### Review paper

Electronic collection of papers of the Faculty of Civil Engineering

https://doi.org/10.47960/2232-9080.2022.24.12.29

ISSN 2232-9080

# Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

#### Veronika Primorac

University of Mostar, Faculty of Civil Engineering, Architecture, and Geodesy, M.Sc, veronika.primorac@fgag.sum.ba

### Ivana Domljan

University of Mostar, Faculty of Civil Engineering, Architecture, and Geodesy, Ph.D, ivana.domljan@fgag.sum.ba

Abstract: The paper aims to determine the organizational structure and organizational culture of a successful construction company from Bosnia and Herzegovina. Additionally, the paper provides an insight into their interdependence and impact on the overall business operations of the company. The questionnaire examined the main dimensions of organizational structure: formalization, centralization, standardization and specialization. Cameron and Quinn's Organizational Culture Assessment Instrument was used to examine the organizational culture at the company, while the analysis of the company's business efficiency was informed by Kaplan and Norton's Key Performance Indicators: financial, internal business processes, customer, and learning and growth perspectives. After the reliability of the measuring scales used were confirmed by calculating the Cronbach alpha coefficient, the Relative Importance Index determined which dimensions of the organizational structure and culture, and which efficiency indicators have the greatest influence on the design of the company's business system. According to the subjective opinion of the employees who participated in this research, the company can be characterized as hierarchical, highly formalized and structured, and customer-oriented.

Key words: organizational structure, organizational culture, OCAI, KPI, RII

# Organizacijska struktura i organizacijska kultura – studija slučaja bosansko-hercegovačkog poduzeća

Sažetak: Cilj rada je utvrditi organizacijsku strukturu i organizacijsku kulturu uspješnog građevinskog poduzeća s područja Bosne i Hercegovine. Također, rad pruža uvid u njihovu međuovisnost i utjecaj koji imaju na cjelokupno poslovanje poduzeća. Anketnim upitnikom ispitane su glavne dimenzije organizacijske strukture: centralizacija, formalizacija, specijalizacija i standardizacija. Organizacijska kultura ispitana je pomoću instrumenta za procjenu organizacijske kulture, predstavljenog od strane Camerona i Quinna (OCAI), te učinkovitost poslovanja pomoću ključnih pokazatelja izvršenja, predstavljenih od strane Nortona i Kaplana: financijski pokazatelji, klijenti, unutarnji poslovni procesi i inovacije i učenje. Nakon što je potvrđena pouzdanost korištenih mjernih ljestvica izračunom Cronbach alfa koeficijenta, indeksom relativne važnosti - RII utvrđeno je koje dimenzije organizacijske strukture i kulture, te koji pokazatelji učinkovitosti imaju najveći utjecaj na oblikovanje poslovnog sustava poduzeća. Prema subjektivnom mišljenju djelatnika u istraživačkom uzorku, poduzeće može okarakterizirati kao hijerarhijsko, visoko formalizirano i strukturirano te orijentirano prema klijentima.

Ključne riječi: organizacijska struktura, organizacijska kultura, OCAI, KPI, RII

Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

### 1. INTRODUCTION

In today's world, where development has become the basis for survival in the market, the primary task of the company is to build an organizational structure that will correspond to the conditions in which the company operates.

Different organizational structures in terms of complexity, formalization and centralization are implemented according to company needs.

To the question of which organizational structure will perform better, it can only be answered that the organizational structure itself does not guarantee success [13].

Success depends on the company's employees. Therefore, the recruitment process should select the employees whose not only competencies but also the values fit into the company's philosophy, which originates from their founders.

In addition to individual, isolated assumptions, values and standards, the perpetuation of companies is considerably facilitated by their configuration, which is nothing but types of organizational cultures [13].

The objective of the paper is to investigate a successful construction company operating in Bosnia and Herzegovina conditions. The studied company is among the leading companies in the Federation of Bosnia and Herzegovina (FBiH) by the size of its market share. Its share in the FBiH construction industry ranges from 0.7% (share of income in the foreign market) to 3.1% (share of total income), as can be seen in Table 1. Therefore, this company can be said to be an adequate representative of the FBiH construction industry.

Table 1. Market position of the company; 2021

| Variable              | Activity<br>(Federation<br>of BiH)  1. Market<br>leader (Euro-<br>Asfalt d.o.o.<br>Sarajevo) |                       | 2. Selected company  |                          |  |
|-----------------------|--|-----------------------|----------------------|--------------------------|--|
| variable              |  |                       | Amount               | Share of activity (in %) |  |
| Assets                | 6.73<br>(billion KM)   | 173.0<br>(million KM) | 51.7<br>(million KM) | 0.8                      |  |
| Revenue               | 2.58<br>(billion KM)   | 288.0<br>(million KM) | 79.6<br>(million KM) | 3.1                      |  |
| Income in the foreign | 188<br>(million KM)  | 79.6<br>(million KM)  | 1.4<br>(million KM)  | 0.7                      |  |
| Profit                | 231<br>(million KM)  | 2.8<br>(million KM)   | 2.5<br>(million KM)  | 1.1                      |  |
| Number of employees   | 21869  | 927                   | 347                  | 1.6                      |  |

Source: FIA (2022). Standard overview of the financial operations assessment of the industry. Sarajevo: FIA

The subject of this paper's research is to determine the organizational structure and organizational culture of a successful construction company from Bosnia and Herzegovina.

Given that certain types of organizational structures are compatible with certain types of organizational cultures, as stated by Janićijević, the relationship between organizational structure and culture, and their impact on the overall business operations of the company will be shown based on the results of the paper [8].

Organizational cultures that advocate an uneven distribution of authority as a necessary and useful means of achieving company goals are best suited to highly centralized organizational structures. In contrast, organizational cultures that advocate an even

# Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

distribution of authority as a means of achieving company goals lead to the implementation of decentralized organizational structure models [8].

On the other hand, cultures that advocate the achievement of goals by means of clearly defined rules and procedures are compatible with highly formalized organizational structures, while cultures that advocate the achievement of goals by means of social relations in the company are suited to less formalized models of organizational structures [8].

The sample of this research is a certain number of company employees who were surveyed. The collected data represent the subjective opinions of the respondents considering that not everyone shares the same professional ambitions and goals that influence their answer.

### 2. LITERATURE REVIEW

Organizational structure is a system of all potentials of the company, both human and material ones, which enable the realization of the company's business goals as a function of their performance. The organizational structure determines the efficiency in meeting customer requirements, expressed in the form of market demand, which is also a characteristic of construction companies [4].

Due to the complexity of business operations and in order to ensure business efficiency, the organizational structure of construction companies must be adapted to the actual situation in specific conditions, while taking into account process technology, complexity, work process, market position and employee motivation as a function of performance [4].

Construction companies are a classic example of project-oriented companies. Since the efficiency of a company depends on its employees, the way the company uses its human resources contributes to its efficiency. Therefore, in order for a construction company to be efficient, it must implement an organizational structure that will enable the smooth performance of basic activities on the one hand, and on the other hand be flexible enough to create efficient temporary teams for individual projects [7].

In the not-so-distant past, managers believed that only with "hard elements" such as structure, technology, capital and legal system, could a company cope with external factors in order to achieve success [18].

However, with the globalization of the construction industry, there was a need for a more intensive understanding of "soft elements", which refer to more subtle and sophisticated methods of achieving company efficiency, i.e. they indicate a humanizing influence on management that is expressed by the concept of organizational culture [15].

Research conducted by the International Council for Research and Innovation in Building and Construction, with a focus on organizational culture research in the construction industry in Europe, Asia, Africa, Australia and America, and based on the OCAI and CVF model by Cameron and Quinn, showed that there is no typical organizational culture specifically related to the construction industry, but that organizational culture depends on the national culture of the country, market requirements, the business environment of the company and the goals of each construction company individually [3].

Through their research, Riley and Clare-Brown determined several characteristics of the cultural profiles of construction companies, namely: absence of common perception and lack of communication between different levels of occupation, cultural differences between project participants, increased engagement of subcontractors, and contractor locations that caused the existence of at least two types of organizational cultures within companies, corporate and project one [19].

Research on organizational culture in the United Kingdom, Turkey and Sri Lanka led to the conclusion that cultural differences between project participants are the main reason for

# Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

poor project implementation. The main differences were observed between designers and companies specializing in the execution of works. Namely, it was shown that companies specializing in the execution of works prefer a market organizational culture, while designers prefer and practice a clan culture [19][14]. Research in Finland and India led to the realization that there are differences in organizational culture within individual departments of companies and between management levels in companies. The difference in the perception of organizational culture between top managers and middle managers was determined on the example of a construction company from India. Namely, top managers perceived the company's organizational culture as clan, while middle managers assessed it as hierarchical [16]. In Finland, depending on individual departments, such as the department of research and product development, procurement, production, sales, etc., clan and hierarchical organizational culture alternated [20].

Research conducted in China showed differences in the organizational culture of construction companies depending on the region where they are located. Clan and hierarchical type are observed as the two most dominant types of organizational culture [11]. Also, through research in Croatia, Šandrk-Nukić proved the existence of clan culture in the southernmost and northernmost areas of the Adriatic coast, while the hierarchical type of organizational culture prevailed in construction companies in the rest of Croatia [17].

According to Handy, the size of the company very much influences its culture. Research conducted in South Africa confirms the existence of differences in the organizational culture of construction companies depending on their size. The results showed that small companies (up to 50 employees) practice and prefer a market organizational culture, as do large companies (more than 150 employees), while medium-sized companies (between 50 and 150 employees) practice and prefer a clan organizational culture [6]. A similar survey in Finland at the end of 2015 found that companies employing up to 50 employees and companies employing 50 to 150 employees practice and prefer a clan organizational culture, while companies with more than 150 employees practice a market culture but prefer a clan organizational culture [20].

The importance of understanding organizational culture comes into play when working on international projects in which it is necessary to incorporate the values, attitudes and opinions of participants of different nationalities, political viewpoints, economic and cultural backgrounds, because this is the only way to manage projects and maintain the interest of participants [18]. Also, forming a partnership through the balance of different interests and organizational cultures leads to project success [2].

Research conducted by Cheung, Wong and Lam identified innovation as the most important factor in achieving and sustaining business success. Changes that will encourage employees for innovation and motivate them to increase work efficiency are sometimes needed. In achieving a competitive advantage, construction companies must form the thinking of employees towards the adoption of these changes and stimulate their creativity and innovativeness [18].

Consistently with the traditional viewpoint on the performance of construction companies, Xiao and Proverbs state that the main performance indicators of companies in the construction industry depend on the compliance with predetermined criteria regarding costs, time, resources and the achievement of the required quality [23]. Research conducted in the United Kingdom in 2000 by the KPI group defined Key Performance Indicators (KPI), which are becoming the most commonly used indicators for evaluating the company performance from a financial aspect [9]. However, financial indicators are considered to indicate performance in past periods, while qualitative indicators describe the impact of intangible variables on the company's adaptability to upcoming changes in the environment.

# Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

By comparing different company performance measurement systems, such as KPI, the European Foundation for Quality Management Excellence Model (EFQM) and the Balanced Scorecard (BSC), Bayliss identified BSC as the model that provides a performance assessment that goes beyond the project level and combines financial and non-financial performance indicators. Therefore, the most suitable indicators of the efficiency of construction companies are assumed to be those presented by Norton and Kaplan in the form of the BSC model: Financial, Customer, Internal Business Processes and Innovation and Learning [1].

### 3. RESEARCH METHODOLOGY

The basic research method of part of this work is the survey method. In order to collect relevant information, a closed questionnaire was developed, which consisted of four parts measured using a five-point Likert scale. Respondents were asked to rate their agreement or disagreement with the given statements, where the rating 1 means I completely disagree, 2 - I disagree, 3 - I neither agree nor disagree, 4 - I agree and 5 - I completely agree.

The research sample consists of employees of the selected construction company from Bosnia and Herzegovina, who are guaranteed complete anonymity. The survey was conducted in the period from April to June 2022. The survey questionnaire was designed on the Kwiksurveys website.

The first part of the questionnaire was formulated for collecting socio-demographic information about the respondents, such as gender, age, level of education and type of employment.

The second part of the questionnaire was intended to determine the organizational structure. A combination of the statements used in sources [21] and [22] evaluated the main dimensions of organizational structure: centralization, formalization, specialization and standardization.

In the third part of the questionnaire, an organizational culture assessment instrument, presented by Cameron and Quinn, OCAI, which is based on the competing values framework CVF, was used to determine organizational culture. The OCAI has proven to be a widely applicable instrument for assessing organizational culture in the construction industry and economic sectors and was used by CIB W112 to examine organizational culture in construction [18]. The CVF is based on four dominant types of organizational culture that differ along two dimensions. The first dimension differentiates flexible companies with discretion and stable companies that strive for control, while the second dimension is concerned with the company's focus, or inward or outward orientation. The combination of the above results in four types of organizational cultures: clan, adhocracy, market and hierarchy organizational culture, shown in Figure 1 [5].

Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

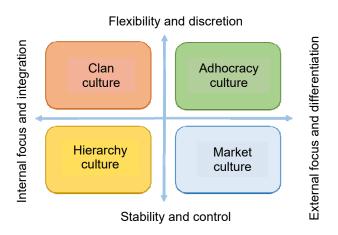


Figure 1. Types of organizational culture

The OCAI examines six dimensions of organizational culture, such as dominant characteristics, company leadership, management style, "glue" factors, strategy, and success criteria, which are shown in Figure 2. The statements about organizational culture were taken from the website www.ocai-online.com, and given that OCAI is originally in English, they were translated into Croatian.



Figure 2. Dimensions of organizational culture

The fourth part of the questionnaire aimed to determine the company efficiency by examining key performance indicators, financial and non-financial, presented by Norton and Kaplan: financial indicators, customers, internal business processes and innovation and learning. The statements for the mentioned indicators were taken from the source [7] and translated into Croatian.

After designing the survey questionnaire, it was tested to determine whether the respondents understood the questions in order to process the answers more reliably. Considering that all six respondents of a distribution company from the Sarajevo area, who were tested, responded that they fully understood the content of the survey questionnaire, there was no need for modifications.

# Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

In cooperation with the human resources department of the construction company, efforts were made to include all relevant categories of employees in the sample. Therefore, the survey questionnaire was sent to 77 employees of the company by electronic mail. A review of the survey questionnaires established that 24 of them were incomplete, so they were eliminated from further data processing. In the end, the percentage of returned and correctly filled questionnaires was 61.0%, or 47 questionnaires, which can be considered satisfactory, given that 20% is set as the limit return rate in research, as specified by Mečev and Grubišić [12].

Before data processing, the reliability of the measurement scales used was tested by calculating the Cronbach alpha coefficient. The value of the Cronbach alpha coefficient ranges between 0 and 1. The closer the coefficient value to 1, the higher the reliability. In research papers, values of the Cronbach alpha coefficient of 0.9 indicate excellent reliability, a value of 0.8 indicates very good reliability, and a value of 0.6 to 0.7 indicates acceptable reliability [24]. The Cronbach alpha coefficient was calculated using the SPSS statistical data processing program.

Considering that a five-point Likert scale was used as the measuring scale, a method determining the relative importance index (RII) was used in the data processing. The relative importance index is a non-parametric method, widely applied in research in the field of construction and management. It is used for the analysis of structured responses to the questionnaire, involving ordinal measurement of attitudes [10].

The formula according to which the relative importance index is calculated is [10]:

$$RII (\%) = \frac{1 * (n1) + 2 * (n2) + 3 * (n3) + 4 * (n4) + 5 * (n5)}{5 * (n1 + n2 + n3 + n4 + n5)}...$$

### Where:

n1 = is the number of respondents who completely disagree with the statement;

n2 = number of respondents who disagree with the statement;

n3 = number of respondents who neither agree nor disagree with the statement;

n4 = number of respondents who agree with the statement;

n5 = number of respondents who completely agree with the statement.

The value of the relative importance index and the associated effect:

 $10\% \le RII \le 20\%$  – very little effect

 $20\% \le RII \le 40\%$  – little effect

 $40\% \le RII \le 60\%$  – medium effect

 $60\% \le RII \le 80\%$  – high effect

 $80\% \le RII \le 100\% - very high effect$ 

According to the responses of the employees in the survey sample, the effect of individual dimensions on the organizational structure and organizational culture, as well as of performance indicators on the company efficiency will be established by the relative importance index. The relative importance index was calculated according to the specified formula in Excel.

The structure of the responses to the survey questions is presented using graphical and tabular methods. Mean values, dispersion indicators and relative importance index are presented using the methods of descriptive statistics.

### 4. SURVEY RESULTS

The results obtained based on the answers of 47 employees of the construction company are presented hereafter.

# Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

Table 2: Socio-demographic characteristics of the respondents

| Obtiti                 | NA1 - 114              | Number of ı | respondents |
|------------------------|------------------------|-------------|-------------|
| Characteristic         | Modality               | Frequency   | Percentage  |
| Sex                    | Male                   | 20          | 42.6%       |
|                        | Female                 | 27          | 57.4%       |
|                        | Up to 30 years         | 15          | 31.9%       |
|                        | From 30 to 40 years    | 21          | 44.7%       |
| Age                    | From 40 to 50 years    | 5           | 10.6%       |
|                        | From 50 to 60 years    | 5           | 10.6%       |
|                        | More than 60 years     | 1           | 2.2%        |
|                        | High school diploma    | 5           | 10.6%       |
| l aval of advantion    | Associate degree/B.Sc. | 18          | 38.3%       |
| Level of education     | M.Sc./Ph.D.            | 21          | 44.7%       |
|                        | Others                 | 3           | 6.4%        |
| Francis magnitude in a | Permanent              | 35          | 74.5%       |
| Employment type        | Temporary              | 12          | 25.5%       |

Table 2 shows the socio-demographic characteristics of the respondents. Although the number of women (10.3%) employed in the construction industry of Bosnia and Herzegovina is significantly lower than the number of men (89.7%) according to the data of the BiH Agency for Statistics, the table shows that this survey sample consists of 57.4% women and 42.6% men [25]. The majority, or 44.7% of the employees in the survey sample are in the age group between 30 and 40 years. More than 90% of them have completed some level of higher education. More precisely, 10.6% of them have completed high school, 38.3% have an associate/B.Sc. degree, and 44.7% have master's or Ph.D. degrees. 74.5% of the employees in the survey sample are employed on a permanent basis, and 25.5% are temporary (fixed-term) employees.

The reliability of the organizational structure assessment instrument was tested by calculating the Cronbach alpha coefficient, whose value is  $\alpha$  =0.834 and indicates very good reliability.

Table 3: Relative importance index (RII) for individual dimensions of organizational structure

| Organizational structure |    |         |      |        |  |  |
|--------------------------|----|---------|------|--------|--|--|
| Dimension                | N  | RII (%) | Rank | Effect |  |  |
| Formalization            | 47 | 71%     | 1    | High   |  |  |
| Centralization           | 47 | 69%     | 1    | High   |  |  |
| Standardization          | 47 | 60%     | 2    | High   |  |  |
| Specialization           | 47 | 59%     | 3    | Medium |  |  |

# Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

Table 3 shows the relative importance index values for each dimension of organizational structure. According to the responses of the employees in the survey sample, formalization with RII = 71% (high effect) has the highest influence on the formation of organizational structure, followed by centralization with RII = 69% (high effect), standardization with RII = 60% (high effect), and finally, specialization with RII = 59% (medium effect).

The results obtained for each dimension of organizational structure, based on the survey questionnaire, are presented in table form using descriptive statistics, in the order of relative importance index values.

| Table 4: Descriptive statistics |  |
|---------------------------------|--|
|                                 |  |
|                                 |  |
|                                 |  |
|                                 |  |
|                                 |  |

| Dimensions      | N  | Mean value | St. deviation | Min. | Max. |
|-----------------|----|------------|---------------|------|------|
| Formalization   | 47 | 3.54       | 1.02          | 1.0  | 5.0  |
| Centralization  | 47 | 3.45       | 1.05          | 1.0  | 5.0  |
| Standardization | 47 | 3.0        | 0.79          | 1.0  | 5.0  |
| Specialization  | 47 | 2.95       | 0.91          | 1.0  | 5.0  |

Table 4 shows the level of individual dimensions of organizational structure in the construction company. The level of formalization in the company was assessed as above average, whereby respondents confirmed the existence of written rules and formal procedures, the formality of contacts and the documentation of all projects in the database. Considering that not a single company is fully centralized, the level of centralization of this company was rated 3.45. In this way, the respondents confirmed that they must ask for approval from their supervisors before making decisions, that supervisors of individual departments must consult with managers before making decisions, that all decisions must be approved by managers, but not that employees are involved in the decision-making process. Standardization and specialization are the dimensions that have the lowest effect on the design of the business system and were rated average and below average, which is contributed by the fact that the construction company operates in a dynamic industry where each project is unique and requires a different work approach.

The reliability of the organizational culture assessment instrument was tested by calculating the Cronbach alpha coefficient, whose value is  $\alpha$ = 0.913 for clan culture,  $\alpha$ = 0.748 for adhocracy culture,  $\alpha$ = 0.759 for market culture and  $\alpha$ = 0.759 for hierarchy culture. The value of the Cronbach alpha coefficient  $\alpha$  > 0.70 indicates very good reliability.

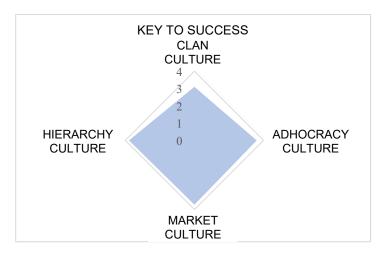
# Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

| Table 5: Relative importance index (RII) for individual dimensions of organizational culture | Table 5: Relative importance index ( | (RII) for individual | I dimensions of organizat | ional culture |
|--|--------------------------------------|----------------------|---------------------------|---------------|
|--|--------------------------------------|----------------------|---------------------------|---------------|

| Organizational culture   |    |        |      |        |  |  |
|--------------------------|----|--------|------|--------|--|--|
| Dimension                | N  | RII(%) | Rank | Effect |  |  |
| The key to success       | 47 | 72%    | 1    | High   |  |  |
| Strategy                 | 47 | 69%    | 2    | High   |  |  |
| Company "glue" factors   | 47 | 69%    | 2    | High   |  |  |
| Management style         | 47 | 66%    | 3    | High   |  |  |
| Company leadership       | 47 | 66%    | 3    | High   |  |  |
| Dominant characteristics | 47 | 66%    | 3    | High   |  |  |

Table 5 shows the relative importance index (RII) values for each dimension of organizational culture. According to the responses of the employees in the survey sample, the dimension "key to success" has the highest influence on the formation of organizational culture with RII = 72% (high effect), followed by "strategy" and "company glue factors" with equal influence RII = 69% (high effect), and "management style", "company leadership" and "dominant characteristics", also with equal influence RII = 66% (high effect).

The results obtained for each dimension of organizational culture, based on the survey questionnaire, are presented in table and graphical form using descriptive statistics, in the order of relative importance index values.

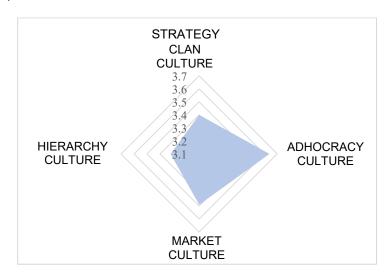


Graph 1: The key to success

Graph 1 shows the distribution of responses of the employees in the survey sample about the key to success of the company, for each type of organizational culture. The result indicates that the company defines success based on efficiency, or it believes that reliable delivery, planning and the lowest possible costs are key success factors. The above characteristics correspond to a hierarchy organizational culture (3.79). Furthermore, the company defines success with the achievement of a competitive advantage (market culture

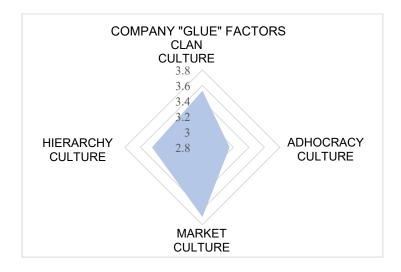
### Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

3.72), the uniqueness of products and the service it offers to clients (adhocracy culture 3.60) and the development of human resources, teamwork, employee commitment and empathy (clan culture 3.10).



Graph 2: Company strategy

Graph 2 shows the distribution of responses of the employees in the survey sample on company strategy, for each type of organizational culture. The result indicates that the company's strategy corresponds to an adhocracy culture (3.64) according to which the company emphasizes and encourages the acquisition of new resources, testing of novelties and searching for new opportunities. The company also strives to achieve goals and win over the competition (market culture 3.49), emphasizes and encourages employee development, trust, openness and participation (clan culture 3.40) and stability, invariability and efficient work without difficulties (hierarchy culture 3.32).

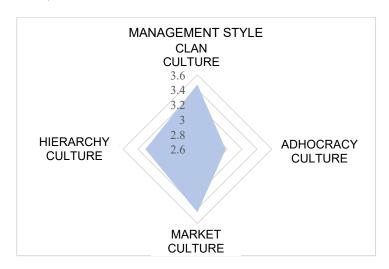


Graph 3: Company "glue" factors

Graph 3 shows the distribution of responses of the employees in the survey sample about the company "glue" factors, for each type of organizational culture. The result indicates

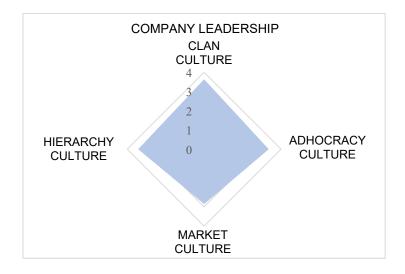
# Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

that the company "glue" factors correspond to the market culture (3.70), according to which what sustains the company is the orientation towards achievements and realization of goals. The following values that keep up the company are loyalty and mutual trust and the exceptionally high commitment of employees to work (clan culture 3.53), formal rules, policy and the importance of maintaining business without difficulties (hierarchy culture 3.45) and commitment to innovation and development with an emphasis on risk-taking tendency (adhocracy culture 3.15).



Graph 4: Management style

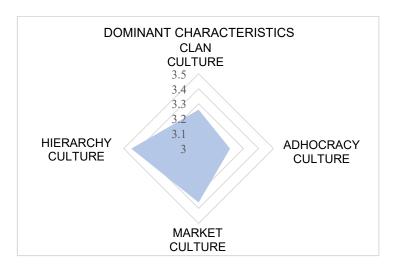
Graph 4 shows the distribution of the responses of the employees in the survey sample on the management style within the company, for each type of organizational culture. The result indicates that the management style within the company corresponds to a clan culture, the main characteristics of which are teamwork, consensus and participation (3.47). It is followed by the market organizational culture (3.45): competitiveness, high demands and achievements; hierarchy (3.30): job security, harmony, predictability and stable relationships; and adhocracy (2.98): individual risk-taking, innovation, freedom and uniqueness.



Graph 5: Company leadership

# Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

Graph 5 shows the distribution of responses of the employees in the research sample on company leadership, for each type of organizational culture. The result indicates that the company leadership corresponds to a clan culture, according to which managers and department supervisors are mentors who provide support to employees (3.64). Managers and supervisors are also coordinators and organizers (3.43), innovators and entrepreneurs (3.36) and competitors (2.85).



Graph 6: Dominant characteristics

Graph 6 shows the distribution of responses of the employees in the survey sample about the dominant characteristics of the company, for each type of organizational culture. The results indicate that the dominant characteristics of the company correspond to a hierarchy culture according to which the company is a highly controlled and structured organization, which hires employees based on competencies, and in which employees follow certain formal rules and procedures when performing activities (3.45). It is followed by market culture with a mean value of 3.36, clan culture with 3.26 and adhocracy culture with 3.21.

Table 6: Mean value of dimensions of organizational cultures

| Dimensions               | Clan culture | Adhocracy<br>culture | Market culture | Hierarchy<br>culture |
|--------------------------|--------------|----------------------|----------------|----------------------|
| The key to success       | 3.32         | 3.60                 | 3.72           | 3.79                 |
| Strategy                 | 3.40         | 3.64                 | 3.49           | 3.32                 |
| "Glue" factors           | 3.53         | 3.15                 | 3.70           | 3.45                 |
| Management style         | 3.47         | 2.98                 | 3.45           | 3.43                 |
| Company leadership       | 3.64         | 3.36                 | 2.85           | 3.30                 |
| Dominant characteristics | 3.26         | 3.21                 | 3.36           | 3.45                 |
| Total                    | 3.44         | 3.32                 | 3.43           | 3.45                 |

# Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

Table 6 shows the mean values of organizational culture dimensions for each of the cultures. According to the responses of the employees in the survey sample, the dominant characteristics of the company and the key to success correspond to a hierarchy culture, the company leadership and management style to a clan culture, the "glue" factors to a market culture and strategy to an adhocracy culture. The result indicates that there is not one, absolutely dominant type of culture, but a combination of several of them. Observing the individual dimensions of organizational culture, it was determined that the consistence between the six mentioned dimensions is not supported, or that there is a cultural incongruence.

However, by summarizing the mean values, in opinion of the employees in the survey sample, the company mostly has hierarchy culture (3.45), followed by clan culture (3.44), market culture (3.43) and adhocracy culture (3.32).

The reliability of the company efficiency assessment instrument was tested by calculating the Cronbach alpha coefficient, the value of which is  $\alpha$ = 0.929 and indicates excellent reliability.

| Table 7: Relative importance inde | x (RII) for | individual comp | any performand | e indicators |
|-----------------------------------|-------------|-----------------|----------------|--------------|
|                                   |             |                 |                |              |

| Company efficiency          |    |         |      |           |  |  |
|-----------------------------|----|---------|------|-----------|--|--|
| Indicator                   | N  | RII (%) | Rank | Intensity |  |  |
| Customer satisfaction       | 47 | 77%     | 1    | High      |  |  |
| Internal business processes | 47 | 76%     | 2    | High      |  |  |
| Finances                    | 47 | 74%     | 3    | High      |  |  |
| Innovation and learning     | 47 | 73%     | 4    | High      |  |  |

Table 7 shows the relative importance index (RII) values for each company's efficiency indicator. According to the responses of the employees in the survey sample, the indicator "customer satisfaction" has the highest influence on the company efficiency with RII = 77% (high effect), followed by "internal business processes" with RII = 76% (high effect) and "finances" with RII = 74% (high effect). The last ranked indicator, according to the influence on the company efficiency, is "innovation and learning" with RII = 73% (high effect).

The results obtained for all performance indicators, based on the survey questionnaire, are presented in tabular form using descriptive statistics, in the order of relative importance index values.

# Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

Table 8: Company efficiency indicators

| Measuring scale             | N  | Mean value | St. deviation | Min. | Max. |
|-----------------------------|----|------------|---------------|------|------|
| Customer satisfaction       | 47 | 3.85       | 0.71          | 2.0  | 5.0  |
| Internal business processes | 47 | 3.82       | 0.74          | 1.0  | 5.0  |
| Finances                    | 47 | 3.68       | 0.69          | 1.0  | 5.0  |
| Innovation and learning     | 47 | 3.66       | 0.86          | 1.0  | 5.0  |
|                             | 47 | 3.76       | 0.75          |      |      |

Table 8 shows the company efficiency indicators. The mean value of the company's efficiency indicators ranges from 3.66 to 3.85, which means that the employees in the survey sample rated the company efficiency as above average.

The above-average efficiency is largely due to customer satisfaction, which means that the company respects its customers and acknowledges their feedback. In addition to successfully reaching goals related to customer service, the company also successfully meets the required level of quality, maintains a competitive advantage on the market and ensures the safety of employees. Besides, the respondents believe that the company successfully meets the goals related to profitability, revenue growth, cost control and achieves the expected net income. The fact that the company provides adequate training of employees and encourages them to improve their skills in order to achieve better efficiency at work also contributes to the company's success.

### 5. CONCLUSION

The results of the subjective opinions of the employees in the survey sample, collected through a questionnaire, showed that formalization is the dimension that has the highest influence on the formation of organizational structure, followed by centralization, standardization and finally specialization.

A high level of formalization in the company indicates the existence of formal rules and procedures that determine the functioning of the company as well as the behavior of its employees. Although no company is fully centralized, the level of centralization of this company indicates a hierarchy system, in which all decisions must be approved by supervisors, as a means of achieving goals, while standardization and specialization are present to a lesser extent due to the dynamism of the industry and the uniqueness of projects.

As for organizational culture, the results showed that there is not one, absolutely dominant type of culture, but a combination of several of them. Therefore, by observing the individual dimensions of organizational culture, it was established that the dimensions "key to success" and "dominant characteristics" correspond to hierarchy culture, "strategy" to adhocracy culture, "key company glue factors" to market culture, and "management style" and "company leadership" to clan culture. From the above, it can be seen that the consistence between the six mentioned dimensions is not supported, or that there is a cultural incongruence. Incongruence most often occurs between different departments. Therefore, as a proposal for future research or extension of this one, it would be desirable to

# Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

examine organizational culture by company departments, possibly also the preferred type of culture.

However, by summing the mean values of organizational culture dimensions for each type of organizational culture, hierarchy culture with a value of 3.45 prevails over clan, market and adhocracy.

If we take into account what has been said so far, the hierarchical culture of this company is characterized by the aspiration to achieve stability, predictability and efficiency, and it places priority on maintaining control and continuity of work without difficulties, which it achieves by formal rules and procedures, i.e. structuring of the organization for its high formalization. Thus, the results obtained for organizational structure and organizational culture are mutually complementary if we take into account Janićijevć's statement that cultures advocating the achievement of company goals by clearly defined rules and procedures are compatible with highly formalized organizational structures.

Considering that organizational culture can be a catalyst for the success of a company, but also an obstacle in the development of competencies that lead to success, a review of the literature established that some authors indicate a hierarchical type of culture, due to strict rules and formal procedures, as an obstacle in the promotion of innovation and learning, which have been identified as the main characteristics in achieving competitive advantage.

The company's efficiency was studied using key indicators: finance, internal business processes, customer satisfaction, and innovation and learning. Innovation and learning were identified as the indicator that least affects the company's efficiency, while customer satisfaction is in first place, followed by internal business processes and finance.

According to the results of the mean values for the innovation and learning indicator and the adhocracy culture, which some authors believe has a positive effect on organizational learning that positively contributes to technological and administrative innovations, the selected company attaches the least importance to the encouragement of creativity and innovation, and the implementation of innovative ideas.

Consequently, according to the employees in the survey sample, the company's efficiency is based on the successful service they provide to their customers, the achievement of goals related to customer service, and the successful acknowledgement of feedback from customers, thus keeping them, but also attracting new ones. Also, ensuring the safety of employees, meeting the required level of quality and set construction deadlines, as well as goals related to profitability, revenue growth, and the realization of net income contribute to the success and efficiency of the company. The training of employees aimed at improving their skills in order to achieve better efficiency at work has a strong, but smaller influence than the above, on the company's success.

Still, by summing up the mean values of all indicators, the overall efficiency of the company was assessed as above average.

Summarizing all of the above, it can be concluded that the company is highly formalized and structured, hierarchical and customer-oriented.

The configuration of the organizational structure and organizational culture shown on the example of the representative construction company ensures very successful business operations with regard to the field of activity and the general culture of the company. However, in order for the company to develop together with innovations and changes in the market, it is necessary to ensure a more flexible structure and culture.

Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

### REFERENCES

- 1. Cheung, S. O., Wong, P. S. P., Lam, A. L.: An investigation of the relationship between organizational culture and the performance of construction organizations, Journal of Business Economics and Management, 2012, 4, pp. 688–704
- 2. Coffey, V.: Understanding Organisational Culture in Construction Industry, Oxon: Spon Press, Abingdon, 2010
- 3. Willar, D., Hombokau, C., Waney, E.: Applicability of Culture Profile on Construction Organization, ISEC Press, 2017, 1, pp. 1258-1264
- 4. Đurović, D.: Organizaciona struktura i grupa odabranih kriterijuma u modelu ocjenjivanja uspješnosti građevinskih preduzeća, Tehnika, 2016, 71(1), pp. 137-144
- 5. Ehrhart, M. G., Schneider, B., Macey, W. H.: Organizational Climate and Culture: An Introduction to Theory, Research, and Practice, Routledge, New York, 2013.
- 6. Harinarain, N., Bornman, C. L., Botha, M.: Organisational culture of South African construction industry, 2013, 20(1), pp. 22-43
- 7. Ilin, V. I., Kalinina, V. O., Levina, I. A., Iliashenko, Y. O.: Approach to Organizational Structure Modeling in Construction Companies, MATEC Web of Conferences, 2016, 86
- 8. Janićijević, N.: The Mutual Impact of Organizational Culture and Structure, Economic Annals, 2013, 58(198), pp. 35-60
- 9. Kagioglou, M., Cooper, R., Aouad, G.: Performance management in construction: a conceptual framework, Construction management and economics, 2001, 19(1), pp. 85-95
- 10. Khaleel, T., Nassar, Y.: Identification and analysis of factors affecting labour productivity in Iraq, MATEC Web Concefence, 2018, 162
- 11. Liu, M. M. A., Shuibo, Z., Meiyung, L.: A framework for assessing organisational culture of Chinese construction enterprises, Engineering, Construction and Architectural Management, 2006, 13(4), pp. 327-342
- 12. Mečev, D., Grubišić, D.: Organizacijska kultura i poslovna uspješnost poduzeća: perspektiva suparničkih vrijednosti u kontekstu hrvatskog ICT sektora, Ekonomska misao i praksa, 2020, 29(2), pp. 327-346
- 13. Omazić, M. A., Đuričkov, A., Vlahov, D.: Povezanost organizacijske strukture poduzeća i uspješnosti projekta, Zbornik Ekonomskog fakulteta u Zagrebu, 2012, 10(2), pp. 1-17
- 14. Rameezdeen, R., Gunarathna, N.: Organizational culture in construction: an employee perspective, The Australian Journal of Construction Economics and Building, 2003, 3(1), pp. 19-30
- 15. Sikavica, P., Novak, M.: Poslovna organizacija, Treće, izmijenjeno i dopunjeno izdanje, Informator, Zagreb, 1999
- 16. Simon, M., Koshy, V.: Assessment of Organizational Culture in Construction A Case Study Approach, 26th Annual Conference of the International Group for Lean Construction, 2018, 1, pp. 348-357
- 17. Šandrk-Nukić, I.: Organizational Culture as a Determinant of Construction Companies' Competitiveness: Case Study of Croatia, IntechOpen, 2018
- 18. Šandrk-Nukić, I., Matotek, J.: Importance and trends of organizational culture in construction in eastern Croatia, Ekonomski vjesnik, 2014, 1, pp. 25-40
- 19. Šandrk-Nukić, I., Huemann, M.: Organizational culture of Croatian construction industry, Engineering, Construction and Architectural Management, 2016, 23(2), pp. 237-260
- 20. Teräväinen, Ville & Junnonen, Juha-Matti & Ali-Löytty, Simo.: Organizational Culture: Case of the Finnish Construction Industry, Construction Economics and Building, 2018, 18(1), pp. 48-69
- 21. Wurm, B., Schmiedel, T., Mendling, J., Fleig, C.: Development of a measurement scale for business process standardization, Ecis, 2018

# Organizational structure and organizational culture – case study of Bosnian and Herzegovinian company

- 22. Zaki, M. A., Hussien, H. S., Sanad, H. M., El-Khoriby, S. S.: Analyzing organizational structure for contracting firms of classification "A", Journal of Engineering Sciences Assiut University Faculty of Engineering, 2015, 34(3), pp. 403-428
- 23. Xiao, H., Proverbs, D.: Factors influencing contractor performance: an international investigation, Engineering Construction and Architectural Management, 2003, 10, pp. 322-332
- 24. https://pistatistics.com/kurs/koeficijenti\_korelacije/lekcije/pearson-ov-koeficijent-korelacije/
- 25. https://bhas.gov.ba/data/Publikacije/Saopstenja/2022/LAB\_02\_2022\_08\_1\_HR.pdf