

THE EFFECT OF ROBOTIC BUREAUCRACY PRACTICES ON ORGANIZATIONAL CITIZENSHIP: A SCALE DEVELOPMENT STUDY

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ABSTRACT

In the study, the scale of "The Opinions of Managers on the Effect of Robotic Bureaucracy Practices on Organizational Citizenship" of corporate managers working in public and private sectors was developed by the researchers. This data collection tool was prepared by the researcher in the form of a 5-point Likert-type rating. The fact that there is no similar study before in the field makes the study unique. In the study, first of all, the scale development stages were carried out, and the construct validity of the scale items was checked with exploratory and confirmatory factor analysis. It is expected that the scale, which consists of 8 dimensions and 43 items, prepared in line with the impressions obtained from the literature and the field, will shed light on the policies of public and private sector institutions in the context of robotic bureaucracy.

Keywords: Robotic Bureaucracy, Citizenship, Organizational Citizenship

INTRODUCTION

The more individuals or institutions working in the organization are sincerely and abstractly attached to the spirit of the organization they are in, the more they want to stay for a long time by adopting that organization. They feel that they are a part of the organization, accept that they are a part of the organization, and voluntarily make extra efforts to benefit from the joint work.

The union that was established and came together for the purpose of realizing a number of goals, in which individuals or institutions take part in the execution and operation of business and actions (Cetintas, 2016), and the legal bond that connects real persons and the state is called citizenship (Dolunay, 2016). The concept of citizenship carries a number of similar rights and obligations in societies around the world and throughout the ongoing history. There are similar situations in this context in the concept of organizational citizenship. Namely; Instead of the state, the organization is considered and the key point of the concept is this thought. Just as citizens are based on the idea that it will be beneficial when they show positive behavior outside the law, individuals within the organization are based on the idea that their spontaneous positive behaviors will contribute to the organization (Irmiş & Gok, 2007; Yucel & Kaynak, 2007; Aslan, 2009). The aim of this research is to determine the views of managers on the organizational citizenship behavior of robotic bureaucracy applications. The main problem is to determine the level of the opinions of the managers of the institution on this issue.

LITERATURE

Conceptually, organizational citizenship behavior found its place in the literature in the 1980s. The development process is; It begins with Bernard's work with informal organizations in the 1930s, in which he explains the importance of the phenomenon of volunteering in the organization, and researchers such as Bernard, Roethlisberger and Dickson are among the leading figures of the studies. The starting point of the concept in question is Katz and Kahn's "The Social Psychology of Organizations" in 1966. In this work, out-of-role behaviors exhibited

due to its effect on productivity are emphasized.

From this point of view, Organ and Bateman's article "Job Satisfaction and the Good Soldier: The Relationship Between Affect and Employee Citizenship" published in 1983 and "Job Satisfaction and the Good Soldier: The Relationship Between Affect and Employee Citizenship", co-written by Organ, Smith and Near. Organizational citizenship behavior was used as a concept for the first time in their article titled "Employee Citizenship" (Podsakoff et al., 2000).

Organizational citizenship behavior is the whole of the behaviors exhibited by individuals in order to voluntarily carry out their work and actions in an efficient and effective manner, without expecting any reward or reward. Volunteering emphasizes the lack of connection between the reward system and behavior (Organ, 1988).

Behaviors that are not included in the organization's reward system, that is, that increase the efficiency of the organization on the basis of volunteering, are called organizational citizenship behaviors (Turnipseed & Murkison, 1996) According to Greenberg & Baron (2000), it is defined as the behavior in which employees reveal much more than what is expected from them, even though it is not specified in their job descriptions. What is meant by putting forth more than what is expected of oneself means contributing to work and duty, even in matters outside of work – for example, social and psychological issues (Blakely et al., 2005).

Behaviors related to organizational citizenship are basically divided into two. The first of these manifests itself in the form of contribution and participation in the organization in a positive sense, while the other appears as avoiding behaviors that will harm the organization in a negative sense. Even when there is such a distinction in theory, whether it is to contribute or to stay away from harm, both situations appear as desired behavior for the organization (Ozdevecioglu, 2003).

However, in the context of the individual being the subject of the organizational citizenship behavior and the organization being the object, the individual and the organization appear as two important elements. From this point of view, it can be examined under two headings (William & Anderson, 1991). These are organizational citizenship behavior and organizational citizenship behavior towards the organization. In the first one, the essence of the organization is to help other employees, while in the second, there is an idea and guidance in order to make positive contributions to the increase of the efficiency and development of the organization. As a result, there are behaviors that are desired in both cases (Finkelstein, 2006).

Based on these definitions of organizational citizenship behavior, it is seen that three basic features of the concept emerge. These can be listed as follows:

1. Since organizational citizenship behavior is voluntarily in question, the reward mechanism does not come into play when these behaviors are exhibited, or the punishment mechanism when they are not exhibited. In other words, employees in the organization do not perform their behaviors to obtain rewards or avoid punishment.
2. Organizational citizenship behavior is the behavior in which the employees perform more than what is expected spontaneously, without being directly or indirectly stated in the job description for the people or institutions that make up the organization, and there are no written rules that roughly should or should not be done.
3. Individuals or institutions exhibiting organizational citizenship behavior do not receive training for it, it is the whole of behaviors that contribute positively to the organizational structure and predict the development of the organization in terms of efficiency and functionality.

There have been many studies on the dimensions of the behavior in question, and these researchers have revealed the dimensions of organizational citizenship behavior in different ways. However, a substantial part of the group accepted the five-dimensional classification that Organ works with. These are cooperation, courtesy, conscientiousness, courtesy and virtue. Podsakoff et al., on the other hand, examined the dimensions of organizational citizenship behavior under seven titles: helping, sportsmanship, organizational commitment, organizational harmony, individual initiative, civic virtue, and individual development.

Helping Behavior (Almity, Thinking of Others, Selflessness, Altruism, Altruism, Helping Behavior): it is called the behavior of the employees that increase their productivity by

helping other employees within the organization on a voluntary basis (Sezgin, 2005).

For example, informing the newly recruited employees about the job and functioning by experts and senior employees, the responsibility of the employee who is late for work due to valid reasons to be undertaken by another employee, helping the employee who has a heavy workload compared to the others due to the department he works in the organization, by other colleagues. can be considered under this heading (Cimen, 2016). The behavior in question develops depending on one's own desire and is generally directed towards individuals. The increased effectiveness as a result of the help given to the individual means the increase in the effectiveness of the organization (Buluc, 2008).

Courtesy (Positive Behaviors, Courtesy): According to this dimension of organizational citizenship behavior, there should be a positive relationship between the employees who have to divide the work. The common feature of these relations is the behaviors exhibited in order to warn the employees in the organization when there is no problem yet. E.g; Providing information to the employees about any problem that may occur in the organization, taking their opinions and suggestions, consulting, making reminders, respecting the rights of the employees in the organization can be evaluated within the scope of courtesy (Gurbuz, 2006).

Since altruism and kindness are two basic phenomena based on the dimension of helping each other, it is very difficult to separate them. However, the most striking difference is that in altruism, cooperation takes place after the problem, and in kindness, cooperation occurs before the problem (Mercan, 2006).

Conscientiousness (Consciousness, Advanced Duty Consciousness, Meticulousness, Conscientiousness): According to this factor, the important thing is the effort made for the effective and efficient use of time. It is about going beyond the success expected from the employee. E.g; Although the employees are not given overtime, the work of the employees outside the working hours in relation to the unfinished work and actions of the organization (Schnake & Dumler ve Cochran, 1993).

Gentlemanliness (Sportsmanship, Impulsiveness, Sportmanship): The sportsmanship dimension of organizational citizenship behavior means that employees in the organization avoid complaints, thus using time efficiently and increasing positive developments for the organization. Regardless of their relationship with the organization, they are tolerant and tolerant of the tensions experienced by the employees, either within themselves or with the administration, without complaining.

According to Borman & Motowidlo (1993); According to Netemeyer, Boles, Mc Kee & Mc Murran (1997), while the cooperation of the employees of the organization is considered as their cooperation; It is expressed as protecting and defending the reputation of the organization against people outside the organization.

As an example of sportsmanship, not blaming, not arguing, trying to tolerate problems, avoiding behaviors that will create tension, in short, it is also expressed as not doing negative behaviors that concern the organization.

Virtue (Civil Virtue, Membership Virtue, Belonging Virtue, Organizational Virtue, Volunteering, Organizational Participation, Civic Virtue): briefly, it also expresses the positive feelings created by the strengthening of the ties to the organization and being in the organization.

This dimension, also called organizational virtue, looks after the interests of the organization and supports the organization. It can be shown as an example that employees try to be knowledgeable about the issues related to the organization, participate in meetings, affect the decision mechanism, express their opinions clearly, and produce solutions against problems.

The seven dimensions of organizational citizenship behavior that Podsakoff and others have studied include organizational obedience and individual development, unlike Organ's five-dimensional study. According to this, organizational obedience, in other words, compliance refers to the employees' compliance with the rules existing in the organization and their efforts to make these rules accepted and popularized among the employees. Individual development, on the other hand, is defined as the desire of the employees of the organization to develop their skills and knowledge in order to be useful, although there is no obligation (Farh, Zhong, Organ,

2004:247). In addition to this, there are some other dimensions such as being appreciated, recognizing the value of what has been done, empowerment, satisfaction with the administration, and self-confidence.

Considering the factors affecting organizational citizenship behavior; The characteristics of the employees of the organization, the characteristics of the organization and the effects of the managers on the employee and the organization (Karaman & Aylan, 2012). In this context, if the employee has positive psychological characteristics and has an extrovert personality, they are more inclined to exhibit organizational citizenship behaviors. However, since introverted employees are mostly preoccupied with their own internal problems, they cannot show organizational citizenship behaviors because they cannot sufficiently deal with the work and actions of the organization. Another factor is the characteristics of the organization, namely the structure and characteristics of the organization.

Employees exhibit organizational citizenship behaviors more when they think that the institution they work for attaches importance to the quality of the outputs. The prevalence of these behaviors provides a more peaceful environment within the organization. The effects of managers on the employee and the organization also give direction about organizational citizenship behaviors. In this context, if the manager supports the employee, values them, improves the working environment, behaves equally and respectfully, and persuades them to cooperate, it affects these behaviors positively (Mucaoglu, 2006).

Factors affecting organizational behavior; leadership, organizational culture, organizational commitment, organizational justice, job satisfaction, teamwork, motivation, age, seniority and hierarchical order, person-organization integration (Yurdakul, 2018).

The importance and consequences of organizational citizenship behavior used together with the expression of good soldier syndrome can be listed as follows:

As the conflicts and arguments are reduced, the efficiency may increase accordingly, and the resources spent on managerial functions are reduced as a result of the increased performance, so the success of the organization can be increased by using the remaining resources in more productive areas.

As a result of the senior employees working in the organization informing the new employees, the effort that the organization will spend in this area is reduced.

Organizational citizenship behavior enables managers and employees to be more productive and helps coordinate work and transactions between teammates and groups. This means increased performance.

It increases the commitment of the employees to the organization by making the working environment in the organization more peaceful and safe. Therefore, the negative environmental conditions affect the employees in the organization less (Mercan, 2006).

Robotic Bureaucracy

Bureaucracy can be expressed as a form of organization that has some characteristics. The concept of bureaucracy, which is mostly used in its technical sense, evokes perceptions in people's minds such as avoiding responsibility, administrative pressure, paperwork, arbitrariness in decisions, and slowness of the System (Abadan, 1959).

Bureaucracy is also used in the sense of public administration. In this context, bureaucracy describes the structure of the administration and the work and operations it will do.

Therefore, it is the name given to the sum of the organizations managed by the governments in order to carry out the various administrative duties of the public and the work/operations of these organizations (<http://web.hitit.edu.tr>). In other words, planning the resources to be served, organizing these resources, making decisions about the process corresponds to the meaning of bureaucracy in public administration (Gökçe & Şahin, 2002).

Another definition is; points out that the bureaucracy is the executive arm of the political system. It is a set of organizations that are formed and managed by modern governments in order to perform some administrative tasks in public administration. However, it can be said that

it is mostly managed by appointed officials (Eryilmaz, 2003).

The concept of bureaucracy, which emerged in civilizations such as Egypt and China and emerged in the early ages, laid the groundwork for the development of bureaucracy with the realization of the industrial revolution and the subsequent emergence of the capitalist system in the world. However, the first researcher to examine the concept in detail was Max Weber (1993: 78), and according to him, bureaucracy has some features. These; Regular work and official duty are necessary for bureaucracy to make sense, a balanced distribution of authority is necessary for the realization of work and duties, and finally, people with some general rules should be employed to carry out duties and studies.

The change experienced in our country and in the world with the effect of globalization and technology has also deeply affected the bureaucracy. The idea that the clumsiness of the public bureaucracy should be structured on the grounds that it prevents citizens from living a quality life, and thus the efficiency and productivity will increase, shows that the bureaucracy should definitely be made more suitable for the era we live in.

At this point, some questions arise for the realization of this change. E.g; Will new systems be developed to replace bureaucracy? or will the existing bureaucracy meet with a more efficient structure? The structure that is very difficult to remove after settling in a state system is called bureaucracy. In this context, it would be best to work on increasing efficiency instead of removing bureaucracy (Eryilmaz, 2000:203). Developments in Turkey and all over the world show that bureaucracy cannot be given up and that the use of technology will be beneficial for bureaucracy to be more efficient (Özer, 2013).

As it can be understood, the concept of robotic bureaucracy and the concept of technology are intertwined. Since the concept of robotic bureaucracy is a very new concept, literature review has not been done frequently and in depth. Robotic bureaucracy can also be perceived as the use of software systems in bureaucracy due to its relation with technology. Therefore, the conceptual explanation of the term technology should be made in the first place.

For an engineer, technology refers to the tools and methods used during product manufacturing, while for a manager, it refers to the process between the inputs and outputs of resources. According to economists, technology is; It is defined as a tool that raises the quality and standards of life. In this respect, technology has different meanings depending on who uses it. However, in summary, it emerges as the most important power of our age, which increases efficiency and effectiveness by saving time, and makes our life easier by increasing the quality of life (Fedotova, 2005).

Software systems that automate a number of jobs and processes, including the automatic sending of e-mails, are defined as robotic bureaucracy. The burdens brought by regulations or rules are an example of classical bureaucracy. In any case, bureaucracy is a problem by its traditional definition, and when it comes to bureaucracy, rules and regulations cannot achieve their goals -by definition of the concept- (Bozeman & Youtie, 2019) Although it has done its work on universities, many organizations are in search of more efficiency and less burden. For this reason, organizations seek to save money by making use of information technologies.

Robotic bureaucracy is a computer-based automatic system, which is prepared to facilitate the work of the employees in the organization and to reduce the administrative burden on the employees and the people they deal with, and which is mostly non-human, the formation of which is provided by the relevant organizations. Often the desired goal is to save on the number of employees required and shift the burden away from organizations to their customers.

Examples of robotic bureaucracies that have been used for several years and are quite familiar; Online information providing systems for medical records, E-Nabız application for example in Turkey, online check-in for commercial airline flights anywhere in the world, automatic systems used to submit articles to journals can be shown.

However, public institutions often have difficulties in making use of this technology due to the lack of technical personnel, lack of resources or appropriations, the mentality of civil servants and the negative will of managers (Tecim, 2002).

However, the T.C. SMS information system of the Ministry of Justice, T.C. The ready-

made declaration system of the Ministry of Treasury and Finance regarding real estate capital income and the e-government application are the most basic examples (Sancaktutar, 2013).

Most robotic systems are developed locally and are often created with the goal of saving employee costs, increasing efficiency and systematizing regulatory compliance. It is an undeniable fact that automated systems reduce administrative burden. Robotic bureaucracy is a technical system that provides benefits in many ways, but it also carries some problems on trust. Some computer-based systems that do not support trust can create feelings of alienation and lack of control in robotic bureaucracy. Another negative aspect is that the presence of personnel who develop and implement robotic bureaucracy (for example, university employees) shows these personnel to be more blamed than normal bureaucracy in the face of customers. However, robotic bureaucracy systems often attach little importance to the characteristics of the sender or receiver. In this context, the effects of robotic bureaucracy are not only in system design.

As is common practice, most robotic bureaucracy correspondence includes a reply-to-reply section, but does not include any human names other than the recipient, which is not welcome. It takes a serious waste of time to ask a simple question, and sometimes it takes a lot of effort to identify the person who can answer it. From this point of view, robotic bureaucracy does not prevent human reactions, it is necessary to develop trust.

Another negative aspect of robotic bureaucracy is; There is no standard among institutions and organizations. For example, universities not only have different automated systems, but also have different administrative terminologies and practices. All of this seems to inevitably increase confusion and administrative burden (Bozeman & Youtie, 2019).

With the globalizing world, changes have started in management understandings, as in every field. The century we live in appears conceptually in the form of time and speed. These situations gave birth to the new public management approach and brought the new public management approach: governance, strategic management, total quality management, performance management and e-government applications in pursuit (Kutlu, 2006).

The system in which the state manifests itself in virtual environments through technology, taking into account the principles of public administration, in order to provide services to its citizens at a low cost and quickly is called e-Government (Küçük, 2018).

In our country and in the world, public services are now moving to the internet by government institutions and turning their direction to e-Government applications. Thanks to these practices, while the efficiency of the public sector increases significantly, the relations between the state and its citizens gain different dimensions.

The internet, which changes the standards in the commercial field, learning areas and even entertainment areas, of course also changes the understanding of the state. In this context, e-Government is also expressed as "the use of communication and information technologies in facilitating the daily administrative activities of the state", "the ability of public administrative units to transform their relations between citizens, businesses and other government units by using information technologies such as wide area networks, internet, mobile communication" are being (Pamukoğlu & Ocak, 2007).

According to the definition of the World Bank: "All of the public services that aim to create value and are based on the processing, transmission and storage of digital information such as text, sound and image in an open network environment of individuals and institutions or in closed network environments that can be accessed by a limited number of users." (Worldbank, 2004).

Based on these definitions, e-Government has four main actors as public institutions and organizations, non-governmental organizations, private sector and citizens. The fact that these actors are particularly citizen-oriented is due to the emergence of the robotic systems in question due to the needs of the citizens. These applications and robotic systems should not impose other burdens on citizens beyond normal bureaucracy. In other words, citizen-centered government understandings are provided more easily with e-Government (Demirel, 2006).

Traditional bureaucracy brings citizens and organizations face to face every time, and business and transactions are carried out in this way. According to the traditional understanding

of bureaucracy, the processes of preparing petitions, forms, documents, documents of institutions and organizations, which we also describe as stationery, are very intense. However, with robotic bureaucracy, a significant part of such activities disappear or change their quality. The periods of citizens losing long time for services that will be realized in line with their needs are being left behind day by day.

With the help of robotic systems, many institutions and organizations, including citizens, organizations, non-governmental organizations, can go to the website of the relevant public institution for their communication and interaction with the state, obtain the information they need and make their applications online. While these processes take place, significant advantages are obtained in terms of time and space. In this sense, individuals and institutions can get closer to the state and transactions can be realized without intermediaries. It is obvious that it can be eliminated in undesirable situations such as loss of time for long transactions, bribery and corruption.

Method

The research was carried out as a descriptive study in the relational survey model. The research universe consists of managers with 25 or more personnel in their institution. The research is limited to 599 participants who participated in the survey online due to the COVID-19 process.

Data Collection Tools

The data of the research were obtained through literature review, scale application, book, thesis, article and document scanning. The research was carried out in two parts, 8 dimensions and 43 items obtained as a result of the literature review and the development of the scale. The scale development processes are explained in detail below.

The Method Followed in the Scale Development Process

In this study, although the applied process stages are followed, semi-structured interviews with institution managers and contribution to the item pool based on the findings obtained by the researchers also provide a theoretical feature to the research. Supporting the quantitative study feature with semi-structured interviews, using factor analyzes and making a pilot application in a large sample group are the characteristic features of this process. The conceptual framework of these processes is summarized in Table 1:

Table 1 SCALE DEVELOPMENT PROCESS
Expert Opinions and Literature
Opinions of Practitioners in the Field
Identifying Features to Measure
Determination of Scale Items
Determination of Coverage Validity Rates
Identification of Items Based on Scope Validity Rates
Obtaining the Candidate Scale
Making a Pilot Application
Identifying Substances with EFA
Obtaining the Scale

As a result of these scans, it was decided to put forward the opinions within the framework of eight dimensions in Table 2.

Dimensions		Items Developed as a Result of Literature Review	Items Developed as a Result of the Site Visit
A.	Attitudes and Behaviors of Management towards Personnel	a2,a3,a4,a5,a6	a1, a4
B.	Attitudes and Behaviors of Staff towards Citizens	b1,b2,b5	b3, b4
C.	Environment	c1	c2,c3
Ç.	Attitudes and Behaviors of the Administration towards Citizens	ç2,ç3, ç4,ç7,ç8	ç1,ç5, ç6
D.	Administration	d1,d2,d3	d4,d5,d6
E.	Confidence and Absence	e2,e3	e1,e4,e5
F.	Institutional Success	f1,f2,f6	f3,f4,f5
G.	Services for Personnel	g1	g2,g3

Interviews with Experts for Content Validity

The basic features of the dimensions that will be independent variables were defined in a concrete way in the context of observations and semi-structured interviews with the literature review made during the process of revealing the problem. Thus, in order to ensure the content validity of the 94-item draft scale prepared in 9 dimensions, the scale was submitted to expert opinion.

Items with a KVR ratio of 0.59 and above were included in the scale, and 49 items were removed from the scale, among which items were low. Corrections were made on 11 items with an appropriate value below 90%. In addition, 2 new items were added to the scale.

Based on these studies, the scale was made ready for pilot application as 43 items. The scale, which was collected in 8 dimensions, was developed as a 5-point Likert feature (5- Completely Agree, 4-Strongly Agree, 3-Moderately Agree, 2-Little Agree, 1-Very Disagree).

Giving the Final Shape to the Scale

In order to conduct factor analysis for the pilot application, it was decided to apply it to at least 300 people, five times the number of items. In the pilot application, 599 people were reached. Since this number is more than five times the number of items, it has been assumed to be sufficient.

Explanatory Factor Analysis (EFA) statistical method was the basis for the construct validity of the scale. Its reliability was calculated with Alpha Cronbach correlation coefficient.

Construct Validity and Reliability

Factor analysis was used in this study. Data were analyzed with IBM SPSS 18.1 program.

In order to determine the suitability of the items for factor analysis, firstly the correlation matrix was created, then the Bartlett Sphericity test and Kaiser-Meyer-Olkin (KMO) tests were performed.

The fact that the KMO coefficient is at least 0.60 and the Bartlett test is significant indicates that the data are suitable for factor analysis. Care was taken to ensure that the factor loading values were not lower than 0.40.

The presence of outliers in the data regarding the items was determined by using frequency values and Mahalanobis distances. When Mahalanobis distances were examined, 16 observations were excluded from the analysis as they were outliers. Firstly, Exploratory Factor Analysis (EFA) was applied to determine the factor structure.

Factor analyzes will be carried out to examine the construct validity of 56 items whose content validity studies have been completed. For this, Kaiser-Meyer-Olkin (KMO) coefficient and Bartlett sphericity tests were applied. The ranges of this criterion are; $0.60 < \text{KMO} < 0.70$ "Poor", $0.70 < \text{KMO} < 0.80$ "Medium", $0.80 < \text{KMO} < 0.90$ "Good", $0.90 < \text{KMO} < 1.00$ It is expressed as "Excellent". In this context, the Kaiser-Meyer-Olkin (KMO) test was applied to determine the sample adequacy, and the KMO value of the scale is shown in Table 3.

As a result of the analysis, KMO value was 0.936 (excellent) and Bartlett's test was found to be χ^2 (59, N=599) 28493,818, $p < .00$, significant, and the number of samples and correlation matrix were considered appropriate.

Kaiser-Meyer-Olkin		0.937
Bartlett's Test		28493.818
	df	1540
	p	0.000

Cronbach Alpha (α) internal consistency coefficient was used to measure the reliability of the scale. This test will determine how well they complement each other while measuring the same quality of different questions in the questionnaire. Alpha reliability value is a coefficient ranging from -1 to 1, and as this value approaches 0, reliability decreases and as it approaches 1, reliability increases. Cronbach Alpha (α) coefficient is defined as $0.00 \leq \alpha < 0.40$ "unreliable", $0.40 \leq \alpha < 0.60$ "low reliability", $0.60 \leq \alpha < 0.80$ "highly reliable", $0.80 \leq \alpha < 1.00$ "very reliable" in the literature. Accordingly, the Cronbach Alpha coefficient calculated for the reliability of the scale was found to be 0.88 for 56 items.

Cronbach's Alpha	N
0.877	599

In order to reveal the factor structure, the criterion of the eigenvalue being greater than 1, Cattell's slope test and the classification used in the process of creating the scale items were taken into account.

In order for a factor to be formed, it was important that at least three items load that factor above 0.40. In case of a difference below 0.10, that item was evaluated as overlapping and removed from the analysis.

After the varimax rotation on 56 items of the scale; First, it was observed that the items formed 12 dimensions. The average of 12 dimensions was also taken. Afterwards, the correlation between dimensions was examined.

After the varimax rotation on 56 items of the scale, it gave weight to more than one factor with a difference of less than 0.1 level, and was evaluated as 8.16.17.19.24.32.37.44.45.46.50, which was evaluated as an overlapping item, respectively. 51 and 52 were excluded from the scale. On the other hand, it was decided to change the factor of 3 items based on the literature. After these steps, after the varimax rotation, the process was repeated on 43 items and it was seen that 8 dimensions were formed.

Since 8.17.19.46 items constitute a single dimension on their own and 16.44.45. Item 24 (difference=0.027) since item is in more than one dimension, item 37 (difference=-493-310)

because item 32 creates a single dimension on its own, and items 51 and 52 because item 50 creates a single dimension on its own. Since the item constitutes a single dimension on its own, it was removed from the scale.

After removing the 8 items explained above according to the Varimax rotation process, reliability and vertical rotation processes were applied on the remaining 43 items in the scale. Accordingly, the Cronbach's Alpha reliability level was found to be high at 0.879 (Table 5).

Cronbach's Alpha	N
0.879	599

The load factor analysis of 43 items collected in 8 dimensions after rotation is presented below.

Exploratory Factor Analysis	1	2	3	4	5	6	7	8
a5	0.787							
a6	0.750							
a3	0.746							
a1	0.729							
a2	0.661			0.304				
a4	0.625							
c6				0.732				
c7				0.700				
c2				0.682				
c8				0.634				
c5				0.564				
c1				0.522	0.381			
c3				-0.395				0.376
d5					0.647			
d1					0.571			
c2			0.563					
e3					0.464	0.316		
e4						0.738		
e5						0.710		
e2						0.609		
e1						0.352	0.543	
f4							0.792	
f5							0.745	
f6							0.728	
g4								0.701
f3							0.723	0.705
g1								0.735
g2								0.738
g3								0.709
f1							0.703	
d2					0.629			
d6					0.619			
d3					0.560			
d4					0.477			
b4		0.668						
b5		0.652						
b3		0.570						
b2		0.747						
b1		0.712						
c3			0.517					

f2							0.707	
c1			0.560					
c4				0.512				

When Table 6 is analyzed in terms of factor loads, it is seen that the factor loads for each item vary between 0.4 and 0.8. It is seen that 38 items have a load value in a single factor and 5 items are defined with factor loading in two factors.

Construct Validity and Reliability

In the context of the line chart, each gap between two points is considered a factor. In this graph, the point where the graph curve shows a rapid decline is the fifth point (Figure 1).

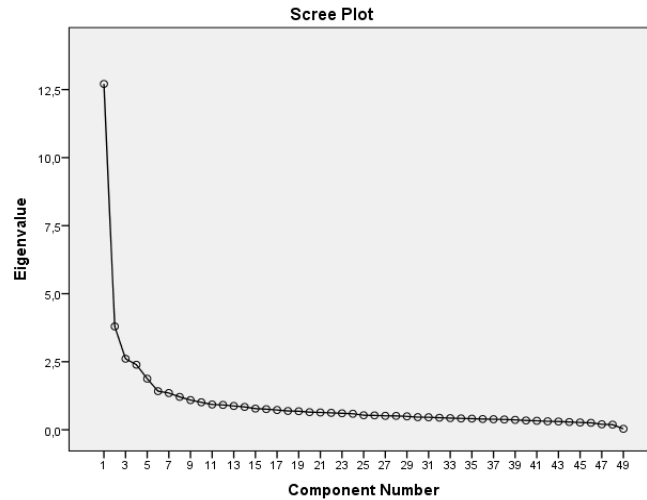


FIGURE 1
FACTOR EIGENVALUE LINE GRAPH OF THE SCALE

Eigen value, percentage of contribution to the total variance and scree plot are frequently used to determine the number of factors.

The arithmetic means, standard deviation values, skewness and kurtosis values, and Cronbach Alpha internal consistency coefficients consisting of 8 factors are shown in Table 7.

Faktör	\bar{x}	Ss	Varyans	Çarpıklık	Basıklık	Cronbach's Alpha
A	3,68	0,75	0,56	-0,28	0,59	0,91
B	3,30	0,77	0,59	-0,17	0,04	0,74
C	2,63	0,90	0,81	0,19	-0,61	0,66
Ç	4,00	0,43	0,18	-0,74	0,97	0,59
D	2,99	0,80	0,63	0,01	-0,20	0,77
E	3,41	0,76	0,58	-0,20	-0,08	0,81
F	2,72	0,70	0,49	0,22	-0,01	0,71
G	3,15	0,95	0,90	-0,09	-0,39	0,85

When Table 7 is examined, the arithmetic mean of the items in each factor is 2.6-4.0; standard deviations vary between 0.4-0.9. According to these results, scale factors are homogeneous because the standard deviation of 8 factors is <1. Since the skewness and kurtosis values of all factors are between +1.00 and -1.00, the scale scores show a normal distribution

feature. The Cronbach's Alpha reliability value of the 8-dimensional 43-item scale was 0.91 in the first factor, 0.74 in the second factor, 0.66 in the third factor, 0.59 in the fourth factor, 0.77 in the fifth factor, 0.81 in the sixth factor, 0.71 in the seventh factor, it is seen that it is 0.85 in the eighth factor. Factor structure was determined by Exploratory Factor Analysis (EFA) method. In the study, a measurement tool consisting of 8 factors and 43 items was developed according to EFA.

Findings Related to Correlation between Dimensions and Regression Analysis

The correlation coefficient is denoted by the lowercase letter *r*. If the *r* value takes values close to -1, it is determined that there is a negative relationship between the variables, and a positive relationship is determined if it takes values close to +1. If the *r* value is close to zero, it is concluded that there is no relationship between the two variables.

Since the data showed a normal distribution, interpretation was made according to the Pearson Correlation Coefficient. For Pearson correlation = *r*: If the *r* value is between 0.00-0.25, the correlation degree is very weak, if the *r* value is between 0.26-0.49, the correlation degree is weak, if the *r* value is between 0.50-0.69, the correlation degree is moderate, if the *r* value is between 0.70-0.89, the degree of relationship is high, and if the *r* value is between 0.90-1.00, the degree of relationship is interpreted as very high.

The findings regarding the determination of the relationship between the factors in the scale are shown in Table 8.

	A	B	C	Ç	D	E	F	G
A	1	0.345**	0.375**	0.408**	0.394**	0.434**	-0.125**	0.395**
B	0.345**	1	0.287**	0.259**	0.233**	0.297**	0.024	0.228**
C	0.375**	0.287**	1	0.406**	0.420**	0.254**	0.027	0.431**
Ç	0.408**	0.259**	0.406**	1	0.341**	0.402**	-0.081**	0.376**
D	0.394**	0.233**	0.420**	0.341**	1	0.309**	0.167**	0.448**
E	0.434**	0.297**	0.254**	0.402**	0.309**	1	-0.123**	0.298**
F	-0.125**	0.024	0.027	-0.081**	0.167**	-0.123**	1	0.002
G	0.395**	0.228**	0.431**	0.376**	0.448**	0.298**	0.002	1

As seen in Table 8, all of the factors in the scale show a significant relationship with each other. ($p < 0.01$, $p < 0.05$).

When the relationship between the factors is analyzed separately;

Factor		A	E
Attitudes and behaviors of management towards personnel (a)	r	1	0.468**
	p		0.000
Confidence and absenteeism (e)	r	0.468**	1
	p	0.000	

** $p < 0.01$, N=599

In Table 9 it is seen that there is a statistically significant relationship between the attitudes and behaviors of the management towards the personnel and the factor of trust and absenteeism in the institution ($p < 0.000$).

Table 10 CORRELATION BETWEEN MANAGEMENT'S ATTITUDES AND BEHAVIORS TOWARDS PERSONNEL AND INSTTUTIONAL SUCCESS FACTOR			
		B	I
Attitudes and behaviors of management towards personnel (b)	r	1	0.267**
	p		0.000
Institutional success (i)	r	0.267**	1
	p	0.000	
** p<0.01, N=599			

In Table 10, it is seen that there is a statistically significant relationship between the attitudes and behaviors of the management towards the personnel and the Institutional Success Factor ($p<0.000$).

Table 11 CORRELATION BETWEEN MANAGEMENT AND TRUST AND ABSENTEEISM FACTOR IN THE INSTITUTION			
		E	F
Management (E)	r	1	0.401**
	p		0.000
Confidence and absenteeism (F)	r	0.401**	1
	p	0.000	
** p<0.01, N=599			

Table 11. It is seen that there is a statistically significant relationship between the management and the factor of trust and absenteeism in the institution ($p<0.000$)

Table 12 CORRELATION BETWEEN STAFF ATTITUDES AND BEHAVIORS TOWARDS CITIZENS AND SUCCESS FACTOR			
		H	A
The success of the institution (h)	r	1	0.714**
	p		0.000
Attitudes and behaviors of staff towards citizens (a)	r	0.714**	1
	p	0.000	
** p<0.01, N=599			

In Table 12 it is seen that there is a statistically significant relationship between the attitudes and behaviors of the personnel towards the citizens and the success factor ($p<0.000$). Regression analysis aims to determine the nature of the relationship between variables. In the study, a simple linear regression analysis was performed between the two selected factors in accordance with the literature.

Table 13 TO WHAT EXTENT DO THE ATTITUDES AND BEHAVIORS OF THE PERSONNEL TOWARDS CITIZENS AFFECT THE FACTOR OF TRUST AND ABSENTEEISM IN THE INSTITUTION?			
Model	R	R²	SE
2	0.468 ^a	0.219	0.66411

In Table 13, when trust and absenteeism in the institution are taken as the dependent variable, and the attitudes and behaviors of the personnel towards the citizen as the independent

variable; It is seen that the attitudes and behaviors of the personnel towards the citizens affect the trust and absenteeism factor by 22%.

Model	R	R²	SE
3	0.342 ^a	0.117	0.40028

In Table 14, when trust and absenteeism in the institution are taken as the dependent variable and the attitudes and behaviors of the management towards the personnel as the independent variable; It is seen that the attitudes and behaviors of the management towards the personnel affect the trust and absenteeism factor by 12%.

The items in which the managers of the institutions expressed their opinions by marking the options "I agree" and "I totally agree" regarding the scale items are shown in Table 14.

Scale items	Percentage (%)
In my institution, the management is patient with the personnel.	89.5
In my institution, the management monitors the work and transactions of the personnel with computer-based systems.	90.7
In my institution, the management respects the questions about the system from the personnel.	90.5
In my organization, management cares about personnel.	86.1
In my institution, the management acts as a role model for the personnel in interacting with the citizen.	81.9
Systematic practices implemented in my institution impose burdens on citizens beyond normal bureaucracy.	65.1
In my institution, the personnel do not have communication problems with the citizens.	75.4
The staff of the institution thinks that the use of technology in business and transactions will be beneficial.	71.1
In my institution, staff treat citizens as they would like to be treated.	93.3
In my institution, the staff helps citizens to use electronic applications.	76.2
In my institution, the staff cares about the citizens.	90.2
In my institution, the personnel cannot get along with other personnel.	24.3
In my institution, the personnel group among themselves.	48.8
I am uncomfortable with groupings in my institution.	46.2
The needs of the citizens are taken into account in the decision-making process.	78.6
Citizens' problems are tried to be solved.	72.1
Citizens' questions about automatic systems are seen as a burden.	13.9
Personnel are supported in preparing informative videos for citizens to use applications related to automated systems.	68.6
Responsibility for solving the citizens' affairs is felt.	90.1
Every citizen is treated fairly.	72.5
The work of the staff on citizens is appreciated.	91.0
It is believed that effective instructional videos can clarify the questions of citizens.	74.5
My institution is intertwined with technology.	61.7

E-mails are sent automatically in my institution.	76.7
Robotic bureaucracy applications facilitate the work of institution personnel.	95.7
My institution and software companies cooperate on robotic bureaucracy applications.	90.6
The automatic systems applied in my institution are selected by considering the needs of the citizens.	87.8
In my organization, staff and unit managers meet regularly to discuss issues related to effective automated systems.	39.8
In my institution, the personnel do not feel alienated.	41.3
Citizens comply with corporate rules.	79.1
In my institution, the personnel feel that they belong to my institution.	71.0
There is a tracking system for working hours in my institution.	83.9
In my institution, the personnel come to work on time.	74.3
In the recruitment policies implemented in my institution, the competence of the personnel to use computer-based applications is considered important.	73.7
Personnel who have difficulties in using computer-based applications in my institution reduce the success of the institution.	77.1
I support the inclusion of foreign nationals in the recruitment policies implemented in my institution, in line with their competencies.	48.0
In my institution, the management's interest in foreign personnel reduces the motivation of other personnel.	39.9
Having foreign personnel in my institution creates difficulties in agreements.	44.9
Personnel who have difficulties in using computer-based applications in my institution disrupt their time planning.	43.7
I ensure that the necessary personnel training is received in my institution.	42.0
I organize events to improve the sense of belonging of foreign personnel in my institution.	76.2
In my institution, I take care to carry out studies that will reveal the skills of the personnel.	67.9
I do adaptation studies for the personnel who are new to the institution.	44.3

DISCUSSION AND CONCLUSION

In the quantitative study carried out by the researchers in the first phase of the research series, it has been observed that there are very few studies on the process, especially in the national and international literature. With this study, it has been possible to discuss the opinions in the field about institutions in different dimensions and to propose a structure that is suitable for the reality of institutions in the understanding of robotic bureaucracy management. It is expected that this measurement tool with high validity and reliability will contribute to the enrichment of the literature by supporting future research on the subject.

As a result of the relational analyzes of the piloted scale, 8 factors in the scale show a significant relationship with each other. There is a statistically significant relationship between the attitudes and behaviors of the management towards the personnel and the factor of trust and absenteeism in the institution, between the attitudes and behaviors of the management towards the personnel and the success factor of the institution, between the management and the trust and absenteeism factor in the institution, and between the attitudes and behaviors of the personnel towards the citizens and the success factor appears to be.

When trust and absenteeism in the institution are taken as the dependent variable, and the attitudes and behaviors of the personnel towards the citizen as the independent variable; It is

seen that the attitudes and behaviors of the personnel towards the citizens affect the trust and absenteeism factor by 22% in the institution, and the attitudes and behaviors of the management towards the personnel affect the trust and absenteeism factor by 12% in the institution.

When we look at the percentages of opinion of the institution managers in the expressions "I agree" and "I totally agree" regarding the scale items, the highest percentage is seen as "Robotic bureaucracy applications facilitate the work of the institution personnel (95.7%), and the least "Questions of the citizens about automatic systems are seen as a burden (13.9%)" belongs to the article.

Especially in the recent periods, most of the research problems in the related literature in the analysis of the managerial impact of managers on the institution are directed to determine the issues such as what the behaviors are in the bureaucracy. In this study, it is focused on what managers and staff think about attitudes and behaviors towards citizens. It can be suggested that future research should be planned to provide evidence on different behaviors in examining the effect of managers on the process. At the same time, the results of the quantitative analysis can be evaluated by conducting a scale development study in which the opinions of the personnel regarding the process are taken.

In other words, the manager must be able to manage the process in a way that takes into account all the components and variables of the institution. This contribution will make a strong contribution to the quality of progress in robotic bureaucracy-based management. In addition, studies with high participation of citizens should be carried out in determining the contributions of the units to the process and the determination of the institution's goals in this regard.

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