Learning Organization and Innovation Coaching Model Organizational Agility Approach: A Case Study

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Abstract

In today's world, Industry 4.0 and its effects are seen, organizational agility has become a mandatory for companies serving worldwide. Companies declare that they are agile by performing agile rituals and framework applications. The perception of customer focus and quality, which started with the perception of Total Quality Management, spread rapidly and turned into a world in which agile companies take place with the effect of the competitive market. However, the debate continues the real organizational agility success and what it should change, which gives us maturity. In the research, the concepts of organizational agility and learning organization were explained in detail, and an innovative model recommendation was made regarding the currently recommended agile methods by adding the aim of innovation. The research model recommendation shows important criteria for the issues that agile processes should focus on in the changing world with the effects of Industry 4.0. The results of the model, which was tested on Agile Teams, are also given in detail.

Keywords: Organizational Agility, Learning Organization, Innovation

1. Giriş

Agile methods gain a good reputation everywhere after their successful software development use. Although software developers have met with the agile mindset later, they get ahead by integrating this mindset into their work very quickly and successfully. Their wonderful results achieve attract the attention of other professional groups and sectors. Many organizations now compete to learn and apply agile methodologies and even seek to transform themselves in hoping to go beyond agile practices at the project and portfolio level and achieve agility on a larger scale. If companies want to live longer, they must be as responsive (with the ability to adapt quickly) as required by competitive environments (Harraf et al., 2015).

Research shows that as organizations age, they gradually lose their flexibility, become more cumbersome, and fail over time, struggling to adapt to environmental change. Famous examples include Blockbuster, Kodak, Nokia, Polaroid (Abuanzeh et al.,2022). It is also known that in sectors where the speed and size of the change are high, the frequency and number of dramatic extinction stories, such as that of exemplary companies, is higher (Crocitto and Youssef, 2003).

The main value promise of agile methods for the customer is to make customers happy by delivering higher value faster under uncertainty (Algorri et al., 2022). Value for employees promises is to keep employees happy by creating a more productive, self-fulfilling work environment. Doing this on a large scale is so attractive that no modern organization can afford to ignore it (Atkinson et al., 2022). So, the new excitement on the agenda of the corporate world has been scaled agility, or in other words, organizational agility (Wendler,2014).

The concept of organizational agility is explained in detail in the research. Here, the main objectives served by the agile transformation process are described. In the second section describes organizational agility theme. In the third section, the concept of learning organization, which is of important for agile transformation and increases the gains in teams, is conveyed (Alamsjah and Yunus,2022). This concept is a structure built on agile values. One of the most advanced aspects of teams that can make agility in by the literature is to equalize the level of knowledge within the team. In the fourth section explains, the relationship between agility and

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innovation is explained in detail. The fifth section explains how the four main meeting structures we learned, with the scrum method should be shaped according to innovation and learning organization constructs. These training meetings on current agility and additional responsibilities within the Master role increase the value increase of agile teams. In the sixth chapter, the one-year performance results of the teams, which are suitable for the suggestion and structure are given in the first five sections of the research, are explained and examined in detail. In the last section, the headings that will guide the researchers and the contributions of the research results are given.

2. Organizational Agility

Today, as in every field, rapid change and the uncertainty it brings an impact on the organizational forms of businesses (Li et al., 2022). The environment of constant change and uncertainty first affected the production systems. Firms engaged in mass production or lean production have difficulty reacting to the change, and their delays have put them in a harmful situation. Agile manufacturing, on the other hand, has become widespread by turning uncertainty and change into an advantage (Ronsom et al., 2022). Today, great changes are taking place on a global scale. Local borders are losing their effect, competitive conditions are changing with globalization, and technology is changing rapidly and effectively (Sultana et al., 2022). These factors force businesses to change and adapt to innovation (Tandiayu and Sombolayuk,2022). In the current uncertain environment, it is difficult for businesses to catch up with the change with classical methods. In this context, agility, a new production method, has emerged as a response to existing problems. When the development of production methods in the historical process is examined, three methods are mostly mentioned (Crupi et al.,2022). Agility in organizations has emerged in this context. Lean manufacturing emphasizes waste prevention. Conversely, agility enables businesses to grow and develop in environments where continuous and unexpected changes are experienced. For businesses to survive and develop in environments dominated by uncertainty, they need to recognize all expected/unexpected changes, understand the changes and produce answers (Joiner,2019).

There are four important dimensions in the literature for organizational agile transformation. The agile transformation process needs to be planned correctly over these four dimensions: customer welfare, people and information, cooperation, capturing change.

•Customer welfare: Measuring the product or service the business provides over the value it offers to the customer (Felipe et al., 2017).

• People and knowledge: Using the knowledge and experience of business employees to produce solutions that can meet customer needs.

• Collaboration: The rapid change in technology and the increased customer demand for personalized products necessitate collaborations between businesses. An agile organization should be able to create the necessary collaborations.

•Capturing change: Everyone knows that unexpected changes will occur and uncertainty will prevail in the next few years. Being able to turn this turbulent period into an advantage is another feature of agile organizations. Prioritizing customer demands in the production of communication with the customer and product design (Bahrami et al., 2016). Agility is the ability to adapt to change. Organizations that best meet customer expectations respond to the word agile. If it is necessary to list the steps to be taken to be successful in agile transformation, the following items are reached.

• Establishing the functional points of the organization for decision-making, instead of making decisions from a single center in a hierarchical manner

• Decrease in unit costs, production of fast, high quality and personalized products

• Flexibility to allow rapid changes in production volume

• Working with suppliers with agile structure,

• Meticulous job analysis

• Organization goal to create value for the customer (Mayer et al., 2022)

• While continuing to compete with competitors, cooperate with them when necessary

• Communication within the organization

• Having trained, authorized, and experienced employees

Changing market conditions, changes in demands and technology put organizations in a difficult position (Hoa Doo et al., 2022). Organizations develop the agile organization model to survive and turn the current situation into an advantage. According to most sources, agile production comes after mass and lean production in the historical process. Agile manufacturing, like its predecessors, also comes with its organizational form. Businesses prefer agility in order to catch up with the changes that occur in the world, adapt to the changes quickly even take a leading role in the changes (Nazari et al, 2022). To be able to meet the rapidly changing customer demands without sacrificing quality, and delivery time is to be in global competition grow out of this competition. Making the right decisions in an environment of uncertainty is possible with agile organizations (Nafei,2016). Agile organizations with a customer-centered design and production model are the quality of communication within the team. It reduces the decision-making mechanisms from the center to the operation centers (Ragazou et al, 2022). This shortens the response time and provides advantages to businesses. There are different definitions and features of agility in different studies on agility. In general, agility is a method of survival in environments dominated

by change and uncertainty (Arsawan et al., 2022). Businesses should make their organizational structure agile in order to catch the change and be the pioneer of change.

3. Learning Organization

In order for companies to adapt to changing conditions, they need to improve their skills and abilities constantly. For this reason, companies have to have a culture of continuous learning to survive in today's world. In the literature conveys in three categories (Hafeez et al.,2020).

- Single-loop learning
- Double-loop learning
- Deutero-loop learning

The concept of single loop learning is defined as companies advancing their existing policies and allowing error detection while achieving their goals. It is a reactive process. Learning takes place when errors are found. In this structure, existing policies and strategies are never changed. There are updates to the company's knowledge and competence base. The double loop learning structure, on the other hand, is when businesses enter a change process. Issues within business knowledge and competence are jointly reviewed and revised. Single loop business does not change the basic dynamics, but double loop business culture is a more suitable method to change (Lee et al., 2015). Although double loop learning seems to facilitate the company's learning and adaptation process, there are great difficulties in the learning phase. Deutero loop learning finds a solution at this stage. It increases the depth and permanence of learning about the diversity of the problem encountered by bringing together all learning units and at the same time developing skills (Darvishmotevali et al., 2020).

If the organizational learning process occurs successfully, new products and services are reached faster (Felipe et al., 2016). Productivity and efficiency increase rapidly. The working environment is greatly improved. Change needs to happen with less effort. Bringing these outputs to the highest level can only be achieved with an infrastructure that provides a learning organizational culture. Traditional organizational structures are based on instant and experiential decision-making, which does not use any scientific method. Companies that have completed the organizational learning transformation and supported it with the learning organization infrastructure can achieve successful results quickly.

The Learning Organization process takes place in four steps.

- Knowing Organization
- Understanding Organization
- Thinking Organization
- Learning Organization

Knowing Organization, is the organization being in constant contact with its environment and employees (Meyer, 1998). The learning process is suppressed situations such as the intense supervision of the managers and the formation of business rules (Cegarra-Navarro et al, 2016). They are businesses that can be successful if there is no change in market conditions. It is essential to obey the orders given by the manager; questioning and thinking are not desired in this structure (Friedman et al, 2015). The concept of Understanding Organization is the application of organizational values by all employees (Weick and Westley,1999). Rather than directing employees, managers ensure that employees take the organizational culture as their guide. The weakness of this concept is that it affects the learning process of sudden changes. The concept of thinking organization is to find and fix disrupted processes throughout the company, them from reoccurring (Nair et al., 2023). If there is a broken structure, it is quickly fixed (Haglung and Rudberg, 2023). However, the reasons are not considered. This approach may have problems as it does not realize the learning and learning process from experience. The concept of learning organization means that it has all these steps and do even more. They are companies can learn from experiences, have a continuous learning structure, and adapt to change. They value their employees, support their development, and are constantly renewed (Teece et al., 2016).

Systems thinking is based on how actions can balance each other out. It is a structure that looks at the whole, not the part. It makes the whole organization look clear. In systems thinking, processes are not linear and are in a loop (Polančič and Orban,2023). This approach is the cornerstone of both agile transformation and learning organization concepts. The first essential element in team learning is team discipline (Nafei, 2016). This team autonomy is based on the ability of individuals to make their own decisions in the team. The autonomous team approach based on agile transformation supports this process (Rass et al., 2022).

The success of the learning organization process depends on the strong ties between the top management and the base. A structure in which learning is viewed as an everyday task is desired. The customer must be viewed not as a market tool but as the end goal of the business (Zeb Farhan, 2019). Continuous review and renewal of experiences is also an important basis. The sustainability of approaches such as agility and learning organization throughout the company is also related to the robustness of information systems and technical infrastructure (Shajrawi and Aburub, 2016).

4. Innovation and Agility

Just like organisms, organizations are living parts of a system. Living organisms have the ability to survive by adapting to changing environmental conditions (Awan et al., 2017). However, the mentioned adaptation in organisms and organizations has to occur within a certain time interval. Whether this is by innate improvisation, acquired or skill, if this cannot be accomplished within the required

time frame, it will be inevitably to face undesirable consequences. Unlike organisms, acquired skills in organizations are vital for adaptation to change. Speed, flexibility, responsiveness and competence are among the qualities required to acquire these skills to survive and survive in challenging and rapidly changing environmental conditions. In this sense, organizational agility can be expressed as the ability of an organization to respond or adapt to an existing or potential threat or opportunity in a beneficial time period (Chen et al., 2022). Some express organizational agility as the ability of an organization to produce high-quality and effective performance and to work comfortably in a rapidly and steadily changing and fragmented global market environment (Fiol et al., 1985). However, organizational agility requires business processes to be alert, and ready for changing and unclear situations (Susanty et al., 2022).

On the other hand, it is stated that organizational agility has gained more importance in recent years and greatly on businesses to continue their lives. What provides this is the speed and flexibility features that are essential in agility. These features play a key role in achieving a high level of performance for organizations (Malibari and Bajaba,2022). These roles are vital in the elements of the continuation of life and permanent competition in a fast, sustainable, dynamic structure, interactive and unstable business world within the framework of the general system logic (Manurung and Kurniawan, 2022). It has been stated that dynamic skills must belong to the organization or easily imitated by competitors and cannot be easily adapted to other organizations. In addition, we can state that focusing on core competencies, reducing the hierarchical structure, and adopting virtual and knowledge-based organizational structures are among the other common features of agile organizational structures (Yıldız and Aykanat, 2021)

5. Research and Analysis

When the Agile Manifesto concept was first established, the values put forward were not limited to Customer Satisfaction and quality improvements (Muduli, 2016). In companies that have completed the agile organizational transformation, the speed, productivity, and quality increases in the general business processes of the teams are measured and followed in detail. All framework structures recommended in the industry follow the process with various parameters on productivity-themed issues. The approach here is to provide a structure that matches the concept of value engineering in which everyone is involved (Levitt and March, 1986).

In today's world of intense, businesses cannot continue their lives only with efficiency-oriented improvement (Schulz, 2017). Without an innovative product approach, it is getting harder to achieve success (Wayan et al., 2022). The Total Quality Management approach has provided a great benefit during the transition from Industry 2.0 to Industry 3.0 and has extended the life span of the companies (Edmonson and Moingeon, 1998). In the transition period from the concept of Industry 3.0 to the concept of Industry 4.0, the agile organizational structure of the company has started to be of great importance, apart from technological investments. It is important for agile companies to internalize innovation and learning organization approaches for the development periods of Industry 4.0 and it's beyond.

Scrum is an agile project management framework that helps teams structure and manage their work through a set of values, principles, and practices. Scrum provides just enough structure for people and teams to integrate into how they work, while adding the right practices to optimize for their specific needs. In the model subject to the research, in addition to the structure of sprint planning, sprint review, sprint retrospective and daily scrum meeting, known as agile rituals, in-team learning sessions limited to one hour were added in every two sprints. During this learning process, the approach of holding a one-hour informative seminar on the work completed within the team, newly developed products and new-generation technologies was made mandatory. In the model in question, the participating teams were guided to organize a 1-hour creative thinking and innovation meet to be held once a month. 2 new meetings added to the agile meeting processes also provide an add-on for one new agile role continuing within the team. This role has been defined as the innovation coach, and it is anticipated that person will follow the tow newly added events. The meetings that the innovation coach should attend are shown in Table 1, and the expectation for this role is limited to four items.

Table 1. Meetings to be Attended by Persons in the Position of Innovation Coaches

	Planning	Daily	Review	Retro	Learning Session Meeting	Innovation Meeting
Innovation Coach	Compulsory	Optional	Compulsory	Optional	Compulsory	Compulsory

Innovation Coach Duties;

- He is responsible for the monthly organization of the Learning session and Innovation meetings and the active participation of the whole team.

- All team members should be guided to talk about a subject related to their work processes and to provide training to other team members. It should ensure that the training are understandable and value-oriented.

- At the innovation meeting, he should support the team members to provide an innovative perspective on business processes with the right questions.

- Training should be given to team members on the innovation approach.

- To make innovative ideas, he should be involved in designing products from end to end in subjects such as obtaining support from the relevant departments throughout the company, tracking patents, intellectual rights, the legal aspects of the process, budget and project planning.

Table 2. Monthly Distribution of Agile Rituals Implemented by Agile Teams

	1 Month Cycle			
	Sprint 1		Sprint 2	
	Week 1	Week 2	Week 3	Week 4
Planning	x		x	
Daily	x	x	x	x
Review		x		x
Retro		x		x
Learning Session Meeting		x		
Innovation Meeting			x	

The success and effects of the roles and activities presented as a model proposal were implemented by 20 teams within the same company for one year and the observations were analyzed. It is common for these teams to work with the agile framework known as scrum, and each team consists of 5 people. Although there are business and product differences among the 20 teams, the reporting tools they use, the days and dates of the agile rituals, the age, gender, profession and work experience of the people in the team have been chosen so close to each other that they can be said to be equal. These teams were established and preferred by people aged 25-30, 50% male, with 5-7 years of work experience and engineering graduates. These teams worked with the ritual structure in Table 2 for one year and the previous year's performances and this year's data were transparently compared.

The newly proposed team model application was implemented on ten agile teams within the same company, and the results were examined in detail throughout 2022. The teams are in the same company on the same project, and their demographic structures are equally homogeneous with each other. Parameters such as age, gender, occupation and work experience of the people in the team were kept at the same level as each other. Within this work sharing, software technology and software development work steps (analysis, software, testing) were tried to be distributed equally among the teams. The works were followed using the scrum method within two-week sprints, and all teams shared the common backlog items of the project fairly.

Team data was transferred to the analysis of the data for the four quarters of 2022. Apart from the existing agile meetings and operation, learning sessions and innovation coaching structure paid in the model were applied to these data from the first week. General performance values were followed for four quarters with four parameters frequently used in the literature and agile teams. 10 Changes on the tool are explained in detail over these parameters. Examined parameters; Delivery Capacity, Customer Satisfaction, Innovation Rate, and Agile Maturity Level.

Delivery Capacity; It includes all the work that the team promised and delivered to the customer within the sprint. Team can be seen as a commissioned product if it is a software development team. The completing of the business process steps followed by the team may appear as all finished works resulting from the approval given to this completion. Customer Satisfaction; It is of great importance to measure customer satisfaction for team returns and delivered products. It is a metric that measures the extent to which the customer meets the expectations of the customer how often the customer is contacted within the scrum processes, and in addition to all these processes, how much success has been achieved in customer focus. Innovation Rate, scrum team is not only established to fulfill the need faster and more effectively, but an important aim is innovation-oriented. The correct understanding of the customer's request, the customer's involvement in the process, the correct determination of the acceptance criteria, and the complete fulfillment of the delivered product's needs bring an increase for this metric. Agile Maturity Level; It includes the measuring agile Teams with a survey study on how to make agile values and approaches effectively.

The work of the team's work during 12 months and four quarters was examined with the methods and intervals shown in Table 3.

Table 3. Parameters Used in the Study and Frequency of Examination

	Method	Review Frequency
Delivery Capacity	Completed Story Point	Monthly
Customer Satisfaction	Satisfaction survey	Monthly
Innovation Rate	Completed Story Point	Quarterly
Agile Maturity Level	Agile Maturity Survey	Quarterly

The data of 10 Agile Teams obtained as a result of a one-year follow-up with four parameters are shown in Table 2, Table 3, Table 4 and Table 5. These table values have been collected transparently from Teams. The monthly production capacities of the teams are added as quarterly data with the average value assumed. The other three parameter values were collected periodically from Teams and customers through a single survey application. The data of the Teams involved in the data collection process were not compared. Competition between Teams on Agile principles is sharply divided. Each Team is supported to progress in its way using agile methods. Teams have incorporated the effects of newly added meetings and roles into their business structures through their regular meetings. Teams has maintained its continuous improvement approach and learning organizational structure Throughout the one-year data collection period. Data analysis studies are not hidden from Teams. The data obtained were shared in the Team specific. With the data, it is aimed that Teams will make their existing business processes better and more effective. Existing agile roles; Scrum Master and Product Owner (agile roles in the Scrum Guide) took an active part in the Teams. The influence of friends who play the role of Scrum Master is of great importance, especially at the data collection stage.

Table 4. Agile Teams Delivery Capacity Values

Delivery Capacity	Q1	Q2	Q3	Q4
Team 1	749	790	810	815
Team 2	790	750	744	801
Team 3	701	780	810	815
Team 4	721	765	798	820
Team 5	801	810	820	819
Team 6	763	796	819	822
Team 7	766	801	826	825
Team 8	770	807	833	828
Team 9	773	812	841	830
Team 10	721	742	790	801

Table 5. Agile Teams Customer Satisfaction Survey Data

Customer Satisfaction	Q1	Q2	Q3	Q4
Team 1	3,5	3,6	3,7	3,9
Team 2	2,5	2,7	2,8	3
Team 3	3,2	3,5	4,0	4,0
Team 4	4,0	4,0	4,0	4,1
Team 5	3,0	3,0	3,3	3,5
Team 6	3,4	3,4	3,7	3,8
Team 7	3,4	3,4	3,7	3,8
Team 8	3,5	3,4	3,7	3,8
Team 9	3,5	3,4	3,8	3,9
Team 10	3,6	3,5	3,8	3,9

Table 6. Agile Teams Innovation Rate

Innovation Rate	Q1	Q2	Q3	Q4
Team 1	3,5	3,4	3,7	3,8
Team 2	3,5	3,4	3,8	3,9
Team 3	3,6	3,5	3,8	3,9
Team 4	3,6	3,5	3,9	3,9
Team 5	3,2	3,5	4,0	4,0
Team 6	4,0	4,0	4,0	4,1
Team 7	3,0	3,0	3,3	3,5
Team 8	3,6	3,5	3,9	3,9
Team 9	3,2	3,5	4,0	4,0
Team 10	4,0	4,0	4,0	4,1

Table 7. Agile Teams Agile Maturity Level

Agile Maturity Level	Q1	Q2	Q3	Q4
Team 1	3,6	3,5	3,8	3,9
Team 2	3,6	3,5	3,9	3,9
Team 3	3,6	3,5	3,8	3,9
Team 4	3,6	3,5	3,9	3,9
Team 5	3,5	3,4	3,8	3,9
Team 6	3,6	3,5	3,8	3,9
Team 7	3,6	3,5	3,9	3,9
Team 8	3,2	3,5	4,0	4,0
Team 9	4,0	4,0	4,0	4,1
Team 10	3,0	3,0	3,3	3,5

The data of the Teams and the results they obtained were analyzed quarterly in Figure 1 and Figure 2 by taking the average of all Teams.
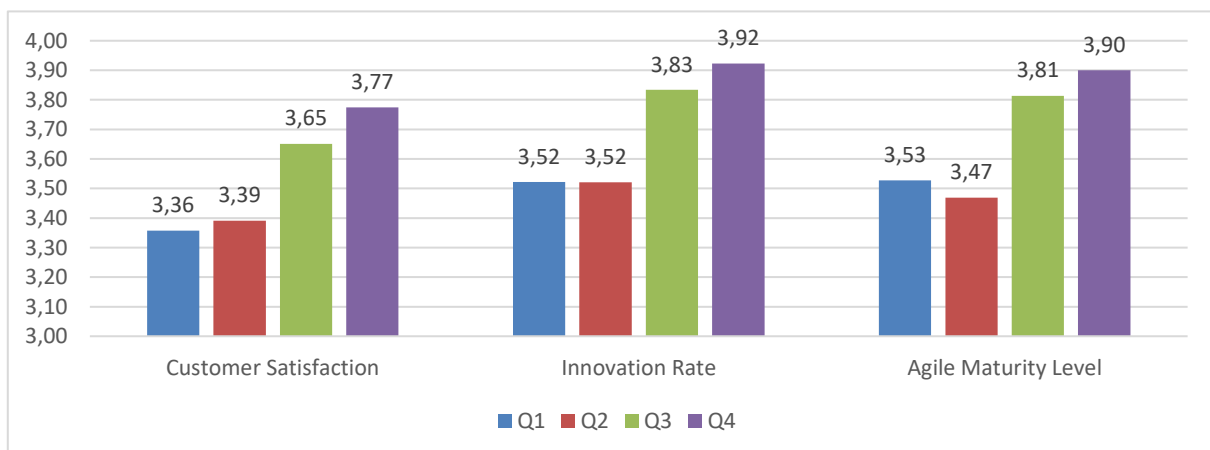

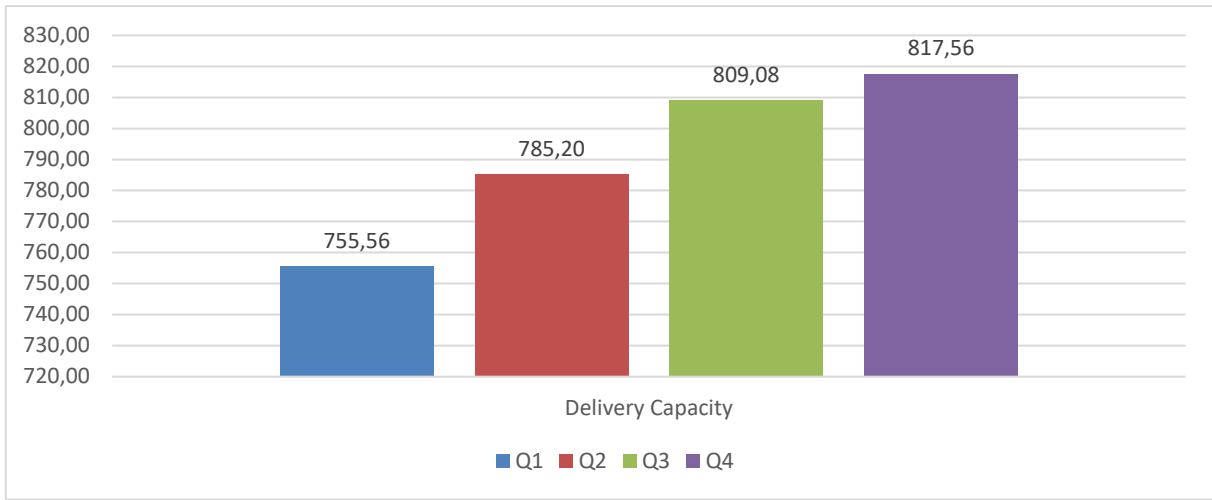Figure 1. Quarterly Change of Agile Teams Average for Three Parameters

Figure 2. Quarterly Change of Agile Teams Delivery Capacity

Within a year, improvements were observed in the performance of ten different agile teams working with the Scrum approach and effectively implementing the learning meeting and innovation coaching activities suggested in the research. Based on the data in Figure 1, the Customer Satisfaction value increased by 10% on the average of ten Teams within a year. The Innovation Rate increased by 11%, and Agile Maturity Level increased by 9%. It has been observed that the values that have improved are progressing in the common working culture within the Team, learning together, everyone's access to equal information, and creative idea-oriented work.

6. Conclusions and Future Suggestions

In today's world, agile management techniques are spreading rapidly and gaining acceptance. Agile methods and agile manifesto approach are not only to improve the current situation but also to provide companies with the opportunity to offer innovative products to all their Teams (Ilmudeen,2022). For this reason, the importance of the innovation approach is at the forefront of agile methods (Srisathan et al, 2022). Innovation is essential not only for the new world competitive order but for the survival of all companies (Franco and Landini, 2022). The approach known as Minimum Viable Product is also based on customer-centric design. This concept is of great importance for Agile Teams. However, without creative idea studies, innovation output cannot be achieved without MVP-oriented product development. To create an innovation effect, Agile Teams develop themselves with a specialized role in this regard, providing positive effects. The Scrum Master role, which the Scrum method recommends, does not stay focused enough on this innovation. Innovation should be a primary value focus for teams.

Self-organization Team structure in Agile Teams is a desired target. This structure is the effect of the learning organization approach in the literature on agility. When learning organization development is provided throughout the organization, the process of being autonomous of Agile Teams will be accelerated. The biggest obstacle to becoming a Self-Organization is the lack of sufficient knowledge within the team. When the whole team consists of people with the same knowledge and similar demographic characteristics, if there is an agile leader approach, they can quickly switch to the self-organization process. On the way to sustainability, organizational transformation processes must be taken with the right steps (Topçu ve Sarıgül,2020). The research conducted research on the importance of being a sustainable company, not just agile transformation or innovation orientation (Balbay et al.,2021). The changes that are the subject of each approach and application model presented in the research actually include sustainable company model features (Şahin et al.,2021).

Research findings are guiding other researchers working in this field. It supports researchers who examine the link between agile methods and innovation and that the current framework should be considered differently. The positive effects of agile approaches for researchers working in the Learning Organization model are revealed. Trying different agile approaches (kanban, safe, xp, etc.) in different sectors and examining the results will give important findings for researchers.

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