

Strategic Entrepreneurial Orientation in Higher Education: A Comparative Analysis

Yükseköğretimde Stratejik Girişimcilik Yönelimi: Karşılaştırmalı Bir Analiz

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Özet

Girişimcilik bilincinin üniversitenin içerisinde yerleşmiş olması, girişimcilik faaliyetlerinin desteklenmesinin ve etkin kaynak yönetiminin sürdürülebilirliğinin sağlanması için önemli bir gerekliliktir. Yöneticilerin, akademisyenlerin ve idari personelin girişimcilik konusunu stratejik bir hedef olarak ele almaları sağlanmalıdır. Böylece üniversitelerde dördüncü kuşak üniversite modeli olan girişimci-yenilikçi araştırma üniversite modeline geçmek üzere girişimciliğinin teşvik ve desteklenmesinin ortam koşulları sağlanmış olacaktır. Dolayısıyla sorulması gereken soru, “Yükseköğretimde etkin kaynak yönetimi bağlamında stratejik girişimcilik yönelimi ne anlama gelmekte?” olmalıdır. Bunun için de “Etkin kaynak yönetimini ve üniversite koşullarını doğrudan etkileyen stratejik yaklaşımlar nelerdir?”, “Üniversite yönetimlerinden beklenen nelerdir?”, “Üniversite yönetimlerinin çabaları nasıl değerlendirilebilir?” gibi sorulara yanıt aramak önemlidir. Bu bağlamda, üniversite yönetimlerinin girişimciliği ne ölçüde içselleştirdiğini ve girişimcilik kültürünün akademik ve idari organizasyona, eğitim programlarına ve idari süreçlere ne kadar yerleştiğini ölçmek ve değerlendirmek için Koyuncuoğlu ve Tekin (2019) tarafından alternatif bir model geliştirilmiştir. Bu çalışma, yükseköğretimde stratejik girişimcilik yönelimi ile ilgili yapılan çalışmalarını gözden geçirmeyi ve girişimcilik yönelimi ile stratejik girişimcilik yöneliminin boyutları hakkında mevcut bilgileri ortaya çıkarmayı amaçlamıştır. Bu amaç doğrultusunda, Koyuncuoğlu ve Tekin (2019) tarafından geliştirilen stratejik girişimcilik yönelimi modeli tartışılmış, literatürdeki modeller karşılaştırılmış, araştırmacılara ve üniversitelere önerilerde bulunulmuştur.

Anahtar sözcükler: Etkin kaynak yönetimi, karşılaştırmalı analiz, stratejik girişimcilik yönelim modeli, yükseköğretim.

Changes and developments in the technological, economic, political and socio-cultural fields and the increases in the demands and needs of the society formed accordingly affect organizations deeply (Karakaya, 2004). Today's higher education institutions have important

Abstract

Internalizing entrepreneurial awareness at a university is important to ensure the sustainability of supporting entrepreneurial activities and effective resource management. Managers, academics and administrative staff should address entrepreneurship as a strategic goal so that the environmental conditions of entrepreneurship encouragement and support can be created to upgrade to the fourth generation university model, which is the entrepreneur-innovative research university model. Thus, the question should be “What will be the strategic entrepreneurial orientation in terms of effective resource management in higher education?” It is important to look for answers to questions, such as “What are the strategic approaches that directly affect effective resource management and university conditions?”, “What is expected from university administrations?”, and “How can the efforts of university administrations be evaluated?” An alternative model was developed by Koyuncuoğlu and Tekin (2019) to evaluate the extent to which university administrations internalize entrepreneurship and how much its entrepreneurial culture has been embraced in the academic and administrative organization, educational programs, and administrative processes. This study aims to review the studies on strategic entrepreneurial orientation in higher education and to reveal the existing knowledge about the dimensions of entrepreneurship and strategic entrepreneurial orientation. Therefore, the strategic entrepreneurial orientation model developed by Koyuncuoğlu and Tekin (2019) is discussed, the models in the literature are compared, and some suggestions are made for researchers and universities.

Keywords: Comparative analysis, effective resource management, higher education, strategic entrepreneurial orientation model.

problems in raising well-qualified individuals in an intense competitive environment in line with the expectations of the business and industry world. This has made it extremely important to manage, reorganize and sustain education, research and social contribution services, which are the three

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The basis for this study was a PhD dissertation titled “Evaluation of entrepreneurial and innovative universities in Turkey based on grounded theory and a model proposal” supervised by Prof. Dr. Mahmut Tekin in the Department of Business Administration of the Institute of Social Sciences of Selçuk University, Konya, Türkiye.

This study was presented as an oral presentation at the 3rd International Higher Education Studies Conference (IHEC 2018, 11–13 October 2018, Kayseri, Türkiye) organized by the Association for Higher Education Studies with the title “Strategic Entrepreneurial Orientation in the Context of Effective Resource Management in Higher Education.”

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main building blocks of universities, in a way that meets the expectations of the age. As such, determining the strategies and strategic orientation is important for higher education institutions.

The concept of Entrepreneurial-Innovative University was popularised by Clark in his study “Creating Entrepreneurial Universities: Organizational Pathways of Transformation” published in 1998. Clark (1998) created the scope of modern entrepreneurial universities by comparing university systems.

According to Clark (1998), entrepreneurial universities face a process of change. The five key elements that explain the entrepreneurial university paradigm are

- Leadership is strengthened and management capacity is increased,
- University periphery is developed by reaching out to organizations and groups outside the boundaries of the university,
- Diversified financing is realized by creating resources such as donations and contracts,
- Stimulated academic heartland is reinforced and transdisciplinary approaches are adopted, and
- Integrated entrepreneurial culture is created and corporate culture is formed across the university.

It is possible to examine the studies on the entrepreneurial-innovative university in two areas: theoretical and empirical. Theoretical studies have focused on the interaction of the universities with the external environment, structural changes in internal environmental conditions and entrepreneurial activities (Barnett, 2005; De Zilwa, 2005; Etzkowitz, 1998; Etzkowitz & Leydesdorff, 2000; Lukovics & Zuti, 2015; Odabaşı, 2006; Wissemma, 2014; Sarchami & Sarchami, 2010; Yokoyama, 2006).

Empirical studies on entrepreneurial-innovative university generally employ entrepreneurship and entrepreneur-innovative university theories, as well as approaches related to education, organizational environment, sustainability, industry cooperation, knowledge and technology transfer, and tendency. They have mostly used interviews as their method, but also applied other methods such as questionnaires, secondary data, observation, and case study. These studies generally focus on determining the level of awareness of universities, defining entrepreneurship types, determining managerial roles and entrepreneurial activities and their effectiveness, diversification of funding sources, and responses of universities to changes in their environment (Bernasconi, 2005; Brennan, Wall, & McGowan, 2005; Choy Er, Nawi, Yong Tee, Ibrahim, & Bachok, 2019; Clark, 1998; De Zilwa, 2005; Jacob, Lundqvist, & Hellsmark, 2003; Kirby, Urbano, & Guerrero, 2011; Klofsten & Jones-Evans (2000); Koyuncuoğlu & Tekin, 2019; Özdemir, 2016; Ranga, Debackere, & Von Tunzelmann, 2003;

Schmoch, 1999; Sporn, 2001; Tekin, Geçkil, Koyuncuoğlu, & Tekin, 2018; Tekin, Koyuncuoğlu, Geçkil, & Baş, 2019; Todorovic, McNaughton, & Guild, 2011).

It can be argued that there are a lot of international studies on the entrepreneurial-innovative university. On the other hand, there is limited research on the strategic entrepreneurial orientation of entrepreneurial-innovative universities.

Therefore, the aim of this study is to examine Koyuncuoğlu and Tekin’s (2019) study, titled “Strategic Entrepreneurial Orientation Model” in detail and compare with the existing models in the literature in Turkey, and contribute to the application of entrepreneurial-innovative research university in Turkey, which is in its infancy.

In this regard, strategy, strategic orientation and strategic entrepreneurial orientation in organizations will be explained in the first and second sections of the study. In the third section, the details of the strategic entrepreneurial orientation model in higher education and the empirical research related to the model developed by Koyuncuoğlu and Tekin (2019) will be presented. In the fourth section, a comparative analysis of current and models in the literature will be performed. The conclusion section includes suggestions for universities to be considered regarding entrepreneurship in management.

Strategy and Strategic Orientation Concepts

The concepts of strategy and strategic orientation have many definitions in the literature. Strategy literally means sending, directing, taking away and guiding. The word strategic is used in reference to the name of the ancient Greek General Strategos, and this is based on the general’s defense field knowledge and tactics (Acar, 2007). For this reason, the concept of strategy has been used in the military field for many years. Strategic orientation, on the other hand, refers to the methods and practices that will enable organizations to survive in a heavy competitive environment and to be more successful than other organizations by obtaining above-average returns.

Strategic Entrepreneurial Orientation in Organizations

In the strategic orientation of the strategic decisions that organizations develop to achieve success, determining the strategy content and strategy applications in detail is defined as the strategies that guide the organizations. Therefore, organizations determine their strategic orientation by analyzing their internal and external environment, taking into account their mission, vision, values, strategic planning and goals and strategy-based components (Gürel, 2012).

The strategic orientation within the strategic management of organizations has a versatile, comprehensive and complex structure related to the organization. Therefore, strategic orientation is considered as a key variable in organizational success, largely due to the jurisdiction of senior executives (Karakaya, Ay, & Gürel, 2013). For example, Ireland and Webb (2007) define strategic entrepreneurship as the balance between opportunity-seeking and advantage-seeking actions, constantly emphasizing innovative thinking. In this regard, if innovative thinking decreases or pauses in an organization, the strategic entrepreneurship balance will be interrupted, so the balance of seeking opportunity and turning it into a vital advantage for maintaining the idea will be interrupted and the organization will face an inertial model that relies only on existing presentations and exercises familiar organizational routines (Ireland & Webb, 2007). Since the scope of strategic entrepreneurship is quite broad in the literature, presenting a comparative analysis is expected to be helpful. Thus, in the following sections the strategic entrepreneurial model developed by Koyuncuoğlu and Tekin (2019) is introduced and it is compared with some of the strategic entrepreneurial models in the literature.

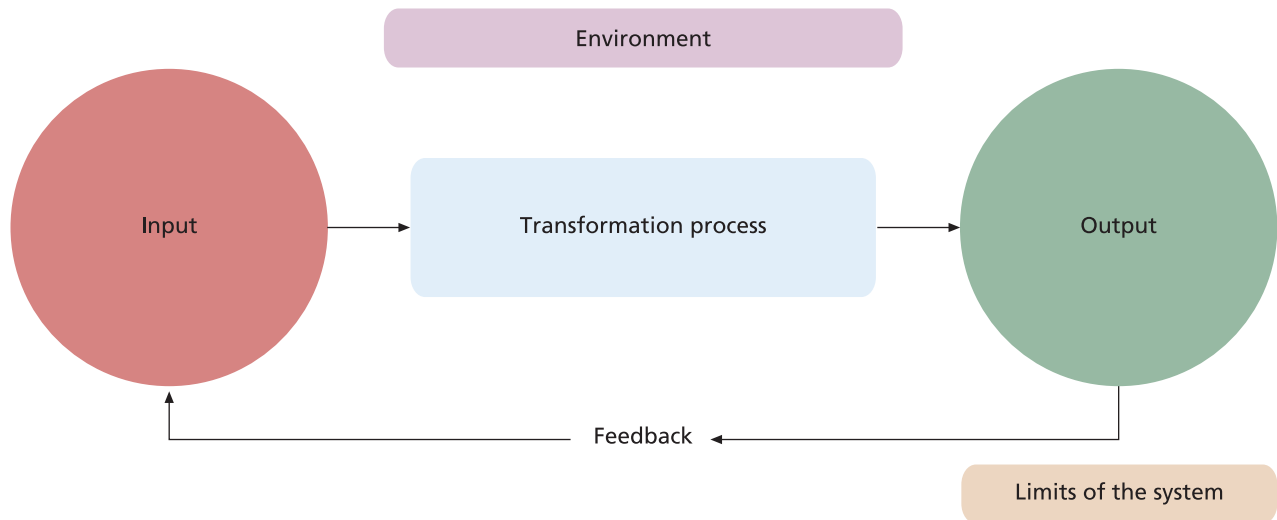
Strategic Entrepreneurial Orientation in Higher Education: An Alternative Model

Koyuncuoğlu and Tekin (2019) examined the framework conditions of entrepreneurial-innovative research universities. Researchers, without any reference model, interviewed 26 academicians, including faculty members and administrative man-

agers, in 15 universities from 7 regions in Turkey and put forward a theoretical model based on the data in line with the experts' opinion about their activities in entrepreneurship in these universities. In the model development process, the system approach was taken into account and the university was accepted as a system.

As seen in ■■ Figure 1, the process approach consists of environment, input, output and feedback. In addition, when the entrepreneurial-innovative university is accepted as a system, it is seen that this system has its limits. These boundaries can be seen as thin line separating the system's inner and outer environments. As shown with arrows in ■■ Figure 1, entrepreneurial and innovative universities have open systems and receive materials, information, energy, etc. from their external environment or other systems and process them and provide outputs to the environment or other systems in various forms of goods and services. In ■■ Figure 1, the system receives input from outside or other systems and transforms it by processing with its own input components. The transformed inputs are sent back to the environment or other systems as output in the form of goods or services. Although the open system is mentioned, it is possible to talk about the system itself, as seen in ■■ Figure 1, and thus the inner environment of the system. When the internal environment dimension of the process is stated, the physical and cultural conditions of the university are discussed in the scope of the research. The figure below visualizes the theoretical structure developed from a process-based perspective.

As seen in ■■ Figure 2, the process-based theoretical structure consists of three columns. The first column expresses the



■■ Figure 1. The process of entrepreneurial and innovative university (Source: Adapted from Tecim, 2004).



■ **Figure 2.** Theme categories of process-based entrepreneurial university model (Source: Koyuncuoğlu & Tekin, 2019).

environmental conditions of the structure. The second column consists of the input dimension. The third column is related to output.

Researchers conceptualized the environmental conditions of universities as “strategic entrepreneurial orientation”. With the Strategic Entrepreneurial Orientation theme, it is aimed to measure the extent to which universities have internalized entrepreneurship and how far they have settled in educational programs and administrative processes with their academic and administrative structure (■ Table 1). Entrepreneurial awareness is required to ensure the sustainability of supporting entrepreneurial activities. It must be ensured that managers, academics and administrative staff address entrepreneurship as a strategic goal so that entrepreneurship can be encouraged and supported in universities.

Koyuncuoğlu and Tekin (2019) listed 5 categories under the theme of strategic entrepreneurial orientation. These are (1) strategic entrepreneurial thinking, (2) strategic organizational structure, (3) strategic entrepreneurial culture, (4) development, and (5) audit and feedback.

Strategic Entrepreneurial Thinking

Altuntaş (2014) defines strategic entrepreneurial thinking as a process of thought and behavior that integrates the entrepreneurial and strategic ways of thinking and adds that the lack of it lowers the possibility of success of a business organization. While the entrepreneurial thinking is defined as a continuous and conscious effort to achieve growth or extraordinary profits and to create value by obtaining the high potential benefits of uncertainty by distinguishing the future business from today and seeing and taking advantage of the opportunity (Covin & Slevin, 2002; McGrath & MacMillan, 2000), strategic thinking is defined as a part of strategic planning processes to search for suitable and diverse strategies and business models to compete and create value (Abraham, 2005).

Koyuncuoğlu and Tekin (2019) define 3 sub-categories under the strategic entrepreneurial thinking category. These are (1) strategic planning and goal setting, (2) ownership, authority and responsibility assignment, and (3) vision, mission, strategies and policies (■ Table 1).

■ **Table 1.** Elements of the strategic entrepreneurial orientation model (Source: Koyuncuoğlu, 2018, p. 255).

Process	Research	Theme	Category	Sub-category
Environment	University environment conditions	Strategic entrepreneurial orientation	Strategic entrepreneurial thinking	<ul style="list-style-type: none"> • Strategic planning and target • High level assignment • Vision mission strategies and policies
			Strategic organizational structure	<ul style="list-style-type: none"> • Academic organization • Administrative organization
			Strategic entrepreneurial culture	<ul style="list-style-type: none"> • Entrepreneurial culture • Economic culture
			Development	<ul style="list-style-type: none"> • Place in the entrepreneurial index ranking of the previous year
			Audit and feedback	<ul style="list-style-type: none"> • Information system and tracking • Evaluation and feedback

Strategic Planning and Goal Setting

According to Gjerding, Scheunert, Cameron, Taylor and Wilderom (2005), suggest that strong mission statements and strategic planning should be considered as the dimension of the entrepreneurial university and it is necessary to prepare strategic documents that facilitate strategic decisions and reveal the objectives of the university clearly. Wissema (2014) emphasizes that strategic planning will serve as a good compass for top management to manage and direct entrepreneurial activities. In addition, Wissema suggests that including all stakeholders during the preparation, implementation and evaluation of strategic plans, activities and action plans will guide both the academic and administrative staff of the university and external stakeholders who want to cooperate with the university during the execution and evaluation of the plans.

If all stakeholders participate in the process of preparing strategic plans at universities, the strategic plan will be internalized and be possible to reach strategic goals. In this context, some resistance may be experienced at the university from time to time.

The two interviewees stated that strategic plans and goals for the entrepreneurial university were not sufficient alone, and it was important to declare the entrepreneurship in the strategic plan and goals to everyone within and outside the institution.

The strategic planning and goal setting sub-category is considered to be a set of information that includes information on how the university tackles the subject (in a narrow sense) strategically.

High Level Assignment

The other subcategory of the strategic entrepreneurial thinking category is called ownership, authority and responsibility assignment or high-level assignment. In the interviews, many participants emphasized that the work should have an owner and therefore an entrepreneurial activity should be carried out with a high level of authority and responsibility (Koyuncuoğlu, 2018).

Vision, Mission, Strategies and Policies

In the literature, there are many researchers who address the main factors affecting the entrepreneurship intentions of universities as “emphasizing entrepreneurship in vision and strategy, transferring strategies, policies and procedures” (Davies, 2001; Kirby, 2006; Pinchot, 1985). Pinchot (1985) and Kirby (2006) argue that entrepreneurship should be emphasized in rules, values and philosophy in disseminating culture. In addition, the importance of collaboration with industry in vision

and strategy is emphasized (Cleary, 2002; Crespo & Dridi, 2007). Some studies emphasize the need to define internal and external partners, networks and cooperation policies (Clark 1998, 2001; Grimaldi, Kenney, Siegel, & Wright, 2011; Klofsten & Jones-Evans, 2000). It is also stated that the way of establishing the entrepreneurial culture is through the management’s intention to put their intentions into action plans (Guerro-Cano, Urbano, & Kirby, 2006; Nelles & Vorley, 2009; O’Shea, Allen, Morse, O’Gorman, & Roche, 2007).

According to Ünal and Çatı (2016, p. 90), universities in Turkey have the intention to give emphasis on entrepreneurship and entrepreneurship education in their strategic statements rather than act like entrepreneurs. Nevertheless, a significant number of them have entrepreneurship centers, and many state that entrepreneurship-related support trainings such as lifelong learning and continuing education are provided.

The existence of technology transfer strategies in universities is interpreted as the management’s efforts but it does not give information about the actual activities performed. The aim is to find out whether the university’s strategies and policies are written down and performed. The importance of writing the developed strategies and performing the written ones is underlined (Koyuncuoğlu, 2018).

Strategic Organizational Structure

Koyuncuoğlu and Tekin (2019) defined the second category of the strategic entrepreneurial orientation theme as strategic organizational structure.

Universities should be able to perform academic and administrative restructuring to fulfill education, academic and commercialization practices effectively and efficiently. The traditional Humboldtian university model, which does not have such a structure, is criticized for not being entrepreneur due to its vertical structure (Dziechciarz, 2011). Entrepreneurial universities need a more flexible and transparent management structure as they engage in closer cooperation with society and the market. Therefore, universities, like companies, are expected to develop organizational strategies that adapt to change based on strong predictions for sustainable growth and development, by predicting what the future will bring to them.

Considering the strategic organizational structure in universities, academic and administrative organizational structures are two important components of entrepreneurship. Koyuncuoğlu and Tekin (2019) classify faculties, institutes and departments as the “academic organizational structure” while they classify units such as technopolis, entrepreneurship center, technology transfer offices and coordinators under the Rectorate as “administrative organizational structure”.



Academic Organizational Structure

Koyuncuoğlu and Tekin (2019) tried to define the academic organizational structure in line with the data they obtained from the interviews. The interviewees participating in the research stated that a department related to entrepreneurship was opened and all students could benefit from the elective courses offered in this department. One participant stated that entrepreneurship was not a major discipline of their own at universities and this affected the interest and importance given to this field negatively (Koyuncuoğlu, 2018).

Another point is that the presence of foreign academics in the academic staff of universities, especially in schools of foreign languages, engineering and medical faculties is an attraction for students. From the perspective of the institution, the presence of foreign academics is an important pillar of university entrepreneurship because foreign academics establish various connections and commercial collaborations with the country they come from (Koyuncuoğlu, 2018). Inclusion of international academics or academics who have completed their post-graduate education abroad is among the targets stated in the strategic documents of many EU universities in terms of cultural cooperation, education, research and commercial relations (Baş, 2015). It is observed that an increasing number of international academic staff are employed in state and foundation universities in Turkey.

Administrative Organizational Structure

The model developed by Koyuncuoğlu and Tekin (2019) points to a need for an administrative organizational structure and urges that the employees should have appropriate qualifications and culture in accordance with the entrepreneurial university paradigm of universities.

Strategic Entrepreneurial Culture

The third category of the strategic entrepreneurial orientation theme is defined as strategic entrepreneurial culture. Technological and social changes require a dynamic structure. It can be argued that universities, which do not have a settled and solid culture, are one step ahead in using the entrepreneurial culture, academic and administrative staff, and the excitement and desires of students. In addition, it is possible to establish entrepreneurial culture in an institutionally correct place and to transform it into a habit over time by determining the vision correctly and transferring it to all units within the university. While it is sufficient to focus only on certain units and keep this culture alive to define a university as an entrepreneur, its internalization by all units and members of the university is critical.

The experts interviewed stated that it is important for the entrepreneurial and innovative culture to be internalized, integrated by the management and become established in the system. Considering the environmental conditions of universities, it is possible to talk about many environments. However, considering the entrepreneurial and economic culture in the interviews, the characteristics of being an entrepreneurial university and the complexity of the subject, it is thought that it will be sufficient to determine sub-categories as entrepreneurial culture and economic culture. Economic culture can be seen as a function of entrepreneurial culture. However, in terms of the importance of the economic culture, it is concluded that it would be more appropriate to design it as a subcategory of the strategic entrepreneurial culture and to be positioned on the same platform with the entrepreneurial culture (Koyuncuoğlu, 2018).

The category called strategic entrepreneurial culture has two sub-categories. The first is the entrepreneurial culture, the second is the *economic culture*.

Entrepreneurial Culture

Organizational culture is the core value, belief, understanding, assumption and thought systems containing stories, beliefs, slogans and tales symbolically reflected to the employees that can affect business conduct formats, organizational and individual behaviours and that are accepted after sharing (Dess & Picken, 1999; Peters & Waterman, 1982). Schaper and Volery (2004) suggest that it is important to create a vision and strategy for entrepreneurship, develop a culture of innovation, give organizational support and reward in order for the organizational culture to have entrepreneurial characteristics. Altuntaş (2014) states that the organizations that perceive continuous change as an opportunity, show harmony and flexibility with the environment of the organization, are separated from the bureaucracy and separated into small units are important for entrepreneurial culture. An organizational culture which is prone to taking risks at an individual level, open to creativity and independent behaviour and where learning and innovation behaviors are encouraged through reward systems and tolerate failure is defined as an entrepreneurial culture by the author. It is also suggested that entrepreneurial culture consists of a “total” environment in the whole organization, not in certain areas or units of the organization (Koyuncuoğlu, 2018).

How a university’s entrepreneurship-related units are located on its campus is an important issue, which also applies to the official website of the university (Koyuncuoğlu & Tekin, 2019). Whether administrative units related to entrepreneurship and innovation should be located in one place can be questioned.

Considering the advances in digital communication tools, many people argue that location is no longer important. However, accessibility to all elements of the information within walking distance will make it easier, for example, for professors to be advisors to existing and new entrepreneurs or for a company or non-academic institution to recruit students temporarily or to assign them a task (Wissemma, 2014). One participant stated that the technopark and the transfer office were currently in separate locations and that the two units would be moved in a way to position them together in the near future (Koyuncuoğlu, 2018)

From the point of view of strategic entrepreneurship, it can be argued that whether there is a system based on reward and incentive system in the mechanisms of the institutions is based on a strategic decision.

Economic Culture

Economic culture is defined as the second sub-category of the culture category. Although economic culture can be classified as a function of entrepreneurial culture, the fact that this sub-category is an important indicator that can reveal the institution's view and attitude towards entrepreneurship puts this sub-category in a different position. What is meant here is to determine the proportion a university spends money in this field. If the entrepreneurship is a low-expenditure item it shows that the university gives little importance to it. When the economic culture is considered in terms of strategic entrepreneurship, the issue is directly related to strategic resource management.

In the literature, the source is defined as the tangible and intangible asset that an enterprise uses to select and implement its strategies by determining its strengths and weaknesses (Barney & Arikan, 2001; Hitt, Ireland, Camp, & Sexton, 2001; Wernerfelt, 1984). Accordingly, resources create a sustainable competitive advantage (Barney, 1991; Dierickx & Cool, 1989; Ireland, Hitt, & Sirmon, 2003). From this point of view, universities are expected to invest in entrepreneurial and innovative university practices to gain sustainable competitive advantage.

Altuntaş (2014) concluded that the strategic resource management dimension has a positive and strong correlation with strategic entrepreneurial way of thinking ($r=.606, p<0.01$), strategic entrepreneurial leadership strategy ($r=.581, p<0.01$), entrepreneurial culture ($r=.613, p<0.01$), innovation ($r=.868, p<0.01$) and organizational learning dimensions ($r=.667, p<0.01$), a moderately strong and positive correlation with distinguishing opportunities ($r=.482, p<0.01$) and growth ($r=.427, p<0.01$). These results show that the strategic resource management dimension of the university has a positive and strong correlation with the strategic entrepreneurial way of thinking, strategic entrepreneurial leadership, entrepreneurial culture,

innovation and organizational learning and a positive and moderately strong positive correlation with distinguishing opportunities and growth.

The results of the research clearly show that the expenditures can greatly affect university entrepreneurial activities.

Development

Universities aiming to improve their entrepreneurship have options such as increasing the volume of existing commercial products (patents, collaborations, start-ups etc.) or starting to develop new products. In order to follow these strategies, universities become entrepreneurs by definition, as they need to produce new products and services or to create new resources that produce the same products and services with different production methods (Schumpeter, 1934). In addition to an inter-university comparison when comparing the entrepreneurial profiles of universities, self-assessment provides information about the development. Related to this, a participant stated the following (Koyuncuoğlu, 2018, p. 151):

Considering the literature, the growth trend of companies in the strategic management is an element of the entrepreneurial form of management. It would not be wrong to say that this is also valid for universities in their entrepreneurial and innovative university performance. The practitioners who carry out the evaluation give more information about the development of the universities to the stakeholders of the relevant university. Therefore, monitoring the longitudinal development of the university with the "development" category put forward by Koyuncuoğlu and Tekin (2019) enables year-by-year comparisons of both inter-university and intra-university developments.

Audit and Feedback

Universities need objective, independent and reliable information to learn how things work at lower levels, whether there are issues requiring improvement or correction, what possible risks they face, whether the goals set are achieved or not. Therefore, universities should follow the strategies and goals they set and evaluate them with feedback. Has the expected result been achieved with the strategies applied? If not, this reason should be investigated by analysis (Hatiboğlu, 1986). There is a need for information to be provided from the lower levels to do this.

Many universities adopt a strategic management approach to negotiate goals and implement audit activities (Wissemma, 2014). In this case, boards of directors prepare strategic plans that contain goals for themselves and their components. The plans, which have to be in harmony with other components, become a management contract between the board of directors



and the unit managers after negotiating with the managers of the centers, faculties and administrative departments.

According to Wissema (2014), universities' boards of directors state that audits should be done in three ways: (1) Strategic control: the university's board of directors organizes meetings with relevant managers several times a year to monitor progress in their strategic plans. (2) Financial audit: the board of directors or its representative holds regular meetings on the financial development of the units. (3) Professional audit: the university's executive board regularly monitors the quality of research, education and commercial activities at the university.

A study by Harisson and others (1995) revealed that more donations were made through strong communication with graduates and through activities organized with graduates. In addition, following up the graduates and keeping in touch with them by creating a database of the business lines and positions the graduates are working in is viewed as a strategic tool.

In light of the audit and feedback category, the answers for the following questions were sought: Does the university have a computer-based information system? Is there a follow-up of services in the field of entrepreneurship? Is there a database of sstudents and alumni? Are students followed up for 5 years after graduation? Are satisfaction and suggestion surveys administered to students, academics and office workers in the field of

entrepreneurship? Are assessments based on collected data reported to the management?

Comparative Analysis of Strategic Entrepreneurial Models

The strategic entrepreneurial orientation model developed by Koyuncuoğlu and Tekin (2019) is in the form of comparison with other theoretical structures and features in the literature. The subcomponents of the theoretical structure proposed with all the strategic entrepreneurial models examined are summarized in the table below.

As seen in ■ Table 2, there are many theoretical structures related to strategic entrepreneurship. The model developed by Koyuncuoğlu and Tekin (2019) seems to overlap in terms of strategic entrepreneurial thinking, strategic organizational structure, strategic entrepreneurial culture, institutional development, and audit and feedback with the existing models related to strategic entrepreneurship in the literature. ■ Table 3 below compares the strategic entrepreneurial orientation model with the entrepreneurial management style model developed by Stevenson and Gumpert (1985).

Regarding ■ Table 3, the concept of entrepreneurial management style is based on Stevenson (1983), who defines organizations as a set of opportunity-based management activ-

■ **Table 2.** Comparative analysis of strategic entrepreneurship theoretical structures (Source: Altuntaş, 2014, p. 114–115).

No.	Theoretical structure	Recommended dimensions
1	Eisenhard, Brown, & Neck (2000)	Patching, improvising, time setting, experimenting, renovation, coadaptation
2	Hitt et al. (2001)	Internationalization, organizational learning, network and collaborations, resources, innovation
3	Ireland et al. (2001)	Growth, innovation, organizational learning, network and collaborations, internationalization, senior management teams and corporate governance
4	Ireland, Hitt, & Sirmon (2003)	Entrepreneurial culture and entrepreneurial leadership, entrepreneurial thinking style, competitive advantage, strategic management, creating value, applying creativity and developing innovation
5	Lassen (2007)	Entrepreneurial leadership, competitive advantage, entrepreneurial thinking style, entrepreneurial culture, creating value, strategic management of resources
6	Ireland & Webb (2007)	Organizational culture, organizational structure, continuous innovation, deviations in organizational actions
7	Ketchen, Ireland, & Snow (2007)	Seeking opportunity and advantage, balancing behavior, collaborative innovation, managerial thinking style
8	Luke (2009)	Growth, flexibility, innovation, distinguishing opportunities, vision, acceptance of risk
9	Altuntaş (2010)	Entrepreneurial culture, strategic innovation, strategic entrepreneurial thinking style, organizational learning, strategic entrepreneurial leadership, value, strategic resource management, distinguishing opportunities, growth
10	Kyrgidou & Hughes (2010)	Entrepreneurial thinking style, dynamic talent renewal, entrepreneurial culture, entrepreneurial leadership, vision of the internal environment and senior management, creativity and innovation development, competitive advantage, exploratory and practical learning, strategic management of resources
11	Koyuncuoğlu & Tekin (2019)	Strategic entrepreneurial thinking, strategic organizational structure, strategic entrepreneurial culture, institutional development, audit and feedback

ities that help organizations survive and create organizational and social value. Stevenson and Gumpert (1985) conceptualize entrepreneurship as a form of management accompanied by a number of propositions such as tracking and evaluating opportunities, taking risks, associating resources with opportunities and focusing on employees for this purpose. When these two models are compared, associations can be made between strategic orientation and strategic entrepreneurship thinking; the managerial structure and strategic organizational structure; the entrepreneurial culture and strategic entrepreneurial culture; the growth orientation and institutional development; the resource orientation and strategic entrepreneurial thinking, and between the reward system and economic culture.

As seen in ■ Table 3, the strategic entrepreneurial orientation model seems to overlap largely with the dimensions of the entrepreneurial management style developed by Stevenson and Gumpert (1985). The resource orientation rewarding system is designed under the economic culture, which is a sub-category of the strategic entrepreneurial culture of the theoretical structure put forward.

Another model in the literature is Wissema's "Triple Six Model". This model, proposed as a tool, is based on the observation that the university has three categories of factors that characterize its progress towards becoming a third generation university (Wissema, 2014). The first factor of the model is intrinsic quality factors of the university. According to Wissema, the values, attitudes, and assets that are formed as a basis for the university can be evaluated as quality factors that

■ **Table 3.** Entrepreneurial management and comparison of dimensions (Source: Koyuncuoğlu, 2018, p. 154).

Entrepreneurial management style (Stevenson & Gumpert, 1985)	Strategic entrepreneurial orientation style regarding the theoretical structure developed
Strategic orientation	Strategic entrepreneurial thinking
Managerial structure	Strategic organizational structure
Entrepreneurial culture	Strategic entrepreneurial culture
Growth orientation	Development
Resource orientation	Audit and feedback
Reward system	

concern the intrinsic values of the university. These factors are difficult to change. The second factor includes turning information into commercial activity and specific tools for technopioneers. It is possible to change this factor since its categories are a bit more flexible. Finally, the quality of internal communications of universities and their ties with outsiders largely determine its effectiveness.

The strategic entrepreneurial orientation model of Koyuncuoğlu and Tekin (2019) corresponds to the first factor of Wissema's triple six model. Wissema (2014) lists intrinsic quality factors as follows: (1) Vision, mission and philosophy, (2) organization and financial structure and culture, (3) attitude and quality of the student community, (4) attitude, quality and promotion system of academic staff (5) availability of land and buildings, and (6) availability of the innovation fund (■ Table 4).

■ **Table 4.** Comparative analysis of strategic entrepreneurial orientation and triple six model (Adapted from Koyuncuoğlu, 2018, p. 208).

Triple six model intrinsic quality factors	Strategic entrepreneurial orientation factors
(1) Vision, mission and philosophy	Strategic entrepreneurial thinking
(2) Organizational and financial structure and culture	• Strategic planning and target
(3) Attitudes, quality student population and selection tools	• High level assignment
(4) Attitude, quality and promotion system of academic staff	• Vision, mission, strategies and policies
(5) Availability of land and buildings	Strategic organizational structure
(6) Availability of the innovation fund	• Academic organization
	• Administrative organization
	Strategic entrepreneurial culture
	• Entrepreneurial culture
	• Economic culture
	Institutional development
	• Age of the institution
	• Index score development of the previous year
	Audit and feedback
	• Information system and follow-up
	• Evaluation and feedback



The intrinsic quality factors in the triple six model (Wissema, 2014) are similar to the strategic entrepreneurial orientation dimensions based on Koyuncuoğlu and Tekin's (2019) entrepreneurial university model. However, subcategories are not mentioned in Wissema's explanations, which limit the evaluation of the model.

When these two models are compared, associations can be made between (1) vision, mission, philosophy and strategic entrepreneurial thinking, (2) organizational, financial structure and culture and strategic organizational structure and economic culture, (3) attitude and quality of the student population and the strategic entrepreneurial culture, (4) attitude, quality and promotion system of academic staff and strategic entrepreneurial culture, (5) availability of land and buildings and strategic entrepreneurial thinking, (6) availability of innovation fund and economic culture. As can be seen, both models are similar in terms of their scope. The Strategic entrepreneurial orientation model differs from the triple six model in that it is based on a data and process oriented system-based theoretical model, and thus the model categories are developed with a systematic classification.

Conclusion and Suggestions

Especially in Turkey, universities are expected to serve as education and research centers that produce solutions to social problems as well as making socio-economic contributions to their region. Universities need guidance to do these. Therefore, besides having a guide in the form of an information set in front of them, it will be helpful to create opportunities for asking questions to meet the expectations of the society.

The environmental conditions of higher education institutions are important for both enabling institutional entrepreneurship and training of entrepreneurs. These environmental conditions are determined by the administrations of higher education institutions. There is no structure that measures or evaluates the awareness or attitudes of higher education institutions about entrepreneurship and the extent to which they internalize the subject in Turkey. Koyuncuoğlu and Tekin (2019) have created a data-based theoretical structure based on the interviews held throughout Turkey. The model developed aims to create a theoretical ground to measure the internal environment of universities, in other words, the awareness and internalization levels of the administrations.

The *strategic entrepreneurial orientation model* developed by Koyuncuoğlu and Tekin (2019) reflects the environmental conditions of the university and consists of 5 categories. These are (1) strategic entrepreneurial thinking, (2) strategic organi-

zational structure, (3) strategic entrepreneurial culture, (4) development, and (5) audit and feedback.

- The category of *strategic entrepreneurial thinking* aims to see whether entrepreneurship is among the strategic planning and objectives of the university, and whether the subject is assigned a high level of authority and responsibility.
- With the *strategic organizational structure* category, the academic and administrative organization of the university is reviewed. In an academic organization, the relations with entrepreneurship courses are examined in faculties and departments. For example, it is envisaged to examine the factors such as whether there is a faculty of entrepreneurship, a department or podium related to entrepreneurship, an entrepreneurship program depending in the rectorate, courses in faculties or departments or not, and the ratio of foreign academics. In the administrative organization, the presence of technopolis (Science Park, technopark, cyberpark etc.), technology transfer office and incubation centers are examined.
- With the category of *strategic entrepreneurial culture*, the entrepreneurial and economic culture of the university are examined in a narrow sense. While measuring the entrepreneurial culture of the university, it would be appropriate to look at the ratio of the faculties that recognize entrepreneurship courses. It also looks at how entrepreneurship is positioned on the campus and on the website. It would be appropriate to look at the existence of incentives, support mechanisms, and spending in the field of entrepreneurship in the economic culture.
- With the *development* category, the development of the university since the past is examined. In this way, the university has the opportunity to evaluate its own performance over time. In this respect, it would be appropriate to base the index scores of universities in previous years.
- With the *audit and feedback* category, whether the reports are shared with the senior management along with the audit of the targets and activities determined in the planning are examined.

In this study, the *strategic entrepreneurial orientation model*, which can be used to determine the environment conditions of universities, in other words, the awareness, attitude and internalization levels of university administrations were analyzed comparatively with the strategic entrepreneurial models included in the literature, the entrepreneurial management style model, and the triple six model. The strategic entrepreneurial orientation model put forward on the basis of empirical research is consistent with the literature.

It could be argued that university administrations have a significant effect on the transformation of universities into community-interactive entrepreneurial universities. Thus, it is important that the management units design their processes in their universities embedded in their strategies of entrepreneurship, and integrate the idea of “Entrepreneurial University” into every part of the system to meet the expectations. The developed model is a guide for university administrations and the indicators developed can be considered as performance criteria for universities (Koyuncuoğlu & Tekin, 2019).

The research findings of Koyuncuoğlu and Tekin (2019) show that it is important to connect the entrepreneurship issue to the senior management in universities. While evaluation institutions are evaluating the entrepreneurship profiles of universities, it should be remembered that the level of senior managers is scored. For example, if the owner of the work undertaking and following the works is a unit manager, it will be 1 point, if it is the Vice-Rector, 2 points, if the owner is the Rector himself, this will be evaluated as 3 points in the calculation of the index. In addition, it can be argued that it will be beneficial to transfer the authority and responsibility to an executive who is experienced in entrepreneurship and who can actively carry out the execution of the university’s entrepreneurship activities effectively and efficiently. As part of in-service training, benefiting from external consultancy services on university entrepreneurship with the legal representative team of the university is a sign of strategic entrepreneurial thinking in the university.

Universities should develop and put in place strategies and policies that will ensure that the entrepreneurship issue is established and internalized in its institution with its central or decentralized form of management. Technology transfer strategy, industrial and intellectual rights policy, R&D innovation policy, among others, can be given as examples. In addition, entrepreneurship should be among the strategic goals of the university. As a result, an important message will be given inside and outside the institution. In addition, entrepreneurial thinking will become the subject of all units and the ground will be paved for the expansion of entrepreneurial culture.

Some rector-led entrepreneurship departments have recently been opened in two private universities and one state university in Turkey. In addition, some entrepreneurial programs have been established within a department in some universities. Therefore, it is predicted that entrepreneurship departments can be expected to become widespread at universities in Turkey and the demand for faculty members experienced in this field can be predicted to increase. When it comes

to academic organization in entrepreneurship, there are academic organization options consisting of entrepreneurship department courses, faculty-based common courses, entrepreneurship department under the rectorate, entrepreneurship department, and entrepreneurship faculty. Depending on the entrepreneurial culture and development levels of universities, moving to a higher academic organization level should be aimed. In addition, international academics should be employed to ensure internationalization. Foreign faculty members who are in contact with institutions, organizations and individuals in their countries of origin and other countries are expected to collaborate. It should be considered that foreign academics can contribute to the production of new information in their universities thanks to these international collaborations. Thus, university administrations should not hesitate to employ foreign academics. When it comes to administrative organization, there are structures such as technopolises, Science Parks, technoparks, cyberparks, innoparks, technology transfer offices, incubation centers, entrepreneurship centers, or coordinatorships. While some universities have their own technopolis and other types of centers, some universities have partnerships in the centers as part of cooperation with their stakeholders. Thus, university administrations should make strategic decisions about transitioning to a specific form of administrative organization as much as possible in the field of entrepreneurship to maintain and develop entrepreneurial activities, and efforts should be made for universities to create fields for academics and students engaged in this field.

Entrepreneurial culture and economic culture indicators are included in the strategic entrepreneurial culture category. For example, the number of faculties that recognize entrepreneurship courses and the positioning of administrative organizations on university campus and official websites show the university’s entrepreneurial culture in a narrow sense. Hence, the administrative organizations in the entrepreneurship field should be located close to each other and be easily accessible on the university campus. An appropriate positioning style should be decided by highlighting entrepreneurship activities on the official websites of universities. In addition, the target audience should be informed about the activities and opportunities related to the subject. The economic culture, which is another element of the strategic entrepreneurial culture, includes the expenditure item that the university makes both in proportion and amount in the field of entrepreneurship, as well as the budget expenditure items devoted to support and incentive systems. These indicators give information about the university’s level of orientation towards this issue. For this reason, univer-



sity administrations should allocate the necessary budget for this area and should not hesitate to use resources for entrepreneurial activities and projects.

The audit and feedback category includes the presence of the information system, the level of follow-up, evaluation, and feedback. These indicators are expected to answer the question of the university's feedback on the activities and outputs carried out and the extent to which the university administration has been fed back. Universities should develop information systems to keep and evaluate the relevant data for both self-evaluations and index studies. The information should be archived simultaneously, evaluated at regular intervals and submitted to the administration of the university by the relevant unit managers. The university administration should make its decisions in line with this information. Universities should establish the necessary mechanisms for data collection within the institution.

Quality assurance systems are used as traditional academic self-regulation is not sufficient. It can also be argued that using quality systems alone will not be sufficient. Quality assurance systems, some of which may naturally include bureaucratic elements, need to be internalized in higher education institutions to ensure their effectiveness and sustainability. To further develop the culture of quality in higher education, empirical analyses need to be conducted, useful practices and methodologies should be adopted, quality improvement should be encouraged and integrated into the holistic context of the organizational culture.

In future studies, a pilot study can be conducted to investigate the applicability of universities' strategic entrepreneurial orientation model with the implementing institutions. Research can be conducted on the effect of strategic entrepreneurial orientation on the entrepreneurial performance of universities. Studies can also be conducted on the effects of universities' strategic entrepreneurial orientation on society. The researchers who intend to conduct research on entrepreneurial and innovative universities are recommended to use multiple methods and consider different dimensions.

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