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The Role of Organisational Structure in the Effect of Holacracy Adoption Level on Resistance to Change and Innovative Behaviour Tendency in Türkiye Higher Education System

Türkiye Yükseköğretim Sisteminde Holakrasiyi Benimseme Düzeyinin Değişime Direnç ve İnovatif Davranış Eğilimi Üzerindeki Etkisinde Örgütsel Yapının Rolü

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Abstract

This study aims to analyse the role of organizational structure in the effect of the level of adoption of holacracy on resistance to change and innovative behaviour tendency of academic staff in universities in Türkiye. The population of the study consists of academic staff working in universities in Türkiye. The data collection process was completed with volunteer academic staff without sample selection. In this direction, after obtaining the ethics committee's permission for the research, the online questionnaire form was sent to the academic staff via e-mail, and 506 academic staff were reached. Structural equation modelling and mediation effect analysis were performed. According to the findings, it was concluded that organizational structure has a significant mediating effect on the effect of holacracy adoption level on innovative behaviour. Accordingly, as universities develop processes and practices to increase the perceptions of academic staff towards the organisational structure, they will also increase the effect of the level of adoption of holacracy on innovative behaviour. In addition, it was determined that the organisational structure did not have a mediating role in the effect of the level of adoption of holacracy on resistance to change.

Keywords: Level of Adoption of Holacracy, Resistance to Change, Innovative Work Behaviour, Organisational Structure, Higher Education System

Özet

Bu çalışmanın amacı, Türkiye'deki üniversitelerde çalışan akademik personelin holakrasiyi benimseme düzeyinin değişime direnç ve yenilikçi davranış eğilimi üzerindeki etkisinde örgütsel yapının rolünü analiz etmektir. Çalışmanın evrenini Türkiye'deki üniversitelerde çalışan akademik personel oluşturmaktadır. Veri toplama süreci, örneklem seçimi yapılmadan gönüllü akademik personel ile tamamlanmıştır. Bu doğrultuda, araştırma için etik kurul izni alındıktan sonra çevrimiçi anket formu akademik personele e-posta yoluyla gönderilmiş ve 506 akademik personele ulaşılmıştır. Çalışmada yapısal eşitlik modellemesi ve aracılık etki analizi yapılmıştır. Bulgulara göre, örgütsel yapının holakrasiyi benimseme düzeyinin yenilikçi davranış üzerindeki etkisinde anlamlı bir aracılık etkisine sahip olduğu sonucuna varılmıştır. Buna göre, üniversiteler akademik personelin örgütsel yapıya yönelik algılarını artırmaya yönelik süreç ve uygulamalar geliştirdikçe, holakrasiyi benimseme düzeyinin yenilikçi davranış üzerindeki etkisini de artıracaklardır. Ayrıca, örgütsel yapının holakrasiyi benimseme düzeyinin değişime direnç üzerindeki etkisinde aracılık rolü olmadığı belirlenmiştir.

Anahtar Kelimeler: Holakrasi Benimseme Düzeyi, Değişime Direnç, Yenilikçi Çalışma Davranışı, Örgütsel Yapı, Yükseköğretim Sistemi

In today's rapidly evolving business environment, the flexibility and innovation capabilities of organizations have become increasingly critical (Boer & Gertsen, 2003; Dedahanov et al., 2017; Kor, 2016; Kor et al., 2021). In competitive, turbulent, and complex environments, organisations that can operate successfully are those that strengthen their performance in key organisational capabilities such as innovation and flexibility (Amiri et al., 2017; Farsijani & Samie Nistani, 2010). However, for many managers navigating these turbulent environments, organizational structure and design are emerging as critical strategic variables (Daft & Lewin, 1993). In the current situation, managers see the new organisational structure as the solution to many problems. This is because new organisational structures, on the one hand, enable the acquisition of new resources for

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sustainable competitive advantage and, on the other hand, enable more effective management of these resources. However, very few organisations have succeeded in finding the organisational structure that ensures competitiveness, success, and effectiveness (Andersen & Jonsson, 2006). Organisations need to change continuously if they are to adopt new organisational structures and remain competitive in a turbulent environment. However, there is always resistance to change by employees in organisations in general. To develop methods that can be used to overcome resistance to change in organisations, the process of planning and implementing change in organisations should be carried out in a way that reduces employee resistance to change (Mohamed & Demirel, 2022). Therefore, it is understood that organisations need flexible and adaptable structures to be successful. At this point, Kezar and Holcombe (2017) emphasise that the challenges related to leadership in contemporary higher education institutions require new leadership styles. In support of this perspective, Spillane (2006) and Vuori (2019) argue that the concept of leadership should evolve into distributed leadership rather than being centred on an individual or a set of individuals. In this context, it is argued that self-managed teams are the most appropriate approach for organisations (Magpili & Pazos, 2018). One of the flexible structures in which individuals participate effectively in management is holacracy.

Holacracy is a flexible, decentralised decision-making and management model that has been introduced to replace traditional hierarchical structures. This management model is characterised by devolution of decision-making authority to lower levels and greater autonomy of functional teams. In the literature, various factors such as job characteristics, organisational climate and culture, relationships with superiors, individual differences and social/group contexts have been examined as determinants of innovative behaviour (Dedahanov et al., 2017; Pierce & Delbecq, 1977). If formal tasks between members in the organisation are created as channels of interdependence, the interactions between them may not take place effectively. Managers should therefore focus on individual employee autonomy in the innovative and creative performance of employees (Ding et al., 2024).

Complex and dynamic organisations such as higher education institutions must be innovative and open to change to adapt and achieve sustainable success in an ever-changing environment of uncertainty. In this context, it is critical for organisations to manage change management and innovation processes effectively and to review their organisational structures according to changing conditions.

The higher education system in Türkiye includes various institutions such as public universities, foundation universities, and vocational colleges affiliated to foundations. These institutions are governed by complex structures in which various teaching and research activities are carried out. The organisational structure in higher education is generally hierarchical, but in recent years more flexible and participatory structures have been adopted. Therefore, the level of holacracy adoption is considered an important variable to understand the change in the organisational structures of higher education institutions and the effects of this change on resistance to change and innovative behaviour in organisations.

This study first assesses the level of adoption of holacracy in higher education institutions in Türkiye and then focuses on the changes in the organisational structure. In this study, a model is proposed to analyze the effects of holacracy adoption level on resistance to change and innovative behaviour tendency, and this effect is examined in the context of the role of organizational structure.

Purpose and Importance of the Research

Among all levels of education, higher education plays a crucial role in developing the skilled workforce required by nations, generating knowledge, and serving society, irrespective of gender discrimination (Erdem, 2015; Karasaç & Sağın, 2019). However, in recent years, it has been observed that universities, in addition to being institutions serving the nation-state, have assumed a new role as multiversity or entrepreneurial universities, innovation, technology transfer and economic contribution as a third function to serve in line with national interests in the global market. Recently, it has been emphasised that since higher education is a semi-public service, it should be financed partly by public resources and partly by students and employers, and that quality control and competition in higher education are inevitable. Furthermore, it is stated that this situation is also recognised by developed countries and appropriate structures have started to be established (Gürüz, 2003). However, it will be possible for universities to respond to social expectations at the desired level by making some changes in their organisational structure and functioning (Michavila & Martinez, 2018).

Higher education in Türkiye attained a modern university form in 1933 with Law No. 2252 called "University Reform", and the European model was taken as a basis in management and education and training processes. Higher education institutions in Türkiye are organised under the umbrella of the Council of Higher Education within the framework of Law No. 2547. The Council of Higher Education is responsible for the planning and co-ordination of higher education institutions and the management of the higher education system in accordance with the law and the constitution (Karasaç & Sağın, 2019). While there were 27 higher education institutions in Türkiye in 1982, today there are 209 higher education institutions. However, it is often argued that this quantitative increase in higher education over the years has turned universities into bureaucratic institutions (Çengel, 2011; Yılmaz & Cömert, 2011). Therefore, it is considered

that it is important for higher education institutions to have a more flexible structure to meet the requirements of the age and that some changes and transformations in the organisational structure are necessary for this.

Recently, the trend in higher education has been towards corporate-style governance (McDaniel, 2017; Taylor, 2017), which increases the governance gap between faculty and academic administrators, and the leaders in this model are only those with specific executive titles (Rodela & Bertrand, 2018). The literature frequently highlights that holacracy emerged to address the flexibility needs of organizations in the rapidly changing business environment of the 21st century (Aypay, 2001; Baransel Çınar & Tanrıöğen, 2022; Erol & Ordu, 2018; Gümüş & Gülmez, 2020; Karataş Acer, 2015). Organisational structure is very effective for higher education in general and universities in particular to survive and continue their existence. For this reason, it is considered that research on organisational structure have increased more recently.

In addition, innovation, which can be considered very important for every stage of the education system, has a special importance for higher education. Increasing supply and demand for higher education, funding shortages and globalisation force higher education institutions to be more innovative (Brennan et al., 2014, p. 4). In this study, the role of organisational structure in the effect of holacracy adoption level on innovation behaviour and resistance to change in Turkish universities was determined. It is considered that this study will contribute to understanding the organisational transformation processes of higher education institutions, which are structures that contribute to economic growth with both the research they conduct and the qualified individuals they train, and to develop strategic recommendations with the aim of promoting resistance to change and innovation. Furthermore, it aims to make significant contributions to increasing the competitiveness of higher education institutions.

Literature and Hypotheses

Organisation structure

Organisational structure means the division of labour and distribution of authority in the organisation. Robbins (1990) defines organisational structure using a taxonomy of three elements: specialisation (complexity), formalisation and centralisation/decentralisation. Within each of these elements, varying degrees of the basic dimensions of division of labour and delegation of authority are noted (Andersen & Jonsson, 2006). Lee and Grover (2000) define organisational structure with four important elements: concentration, formality, complexity, and cohesion. According to Chen and Huang (2007), organisational structure is categorised in three dimensions: formality, concentration, and cohesion. The degree of complexity, formalisation and centralisation/decentralisation varies across organisations. However, these dimensions are present in all organisations. Our study focuses on 4 dimensions: complexity, centralisation, formalisation and stratification.

Current studies reveal that organisations with a hierarchical structure have low levels of corporate performance. This is largely attributed to the fact that the decision-making mechanisms of hierarchical organisations restrict the diffusion of useful innovations by restricting communication and decision-making processes (Willa et al., 2019). Organisational structure is an important factor that explains how employees play their roles within the organisation. Depending on the nature of the structure, responsibilities are distributed and grouped in each department or unit and the focus is on success in line with the objectives of the organisation. Thus, organisational structure is an element that will directly affect the performance of employees. Organisational structure indirectly has a significant and positive effect on innovation performance (Amiri et al., 2017). Furthermore, as it is linked to learning and innovation, it is stated to have a strategic relationship with employee performance (Putra et al., 2022).

Holacracy

In the literature, it is frequently stated that holacracy emerged to meet the flexibility needs of organisations in the changing world of the 21st century and to adapt to the business environment (Yew, 2020). As holacracy encourages rapid change with a flexible organisational structure based on self-management, transparent rules, autonomous teams, and rapid change, in contrast to the hierarchical structure in traditional management (Turpçu, 2022).

Today, there is a growing interest in holacracy (Van de Kamp, 2014) and organisations of different sizes and types are making the transition to holacracy. In this context, the current experiences of organisations such as Zappos, Mercedes-Benz.io, Morning Star, and Business School Lausanne, which have reported that they have made the transition to holacracy, are published (Ackermann et al., 2021; Bernstein et al. 2016; Gino et al., 2013). As a matter of fact, holacracy offers more autonomy, empowerment, cooperation and meaning to employees as well as more flexibility, adaptability, and innovation to organisations (Gupta & Kesari Jena, 2023).

In addition, holacracy benefits the organisation by saving costs, promoting innovation, fairness, and harmony among employees, and increasing stakeholder satisfaction. In this framework, it can be considered that the holacratic structure can positively affect the efficiency of the organisation.

Innovative behaviour

In the current era, the ability of organisations to innovate is one of the most dynamic competencies. This is as innovation brings together the skills, knowledge, and

networks of an organisation with the needs of its members and customers in a new way (Kor et al., 2021). Since there is a high demand for innovative individuals by organisations and every organisation tries to retain innovative people, innovative individuals have a better chance of keeping their positions and finding new jobs in the face of situations such as downsizing. Therefore, the importance of innovativeness at both individual and organisational levels has been widely acknowledged in the literature (Dedahanov et al., 2017).

When individuals perceive their workplace as a place that is supportive, innovative, and offers a certain degree of freedom, it is to collaborate for innovation without fear of punishment or failure. Innovative behaviour and intrapreneurship should therefore be encouraged. The intrapreneurial capacity of an organisation cannot be explained by top-down planning and control. This capacity emerges from the interaction of layers of management where action and co-operation take place between different parts of the organisation (Kor et al., 2021).

Resistance to change

Organisations are open systems that interact with their external environment. They interact not only with their external environment but also with their internal environment. They need change due to internal and external environmental factors. Organisational structure is an internal resource for change. Sometimes organisations must reorganise their structure because the old structure is no longer able to meet new challenges (Furxhi, 2021). For almost a century, it has been debated whether there is an easy way for organisations to adapt to change. However, it is also clear that there is no single method for the cause of employee resistance to change and how to overcome it (Mohamed & Demirel, 2022). Briefly, the phenomenon of resistance to change has been a subject of curiosity since the studies of Lewin and his students. The redesign of processes created or eliminated by developing technology, the concern to minimise costs, and adaptation to the environment make change mandatory for organisations.

However, employees resist organisational change because they fear undesirable consequences. Every change creates a new situation in the organisation. The process of transition from the known to the unknown means uncertainty. For this reason, individuals have threat perceptions towards a situation that they know, control, and is a satisfactory stage. Employees have different levels of education, backgrounds, experiences, and personalities. This affects the way they accept change (Furxhi, 2021).

The Role of Holacracy Adoption Level on Resistance to Change

Competition between universities prevents complacency and strengthens efforts for change by ensuring excellence (Rosovsky, 2017, p. 24). However, implementing change is always challenging for all organisations and resistance to change is often encountered (Musselin, 2007). At this point, holacracy uses the concept of "tension", which has a neutral meaning, to prevent resistance to change. Tension is the human capacity to recognise conflicts and see opportunities for change (Kirkpatrick, 2016). In holacratic organisations with tension, the voices of all employees are heard in all meetings and problems that may arise from the roles assumed are prevented in advance (Kettering, 2020). In this way, employees are given the opportunity to identify and process tensions, thereby increasing their sensitivity to the environment and their ability to react (Kirkpatrick, 2016). This can be considered as a feature that will prevent employees from resisting change.

Holacracy adoption level has a significant effect on resistance to change.

The Role of Holacracy Adoption Level on Innovative Behaviour Tendency

Innovation serves as a critical driver of organizational growth and a key determinant of competitive advantage (Lam, 2010). For this reason, it is important for organisations to successfully implement innovative management techniques or innovations to survive (Christensen, 2006). Savage, Franz, and Wasek (2019) investigated the impact of the holacratic engineering management approach on innovation and found that there is a relationship between the adoption of the model and innovation. In addition, the innovation performance of the companies adopting the model increased significantly.

Innovation largely depends on the knowledge, skills, abilities, and creativity of individuals supported by education (Looney, 2009, p. 4). Particularly in the context of the need for innovation in higher education, academic leaders need to have crisis leadership competencies (Gigliotti, 2021). Mosamim and Ningrum (2020) claim that holacracy can create more space for innovation and creativity in organisations. Similarly, Luenendonk (2019) states that in holacracy, innovation is encouraged, and productivity increases with the distribution of leadership within the organisation.

Holacracy adoption level has a significant effect on innovative behaviour tendency.

The Role of Holacracy Adoption Level on Organisational Structure

The organisational structure of universities, whose main task is teaching and research, should be such that this responsibility can be carried out efficiently (Rosovsky, 2017). On the other hand, in today's world where technology and information systems are developing rapidly, employees want to work in more democratic organisations. In this regard, Gupta and Kesari Jena (2023) state that holacracy positively affects the management structure by providing significant

improvements in organisational culture, organisational communication and intra-organisational cooperation. Aksoy (2024) states that clear communication within the organisation enables the employees to participate in the process and feel themselves valuable by informing them correctly in the change process.

Holacracy adoption level has a significant effect on organisational structure.

Organisational structure has a significant effect on resistance to change.

Organisational structure has a significant effect on innovative behaviour tendency.

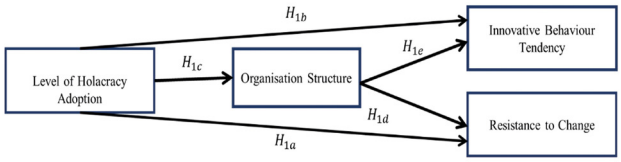
Organisational structure has a mediating role in the effect of the level of adoption of holacracy on innovative behaviour tendency.

Organisational structure has a mediating role in the effect of the level of adoption of holacracy on resistance to change.

Method

The main goal of this study is to investigate how organizational structure mediates the impact of holacracy adoption levels on resistance to change and tendencies for innovative behaviour among academic staff in Turkish universities. To achieve this, we applied the simple mediation model proposed by Hayes (2018). This study proposes the conceptual model illustrated in Figure 1.

Figure 1
Proposed Conceptual Model



Sample and Data Collection

The population of the study consists of academic staff working in universities in Türkiye. A sample selection process was not performed in the study. The process was completed with the academic staff who volunteered to participate in the study. In this context, the sample was determined as 450 people considering the number of questions in the data collection tool (90) and the sample calculation formula suggested by Cochran (2007). After obtaining institutional permissions, the online survey form was sent to the academic staff via e-mail and feedback was received from 506 academic staff. The university distribution of the participants is representative of the universities in Türkiye in terms of criteria such as the size of the universities, geographical regions, etc. This study was prepared in accordance with the rules of scientific research and publication ethics with Kırşehir Ahi Evran University Scientific Research and Publication Ethics Board Approval Certificate dated 11.01.2024 and numbered 2024/01/04.

Participants were 310 men and 196 women. A total of 481 academics from state universities and 25 academics from foundation universities participated. 345 of the participants work in faculties, 18 in colleges and 143 in vocational schools. In addition, 83 of them are professors, 98 are associate professors, 152 are assistant professors, 78 are lecturers, 53 are research assistants, and 42 are doctoral lecturers.

Scales

Validated scales were utilized in this study. A pre-test was conducted with 10 academicians to assess the functionality of the data collection form. No changes were made to the questionnaire following the pre-test. Information regarding the scales used in the study is presented in Table 1. To verify the validity of the scales, confirmatory factor analysis (CFA) was performed using the AMOS program. In addition, the data collected to test the research hypotheses were analysed using SPSS and AMOS programs. According to the reliability analysis results, the reliability values of the scales were found to be above 0.7 (Table 1). In the literature, scales with a Cronbach Alpha value of 0.7 and above are considered reliable (Ursachi et al., 2015, p. 681).

Table 1
Validated Scales Used in the Study

Scale	No. of items	Source	Cronbach Alpha Coefficent
Holacracy in Higher Education	25	Turpçu (2022)	0,969
Organisational Structure	27	Erol and Ordu (2018)	0,762
Innovative Behaviour	23	Lukes and Stephan (2017); Pala and Turan (2020)	0,940
Resistance to Change	15	Oreg (2006); Çalışkan (2019)	0,885

Analyses of the Scales

The data obtained from the scales was confirmed to be complete, with no missing information. The variables were transformed into standard normal variables, and outliers were carefully examined for accuracy. The model fit values for the scales are presented in the tables that follow, along with the results of the model fit values after the proposed error terms were analyzed in relation to the acceptable limits and modification indices of the scale (Erkorkmaz et al., 2013, p. 213). The standardized factor loadings, along with AVE (Average Variance Extracted) and CR (Composite Reliability) values from the confirmatory factor analysis for the holacracy adoption scale, are presented in Table 2.

Table 2
Standardized Regression Weights and AVE, CR Values of Factors

HGI_4	<---	G_Principles	0,91	AVE
HGI_3	<---	G_Principles	0,939	0,6980
HGI_2	<---	G_Principles	0,763	CR
HGI_1	<---	G_Principles	0,707	0,9012
GYRT_6	<---	Defining_Roles	0,669	AVE
GYRT_5	<---	Defining_Roles	0,934	0,6395
GYRT_4	<---	Defining_Roles	0,88	
GYRT_3	<---	Defining_Roles	0,853	CR
GYRT_2	<---	Defining_Roles	0,713	0,9129
GYRT_1	<---	Defining_Roles	0,712	
CHO_15	<---	OinCircles	0,869	AVE
CHO_14	<---	OinCircles	0,877	0,6154
CHO_13	<---	OinCircles	0,697	
CH0_12	<---	OinCircles	0,823	
CHO_11	<---	OinCircles	0,811	CR
CHO_10	<---	OinCircles	0,796	0,9597
CHO_9	<---	OinCircles	0,637	
CHO_8	<---	OinCircles	0,836	
CHO_7	<---	OinCircles	0,776	
CHO_6	<---	OinCircles	0,834	
CHO_5	<---	OinCircles	0,698	
CHO_4	<---	OinCircles	0,682	
CHO_3	<---	OinCircles	0,773	
CHO_2	<---	OinCircles	0,825	
CHO_1	<---	OinCircles	0,787	

The results for the model fit value are presented in Table 3.

Among the results in Table 3, only the GFI value complies with the limits determined for good fit. Although the GFI value was obtained below 0.90, in many studies in the literature, scales with GFI values close to 0.90 were accepted as valid if other fit indices were within acceptable limits (Yurdugül, 2007, p. 165; Cheng, 2011, p. 158; Uğurlu, 2014, p. 91).

Table 3
Holacracy Scale Model Fit Values in Higher Education

Criterion Values	χ^2/df ≤5	GFI ≥ 0,90	AGFI > 0,85	CFI ≥ 0,90	RMSEA ≤ 0,08	TLI ≤ 0,90
Holacracy in Higher Education Scale	3,137	0,888	0,854	0,955	0,065	0,946

Table 4
Standardized Regression Weights and AVE, CR Values of Factors

KA_MET_3	<---	Complexness	0,729	AVE
KA_MET_2	<---	Complexness	0,645	
KA_MET_1	<---	Complexness	0,685	0,5017
KA_ME_3	<---	Complexness	0,673	
KA_ME_2	<---	Complexness	0,752	CR
KA_ME_1	<---	Complexness	0,744	
KA_GUZ_3	<---	Complexness	0,799	0,9002
KA_GUZ_2	<---	Complexness	0,677	
KA_GUZ_1	<---	Complexness	0,656	
ME_OH_3	<---	Centralization	0,723	AVE
ME_OH_2	<---	Centralization	0,933	0,735
ME_OH_1	<---	Centralization	0,901	CR
				0,8916
FO_MÖ_3	<---	Formalization	0,694	AVE
FO_MÖ_2	<---	Formalization	0,626	0,5208
FO_MÖ_1	<---	Formalization	0,722	
FO_S_3	<---	Formalization	0,813	CR
FO_S_2	<---	Formalization	0,813	0,8658
FO_S_1	<---	Formalization	0,639	
TA_SAF_3	<---	Stratification	0,805	AVE
TA_SAF_2	<---	Stratification	0,909	0,5099
TA_SAF_1	<---	Stratification	0,847	
TA_OF_3	<---	Stratification	0,647	CR
TA_OF_2	<---	Stratification	0,383	0,8545
TA_OF_1	<---	Stratification	0,465	

The standardized regression weights, along with the AVE and CR values obtained from the confirmatory factor analysis for the organizational structure scale, are presented in Table 4.

The results of the model fit are presented in Table 5. Among the results presented in Table 5, only the GFI value meets the criteria for a good fit. As a result of the confirmatory factor analysis (CFA), three variables associated with the "Centralisation" dimension were excluded from the analysis due to their average variance extracted (AVE) and composite reliability (CR) values, as their standardized factor loadings were insufficient.

Table 5
Organisational Structure Scale Model Fit Values

Criterion Values	χ^2/df ≤5	GFI ≥ 0,90	AGFI > 0,85	CFI ≥ 0,90	RMSEA ≤ 0,08	TLI ≤ 0,90
Organizational Structure Scale	2,468	0,911	0,887	0,934	0,054	0,923

The standardised regression weights, AVE, and CR values obtained from the confirmatory factor analysis of the innovative behaviour scale are presented in Table 6.

Table 6
Standardized Regression Weights and AVE, CR Values of Factors

FU_3	<---	Generation	0,85	AVE
FU_2	<---	Generation	0,766	0,6092
FU_1	<---	Generation	0,72	CR
				0,8231
FA_3	<---	Search	0,818	AVE
FA_2	<---	Search	0,79	0,5783
FA_1	<---	Search	0,667	CR
				0,8039
FI_4	<---	Communication	0,812	AVE
FI_3	<---	Communication	0,774	0,5766
FI_2	<---	Communication	0,767	CR
FI_1	<---	Communication	0,678	0,8443
DDE_3	<---	Others	0,743	AVE
DDE_2	<---	Others	0,846	0,6066
DDE_1	<---	Others	0,743	CR
				0,8217
YC_3	<---	Outputs	0,722	AVE
YC_2	<---	Outputs	0,612	0,505
YC_1	<---	Outputs	0,787	CR
				0,7518
EUG_4	<---	Overcoming	0,768	AVE
EUG_3	<---	Overcoming	0,893	0,6901
EUG_2	<---	Overcoming	0,886	CR
EUG_1	<---	Overcoming	0,767	0,8985
UBF_3	<---	Implementation	0,778	AVE
UBF_2	<---	Implementation	0,88	0,7162
UBF_1	<---	Implementation	0,877	CR
				0,883

The results of the model fit are presented in Table 7.

Table 7
Innovative Behaviour Scale Model Fit Values

Criterion Values	χ^2/df ≤5	GFI ≥ 0,90	AGFI > 0,85	CFI ≥ 0,90	RMSEA ≤ 0,08	TLI ≤ 0,90
Innovative Behaviour Scale	3,218	0,901	0,867	0,938	0,066	0,924

Among the results in Table 7, only the GFI value complies with the limits determined for good fit.

The standardized factor loadings from the confirmatory factor analysis for the resistance to change scale, along with the AVE and CR values for the factors, are presented in Table 8.

Table 8
Standardized Weights and AVE and CR Values of the Factors

BT_5	<---	Cognitive	0,72	AVE
BT_4	<---	Cognitive	0,57	0,5013
BT_3	<---	Cognitive	0,794	CR
BT_2	<---	Cognitive	0,786	0,832
BT_1	<---	Cognitive	0,644	
DT_5	<---	Emotional	0,667	AVE
DT_4	<---	Emotional	0,866	0,519
DT_3	<---	Emotional	0,584	CR
DT_2	<---	Emotional	0,669	0,8411
DT_1	<---	Emotional	0,782	
DAVT_4	<---	Behavioural	0,557	AVE
DAVT_3	<---	Behavioural	0,619	0,5052
DAVT_2	<---	Behavioural	0,969	CR
DAVT_1	<---	Behavioural	0,617	0,7934

The results for the model fit values are presented in Table 9.

Table 9
Resistance to Change Scale Model Fit Values

Criterion Values	χ^2/df ≤5	GFI ≥ 0,90	AGFI > 0,85	CFI ≥ 0,90	RMSEA ≤ 0,08	TLI ≤ 0,90
Resistance to Change Scale	3,825	0,938	0,902	0,945	0,075	0,924

Among the results in Table 9, only the GFI value complies with the limits determined for good fit. As a result of the CFA, one variable related to the "Behavioural Resistance" dimension was excluded from the analysis due to its low standardised factor loadings, considering the AVE and CR values.

The AVE and CR values for the sub-dimensions of all scales have been calculated, as shown above. The literature indicates that the AVE value, which serves as an indicator of convergent validity, should be greater than 0.50. Additionally, CR values should exceed the AVE value and be above 0.70. Based on the results presented in the tables above, it is evident that the sub-dimensions satisfy the criteria for all scales (Fornell & Larcker 1981; Shrestha, 2021).

Following the confirmatory factor analysis of the scales, the normal distribution of the variables was assessed before the structural equation model. The variables' kurtosis and skewness values are presented in Table 10.

Table 10
Skewness and Curtosis Values of the Variables

	Mean	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Holacracy in Higher Education Scale	93,3715	-0,981	0,109	0,495	0,217
Organisational Structure Scale	82,5632	-0,426	0,109	0,929	0,217
Innovative Behaviour Scale	92,2767	-0,723	0,109	1,795	0,217
Resistance to Change Scale	26,4466	1,063	0,109	1,966	0,217

According to Table 10, since the kurtosis and skewness values of the variables fall within the range of ±1.5, it can be concluded that all variables satisfy the assumption of normal distribution (Tabachnick & Fidell, 2013).

Findings

To test the study's hypotheses concerning mediation effects, mediation models were developed using the AMOS program. In the study, a mediation analysis was conducted using the Bootstrap method, involving 5,000 subgroups and a 95% confidence interval. The analysis focused on direct, indirect, and total effect values. The first step was to test the mediation effect of organizational structure on the relationship between the level of holacracy adoption and innovative behavior (Model 1). The results of the mediation test are presented in Table 11.

Based on the mediation test, the total effect coefficient of the adoption level of holacracy on the tendency for innovative behaviour was found to be 0.147 (p=0.000). The direct effect coefficient of the level of adoption of holacracy on innovative behaviour tendency was found as 0.122 (p=0.000), and the effect coefficient of organisational structure on innovative behaviour tendency was found as 0.225 (p=0.000). According to the model results, the indirect effect coefficient corresponding to the mediating role of organisational structure in the effect of the level of adoption of holacracy on innovative behaviour tendency was found as 0.025 (p=0.009, &95 CI= 0.010-0.045). According to the results obtained, since the indirect effect is p=0,009<0,05 and the confidence interval does not include the value "0", it is concluded that organisational structure has a significant mediating role in the effect of the level of adoption of holacracy on the tendency towards innovative behaviour.

The findings of the model on the mediating role of organizational structure in the impact of holacracy adoption levels on resistance to change (Model 2) are presented in Table 12.

The mediation test revealed a total effect coefficient of -0.045 (p = 0.009) for the level of holacracy adoption on resistance to change. The direct effect coefficient was also -0.045 (p = 0.009), while the effect coefficient of

Table 11
Mediation Model Results of Model 1

	Result Values			
	Organizational Structure		Innovative Behaviour	
		S.E.		S. E.
Holacracy Adoption Level (c)			0,147*	0,025
R^2			0,063	
Holacracy Adoption Level (a)	0,111*	0,021		
R^2	0,053			
Holacracy Adoption Level (c^1)			0,122*	0,026
Organizational Structure (b)			0,225*	0,053
R^2			0,095	
Indirect Effect	0,025* p: 0,009 %95 CI: (0,010-0,045)			

Table 12
Mediation Model Results of Model 2

	Result Values			
	Organizational Structure		Resistance to Change	
		S.E.		S. E.
Holacracy Adoption Level (c)			-0,045	0,017
			0,013	
Holacracy Adoption Level (a)	0,111*	0,021		
	0,053			
Holacracy Adoption Level			-0,045	0,018
Organizational Structure			-0,01	0,037
			0,013	
Indirect Effect	0,000 p: 0,998 %95 CI: (-0,010-0,011)			

organizational structure on resistance to change was -0.01 (p = 0.985). According to the model results, the indirect effect coefficient, representing the mediating role of organizational structure in the relationship between holacracy adoption and resistance to change, was found to be 0.000 (p = 0.998; 95% CI = -0.010 to 0.011). Since the indirect effect had a p-value of 0.998, which is greater than 0.05, and the confidence interval includes the value "0," it can be concluded that organizational structure does not have a significant mediating role in the effect of holacracy adoption on resistance to change.

The results and decisions made regarding the study's hypotheses are summarized in Table 13.

Table 13
Summary of results for hypothesis testing

Hypotesis	Test Statistic	Decision
H1a	β= -0,115,p=0,000	Accepted
H1b	β= 0,250,p=0,000	Accepted
H1c	β= -0,115,p=0,000	Accepted
H1d	β= -0,115,p=0,000	Rejected
H1e	β= -0,115,p=0,000	Accepted
H1f	β= 0,025,p=0,009	Accepted
H1h	β= 0,000 p=0,998	Rejected

Discussion

The overarching finding of the research model is that organizational structure plays a significant mediating role in the relationship between holacracy and innovative behaviour. However, organizational structure does not serve as a mediator in the relationship between holacracy and resistance to change. Organisational structure facilitates the achievement of the aims and objectives of the organisation. For this reason, decisions regarding the structure of the organisation are important. Today, there are increasing demands on organisations to be agile and to respond quickly to external conditions. Therefore, in a chaotic environment, it is very important for businesses to maintain their competitiveness (Kalmus et al., 2023). Similarly, universities set goals such as being in a good position among other universities, being preferred or adapting to changing conditions. It will be possible for universities to have a dynamic structure through a new structuring process (Çengel, 2011, p. 1567).

An autonomous working environment is necessary for academic staff in universities, which can be characterised as enterprises that carry out high-level research and education (Karayalçın, 1964). Wang (2010) found that political pressure and control over universities and teaching staff is increasing, which poses a threat to university autonomy and academic freedom. Therefore, universities, like other organisations, need flexible management structures. Holacracy emerges as an alternative that can provide this flexible structure. This study revealed that the level of holacracy adoption significantly influences resistance to change. According to the study by Mohamed and Demirel (2022) on resistance to change in Libyan and Turkish universities, it was found that readiness for change and approval of the results of change is important for both countries. The study recommends that universities in Libya and Türkiye create a positive climate for employees. Based on these findings, it can be said that the adoption of the holacracy model in universities will improve the Turkish higher education system. Turpçu (2022) states in his study that the holacracy model has similar characteristics with the higher education system in general and universities in particular.

In the study, it was determined that the level of adoption of holacracy and organisational structure had a significant effect on the tendency towards innovative behaviour. Similarly, the critical role of organisational structure in influencing organisational innovation performance is mentioned in the literature. However, Dedahanov et al. (2017) state that organisational innovation performance is not directly affected by organisational structure. It considers that there is a missing link between these two factors of employees' innovative behaviour. Dedahanov et al. (2017) state that employees' innovative behaviours mediate the relationships between structural factors such as centralisation, formalisation, integration, and organisational innovation performance. In a study conducted by Alwali (2024) in Iraqi higher education institutions, it was found that psychological empowerment has a positive effect on innovative work behaviour among faculty members. In addition, leadership mediates the relationship between psychological empowerment and innovative work behaviour.

In the literature, it is stated that employees' innovative behaviours mediate the relationships between structural factors such as centralisation, formalisation, integration, and organisational innovation performance. Accordingly, it is a fact that employees are less likely to seek new technologies, processes, techniques and product ideas when all decisions are made by superiors, individuals follow written work rules for their jobs, and there is a low level of integration among unit members (Dedahanov et al., 2017). In support of this view, Newman and Nollen (1966: 755) state that power distance in organisations affects the degree of centralisation. Likewise, Dedahanov et al. (2017) argue that centralised decision-making mechanisms violate both academic freedom and professional values. The more centralisation and formalisation in an organisation, the lower the innovative behaviour of employees.

Finally, the study found that organisational structure did not mediate the effect of holacracy on resistance to change. This result shows that organisational structure alone may not be a determining factor on resistance to change. The

influence of organisational structure on resistance to change may be overshadowed by individual-level factors. Oreg (2003) emphasised that individual differences play a decisive role in resistance to change. This may explain the fact that organisational structure alone does not have a direct effect on resistance to change. In addition, it is emphasised in the literature that the complexity and uncertainty of change processes (Armenakis & Bedeian, 1999) and organisational culture (Cameron & Quinn (2006) affect employees' reactions to change.

Conclusion

In this study, it was found that the level of holacracy adoption had a significant effect on resistance to change. Holacracy reduces the level of resistance to change in organisations by making employees more open to change through flexible and participatory management structures. This finding suggests that holacracy can be adopted as an effective management model, especially in universities where rapid adaptation to change is critical.

Another result obtained in the study is that the level of holacracy adoption has a significant effect on innovative behaviour tendency. Holacracy increases the innovative behaviour of employees by encouraging them to have more autonomy and actively participate in decision-making processes. This result reveals the importance of holacracy in terms of increasing innovative capacities in universities. Because organisational change and innovation require cooperation and a free environment. A high level of freedom for academic staff who are creative and productive idea workers (Rosovsky, 2017) can be provided by holacracy.

In addition, the study found that the level of adoption of holacracy has a significant effect on the organisational structure. In contrast to traditional hierarchical structures, holacracy offers a more horizontal and flexible organisational structure, which contributes to a more dynamic and competitive structure of universities. In this direction, the study also concluded that organisational structure has a significant effect on innovative behaviour tendency. More flexible and horizontal structures encourage innovative behaviours of employees, while rigid and hierarchical structures limit these behaviours. This situation reveals the importance of reviewing the organisational structures of universities to increase their innovative performance.

As a result, it is concluded that the adoption of holacracy in dynamic and continuous change environments such as universities makes the organisational structure flexible, reduces resistance to change, and encourages innovative behaviours. Therefore, it is thought that the implementation of holacracy in the Turkish Higher Education System can contribute to the adaptation of universities to changing global and local dynamics more effectively. In line with the limitations and results of the study, the effect of holacracy can be examined in different sectors in the future and the effects of holacracy adoption level on resistance to change, innovative behaviours and organisational structure can be investigated. Moreover, studies exploring the long-term effects of holacracy in higher education can assess its impact on various organizational variables. Additionally, there is a need for more qualitative and quantitative research to investigate the challenges encountered when implementing holacracy in higher education and to identify effective strategies for overcoming these challenges.

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