For instance, new fibers like Tencel and recycled polyester have been developed recently and offer better sustainability and performance qualities. Similar technological developments in digital printing have made it possible for designers to produce intricate and highly detailed patterns and designs, and advancements in automation and robotics are revolutionizing manufacturing processes by making them quicker, more effective, and more affordable [4–8].

Speed-to-market is another essential element of competitiveness in the textiles sector. Companies that can launch products swiftly and effectively have a higher chance of success as consumer preferences

and market conditions change quickly. Investments in supply chain optimization, rapid product development techniques, and efficient manufacturing procedures may be necessary to achieve this. Businesses are better positioned to gain market share and maintain an advantage over rivals if they can act swiftly and adapt to changes in demand and market conditions [9–11].

A crucial element in the textiles sector is cost competitiveness. Due to the squeeze on margins and escalating competition, businesses must discover ways to cut expenses without compromising product quality or client expectations. This could entail investing in automation, streamlining the supply chain, or carefully choosing where to get the materials and components. Companies can sustain profitability and provide competitive pricing to customers by cutting costs [12–15].

In the textiles sector, product quality continues to be a critical competitiveness driver. Customers now expect high-quality, long-lasting products, therefore businesses who can reliably fulfill or exceed these demands will have a substantial competitive edge. This may entail making investments in quality assurance procedures, staff training and development, or a supply chain improvement focus [16–19].

Furthermore, crucial competitiveness elements in the textiles sector are branding and marketing. Businesses with strong brand identities and excellent consumer marketing strategies are more likely to prosper in a crowded market. A strong brand may help a business stand out from rivals, increase customer retention, and foster a sense of dependability. Companies can express their unique value propositions, reach new customers, and increase brand recognition with the use of efficient marketing methods [20–22].

The textiles sector has recently recognized sustainability as a crucial competitiveness component. Customers are requesting more and more products that are made ethically and sustainably as knowledge of environmental difficulties and social problems grows. Businesses who can provide environmentally friendly goods and services will have a big advantage over rivals in the market [23–25].

Another crucial competitiveness component in the textiles sector is social responsibility. Customers are increasingly demanding goods that are produced in an ethical and responsible manner as consumer knowledge of labor and human rights issues grows. Businesses with a track record of social responsibility will be at a distinct advantage in the marketplace [26–29].

The textile industry is facing a digital revolution. The product design, R&D, and supply chain processes are going through digitalization. To improve customer relationships, some companies have embraced multi-channel and e-commerce strategies [30–32].

In the textiles sector, talent management can take on a variety of forms, from providing chances for professional development and progress to fostering an empowering and welcoming workplace environment. In a similar vein, several organizations have established flexible work schedules and other rules to foster work-life balance and improve employee wellbeing [33, 34].

The objective of this study is to identify, evaluate, and investigate how the main competitiveness characteristics in the textile and composites industry may be converted into value-added goods to promote industry growth and success.

2. Methodology

The diagnostic study over the needs of the active companies in the fields of textiles and composites industry consisted of two phases. In the first phase, 140 companies were visited to fill out a questionnaire, while in the second phase, 50 companies selected among the 140 using two objective scoring tools were visited for deep diagnostic interviews by experts in Technical Textiles and Composites. A draft questionnaire was prepared first. It was tried out during a pilot phase with leading companies of the textile and composite sectors. The questionnaire was then fine-tuned for effective data collection.

The long questionnaire for the screening phase consists of nine modules with a total of 91 questions:

- Activity/Production (8 questions)
- Supply/Sales (17 questions)
- Human resources (10 questions)
- Research and Development (R&D) (24 question)
- Quality (5 questions)

- Sustainability (2 questions)
- Value chain (8 questions)
- Transformation (7 questions)
- Clustering (10 questions)

Due to time limitations, a shortened version was adapted from the long version with 73 questions.

The companies to be visited for the first phase study were selected using rational sampling strategies from a database of 2734 companies from the company register provided by Bursa Chamber of Commerce and Industry (BTSO). The companies were established in Bursa, with at least one staff on the payroll. The database was constructed from companies' activities using their NACE codes. A pilot sample of 20 companies were selected in order to try out the questionnaire. This selection was skewed towards larger companies, as those are more likely to engage in technical textile and composite production. A first sample of 175 companies was then randomly selected using a stratified method. However, when it was found that the non-response rate was much higher than expected, a second (144 companies) and third (80 companies) sample were taken to which a turnover threshold was applied. The high non-response rate of the first sample was attributed to the busy schedules of company owners or related high-level managers and the larger number of companies of smaller sizes included in the first sample that had already ceased their activities or showed no interest in transformation and participation in the project activities. In the second and third samples, smaller companies with a low turnover were not included. The semi-structured questionnaire for the second phase is made up of questions to diagnose companies' limitations and challenges regarding prototyping and new product development. It focuses on companies' needs and plans for prototyping and new product development considering their technology levels, decision-making process for new product development, obstacles for developing new ideas and challenges in R&D processes, new product development projects, project teams' needs, their skill and knowledge gaps and needs, marketing strategies, transforming to technical textile and composites, clustering perceptions etc. The questionnaire is a tool to explore the companies' needs.

3. Development and Transformation

The companies claimed that they intended to expand their current capacity but they also appeared to be highly keen to invest in new sectors (Figure 1).

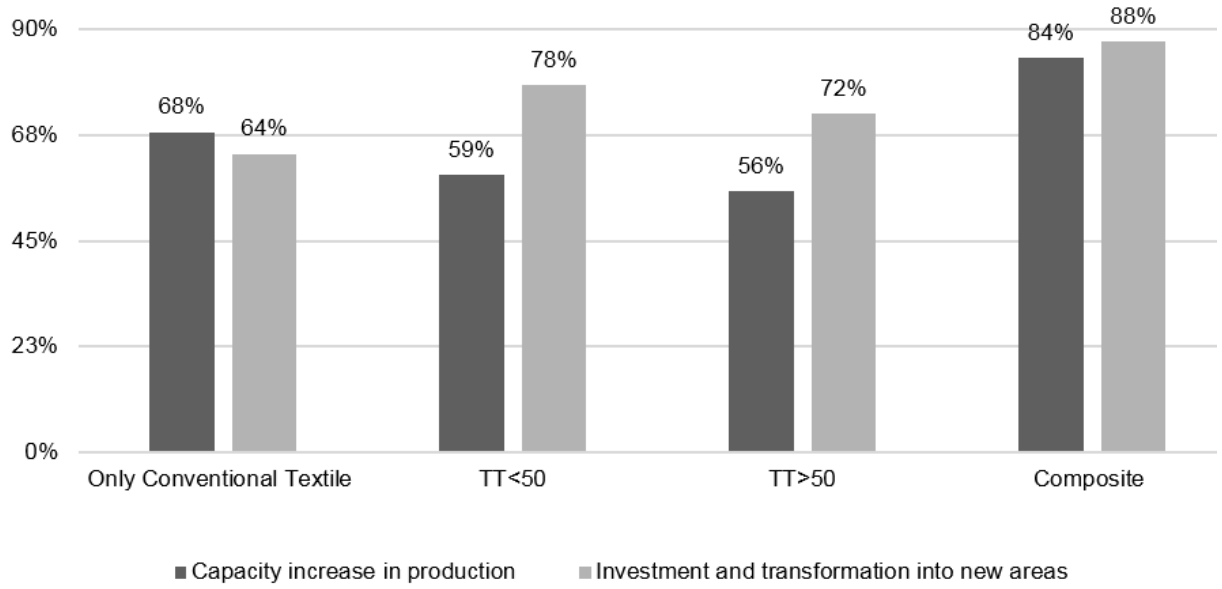

Fig. 1. Capacity increase in production, investment in new areas and transformation plans of companies (%)

They thus pursue possibilities to simultaneously preserve the current status and get access to the advantages and income of new areas. More than three quarters of the visited companies emphasized

that they intended to change and make investments in the new fields. Due to the need for new technologies and composite materials, intentions for investment and transformation in new areas is higher especially in companies producing technical textiles and composite materials than companies that only produce conventional textiles. Additionally, it is intended to increase production capacity in businesses that only create conventional textiles and composite materials. Uncertainty and high investment costs are used by companies as excuses and justifications for not planning investments or transformations yet. Additional factors have been put forth as the lack of knowledge about the industry that will be investing in and the laws, particularly for businesses making technical textiles and composite materials.

More than three-quarters of the companies assert that, with adequate support, they can produce a product with higher quality and high added value (Figure 2). This rate is higher in businesses that produce more than half of their output as technological textiles and composite materials.

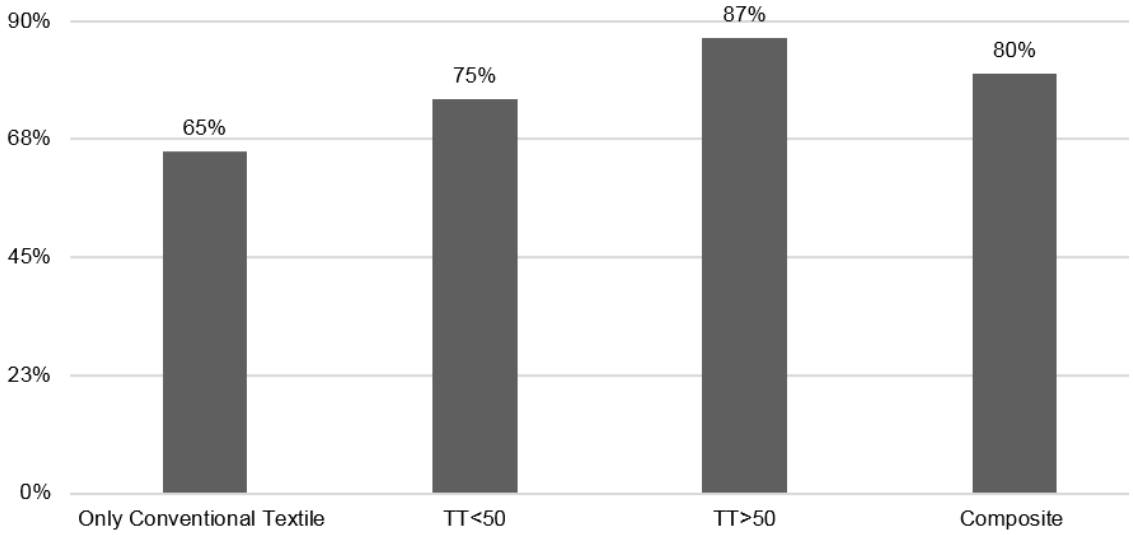

Fig. 2. Ownership of qualified and high added value products

Companies declared their intentions to invest or change in practically every sector (Table 1).

Table 1. Sectors where investment or transformation is planned (technical textiles)

	Conventional Textile Only	TT<50	TT>50	Composite
Agrotech	15.8%	0.0%	14.3%	0.0%
Medtech	21.1%	23.8%	28.6%	0.0%
Hometech	36.8%	66.7%	21.4%	0.0%
Oekotech	31.6%	23.8%	28.6%	0.0%
Clothtech	63.2%	23.8%	21.4%	0.0%
Geotech	10.5%	4.8%	14.3%	0.0%
Packtech	0.0%	0.0%	7.1%	0.0%
Protech	26.3%	33.3%	14.3%	0.0%
Indutech	21.1%	23.8%	35.7%	14.3%
Sportech	31.6%	19.0%	21.4%	0.0%
Mobiltech	31.6%	47.6%	42.9%	42.9%
Buildtech	10.5%	14.3%	28.6%	0.0%

While investment or transformation to clothing items are at the forefront in companies that manufacture only traditional textiles, home textiles, automotive and transportation textiles are at the forefront in companies that produce less than half of their production in technical textiles, automotive, transportation textiles and industrial textiles are at the forefront in companies that produce more than

half of their production in technical textile. In addition, companies have reported that they are planning investment or transformation in the fields of health and environment. Those who create technical textiles said they planned to invest in home textiles, despite the fact that traditional textile companies intend to invest in technical textiles used in clothing. Investment or transformation is desired in the automotive, transportation, and environmental textile industries by businesses that make composite materials.

Companies are considering investment or transformation in the areas of automotive and transportation applications, renewable energy applications, the defense industry, and aerospace industry applications related to composite materials (Table 2). Technical Textiles used in these areas are often applied in composite material. Therefore, investment or production increase in technical textile production will bring about an increase in composites.

Table 2. Sectors where investment or transformation is planned (composite)

	Conventional Textile Only	TT<50	TT>50	Composite
Electrical and electronic applications	0.0%	20.0%	33.3%	11.1%
Infrastructure/pipe/tank applications	0.0%	20.0%	33.3%	7.4%
Construction applications	16.7%	40.0%	16.7%	0.0%
Automotive and transportation applications	16.7%	60.0%	50.0%	70.4%
Marine applications	16.7%	0.0%	33.3%	14.8%
Renewable energy applications	66.7%	80.0%	33.3%	7.4%
Defense industry	16.7%	60.0%	50.0%	37.0%
Aerospace industry applications	16.7%	0.0%	50.0%	48.1%
Sports and entertainment equipment	16.7%	40.0%	16.7%	11.1%

Although it changes by sub-sectors, the most significant hurdles in transformation are access to qualified human resources, entry into new markets, and funding (Figure 3). Besides most companies reported about difficult access to coaching, consultancy and training services on the subject matter.

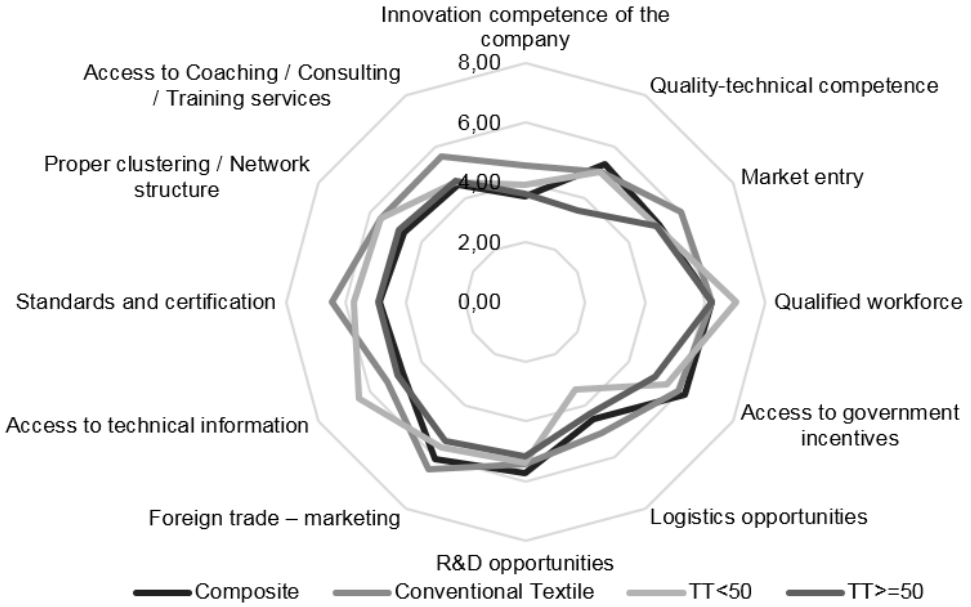

Fig. 3. Challenges in transformation by sectors (out of 10)

Challenges were also evaluated specifically for sub-sectors of the Conventional Textile sector (Figure 4). The most important three challenges were reported as access to qualified workforce, access to technical information, and standards and certification.

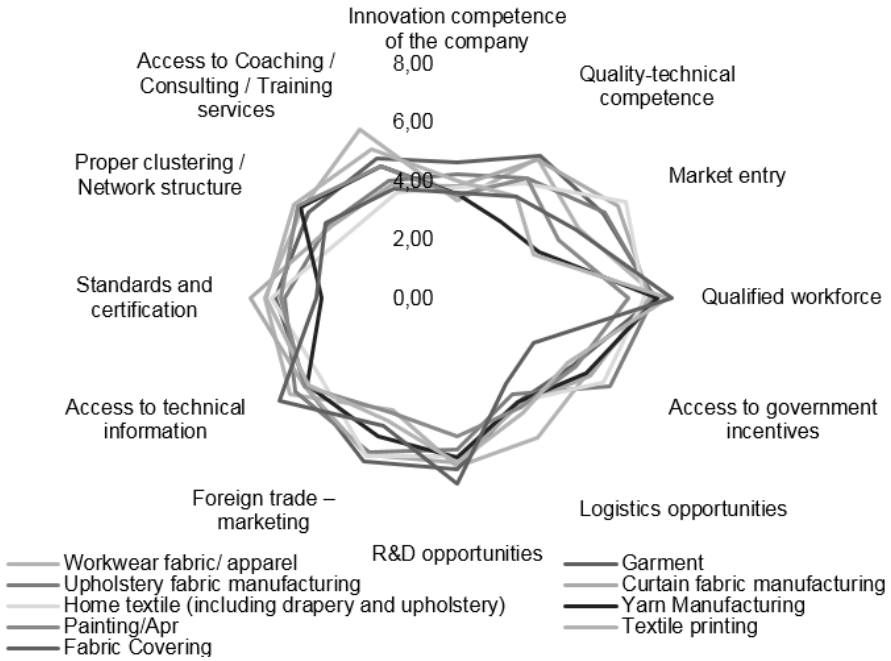

Fig. 4. Challenges in transformation for sub-sectors of conventional textile (out of 10)

The first three most challenging sub-sectors are workwear fabric and apparel, followed by garment and upholstery fabric manufacturing companies. For workwear fabric and apparel sub-sector, the ranking for the sector is similar to the overall ranking. However, for the garment sub-sector foreign trade and marketing was reported as being the most significant challenge.

Figure 5 shows the challenges for the technical textile sub-sectors. Almost the same challenges are valid for the sub-sectors of the technical textile manufacturers. Access to qualified workforce was reported to be the main challenge by all sub-sectors, especially by mobiltech and clothtech. The difficulties for marketing and exporting comes the second for all sub-sectors. Specifically, clothtech and protech subsectors reported these challenges too. Challenge for access to technical information was reported by medtech and protech sub-sectors.

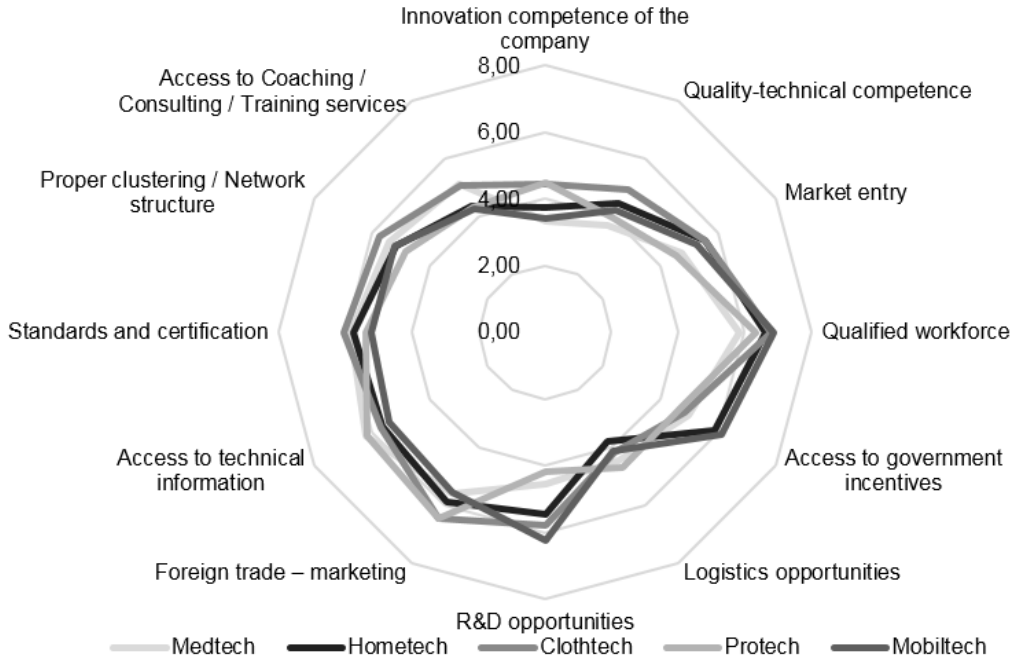

Fig. 5. Challenges in transformation for sub-sectors of technical textile (out of 10)

The great majority of businesses want to collaborate with companies outside their industry (Figure 6). The businesses whose main product is technical textiles showed the most desire for cooperation, followed by the companies that produce composite materials.

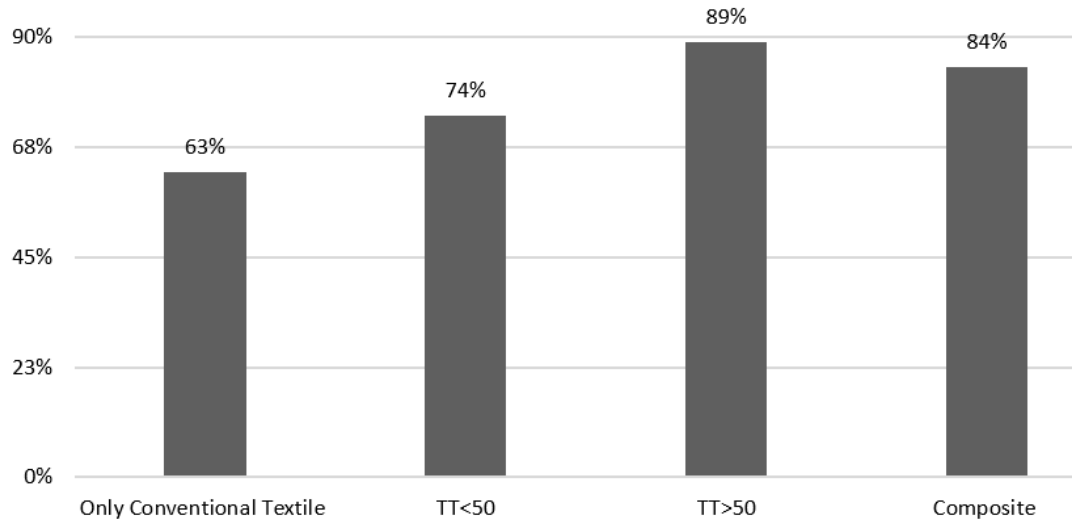

Fig. 6. Desire for commercial cooperation with companies outside their field

Overall, 88 percent of the enterprises visited expressed a desire to be a part of the projected Technical Textile and Composite cluster in Bursa (Figure 7). Once more, the rate is highest in companies that manufacture technical textiles. Companies that make traditional textiles have also expressed an interest in joining this cluster. This point demonstrates the desire for change as well.

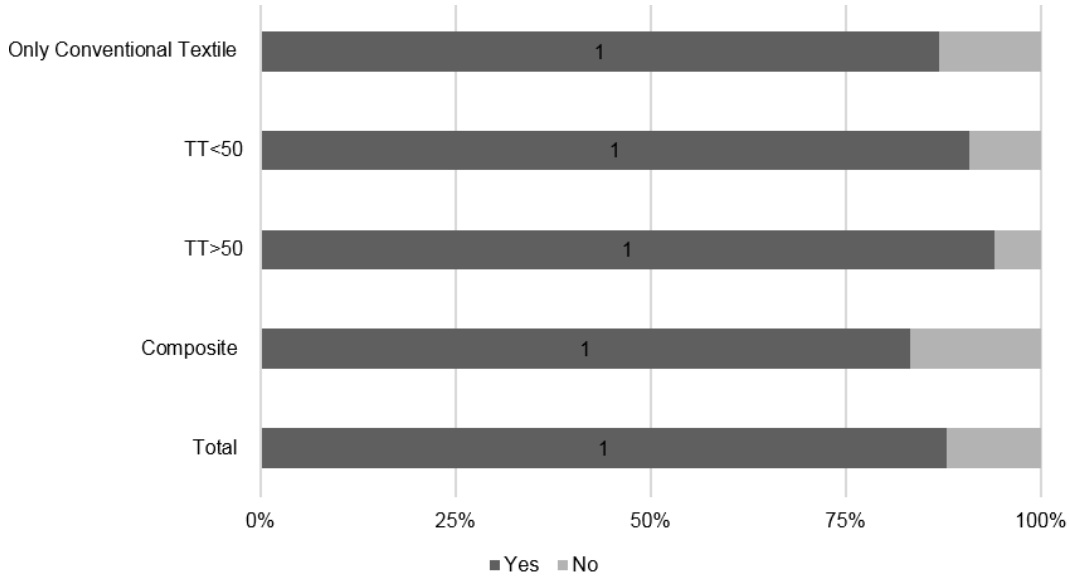

Fig. 7. Desire to be included in the cluster to be established in Bursa (%)

Companies mainly agreed that the clustering plan would deliver benefits such as testing and R&D facilities, incentives and support, and joint sales-marketing (Table 3). In terms of benefits, business partnership venture capital comes to the fore in companies that only produce conventional textiles. Companies that produce more than half of their products as technical textiles discussed receiving incentives, whereas those that produce less than half of their products as technical textiles discussed receiving technical support, consulting, testing, and R&D facilities. Companies that make composite materials are also highly motivated to benefit from post-clustering technical support and consulting. At

the same time, this situation will enable the companies to act more easily in this regard towards the raw material suppliers or representatives in the cluster.

Table 1. Benefits of a clustering strategy

	Conventional Textile Only	TT<50	TT>50	Composite
Joint sales-marketing	63.6%	54.5%	55.6%	55.2%
Input/raw material supply	36.4%	50.0%	50.0%	34.5%
Technical support consultancy	50.0%	72.7%	66.7%	65.5%
Shared centres	31.8%	59.1%	50.0%	41.4%
Testing / R&D facilities	72.7%	72.7%	72.2%	48.3%
Incentive support	68.2%	68.2%	77.8%	44.8%
Publicity / promotion	50.0%	54.5%	38.9%	34.5%
Joint venture/joint venture capital	72.7%	45.5%	44.4%	41.4%
No benefit	4.5%	4.5%	11.1%	10.3%
Other (please specify)	4.5%	9.1%	16.7%	10.3%

4. Conclusions

It has been noted that conventional textile manufacturers would experience the most difficulty in transformation. The second group is textile companies with the technical textile production less than 50% within their whole production. While conventional textile manufacturers claim that the most significant obstacles are qualified workforce and access to technical knowledge; technical textile producers below the 50% threshold reported that difficulty in marketing, standards and certification, entrance to markets, and access to coaching, consultancy, and training services are most challenging issues. It shows that they are currently in the transformation phase. Despite the fact that the problems are evaluated similarly in enterprises that produce more than half of their output in technical textiles, however their levels are lower. Companies that make composite materials stated that R&D opportunities and quality & technical competence are the two biggest challenges. The textile and composites sector is very competitive, and success depends on a variety of aspects, including production cost, technology, product quality, innovation, and sustainability. It is essential for the development and success of the industry that these characteristics are transformed into value-added products since doing so enables businesses to stand out from rivals and satisfy changing consumer demands. To conclude, organizations who want to prosper in the highly competitive and continuously changing textiles market must give priority to a variety of competitiveness aspects. A company can differentiate itself from the competition, cut costs, satisfy customer needs and expectations, and stay ahead of the competition by focusing on innovation, speed to market, cost competitiveness, product quality, branding and marketing, sustainability, social responsibility, and talent management. Companies may build lucrative, sustainable enterprises that are positioned for success in the competitive, fast-paced textiles market by giving these characteristics top priority.

Acknowledgements

This work was based on the "Technical Assistance for the Composite Material and Technical Textile Prototype Production and Application Center" project, reference number EuropeAid/140069/ IH/SER/TR, Contract Number TR14C1.1.09-04/001/Service, which was co-funded by the European Union and the Republic of Turkey.

References

1. Sugeng A.N.R., Romasindah W., Saiful S. (2022): *Regulatory and Policy Arrangement of The Textile Industry and National Textile Products for Clothing Resilience*. Int J Res Innov Soc Sci, ISSN 2454-6186, Vol. VI, is. IX, pp. 5-15, https://www.rsisinternational.org/journals/ijriss/Digital-Library/volume-6-issue-9/05-15.pdf
2. Qader A.A., Zhang J., Ashraf S.F., et al. (2022): *Capabilities and Opportunities: Linking Knowledge Management*

Practices of Textile-Based SMEs on Sustainable Entrepreneurship and Organizational Performance in China. Sustainability, ISSN 2071-1050, Vol. 14, is. 4, 2219, https://doi.org/10.3390/su14042219
3. Akhuand A., Abbas S. (2023): *Modeling determinants of competitiveness: a case of textile sector of Pakistan*. The Journal of The Textile Institute, eISSN 1754-2340, Vol. 114, is. 1, pp. 22-31, https://doi.org/10.1080/00405000.2021.2020415
4. Ahmad Z. (2022): *The Impact of Organizational Trust upon Process Innovation through Path of Absorptive Capacity*. Journal of Social Sciences Development, eISSN 2959-4405, Vol. 1, is. 2, pp. 148-161, https://doi.org/10.53664/JSSD/01-02-2022-05-148-161
5. Rathore B. (2023): *Textile Industry 4.0: A Review of Sustainability in Manufacturing*. Int J New Media Stud, ISSN 2394-4331, Vol. 10, no. 1, pp. 38-43, https://ijnms.com/index.php/ijnms/article/view/41
6. Makovskaya N., Korabava A., Aliakseyeva A. (2022): *Skills development for digital transformation in textile*. In: AIP Conference Proceedings, eISSN 1551-7616, Vol. 2430, is. 1, 040011, https://doi.org/10.1063/5.0077301
7. Pal R., Jayarathne A. (2022): *Digitalization in the textiles and clothing sector*. Chapter 15, pp. 255-271, https://doi.org/10.1016/B978-0-323-91614-1.00015-0, in MacCarthy B.L., Ivanov D. (Eds.): *The Digital Supply Chain*. Elsevier, ISBN 978-0-323-91614-1, https://doi.org/10.1016/C2020-0-03788-6
8. Taymaz E. (2006): *Competitiveness of the Turkish Textile and Clothing Industries*. FIBRE2FASHION, https://www.fibre2fashion.com/industry-article/201/competitiveness-of-the-turkish-textile-and-clothing-industries
9. Bilal M., Rasheed K., Abbasi M.F., et al. (2022): *Impact of Business Strategy On Project Management Elements Focus Moderating Role of Competition Attributes in Textile Industry*. 2022 International Conference on Decision Aid Sciences and Applications (DASA), IEEE, pp. 719-724, https://ieeexplore.ieee.org/document/9765222
10. Lu S. (2023): *Impact of textile raw material access on CAFTA-DR members' apparel exports to the United States: a quantitative evaluation*. The Journal of The Textile Institute, eISSN 1754-2340, https://doi.org/10.1080/00405000.2023.2191235
11. Whitfield L., Mkhabela V. (2023): *The Business Strategies of South African Textile Firms and Global Trends in 4IR and Sustainability Technologies*. https://www.uj.ac.za/wp-content/uploads/2021/10/sarchi-wp-2023-01-whitfield-and-mkhabela-january-2023.pdf
12. Inga-Ávila M.F. (2022): *Dynamics of the behavior of competitiveness factors in the textile sector*. Uncertain Supply Chain Management, eISSN 2291-6830, Vol. 10, is. 3, pp. 877-886, https://doi.org/10.5267/j.uscm.2022.3.007
13. Azimovna M.S. (2023): *Theoretical aspects of marketing tools in increasing the international competitiveness of the textile enterprise*. Science and Innovation, ISSN 2181-3337, Vol. 2, is. 1, pp. 47-53, https://doi.org/10.5281/zenodo.7520620
14. Hartley K., Roosendaal J., Kirchherr J. (2022): *Barriers to the circular economy: The case of the Dutch technical and interior textiles industries*. Journal of Industrial Ecology, ISSN 1530-9290, Vol. 26, is. 2, pp. 477-490, https://doi.org/10.1111/jiec.13196
15. Butollo F. (2015): *Growing against the odds: government agency and strategic recoupling as sources of competitiveness in the garment industry of the Pearl River Delta*. Cambridge Journal of Regions, Economy and Society, ISSN Cambridge Journal of Regions, Economy and Society, eISSN 1752-1386, Vol. 8, is 3, pp. 521–536, https://doi.org/10.1093/cjres/rsv020
16. Tsega T.T., Thoben K.-D., Nageswara Rao D.K., Haile B. (2022): *Leather and textile industries-strategic sectors for Ethiopia to gain capability of manufacturing for global market competitiveness: A literature review*. Ethiopian Journal of Science and Technology, eISSN 2312-6019, Vol. 15, no. 1, pp. 9-30, DOI: 10.4314/ejst.v15i1.2
17. Bravo M.V.C. (2022): *Textile Companies and the Factors Involved in Their Competitiveness. A Bibliographic Review*. Open Journal of Business and Management, eISSN 2329-3292, Vol. 10, no. 2, pp. 1013-1025, DOI: 10.4236/ojbm.2022.102055
18. Rakotozandry I., Bernard P., Plaisent M., et al. (2021): *Improvement of the Production Quality by the Knowledge Engineering: the case of the Textile Industries in Madagascar*. Journal of Systems and Industrial Project Engineering, ISSN 2411-7226, Vol. 4, is. 2, http://madarevues.recherches.gov.mg/IMG/pdf/publication_rakotozandry.pdf
19. Ulugbekovich V.K., Shamsiddinovich M.N. (2023): *Quality Management in Textile Enterprises Improving the Practice of Use of Methods*. Synergy: Journal of Ethics and Governance, ISSN 2181-2616, Vol. 3, is. 1, pp. 23-26, http://sciencebox.uz/index.php/sjeg/article/view/5337/4823
20. Aneel M., Gyarmati G. (2022): *Competitive analysis of textile industry in Pakistan*. In: Proceedings of FIKUSZ Symposium for Young Researchers, ISBN 978-963-449-305-1, pp. 14-28, https://kgk.uni-obuda.hu/sites/default/files/FIKUSZ2022/FIKUSZ_2022_Proceedings.pdf
21. Miletić V.S., Ćurčić N.V., Grujić B.V. (2022): *Competitiveness indicators assessment of the textile organizations from Serbia*. Industria Textilă, ISSN 1222-5347, Vol. 73, no. 2, pp. 152-158, DOI: 10.35530/IT.073.02.202113

22. Djasurovna E.S., Ahmadovich H.Z., Nishonovich S.A. (2020): *The ways of improving competitiveness of textile industry enterprises based on marketing strategies*. Eur. J. of Molecular & Clinical Medicine, ISSN 2515-8260, Vol. 07, is. 07, pp. 751-762, https://ejmcm.com/article_3283_b1f45ac6e434c9dfc93c4340d4a32baf.pdf
23. Okai-Mensah C.K., Howard E.K., Amankwah M.A. Okai-Mensah K. (2022): *Adoption of Sustainability Practices by Textiles Firms: Implications for Competitiveness*. In: Mojekwu J.N., Thwala W., Aigbavboa C., et al. (Eds.) *Sustainable Education and Development – Making Cities and Human Settlements Inclusive, Safe, Resilient, and Sustainable*, ARCA 2021, pp. 430-442, https://doi.org/10.1007/978-3-030-90973-4_36
24. Hossain M.I., Ong T.S., Teh B.H., et al. (2022): *Nexus of Stakeholder Integration, Green Investment, Green Technology Adoption and Environmental Sustainability Practices: Evidence from Bangladesh Textile SMEs*. Pertanika J. Soc. Sci. and Humanities, eISSN 2231-8534, Vol. 30, is. 1, https://doi.org/10.47836/pjssh.30.1.14
25. Dafia C.S.N., Chen F., Sumo P.D. (2022): *Guideline and Strategies of Textile Industry on the Sustainable Development of Benin*. Sustainability, eISSN 2071-1050, Vol. 14, is. 19, https://doi.org/10.3390/su141912762
26. Padilla-Lozano C.P., Collazzo P. (2022): *Corporate social responsibility, green innovation and competitiveness – causality in manufacturing*. Competitiveness Review, ISSN 1059-5422, Vol. 32, is. 7, pp. 21-39, https://doi.org/10.1108/CR-12-2020-0160
27. Adomako S., Abdelgawad S.G., Ahsan M., et al. (2023): *Nonmarket strategy in emerging markets: The link between SMEs' corporate political activity, corporate social responsibility, and firm competitiveness*. Journal of Business Research, eISSN 1873-7978, Vol. 160, https://doi.org/10.1016/j.jbusres.2023.113767
28. Sarwar H., Aftab J., Ishaq M.I., Atif M. (2023): *Achieving business competitiveness through corporate social responsibility and dynamic capabilities: An empirical evidence from emerging economy*. Journal of Cleaner Production, ISSN 1879-1786, Vol. 386, https://doi.org/10.1016/j.jclepro.2022.135820
29. Zhang Y., Berhe H.M. (2022): *The Impact of Green Investment and Green Marketing on Business Performance: The Mediation Role of Corporate Social Responsibility in Ethiopia's Chinese Textile Companies*. Sustainability, eISSN 2071-1050, Vol. 14, is. 7, https://doi.org/10.3390/su14073883
30. Wenzel K., Copeland L. (2022): *Augmented and virtual reality effects on social responsibility in retail*. International Journal of Electronic Marketing and Retailing, eISSN 1741-1033, Vol. 13, is. 4, pp. 425-442, https://doi.org/10.1504/IJEMR.2022.125590
31. Jayashree N., Harwani S., Pavithra S., Santosh Kumar S. (2022): *Textile 4.0. Digital Revolution in textile industry*. Asian textile journal, ISSN 0971-3425, Vol. 31, is. 3-4, pp. 58-61, https://www.researchgate.net/publication/367462878_Textile_40_Digital_Revolution_in_textile_industry
32. Ma W., Gu G., Li J. (2022): *Research on the impact of artificial intelligence on international specialization status in textile industry*. Journal of Silk, ISSN 1001-7003, Vol. 59, is. 6, pp. 1-9, https://doi.org/10.3969/j.issn.1001-7003.2022.06.001 (in Chinese)
33. Siddiqui H.M.A., Zafar F., Khan M.F.U. (2022): *A Study on Critical Success Factors, Challenges and Obstacles in Talent Management*. Pakistan Journal of International Affairs, eISSN 2664-360X, Vol. 5, is. 3, pp. 504-529, https://doi.org/10.52337/pjia.v5i3.627
34. Leitão M., Vieira Correia R.J., Teixeira M.S., Campos S. (2022): *Effects of leadership and reward systems on employees' motivation and job satisfaction: an application to the Portuguese textile industry*. Journal of Strategy and Management, ISSN 1755-425X, Vol. 15, pp. 590-610, https://doi.org/10.1108/JSMA-07-2021-0158