

# THE EFFECT OF CIRCULAR ECONOMY AND GREEN MANAGEMENT PRACTICES ON THE GROWTH PERFORMANCE OF THE FIRM THROUGH INNOVATION

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**Abstract:** The circular economy is a model that predicts the fundamental change of linear production and consumption habits since the Industrial Revolution. It was born on the need to eliminate the belief that our natural resources are unlimited and that waste does not cause costs and problems, which the linear economy model assumes. Now people must learn to minimize their natural resources expectations and continue the economy in a closed loop. The circular economy is based on the concept of sustainable development. It aims to restructure the procurement process of the goods or services that need to be produced in the economy. On the other hand, green management aims to ensure that businesses consider the environmental benefit at all stages from the raw material procurement process to after-sales.

Businesses of all sizes need to act with this awareness, making significant ecological differences. In this sense, the study aims to evaluate the effects of circular economy and green management practices on the growth performance of the firm through innovation. Within the study's scope, 403 valid questionnaires from companies in the manufacturing sector were collected and analyzed. While the effect of innovation on the firm's growth performance was found to be high in the analysis results, green management remained limited. The circular economy does not affect the firm's growth performance either positively or negatively.

**Keywords:** Circular Economy, Green Management, Global Environmental Issues, Innovation, Growth Performance

**Jel CODE:** F64, M10, M14, O44, Q01, Q50

## I. Introduction

A circular economy has become a remarkable concept in recent times when we are faced with the fact that the world is approaching a state that will not meet the basic needs of future generations (Wijkman and Skanberg, 2015). Although the circular economy is regarded as a macro-scale work, there is a need from international agreements to a human as the smallest participant and the effort of each individual (Geissler et al., 2018). Although the circular economy draws attention and is applied by multinational companies and developed countries (Su et al., 2013), the same does not apply to developing and less developed countries (Ciraig, 2015). China, taking the first and biggest step in the circular economy in 2008, has also become a guide for European countries (Pesce et al., 2020). However, issues such as change and cost have caused companies and nations to abstain. Green management is a concept the starting point of which is sustainable development (Haden et al., 2009). It is a concept that foresees that a small, medium or large enterprise aims to protect the environment and the benefit of the environment in all planning and implementation processes from the beginning of production to after-sales services (Babiak and Trendafilova, 2011). Despite the fact that concepts such as zero waste, green production, and green marketing become widespread with each passing day, the demand for applications such as recyclable packaging and products produced from waste increases, and it becomes a competitive factor, its effect on growth is still ignored (Preston and Lehne, 2017). Especially estimated costs and the frightening face of change block practices such as the circular economy and green management. However, the value of the recyclable plastic exported by the USA to China in a year is 495 million dollars (Geng et al., 2013). Considering the recyclable waste potential of developing economies for the circular economy (Diaz, 2017) and that they are prone to the concept of innovation although they are not prone to change (Aubert, 2005), not implementing circular economy practices is regarded as a financial loss for the world economy, national economies, and enterprises.

Our study aims to determine the direction and level of impact of circular economy and green management practices on the growth performance of enterprises. Although they have remained in theory, models for material cycles are ideas that have existed for many years (Desrochers, 2002). However, they have drawn attention since they have started to be discussed together with the concepts of sustainable growth and sustainable development. They have recently been supported by concepts such as sustainable production, sustainable consumption, and sharing economy (Murray et al., 2017; Lakatos et al., 2018; Fidelis et al., 2019). Many studies have been carried out on the German and Japanese models, as well as the Chinese model, to

observe the applicability of the circular economy and to increase its practices (Nelles, 2016; Ogunmakinde, 2017; Schiller, 2017). Furthermore, studies have been conducted on the new business opportunities it provides (Horbach, 2015), new sectors and entrepreneurship opportunities, and its contribution to growth (Heshmati, 2015; Zamfir, 2017). In recent years, studies have been performed on the path to be followed and growth opportunities in the use of plastic and other raw materials (Hahladakis et al., 2020; Baars et al., 2020; Martinez et al., 2020) in the construction sector. Our study investigates the growth impact in businesses in the manufacturing sector.

Industry 4.0 (I4.0), a concept that has recently been on the rise, has been regarded as a tool to support the circular economy, and research has been conducted on how it can be integrated (Souza Jabbour et al., 2018; Nascimento et al., 2018; Rosa et al., 2020). The production understanding of I4.0 depends on communication and information technologies (Stock and Seliger, 2016). The support of the digital infrastructure created in this way means the ease of implementation for the circular economy, especially in steps such as converting waste into raw materials and production flow (Rajput and Singh, 2019). In the transition to a circular economy, I4.0 is regarded not as a choice but a need for systems that need to be changed in the production process (Jabbour et al., 2020). In their study, Tseng et al. (2018) defined this combination as industrial symbiosis. Previous studies conducted on the circular economy, which is known to be used together in the Chinese model, and how it will affect the I4.0 sustainable development goals, it has been observed that its effect is direct and positive (Dastas et al., 2020; Piscitelli et al., 2020; Zhou et al., 2020). The use of smart technologies helps to measure circular efficiency, collect information and monitor it while helping to keep resources and wastes in the production cycle (Blunck and Werthmann, 2017; Rossi et al., 2020). Recent studies have demonstrated that the concept of IoT (Internet of Things) is addressed within the context of the circular economy. In I4.0 production systems, IoT is evaluated in individual use. Considering that the circular economy depends on the efforts of everyone from the largest organizations to the individual, it is not possible to evaluate these two concepts separately (Nobre and Tavares, 2017; Garcia-Munia et al., 2018). Studies on how IoT capabilities will support the transition to a circular economy have become guiding in this regard (Pagoropoulos et al., 2017; Ramadoss et al., 2018). These developments have caused the inclusion of new concepts such as the smart circular economy and smart waste in the circular economy literature (Alcayaga et al., 2019; Zhang et al., 2019; Kristoffersen et al., 2020).

## **II. Circular Economy**

The concept of circular economy basically refers not only to a different production but also to a different consumption model, with the linear economy prevalent since the beginning of mass production. The linear economy is a system that does not pay attention to waste and environmental pollution caused by production and consumption processes and does not have ecological concerns. It acts in line with economic purposes (Sauvé et al., 2015). However, this system has brought natural resources to the point of depletion due to unlimited use (Veral, 2018). The economist Kenneth Boulding likened the world to a spaceship with limited space for production and pollution and mentioned that this economic model, which accepts natural resources as unlimited, must change as the limits started to be crossed (Whalen and Whalen, 2018). While moving away from the view that continuous day-to-day growth provides more welfare for all people, it is accepted to provide more social justice, health problems, social tensions, and ecological crises (Lazell et al., 2018).

There are many definitions of the circular economy, although they are basically the same. The circular economy is a revitalizing and enhancing model of the economy due to design (Niero et al., 2017) that aims at minimizing the use of natural resources and pollution emissions simultaneously (Wu et al., 2014), a more cyclical, green and sustainable production (Ma et al., 2015), and a production with minimum production and energy loss through comprehensive reuse, recycling, and recovery (Haupt et al., 2017). In their article, Schoder et al. (2019) mentioned that there was no accepted simple definition of circular economy and used the definition of the European Environment Agency: "*The concept of circular economy can in principle be applied to all kinds of natural resources including biotic and abiotic materials, water and soil. Ecological design, repair, reuse, renewal, reproduction, product sharing, waste prevention, and recycling of waste are important concepts for the circular economy.*"

The circular economy is a concept that shows that economic growth can be achieved without consuming natural resources and damaging the environment and that sustainable development is possible (Morsetto, 2019). Although the purposes and practices of the circular economy, which is a new concept, differ, they are basically all gathered in three main activities: reduce, reuse, and recycle. Reduce aims to achieve the least environmental impact in terms of resource use and waste throughout a product's entire life cycle. Reuse aims to reuse the original state or parts of the product after the product has completed its first economic life. Recycle aims to make the raw material used during production reusable again when the life of the product ends (Ghisellini and Ulgiati, 2020). These three main activities have been transformed into six commercial actions known as ReSOLVE. Regenerate(1) means using renewable energy and materials. Share(2) refers to keeping the product cycle long and maximizing the benefit by sharing it among users, Optimise(3) means increasing product

performance and efficiency, reducing waste in the production and supply chain to zero, Loop(4) means selecting product design and materials in a closed loop, Virtualise(5) refers to benefiting from virtuality and online applications, and Exchange(6) means benefiting from the services provided by technology such as 3D printing (Manninen et al., 2018; Srisruthi, 2017).

Circular economy practices differ and vary almost as much as definitions. Considering all internal and external factors, different practices are required in each production process. However, it can be said that there are certain steps to customize practices. Designing waste, creating flexibility through diversity, studies on energy from renewable sources, planning in systems, designing processes gradually (Esposito et al., 2018), circular materials, resource recovery, product life extension, creating sharing platforms that open products for common use (Rudnicka, 2018) are some of these steps. Moreover, it is also important for practice to support ecosystem protection activities, support human health and welfare, and protect resources, although they do not provide financial returns (Bek and Lim, 2016).

Despite increasing environmental awareness and sensitivity, doubts remain regarding its applicability. The fundamental changes required by the circular economy and some needs for arrangement pose obstacles to its implementation; (1) High estimated costs: A successful circular economy implementation will provide long-term growth and resilience to resource/price crises. However, in the short term, costs and the risk brought by costs cause producers to abstain from switching to this system (Preston 2012; Sauve et al., 2015); (2) Resource-intensive infrastructure and development models: For an effective circular economy implementation, systematic changes are needed in technological applications, procurement, raw materials, employee training, and many other points (Kopnina, 2019; Mendoza et al., 2017; Perey et al., 2016); (3) Political Barriers: Compared to the current production systems, the circular economy requires some extraordinary practices. If these practices are not supported by politicians and governments, they pose an obstacle to the circular economy (Torelli et al., 2020; Kirchherr et al., 2018); (4) Failure to Ensure Cooperation Between Parties: Achieving environmental benefit through a circular economy depends on the provision of local, national, international, and intra-sectoral cooperation. It requires a complex supply network and holistic support. The failure to ensure cooperation prevents the implementation of the circular economy and increases human-induced damage to the environment (Rizos et al., 2015; Korhonen et al., 2018). These barriers constitute an obstacle in the realization and spread of the circular economy. Moreover, there are also obstacles such as interest in new, unstoppable consumption habits, and the absence of the consumer's environmental awareness (Ranta et al., 2018; Lieder and Rashid, 2016).

Although circular economy practices face obstacles and cause high entry costs, the benefits are significant enough to ignore them. Considering the needs of future generations and the continuation of life, the practices that prepare the end of humanity should come to an end. While the destruction caused by the footprint left by humanity in nature increases every day, the circular economy aims to stop this destruction to ensure the continuation of natural resources and the life of all living beings, including humans. Therefore, it is observed that there is primarily a significant environmental benefit. However, its benefits are not limited to this. The more reuse and recycling of waste and minimizing the use of unprocessed raw materials within production systems mean less damage to the environment. It is also more profitable for the economy. The circular economy ensures that access to better and cheaper materials is guaranteed. It also protects producers against fluctuations in raw material prices and reduces the risk of cost increase (Sariatli, 2017; Ellen MacArthur Foundation, 2017; Bastein et al., 2013).

Technology alone cannot be a savior in the destruction of natural resources and the environment (Wijkman and Skanberg, 2015). Advancements in technology provide a significant opportunity for the circular economy model. With fixed asset monitoring technologies, it is possible to determine the repair, renewal, and recycling times of products. Practices that encourage product sharing among consumers also slow down the rate of consumption. Furthermore, the innovations provided by the circular economy are still open to exploration (Preston and Lehne, 2017; Lieder et al., 2017; Antikainen et al., 2015). It is not possible to meet the requirements of the circular economy with the current market conditions. From this point of view, it is observed to provide new business lines, entrepreneurship ideas, and therefore employment. The use of waste, which producers and consumers used to want to get rid of and which harms nature, in waste management enterprises nowadays and its transformation into a product for which a fee is paid are just some of the contributions of the circular business model to the economy (Gregson et al., 2015).

### **III. GREEN MANAGEMENT**

Until it was noticed in the 1980s, the damage caused to nature by industrialization has started to affect living life. Many governments, primarily the USA, Sweden and England, have determined the measures to be taken against the environmental problem as the most important national interest and have started to take measures (Eren, 2013). During these studies, many new concepts have entered our lives, and interest in green management has increased both in academic studies and from managers (Yusoff et al., 2018). The starting point

of green management is the concept of sustainable development. The concept of sustainability only makes sense when we fill the gold with green, in other words, the concept of environment. Although the phenomena of development and environment seem to conflict from time to time, they gain meaning when they work in integration (Erkan et al., 2013). Sustainability studies that do not address social, economic, and ecological goals together cannot meet real needs (Farrell and Hart, 1998).

The concept of green management means acting with environmental responsibility awareness in all steps of organizational activities. It can be defined as taking and applying new environmental management measures within the enterprise. Having environmental awareness requires employees from all levels of the enterprise to be willing to be sensitive and cooperate (Haddadi, 2020; Maet al., 2018). The concepts of environmental protection and economic growth should be considered in a long-term and integrated way. It describes a management strategy beyond a social responsibility aiming at environmental awareness. The words of Henry Ford "Conditions between the industry and society change (Shrivastava, 1995; Alfred and Adam, 2009). We are now asked to serve humanitarian values in a wider scope and to accept that we have an obligation to the members of the public with whom we are not engaged in commercial activities" should also be considered in this context (Akatay, 2008, 101).

The concepts of environment and development were used for the first time at the United Nations Environment Conference held in Stockholm in 1972. It is the most comprehensive organization conducted to discuss environmental problems, determine short and long-term measures, and intervene in environmental problems. The conference declaration includes decisions and opinions that will guide the whole world for the protection of the environment. It was stated that the damage to natural life and nature is the common problem of humanity, and the slogan "We have only one world" emerged here. The United Nations Environment Programme (UNEP) was established to continue international environmental cooperation after the conference. UNEP has the following aims: (1) Encourage international cooperation on the environment, (2) Direct concerning the general environmental policy, (3) Control the measures implemented (Perrez, 2020; Sezer, 2007; Akatay and Aslan, 2008; Struthers, 2020).

The World Conservation Strategy (WCS) was published in 1980 after the Stockholm Conference. In the WCS prepared by the International Union for Conservation of Nature and Natural Resources (IUCN), World Wildlife Fund (WWF), and UNEP, it was emphasized that the concepts of conservation and development should be addressed together to achieve the sustainability goal. After the published report, the concept of "sustainable utilization" has started to take place in the international political agenda (Orr, 2002; Bozlağan, 2010).

In 1983, upon the request of the Secretary-General of the United Nations, the Our Common Future (Brundtland) Report was published under the presidency of the Prime Minister of Norway, Gro Harlem Brundtland, and named after him. The report prepared with the World Commission on Environment and Development (WCED), consisting of participants from twenty different countries, was presented to the United Nations General Assembly in 1987. The report displays an approach that reconciles development thinking with environmental ideology. In the report, it was stated that in the face of increasing environmental problems, a harmony between environmental development and economic development should be ensured, and the sustainability of this harmony was vital for the future of humanity (Barkemeyer et al., 2014; Çankır et al., 2012; Niskala and Pretes, 1995).

At the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in 1992 with the participation of 178 states and referred to as the "Earth Summit," sustainable development was defined more comprehensively. At the conference, it was mentioned that the concept of economic development should be re-evaluated, and recommendations were made to governments concerning ways to stop the destruction of natural resources and the pollution of the planet (Grubb et al., 2019; Wirth, 1994). Toxic wastes, fossil fuels, emissions, increased water scarcity, air pollution, and the health problems caused by them were mentioned (Emelie, 2020). At the Rio+20 Conference held in 2012, it was stated that green management was one of the most important tools for sustainable development and a remedy for poverty. Furthermore, it was mentioned that green management provides stability in economic growth, social welfare, and employment and its undeniable contribution was also mentioned for the ecosystem to continue without being unharmed (Andonova and Hoffman, 2012; Benites et al., 2020).

Studies on green management have revealed many different factors as to why it should be implemented. Apart from its environmental benefits, the competitive advantage it provides is also important for enterprises. However, enterprises must fulfill certain conditions to implement green management practices. (1) In all functions of enterprises, their effects on the environment should be determined and kept under control, (2) Enterprises should establish an environmental management system that includes environmental policy, environmental program and goals, (3) Senior managers should clearly define the environmental policies of enterprises that cover the protection of the environment and the continuous improvement of the environment, (4) Enterprises should be aware of their social responsibility in all environmental issues, and training should be provided to ensure that all employees are environmentally sensitive (Ceyhan and Ada, 2015; Karabulut, 2003).

According to Piper (2002), there are certain principles for enterprises to comprehend the concept of green management and its operation: Guiding vision and goals, holistic view, determination of basic elements, the adequate field of activity, focal point, transparency, effective communication, high level of participation, continuous evaluation and the completion of institutionalization. Starik and Rands (1995) examined the principles of green management at five main levels: ecological level, individual level, organizational level, political-economic level and socio-cultural level. Hart (2007) indicated that green management and sustainability at different economic levels should be evaluated in different ways. National economies were discussed at the developed, developing, and underdeveloped levels, and it was mentioned that environmental pollution, consumption of natural resources, and poverty occurred in different ways, and therefore practices would differ by considering these criteria.

Green human resources practices aim to create "green employees" for enterprises. This process starts with practices such as adding green elements to the job description in recruitment. Training and development activities are strengthened by applying green management principles in performance management, payment and reward systems. Green goals and green responsibilities are determined, and the environmental support of employees is rewarded. Employees are encouraged to make suggestions for environmental improvements (Renwick et al., 2013; Hosain and Rahman, 2016; Saha et al., 2020).

Along with the increase in environmental concerns, it has also become necessary to implement green management, which is planned to be implemented in all processes of the enterprise, for the supply chain. The increase in environmental awareness also led to changes in supply demands. Ecological demands changed the conditions of competition, and enterprises had to respond to the demands with new strategies. If enterprises do not start to be environmentally sensitive from the procurement process, it does not seem possible to achieve a meaningful outcome. Compared to other green management activities, it requires more attention and control since it occurs outside the organization. There should be a strong flow of information to be created among the members of the supply chain (Hsu and Hu, 2008; Renwick et al., 2008; Wu et al., 2009; Liu et al., 2019; Jayabalan et al., 2020).

The green supply chain affects the entire process starting from all inputs of the production process to the packaging and selling the product as an output. Resources should be used as little as possible, and the raw materials used should be lost in nature in a short time or can be included in the production process again. Furthermore, improvement, disassembling, testing, reuse, repair, re-production, and recycling practices, which we know as the reverse supply chain activities, should be done by considering the highest benefit of the environment. Practices such as green purchasing, sustainable supply management, inter-enterprise environmental practices and green supply chain integration are used to strengthen the supply cooperation (Bag et al., 2020; Yang et al., 2020; Yu and Huo, 2018).

The general view on green marketing is that its goal is to promote only environmentally friendly products. However, it is just one of its duties. It can be applied to products, industrial products, and services offered to the consumer (Polonsky, 1994). Although green marketing is the most accepted and well-known in green management, it is not easy to see its consequences in terms of marketing. The high number of factors that may affect the consumer to prefer or not to choose a product makes it difficult to get results (Ginsberg and Bloom, 2004; Shabbir et al., 2020).

Two main strategies are needed to implement green marketing. The first one is to achieve the quality, performance, affordability, and comfort demanded by consumers without environmental compromises. The second one is to ensure that the customer creates demand for enterprises that protect the environment (Ottman, 2011). Therefore, the goals and operating processes of the enterprise should be displayed transparently, and the advantages provided by new strategies should be disclosed (Singh et al., 2016). It is important for enterprises to inform customers about their green activities and design green marketing tools (Nekmahmud and Farkas, 2020). Based on these studies, four P's of marketing (product, price, place, and promotion) have become "green design, green positioning, green pricing, green logistics, marketing waste, green promotion, green deal" (Polonsky and Rosenberger, 2001).

#### **IV. Literature**

Consumption and population increased considerably in the 1950s and afterward, during which great wars between countries decreased and technology made mass production possible. As a result of further consumption, the human being has become acquainted with a new concept, waste. Then, in the 1960s and 70s, scientists, economists and activists realized the damages of the increase in population and consumption for natural life in the environment. In his book "Silent Spring," Carson (1962) pointed out that developing technology and production and consumption habits damaged the environment. In his article entitled "The Economics of the Coming Spaceship Earth," Boulding (1966) formed the basis of the circular economy based on the ability to live without external resources and without leaving waste in manned space vehicles and showed that circularity was needed in economics instead of linearity. The Club of Rome, an international non-

governmental organization, published a study entitled "The Limits of Growth" in 1972 and pointed to the relationship between international growth and the environment. In the book, they worked on population growth, agricultural production, depletion of non-renewable resources, production and environmental pollution factors in the industry and on the existing data, through simulation, the result we will reach environmentally over the years and why it should be intervened (Meadows et al., 1972; Önder, 2018).

Smith (1972) considered waste as a by-product of production and indicated that both producer and consumer were responsible for waste. He criticized that the cheapest way to get rid of waste was to leave it to nature, mentioned that the cost of destroying environmental quality was ignored, and emphasized the importance of reuse of waste.

Mäler (1974) adopted a theoretical approach to develop a conceptual framework for environmental economics. He indicated that some living species and global changes in climate were the proofs of the decrease in environmental quality and that the environment should be considered as the common property of all humanity. Therefore, he mentioned that the environmental quality and the environmental benefits should be a common concern of everyone from the producer to the consumer.

Dasgupta and Heal (1979) discussed the problem of depletable natural resources together with the theory of resource allocation. They indicated that the problem of depletable natural resources was the best example to explain resource allocation, a theory based on the allocation of available resources to various uses.

The United Nations Environment Conference held in Stockholm in 1972, "The World Conservation Strategy" published in 1980, the Brundtland Report published in 1983, the Earth Summit in 1992 and the Rio+20 Conference in 2012 led to the formation of environmental sensitivity at the international level. In the 1990s, concerns such as the environmental impact of waste, the threat of supply, and the unlimited perception of the land made available for human use encouraged the implementation of recycling in many countries. One of the most striking measures was the measures of Japan, which set out with the goal of "establishing a sound material-cycle society," that required recycling. These measures were guiding in terms of application for both other countries and enterprises (EASAC, 2015; Yoshida et al., 2007).

Ellen MacArthur, who was an English solo yachtswoman, concluded that a circular economy was possible based on the example of long-term sea voyages, similar to Boulding's spaceship metaphor. As a result of her research and studies for many years, she established the Ellen MacArthur Foundation in 2009 and served as a guide for the circular economy for the world and natural resources about which she was worried (Venables, 2013). It is still actively working as a foundation that helps to overcome technical and economic barriers to the circular economy and the creation of new mechanisms. It develops examples of a system that can assist enterprises in issues such as business model, material flow, product innovation, and material design (Winans et al., 2017).

## **V. METHODOLOGY**

The topics consisting of the method and application used in the study, creation of scales, sample selection and data collection, validity and reliability analysis of the scale, and testing the research design are discussed in this section. The survey form used in the study consists of five parts, excluding the demographic information of the participants. While the first part of the survey covers the circular economy, the second part covers green management, the third part covers global environmental problems, the fourth part covers innovation orientation, and the fifth part covers firm growth performance questions.

### **VI. Creation of the Research Scale**

Within the context of the study, as a result of comprehensive reviews in the enterprise literature, it was determined that many studies covering the circular economy and green management orientations of enterprises were conducted. Among the research scales related to this subject, the scales that could be valid for our study and were considered to provide the best results were included in the study. Within the scope of the study, the surveys used in current and international studies were collected, and a comprehensive survey form was prepared. Among these factors, the sample questions of "Circular Economy" were translated into Turkish from the resources in English. For translation, the translation method of Brislin (1970) was used from English to Turkish and from Turkish to English, and it was adapted in accordance with the survey after its suitability was approved. The sample questions of the "Green Management Practices," "Global Environmental Issues," "Innovation Orientation," and "Growth Performance" factors were also added to the survey, and the research scale was created. The content of the questions was reduced in any way so that the questions in the survey would not lose their original meaning and depending on the success of their previous use. The first form of the research scale was pre-tested on at least 20 middle and senior managers, and after examining the structure, validity and reliability of the scale, it was revised in a way that employees of all education levels could understand. The questions used in the research scale were created or adapted from the sources in the table below:

**Table 1. Scales Used in the Study**

VARIABLES	SOURCE	Number of questions
Circular Economy	United Kingdom Contractors Group, 2015.	18
Green Management	Karabulut, 2003.	31
Global Environmental Issues	Kacur, 2008.	8
Innovation Orientation	Altındağ, 2011.	10
Growth Performance	Altındağ, 2011.	11

The 7-point Likert-type attitude scale was used to respond to the surveys applied in this study.

**Sample of the Study and Data Collection**

The survey method, which is quite common in social sciences, was used as the data collection method in the study. The surveys were collected via electronic mail, distribution by hand, and using the Google Docs application. The survey collection process was carried out between 2019 and 2020. With the data obtained as a result of the collection of the surveys, the inverse scales used in the variables were converted to normal by SPSS and Smart PLS programs. The data set was evaluated by validity and reliability analysis. Then, they were subjected to factor analysis, correlation analysis, and regression analysis. Furthermore, detailed analyses were performed using the structural equation modeling in the Smart PLS program. The results of the analyses were interpreted and included in the study together with the evaluations.

**Basic Characteristic and Demographic Data of the Participants Responding to the Survey**

The demographic data of the employees who participated in the survey study are important for developing a qualitative profile of the participants. Nine demographic questions were added to the survey used in the study, and the results were interpreted comprehensively. The distributions of the questions added to the survey to determine the demographic characteristics are presented in Table 2.

**Table 2. Frequency Distribution of Demographic Characteristics**

Limits of the Field of Activity	Frequency	Percentage	Age	Frequency	Percentage
Regional	2	1%	18-25	57	15%
National	6	1%	26-30	214	53%
International	395	98%	31-35	73	18%
<b>Grand total</b>	<b>403</b>	<b>100%</b>	36-40	40	10%
			41-55	19	4%
			<b>Grand total</b>	<b>403</b>	<b>100%</b>
<b>Title/Status</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Department where you work</b>	<b>Frequency</b>	<b>Percentage</b>
Mid-Level Manager	92	23%	Production	96	24%
Senior Manager	10	2%	Accounting	23	5%
Other (White-collar employees)	301	75%	Sales/Marketing	124	31%
<b>Grand total</b>	<b>403</b>	<b>100%</b>	Other	160	39%
			<b>Grand total</b>	<b>403</b>	<b>100%</b>
<b>Sector where you work</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Total Working Time</b>	<b>Frequency</b>	<b>Percentage</b>
Clothing/Leather/Textile	70	17%	1-5 years	118	29%
Food/Beverage/Tobacco	322	80%	6-10 years	183	45%
Other	11	3%	11-15 years	51	13%
<b>Grand total</b>	<b>403</b>	<b>100%</b>	16-19 years	41	10%
			20 years and more	10	3%
			<b>Grand total</b>	<b>403</b>	<b>100%</b>
<b>Educational Status</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Working Time in This Workplace</b>	<b>Frequency</b>	<b>Percentage</b>
High school	5	1%	1-4 years	204	50%
University	342	85%	5-10 years	145	36%
Master's degree	52	13%	11-15 years	15	3%
PhD	4	1%	16 years and more	3	1%
<b>Grand total</b>	<b>403</b>	<b>100%</b>			
<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>			
Female	191	47%			
Male	212	53%			

<b>Grand total</b>	<b>403</b>	<b>100%</b>	<b>Grand total</b>	<b>403</b>	<b>100%</b>
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In the study, with regard to the limits of the fields of activity of the firms where the participants of the survey worked, 395 (98%) people worked in international firms, 6 (1%) people worked in national firms, and 2 (1%) people worked in regional firms. The fact that 98% of the firms where the participants of the survey worked were international firms indicated that people working in innovative firms that follow the current events by trying to keep up with the conditions in the globalizing market participated in the survey.

**6.5. Reliability**

Although the scales preferred in the research design were previously used in scientific studies, the validity and reliability analyses of the scale are very important within the scope of statistical study. The reliability analysis to be performed in the analysis part of the study indicates the stable results that arise as a result of repeating the measurements. Reliability analysis also allows for the use of a scale free of random errors. However, the reliability of the scale alone does not make it valid (Ercan and Kan, 2004, 212).

SPSS and Smart PLS programs were used within the scope of the analysis of the field research, and reliability and validity analyses were prioritized. In this context, a general reliability analysis including all variables in all scales was performed. Cronbach's alpha coefficient, which is considered an important reliability coefficient, was examined in this analysis, which included a total of 79 variables. The alpha value of the whole scale was determined to be 0.982.

In Nunnally's studies on reliability analysis, the equivalent value in social sciences was determined to be .700 (Padem et al., 2012). The scale used in this study was well above the threshold value with its reliability coefficient of .982, and it was found out that the survey participants answered the questions in the same direction and by understanding the questions. Nevertheless, each sub-factor was subjected to reliability analysis within itself to avoid any scientific gaps within the scope of the study.

**Table 3. Cronbach's Alpha Values**

<b>Variables</b>	<b>Number of questions</b>	<b>Cronbach's Alpha Values</b>
Circular Economy	18	.913
Green Management	31	.969
Global Environmental Issues	8	.936
Innovation Orientation	10	.886
Employee Performance	12	.984
<b>All Scales</b>	<b>79</b>	<b>.982</b>

When the reliability analysis table in Table 3 is examined, it is observed that all sub-factors had a Cronbach's alpha loading between 0.886 and 0.984. The fact that the results of the reliability analysis performed on the whole scale had a higher value compared to all of the sub-factors proved that the model was designed correctly. Reliability analysis is the most important building block in studies conducted using the survey method, the reason for which is to help to remove all individual and random errors from the scale or cancel the scale, except for systematic design errors, while creating the survey questions. After the reliability analysis results were found to be so high, factor analysis was performed. Thus, it was determined how valid and significant each sub-section proven to be reliable within itself was.

**VII. Factor Analysis**

Factor analysis aims to determine the dimensions of the scales within the scope of the study. Furthermore, whether the questions asked to the participants are understood or not is determined by factor analysis (Coşar, 2018, 103). The single or multi-factor structure of our research scale and the construct validity were investigated using the factor analysis.

Factor analysis, which is a dimensioning technique, was performed over the scales used in the study. First, the relevant variables of each sub-dimension were included in the analysis, and the factor structures were created. The assignment of factors to these sub-dimensions was based on values in which each variable had a factor loading of at least 0.500 and was the closest to number 1. Nevertheless, the Kaiser-Meyer-Olkin value, which is a value showing the construct validity of the scale, was checked.

**Table 4. KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Sample Measurement (Circular Economy)	.928
Kaiser-Meyer-Olkin Sample Measurement (Green Management)	.940
Kaiser-Meyer-Olkin Sample Measurement (Global Environmental Issues)	.879
Kaiser-Meyer-Olkin Sample Measurement (Innovation Orientation)	.920



Kaiser-Meyer-Olkin Sample Measurement (Growth Performance)	.953
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The Kaiser-Meyer-Olkin (KMO) value, which is a value that measures sampling validity most accurately, is presented in Table 4 and was determined to be between 0.879 and 0.953. Considering that the KMO value should be above 0.600 (Yurdugül,2017,1), it is observed that this value was good/perfect within the scope of our study. In this context, factor analysis, which is a dimension reduction analysis with SPSS program, was also used to test the construct validity of the scale and to determine the number of sub-factors. The questions on growth performance were collected in a single factor, and all questions were valued above 0.500. Thus, it can be said that the questions in this section were perceived as a whole and that the questions were comprehensible. After performing the factor analysis of all variables included in the study, sub-dimensions were created by taking the average of the variable loads in the same group. These sub-dimensions were used in the correlation and regression analyses included in the continuation of the study.

### **VIII. Correlation Analysis**

We can explain correlation as the concept indicating the direction and strength of the linear correlation between two random variables in statistics. Correlation analysis is the most commonly used statistical method to determine the association between two variables and the direction of this association. This analysis, which reveals linear correlations, may not be significant in a nonlinear correlation. Different correlation coefficients were developed for different positions. Correlation does not indicate the cause and effect relationship. Therefore, it can be used to determine the correlation between multiple dependent and independent variables, as well as between a dependent variable and an independent variable. The correlation coefficient shows both the direction and size of the correlation between dependent and independent variables. The correlation coefficient takes a value between (-1) and (+1). It indicates a direct linear correlation when the coefficient is positive. However, it indicates an opposite linear correlation when it is negative. When the coefficient is (0), it indicates that the variables used in the study have no linear correlation (Nakip, 2013, 348).

**Table 5. Correlation Analysis**

	1	2	3	4	5	6	7	8	9	10	11
<b>Perception of Circular Economy (1)</b>	1										
<b>Limits of Circular Economy (2)</b>	.645**	1									
<b>Management Activities in the Green Management Approach (3)</b>	0.675	.595**	1								
<b>Financial Activities in the Green Management Approach (4)</b>	.583**	.526**	.847**	1							
<b>Production Activities in the Green Management Approach (5)</b>	.823**	.606**	.760**	.659**	1						
<b>Efficiency in Green Management (6)</b>	.437**	.346**	.515**	.518**	.512**	1					
<b>Financial Dimension of Green Management (7)</b>	.242**	.459**	.317**	.335**	.270**	.176**	1				
<b>Global Environmental Issues (8)</b>	.584**	.429**	.756**	.804**	.646**	.428**	.241**	1			
<b>Innovation Orientation (9)</b>	.592**	.476**	.786**	.795**	.614**	.463**	.296**	.769**	1		
<b>Being Contented with the Existing Innovations (10)</b>	.223**	.214**	.316**	.285**	.227**	.156**	.219	.264**	.272**	1	
<b>Growth Performance of the Firm (11)</b>	.485**	.357**	.648**	.644**	.510**	.434**	.146**	.603**	.721**	.297**	1

When the table of the correlation analysis performed within the scope of the study was examined, the perception of circular economy factor had a moderate correlation with the growth performance (0.485). To elaborate this information, the perception of circular economy factor and the growth performance factor were effective on each other when other factors were excluded from the scope of the study. In other words, according to employees, the circular economy practices of enterprises affect the growth performance of the enterprise positively. A correlation of 0.357 was found between the second factor, the limits of circular economy and growth performance. It can be said that the limits of the circular economy affected the growth performance of enterprises, though at a low level.

The management activities in the green management approach, which is the first factor of green management, one of the important parts of the study, were strongly correlated with the growth performance of the enterprise (0.648). When other factors are not considered, the adoption of green management by managers and paying attention to its application will significantly increase the growth performance of the enterprise. Likewise, it is observed that the financial activities in the green management approach factor was highly correlated with growth performance (0.644). The fact that the financial activities of the enterprise are handled with the green management approach and the allocation of budget for green management practices increase the growth performance of the enterprise.

It was determined that the production activities in the green management approach factor was moderately correlated with the growth performance when other factors were excluded. Paying attention to the green management approach in production activities, the selection of raw materials and other resources used by considering the environmental factor, and the fact that the waste does not damage the environment will increase the growth performance of the enterprise. A correlation of 0.434 was found between the efficiency in green management factor and the growth performance. It was determined that post-production factors such as waste and packaging were positively correlated with the growth performance, even a little. A very low interaction of 0.146 was found between the financial dimension of green management and the growth performance. It can be said that the result was expected since the questions in this factor were inversely significant. Green management responsibilities in enterprises are not expected to have a high effect on growth due to their financial dimension.

A strong correlation was found between the global environmental issues factor and the growth performance (0.603). It is observed that sensitive approaches of enterprises to the issues that concern and affect the whole world, such as population growth, global warming, climate change, extinction of living species, depletion of natural resources and environmental pollution, positively affect growth performance.

There was a mutual and strong correlation between the innovation orientation factor and the growth performance (0.721). Being innovative and using innovation more effectively compared to competitors increase the growth performance. A correlation of 0.297 was observed between the factor of being contented with the existing innovations and the growth performance. Contrary to the innovation orientation factor, it was an expected result that there was a low correlation in the factor, which includes questions about not innovating and following innovations behind competitors.

**IX. Regression Analysis**

Regression analysis is an analysis used to measure the correlation between two or more variables. While the analysis in which only one variable is used is called univariate regression analysis, the analysis in which more than one variable is used is called multivariate regression analysis. Regression analysis is used to determine the presence of a correlation between the variables and to have information about the strength of the correlation if there is a correlation. The regression analysis performed within the scope of our study is presented in Table 6.

**Table 6. Regression Analysis I**

<b>Factor</b>	<b>β</b>	<b>t</b>	<b>P</b>
<b>Perception of Circular Economy</b>	.040	.634	.526
<b>Limits of Circular Economy</b>	-.031	-.634	.527
<b>Management Activities in the Green Management Approach</b>	.121	1.559	.120
<b>Financial Activities in the Green Management Approach</b>	.100	1.329	.185
<b>Production Activities in the Green Management Approach</b>	-.014	-.196	.844
<b>Efficiency in Green Management</b>	.086	2.123	.034
<b>Financial Dimension of Green Management</b>	-.106	-2.759	.006
<b>Global Environmental Issues</b>	-.001	-.018	.986
<b>Innovation Orientation</b>	.511	8.179	.000

<b>Being Contented with the Existing Innovations</b>	.103	2.887	.004
<b>R<sup>2</sup> = .553</b>	<b>F value= 50.757</b>		

A multiple regression model, in which the effects of the circular economy, green management, global environmental issues, and innovation on the growth performance of the enterprise were examined, was established. Each factor except for the growth performance was included as an independent variable in the study. Here, one of the remarkable points is that the circular economy issue was divided into two sub-factors (the perception of circular economy and the limits of the circular economy) in itself, while green management was divided into five sub-factors (management activities in the green management approach, financial activities in the green management approach, production activities in the green management approach, efficiency in green management and financial dimension of green management) in itself. Innovation was divided into two sub-factors (innovation orientation and being contented with the existing innovations), and the factor of global environmental issues was included as a single main factor. When the results of the regression analysis are examined, it is observed that there are four factors with an error rate of less than 0.050 shown as a p-value in Table 26. It was observed that efficiency in green management, the financial dimension of green management, innovation orientation and being contented with the existing innovations were the factors with a direct effect on the growth performance of the enterprise. The beta ( $\beta$ ) coefficient, which is normally taken as 0.150 and above, was taken as above 85 due to the high number of factors included in the analysis. It can be said that the innovation orientation factor was in a very effective position since both the P-value was found to be 0.000 and the t-value and beta value were high.

The coefficient of determination ( $R^2$ ), which is the percentage of explanation for the dependent variable, of the model created within the scope of the study was found to be 0.553. The factors affecting the growth performance explained 55.3% of the changes in the growth performance of the enterprise. This rate is quite high in terms of social sciences.

The mediating variable analysis model of Baron and Kenny (1986, 1176) was used while determining the mediating role of innovation orientation and its sub-dimensions among the independent variables in the study. The intermediate variable effects of innovation orientation on the growth performance were evaluated according to the method and analysis recommended by Baron and Kenny. The regression analysis, in which the factors of innovation orientation and being contented with the existing innovations that were used as intermediate variables in our research design were not included, is presented in Table 7.

**Table 7. Regression Analysis II**

<b>Factor</b>	<b><math>\beta</math></b>	<b>t</b>	<b>P</b>
<b>Perception of Circular Economy</b>	.122	1.774	.077
<b>Limits of Circular Economy</b>	- .048	- -.893	.373
<b>Management Activities in the Green Management Approach</b>	.313	3.851	.000
<b>Financial Activities in the Green Management Approach</b>	.236	2.953	.003
<b>Production Activities in the Green Management Approach</b>	- .090	- 1.204	.229
<b>Efficiency in Green Management</b>	.105	2.388	.017
<b>Financial Dimension of Green Management</b>	- .072	- 1.728	.085
<b>Global Environmental Issues</b>	.157	2.417	.016
<b>R<sup>2</sup> = .470</b>	<b>F Value=45.492</b>		

A multiple regression model, in which the effects of the circular economy, green management, and global environmental issues on the growth performance of the enterprise were examined, was established. When the regression analysis results were examined, it was observed that four factors had direct and positive effects. The first of them was the efficiency factor in green management, the effect of which was observed in Regression Analysis I. The factors of management activities in the green management approach, financial activities in the

green management approach, and global environmental issues were the three factors that were found to have direct effects when the intermediate variable innovation was excluded from the analysis, although it was not significant in the first analysis. It is clear that when innovation was not included in the analysis, the implementation of green management practices and the sensitivity of enterprises to global environmental issues positively affected the growth performance of the firm. The coefficient of determination, which is the percentage of explanation for the dependent variable, of the model in which the innovation factor was not included was found to be 0.470. The factors of management activities in the green management approach, financial activities in the green management approach, the financial dimension of green management, and global environmental issues explained 47% of changes in the growth performance of the firm. Finally, structural model validity was examined in the study. The analysis related to this study is presented in Table 8.

**Table 8. Indirect Effects**

	Indirect Effects	
PCE-> IO -> GP	0.079	
LCE-> IO -> GP	-0.031	
GEI-> IO -> GP	0.171	
MAGMA-> IO -> GP	0.156	
FAGMA-> IO -> GP	0.121	
PAGMA-> IO -> GP	-0.065	
EGM-> IO -> GP	0.025	
FDGM-> IO -> GP	0.020	
Model Fit Values	Actual Model	Estimated Model
SRMR	0.063	0.063
d_ ULS	11.790	11.790
d_ G	11.160	11.160
Chi-Square	17845.687	17845.687
NFI	0.630	0.630

(PCE: Perception of Circular Economy; LCE: Limits of Circular Economy; GEI: Global Environmental Issues; MAGMA: Management Activities in the Green Management Approach; FAGMA: Financial Activities in the Green Management Approach; PAGMA: Production Activities in the Green Management Approach; EGM: Efficiency in Green Management; FAGM: Financial Dimension of Green Management; IO: Innovation Orientation; GP: Growth Performance)

Based on two regression analyses, it can be said that innovation orientation had an intermediate variable effect. This comparison showed that innovation orientation very strongly affected the growth performance of the firm and overshadowed other factors. Considering that innovation has been the most talked about and most researched subject in the last century, it was an expected result to have such an effect. The importance and budgets allocated to R&D departments by business owners and managers and the positive effects of developing technological innovation have caused this concept to be known and welcomed positively by everyone. Furthermore, the fact that the factor of being contented with the existing innovations was found to have direct and negative effects indicates that the firms that do not produce original research and innovations but operate only by following the innovations in the market cannot grow.

**Table 9. Hypothesis Acceptance/Rejection Table**

Variables	Growth Performance	
	Hypothesis	Result
<b>Independent variable</b>		
Perception of Circular Economy	H <sub>1A</sub>	Not supported
Limits of Circular Economy	H <sub>1B</sub>	Not supported
Management Activities in the Green Management Approach	H <sub>2A</sub>	Partially Supported
Financial Activities in the Green Management Approach	H <sub>2B</sub>	Partially Supported
Production Activities in the Green Management Approach	H <sub>2C</sub>	Not supported
Efficiency in Green Management	H <sub>2D</sub>	Supported
Financial Dimension of Green Management	H <sub>2E</sub>	Supported
Global Environmental Issues	H <sub>3</sub>	Partially Supported
<b>Intermediate Variable</b>	<b>Hypothesis</b>	<b>Result</b>
Circular Economy -> Innovation ->Growth Performance	H <sub>4A</sub>	Partially Supported

Green Management -> Innovation ->Growth Performance	H <sub>4B</sub>	Partially Supported
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The acceptances and rejections of the hypotheses in the study are presented in Table 9. The hypotheses on the perception and limits of the circular economy and the production activities in the green management approach were not supported. In the studies, supported hypotheses, as well as unsupported hypotheses, contribute. The hypotheses of efficiency in green management and the financial dimension of green management were supported. Innovation orientation and being contented with the existing innovations, which were the dimensions of the intermediate variable, were partially supported and determined to have a partial moderating effect.

## X. CONCLUSION AND DISCUSSION

In the study, it is attempted to measure the effect of the circular economy, green management practices, and global environmental issues on the growth performance of the firm through innovation and the strength of this effect. The circular economy and green management are the concepts that emerged as a result of the understanding of reducing the footprint left by humanity to natural life. In the general sense, it requires a complete change of the production system and cooperation between firms, sectors, and countries. Especially when the operating principles of the circular economy are considered, the fact that a product or group of products that an enterprise qualifies as waste as a result of production provides resources for another enterprise both reduces the use of natural resources and stops waste generation.

Within the scope of the study, the perception of circular economy, the applicability of green management, and the sensitivity to global environmental issues in Turkey were evaluated through firm performance. In our country, there is a limited number of studies on the circular economy, which is a practice especially followed by the whole world. Although it seems difficult for enterprises to discuss social responsibilities and to improve their working principles in this direction with the difficulty in competition conditions in the current century, it provides preferability in the eyes of the consumer.

It is necessary to indicate that the hypotheses that are not correlated or have no significance, as well as significant correlations between the variables, make a considerable contribution to the world of science. In this study, no positive or negative effect of the circular economy on the growth performance of the firm was observed. Employees could not associate circular economy practices with the growth of the firm. There may be many different reasons for it. The first of them is related to the recognition of circular economy. The fact that the circular economy as a concept does not make sense for people in Turkey, the lack of knowledge about its content, and the failure to understand it sufficiently may have caused that this relationship could not be established. Currently, there is a limited number of academic studies on this subject. From this point of view, it is not accurate to expect that the recognition of circular economy would be high. The fact that it is very new as a concept for the whole world and a limited number of studies and applications on it lead to a problem in understanding the circular economy. Although the circular economy is not considered the most valid and powerful solution for natural life and future generations, it can be said that it has been adequately expressed, introduced, and its goals and possible consequences have not been expressed sufficiently. Furthermore, it may not be known that studies have been conducted within the framework of circular economy activities. Therefore, enterprises should also explain which idea the studies serve. The fact that no correlation was found between the growth performance of the firm and the limits of the circular economy factor supports the doubts about the recognition of the concept.

Another reason why the circular economy could not be associated positively or negatively with the growth performance of the firm may be that the concept was discussed only in terms of its benefit to the environment. It is observed that the circular economy is beneficial not only for the benefit of nature and future generations but also economically. Although it is frequently criticized due to its initial costs, it contributes to both the business economy and the national economy. Furthermore, the depletion of natural resources is a problem that concerns almost all sectors. It is not possible to talk about the continuation of a production system that has been interrupted in raw material supply and procurement. The fact that the economic aspect of the circular economy was not adequately explained may have led to the failure to associate it with the growth performance of the firm. Likewise, the fact that production activities in the green management approach were not found to be positively or negatively associated with the growth performance can also be explained in this context. It can be concluded that its contributions to the national economy and the creation of new employment areas are not known. Along with the academic studies on the circular economy, its recognition and benefits can be explained by using resources such as social media and the press that can reach more people. Both the presence of a system in which the damage we do to the environment we live in can be stopped and natural resources to be left to future generations can be protected and also its contributions to the development and social welfare should be clearly shared. The explanations to be made only on the environment will be incomplete when the scope of the concept of circular economy is considered.

It was observed that the management activities in the green management approach and the financial activities in the green management approach positively affected the growth performance of the enterprise. However, the strength of this effect remained limited. The dominant effect of innovation on growth performance overshadowed the effects of green management and made it appear ineffective. In other words, it was observed that green management did not have a significant effect as well as a dominant and valid factor, innovation. Here, it is observed that green management was little known as a concept. However, its effects were not as significant as innovation, and its effects on growth performance were underestimated compared to innovation.

The sensitivity of enterprises to global environmental issues was also overshadowed by the effect of innovation on the growth of the firm. It was observed that the positive effect of enterprises' sensitivity to issues such as global warming, environmental pollution, climate change, and increase in energy consumption on growth was limited. The reason for it may be that while it is difficult to notice the direct effect of these sensitivities on growth, the effect of other factors is more visible. The indirect effects of sensitivities on the growth performance also led to these results.

In our study in which the functions of green management had no or limited effect on growth, the financial dimension of green management was considered to have a direct and negative effect. It is clear that sustainability brings some financial responsibilities, which is especially necessary at the beginning for the transition to the green management approach. Despite the limited positive effect of green management, the negative effect of the financial burden caused by it is more visible. Here, it would be more correct to say that the financial burden of green management affects the growth performance negatively rather than directly affecting the growth performance of the firm. It may be misleading to just include this effect under the title of green management because innovation, which had the highest effect on growth in our study, also has a financial liability. However, its effect on growth performance was found to be very high.

Innovation, which we discussed as an intermediate variable in our research design, was the factor with the highest effect on the growth performance of enterprises by overshadowing other factors. It should be accepted that innovation has a very positive effect on both employees and society. Especially in today's economy, in which market conditions are becoming harder with each passing day and the dimension of competition is constantly increasing, keeping up with innovations does not make sense alone. Enterprises' need for innovation to maintain their presence in the market is very clearly known. The results and analyses within the scope of our study support this common belief. Innovation not only positively affects the growth performance of the enterprise but also constitutes the infrastructure of strong growth. It will not be possible to talk about growth performance for enterprises that can only follow innovations or are not open to innovations.

The importance that enterprises attach to innovation is an important factor that will positively affect their growth performance. Enterprises should attach importance to ensuring the change and adaptation required by innovation. Each innovation step has a goal in itself. For enterprises, this goal is usually determined as gaining more profit. The achievement of this goal of the innovation implemented should be followed. Each new product is expected to provide more revenue than the previous product. Innovation should not only be evaluated but should also serve to increase growth performance. Innovations, which are made only to be different and the return of which is not beneficial, cannot serve growth. The innovations developed should make a difference in the market and ensure that enterprises stand out amongst their competitors. A recommendation can be made to managers based on the results obtained from the study. It is known that growth is not only related to innovation but also related to being ready for innovation and adapting to new conditions. The habit of adapting to the different conditions provided by the innovation culture for enterprises and being open to innovations can be considered a good infrastructure for the circular economy and organizational culture for green management studies. Concerning the most important recommendations that can be given to academicians, studies on the effect of the circular economy on employee performance and organizational culture can be conducted. The concept of circular economy is still a subject that needs to be investigated and creating new resources. There is a need for studies on this concept.

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