

# Leadership as Critical Success Factor of Total Quality and Human Resource Management in Sports Organizations\*

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## Abstract

This study presents a model inspired by the Burke-Litwin causal model of the organization, suitable to encompass both individual and organizational performance and aligned with the proposal of a structure explicitly adapted for sports organizations from De Knop. The model was tested on senior management in 131 tennis clubs registered in Serbia. Although some scholars are against the implementation of common management in sports organizations, the results show that well-structured total quality and human resource management processes genuinely increase the effectiveness of sports organizations. Our findings show that critical success factors of this approach were complexity-based leadership, clearly defined mission and vision of the organizations, informal communication paired with unambiguous policies and comprehensible procedures, and broader operational responsibilities given to the employees. The levels of legal compliance and reward management systems were the main weaknesses of these sports organizations.

**Keywords:** total quality management (TQM), human resource management (HRM), leadership, critical success factors, sports organizations

**JEL Codes:** Q15, L83, M54

## 1. Introduction

Given that Serbian tennis has achieved notable results in recent years, our study aims to determine which managerial practices, especially regarding total quality and human resource management, were predominantly implemented as critical success factors in the work of tennis organizations. Our starting point is that studies of critical success factors in individual sports, such as tennis, naturally focus on separate and more specific individual elements such as coaching (McDowall/O'Broin 2014), personal background (Bowers 2014; Geoffreys 2017), nutrition (Jansson-Knodell/Rubio-Tapia 2021) or kinematic analysis of the serving techniques (Yang/Zhou/Guo 2015; Maričić/Jeremić 2023). However,

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this leads to neglecting broader organizational and management frameworks that provide the context for such significant outcomes, including organizational culture, systems, processes, and practices of tennis organizations. Consequently, these factors have remained almost entirely unexplored.

On the other hand, many previous studies investigated organizational and managerial aspects, their dimensions, and their effects on outcomes in various fields and disciplines. Among others, these include research based on the models of employees' behaviour (Saffold 1988), relations with organizational culture (Ristino/Michalak 2018) or organizational performance (Kuo/Tsai 2019), as well as the examination of limiting factors for the reaction of the organization concerning the environment or necessary capacities for the organization's performance (Benner/Tushman 2003). In addition, relations between organizational culture and management systems were also observed through the lenses of quality management practices (Tuckman 1994; Prajogo/McDermott 2005) and human resource management approaches (Chan/Shaffer/Snape 2004; Lau/Ngo 2004), which were of specific importance for our study.

However, during the literature review on management and organization, the most significant for our research was the Burke-Litwin model, especially regarding organizational performance and changes related to the individual level. This model, which considers processes in the organization as the basis of its functioning and evolution, is grounded around factors such as "organizational mission and strategy, the organization's leadership, and culture [...] structure, systems, management practices, and climate." As the authors clearly state: „These transformational and transactional factors together affect motivation, which, in turn, affects performance" (Burke/Litwin 1992: 532).

While sports organizations overlap their activities with other traditional industries (such as trade, finance, health, or education), they must also implement the system approach and the process model. These are, among others, the essential quality management principles (Chelladurai/Chang 2000). As Van Hoecke and his colleagues put it, "[...] particular sports structures ask for a sport-specific approach with appropriate quality standards corresponding to their critical success factors" (Van Hoecke/De Knop/Schoukens 2009: 308). To meet these quality standards in managing an organization means fulfilling customers' and other stakeholders' requirements, needs, and expectations (Mawson 1993).

Thus, the objective of our study is to determine which organizational elements were predominantly implemented in Serbian sports organizations, primarily related to total quality management (TQM) and human resource management (HRM). Moreover, we have mainly focused the study on tennis organizations. Therefore, this research aims to determine the relationships among TQM, HRM, intertwined total quality and human resource management processes (TQHRM), and the overall performance of these organizations. To do this, we first needed

to overview the characteristics of the TQM approach and elaborate on the dimensions and critical factors of HRM in sports organizations. Consequently, we tested the model that emerged from this process in most Serbian tennis clubs to understand which TQM and HRM practices were cultivated in these sports organizations.

## 2. Theoretical Review

### 2.1. *TQM and HRM in Sports Organizations*

In the past years, De Knop et al. (2004) have thoroughly examined the subject of quality management in sports organizations. They proposed the implementation of TQM with its principles and practices in sports as a response to the challenging situations where governments prioritize the rise of business standards in sports clubs and federations belonging to their regions. The rationale was that well-structured quality management should increase effectiveness and efficiency in sports organizations (Mohsen Allameh/Khazaei Pool/Jaberi/Mazloomi Soveini 2014). The result would be different quality and customer-oriented business levels, typical for the industry and other services that use TQM as a metaphor for survival and development in more turbulent markets. Among the most critical factors determining the outcome of projects in sports, the authors recognized the following dimensions of sports organizations' TQM system: strategic planning with marketing, internal procedures and policies of the system, external communications, organizational culture, structure of management and levels of integration, HRM, and organizational effectiveness.

Gonzalez et al. (2015) used TQM tools to develop an appropriate framework for examining the effectiveness of websites as a means of communication for sports organizations with their fans, customers, and external stakeholders in general. They concluded that the future of delivering value to customers in sports lies in virtual environments. This trend was expected to continue, becoming a critical success factor in sports organizations.

To speed up its internal and external communications, an organization should consider the current information flow in a traditional manner (Roberts/Grover 2012; Erjavec/Arsenijević/Starč 2018), as well as how employees generate and communicate new ideas and knowledge, especially regarding innovations and improvements. Therefore, TQM and HRM must work together in that area (Perdomo-Ortiz/González-Benito/Galende 2009; Donate/Guadamillas 2015), especially in the Serbian environment. Results of studies from this region show how HRM plays a significant role in innovation processes (Rabenu et al. 2018) as a moderator and full mediator (training and education, together with performance appraisal) in the relationships constituted among organizational practices, innovations, and leadership (Nieves/Quintana/Osorio 2016). Moreover, good HRM practices can be a foundation for business success through innovation

in novel socio-economic models such as the sharing economy, which was also confirmed in different studies conducted in Eastern Europe (Turulja/Delalic 2021; Živojinović/Zornić 2022).

Leadership at all levels in the organization is one of the main TQM principles and among the most significant changes (previously "Management responsibility") in the new version of the international quality management standard ISO 9001:2015 (Wilson/Campbell 2016). When discussing conventional industries, studies report that differences may count from field to field or from country to country dozens or even hundreds of times (Robinson/Schroeder 2009). In this light, even though Georgiev and Ohtaki (2020) found that among twelve critical success factors for TQM in Japanese production, most of them were covered in the literature (such as top management involvement, leadership, and teamwork), they also discovered some of the critical factors that were not paid enough attention in previous research (for example, suggestion systems, reward, and recognition practices). Supposing this stands for countries and industries that gave an initial impulse to the rise of TQM as a business discipline and function, the question is: how much space is there for improvements in non-traditional areas of business and management in general, and in this case – in sports?

Regarding sports organizations, HRM as a field of research seems to be underdeveloped, as very few authors have dared to shed some light on it (Baruch/Wheeler/Zhao 2004; Surujlal/Hollander/Singh 2004; Chelladurai 2006). Moreover, these studies mainly focused on how separate elements from the HRM were practised in sports. In contrast, the ways HR practices were integrated into broader management systems of sports organizations were somewhat neglected.

Carlson and Kavanagh (2014) explained how the quality revolution from the 1980s and 90s in the U.S. production and service industries, motivated by the TQM movement, stimulated rapid occupation growth with metrics for human resource management, especially for different kinds of workforce analytics. Indeed, the study of Flamini et al. (2023) implies that TQM cannot be entirely successful without more direct participation and contribution of the HRM. HRM includes but is not limited to better training and communications, more extensive empowerment of people, suggestion systems, suitable employment, and recognition and reward schemes for achievements. The purpose is continual improvement and facilitation of TQM initiatives in sports organizations focused on better process management and greater customer satisfaction (Bamford/Hannibal/Kauppi/Dehe 2018), in pair with stronger employee engagement (Delshab et al. 2019), consequently improving organizational success. More surprisingly, the practice has shown that more rigorous quality programs such as Six Sigma work in sports organizations (Ramezani/Taslami/Rohani/Medadi Nansa 2016).

It was possible to identify HR as a critical factor for the effectiveness and efficiency of sports organizations, with the planning and strategic dimension as

the most vital managerial functions regarding HR (Doherty 1998). Weerakoon (2016) has also supported this finding and used it to analyse the value of HR strategic management in sports critically.

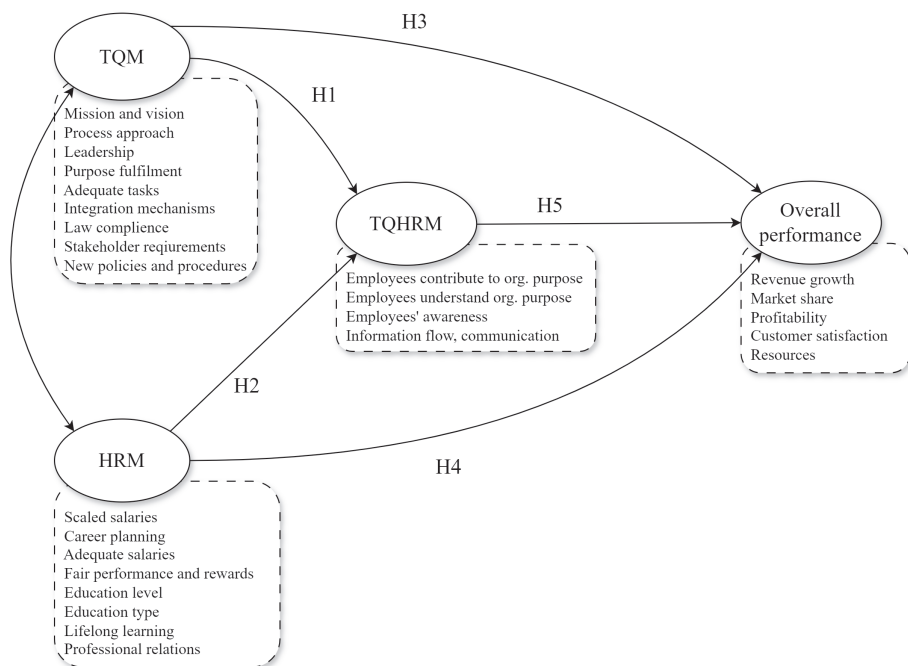
Taylor and Ho (2005) benchmarked the approaches to HRM throughout different Australian amateur and professional sports organizations. They concluded that only a few adopted formal HR strategies and used universal best practices in the field, while most adopted long-term and strategic HRM. However, as they discussed, the organizations are generally becoming more similar, given their cultures and management structures (in that light, the sports organizations, too). In line with the approach of Amis et al. (2004), Taylor and Ho (2005) suggested a more complex longitudinal study of the dynamics, interaction, and integration of technologies, HRM approaches, and managerial practices in sports organizations.

## 2.2. Hypotheses Development

The constructs of our model have been aligned with Burke-Litwin (1992) and De Knop et al. (2004) but also inspired by the Corporate Social Responsibility (CSR) rationale provided by Babiak and Wolfe (2009), which unambiguously set elements of TQM and HRM communication among the critical success factors of these organizations.

We measured an organization's overall management performance to establish a reference standard for our research. According to Burke-Litwin, "individual and organizational performance is the outcome or result as well as indicator of effort and achievement (e. g. productivity, customer satisfaction, profit, and quality)" (Burke/Litwin 1992: 533). In compliance with Burke-Litwin's model, we defined the overall performance that reflects (1) revenue growth, (2) market share, (3) profitability, (4) customer satisfaction, and (5) resources in use by the organizations. Therefore, the overall performance variable was a base for comparative analyses of organizations' processes, approaches, and practices.

We also modified and utilised a quality-first organizational assessment model based on organizational climate, processes, management tools, and outcomes, described by Hunt (1991). In the broader context, we aimed to diagnose the approaches to organizational systems and processes in tennis clubs by using the Burke-Litwin (1992) organizational model, which we merged with the proposition of structure to synthesise variables of TQM and HRM from De Knop et al. (2004). Thus, we created the research model presented in Figure 1 (the more detailed presentation of constructs is given later in Table 2).



**Figure 1** Research model, adapted from Burke-Litwin (1992) and De Knop et al. (2004).

We have developed the research hypotheses from our model, which is based on Burke-Litwin's (1992) organizational model. As shown in the literature review, many authors have found an association between TQM and HRM, reflected in their joint action (Wilkinson/Marchington 1994; Kochan/Gittell/Lautsch 1995; De Knop/Van Hoecke/De Bosscher 2004; Carlson/Kavanagh 2014). Based on these findings and the propositions of Burke-Litwin (1992), we have developed two hypotheses:

*Hypothesis 1: TQM has a positive association with TQHRM*

*Hypothesis 2: HRM has a positive association with TQHRM*

Guided by Burke-Litwin (1992) and the findings from the literature that TQM positively affects performance (Yunis/Jung/Chen 2013; Alketbi/Elmualim/S. Mushtaha 2022; Kulenović/Veselinović/Šunje/Cero 2022), we have developed a third hypothesis:

*Hypothesis 3: TQM has a positive association with the overall performance of the organization*

In line with findings that good HRM practices can be a foundation for business success (Turulja/Delalic 2021), we have developed two final hypotheses:

*Hypothesis 4: HRM has a positive association with the overall performance of the organization*

*Hypothesis 5: TQHRM has a positive association with the organization's overall performance*

### 3. Methods

#### 3.1. Research organizations

For this study, we exploited 131 tennis clubs registered in Serbia. In the current version of the ISO 9000 quality management terms and definitions standard, a grade is defined as a "category or rank given to different requirements for an object having the same functional use" (ISO 2015a). We have utilised this definition to establish groups of clubs for the research, which we called the Achievement groups. Groups are created according to their achievements and international, national, or local character activities, along with the quality of individuals they 'produce' (given that tennis is predominantly perceived as an individual sport). Consequently, five different achievement groups of the tennis clubs have emerged. The first group encompassed 14 top organizations with significant international success or individuals of high quality and similar rank (10.69 % of all clubs included). The second group included 24 organizations with international activities but at a lower level of quality (18.32 %). The third group comprised 28 teams with results and positions recognised solely nationally (21.37 %). Finally, the last two groups included 45 tennis clubs participating in competitions within state regions (34.35 %) and 20 clubs with purely local character and limited activities in home cities and narrow surroundings (15.27 %). The achievement groups are presented in Table 1.

**Table 1** Demographic characteristics of the sample

Item	Categories	Count	Percent
Achievement groups	First group	14	10.69
	Second group	24	18.32
	Third group	28	21.37
	Fourth group	45	34.35
	Fifth group	20	15.27
Gender	Male	81	61.83
	Female	50	38.17
Education	Secondary/High school	81	61.83
	BSc	33	25.19
	MSc/PhD	17	12.98
Respondents' title	President	15	11.5
	Vice president	26	19.8



Item	Categories	Count	Percent
	Director	34	26.0
	PR manager	16	12.2
	General Secretary	40	30.5

3.2. Questionnaire and respondents

In line with the previous literature review of TQM and HRM, our research was extracted from the complex questionnaire, with 31 items focused on different organizational processes and their performances. For practical reasons, we divided the questionnaire into five groups. The first part of the survey was demographic, containing five items (achievement groups, gender, age, level of education, and respondents' titles). The second part encompassed TQM variables with nine constructs, and the third included HRM variables with eight constructs. The fourth part combined the TQHRM variable containing four constructs, while the fifth part observed the overall performance. TQM, HRM, TQHRM, and overall performance variables were measured using a 7-point Likert scale (from 1 – extremely low to 7 – extremely high level of performance).

Our questionnaire, guided by the model proposed in Burke-Litwin (1992), was designed specifically for managers in sports organizations. Consequently, each tennis club was represented by a member attributed as a leader in their management structure. As presented in Table 1, among the respondents, 81 were male (61.83 %), and 50 were female (38.17 %). Furthermore, the average age of the respondents was 39.4 years (SD=8.962). As for the educational background, 81 of them (61.83 %) have graduated from secondary/high school, 33 (25.19 %) have graduated from the University (BSc), and 17 of them (12.9 %) have earned higher diplomas (MSc, PhD).

Respondents were at the highest levels of organizational structure, with the following titles: presidents or vice presidents (31.3 %), directors (26 %), and general secretaries (30.5 %). Besides them, only P.R. managers were also among the respondents. The detailed structure of the respondents, according to their titles, is given in Table 1.

3.3. Analyses

We used multivariate statistical analyses to scrutinize our data and test our hypotheses. The simple Structural Equation Modelling (SEM) was applied to examine the structural relationships between the variables TQM, HRM, TQHRM, and organizational performance, extracted from Burke-Litwin's (1992) organizational model (Bollen/Lennox 1991; Schumacker 2002; Schreiber 2008). Our sample counts 131 tennis clubs, which is sufficient to obtain meaningful results (Tinsley/Tinsley 1987; Tabachnick/Fidell 2019), considering the population and



sample sizes. Since the constructs were measured on a 7-point Likert scale, we did not explore the normality of the data.

To examine the presence of a systematic variance among variables (Bagozzi/Yi 1990; Doty/Glick 1998) through common method bias (CMB) (Podsakoff/MacKenzie/Lee/Podsakoff 2003; Podsakoff/MacKenzie/Podsakoff 2012), we have performed Harman's unrotated single factor test of CMB. The variables in the model extracted 27.6 % of the variance. This result is less than 50 %, showing that there was no track of the CMB in the responses. We have further examined the CMB through the Common Latent Factor method (Serrano Archimi/Reynaud/Yasin/Bhatti 2018). The common variance in the model was 34.81 %.

We have used the Exploratory Factor Analysis (EFA) to discover the diverse potential of the factor structure of our measures (Kim/Mueller 1978; Snook/Gorsuch 1989). We have further incorporated the obtained factors into the multinomial logistic regression model, where we examined the influence of the acquired factors on the tennis club Achievement group (Hosmer/Lemeshow 2000; Greene 2011), which includes five different categories of tennis clubs, as described in Section 3.1. (see Table 1). The goal was to examine the standout predictors of tennis club achievement.

4. Results and Discussion

This chapter presents and discusses the results regarding TQM and HRM of tennis organizations in Serbia. Table 2 shows the constructs for the TQM, HRM, their combination TQHRM performance measurement processes, and the descriptives for our constructs.

Table 2 Constructs and descriptives of TQM, HRM, and TQHRM measurement scales

Constructs		Mean	Median
TQM – Total quality management			
1a	Mission and vision are clearly defined	5.05	5
1b	Process approach is applied	5.19	5
1c	Leadership in the organization	5.95	6
1d	The efforts of organizational management result in the fulfilment of the purpose of the organization	3.82	4
1e	All tasks are executed according to policies and procedures	5.18	5
1f	The organization has adequate mechanisms for the integration	5.16	5
1g	Compliance with national sports laws and strategy	3.13	3
1h	Fulfilment of the stakeholder requirements	5.17	5
1i	Organizations often introduce new policies and procedures	3.57	3

Constructs		Mean	Median
<b>HRM – Human resources management</b>			
2a	The scales of salaries and bonuses are equitable for all employees	4.44	5
2b	Career planning and development	4.50	5
2c	Salary is in line with the job requirements	5.36	5
2d	Fair performance and reward management	4.05	4
2e	Level of education is in line with the job requirements	4.69	5
2f	Type of education is in line with the job requirements	5.40	6
2g	Professional training programs and their frequency meet lifelong learning needs of employees	3.54	3
2h	Relations among employees are professional and friendly	5.13	5
<b>TQHRM</b>			
3a	Employees appreciate their contribution to fulfilment of the organizational purpose	5.39	6
3b	Employees understand organizational purpose	5.74	6
3c	Level of employees' awareness is aligned with their jobs	4.06	4
3d	Information flow, internal and external communication	5.02	5

As stated before, leadership at all organizational levels (1c) is one of the leading quality management principles (Robinson/Schroeder 2009; Wilson/Campbell 2016; Georgiev/Ohtaki 2020). Moreover, it seems to be the most prominent factor of management in Serbian tennis clubs: the ability of managers to engage employees in processes, develop an awareness of the ways their work influences overall service quality, motivate them by creating appropriate environments for teamwork and cooperation, along with the understanding of the ways things are done. For most tennis clubs in our research, these were the parameters that strived for the highest values. Thus, by the leadership criterion (1c), our sample is grouped around the mean value  $M=5.95$ . The value implies that appropriate leadership practices are in use, with quite a low need for rigid command-and-control mechanisms.

As evident from Table 2, the conceptual, systematic thinking, with the implementation of the process approach (Bamford/Hannibal/Kauppi/Dehe 2018) as its operational approximation (1b), was among the most highly appreciated practices ( $M=5.19$ ). Moreover, these two were merged into the single quality management principle in the current version of the ISO 9001 quality management system standard (ISO 2015b). Therefore, it can be intuited that the respondents perceive the processes in tennis clubs as logically established, convenient, and appropriately interrelated, with little need for additional resources and managerial attention regarding their potential or actual intertwining.

The levels of conformance are also respectable. Organizations in our research show devotion to implementation of the internal policies and procedures (1e), fulfilment of the stakeholders' requirements (1h), and management improvements and integration (1f) within the organization (Table 2). Additionally, organizations have clearly defined their missions and visions (the very pillars of

the Burke-Litwin model), which shall be discussed further in the paper. The item connected with the statement "Mission and vision of our tennis club are clearly defined" (1a) has the mean value  $M=5.05$ . This evidence sheds light not only on the management processes visibility and related levels of understanding as indicators of strategic leadership but also on the firmly established linkages among mission and vision, policies and objectives, and the manners in how operational procedures were being implemented (Maghroori/Rolland 1997; Jackson/Seo 2010).

Weaknesses arise from respondents' perception of too many procedures in place and the widespread introduction of new ones. Successful organizations implicitly appreciate their management's efforts to fulfil the organization's purpose, mission, and vision (ISO 2015a). However, although the respondents consider mission and vision as clearly defined, they do not believe that efforts of the organizational management result in fulfilling the organizational purpose, judging by the lower mean ( $M=3.82$ ) for this parameter (1d).

Also, a low degree (compared to the other criteria) of compliance with national laws and strategies in the field of sports (1g) poses one of the biggest threats for these clubs, as this item describes the level of alignment among organizational and government policies, and with the national sports system in general. Since most organizations are grouped around the mean value  $M=3.13$  for this item, we may conclude that there is not enough compliance with the national sport's laws and strategies, which presents open space for different improvements. Hence, the managerial focus should be placed on sports organizations and the national sports system levels to bridge this gap. Furthermore, since Serbia is a transitional country, it is vital to effectively manage the balance of relations with non-complementary stakeholders, such as local government and private sponsors (Ivašković/Čater/Čater 2017).

Regarding HRM practices, the most appreciated items relate to the alignment between employees' educational background, workplace responsibilities (2e, 2f), and wages and job design (2c). This result highlights the relationship between wage level and employee motivation, which can differ in nonprofit and corporate environments (Handy/Katz 1998; Leete 2000). For the surveyed organizations, values for an item indicating the alignment of salary level with job requirements are grouped around  $M=5.36$ . Thus, respondents seem to perceive the balance between what is expected from employees and how they are paid as one of the most critical success factors (in line with the relationship of these to individual performance and innovation contributions, as described in Rabenu et al. (2018)).

The type of education fitting the job requirements (2f), with  $M=5.4$ , has the highest rate within the HRM performances, while the levels of education matching the job requirements should be improved (2e). The high values for wage

and work requirements alignment were somewhat expected since sports organizations usually nurture a relaxed organizational culture (as indicated by the findings of various studies, including the one mentioned earlier by Taylor and Ho (2005)). Therefore, it was not surprising that respondents generally described employee relations as professional but quite friendly (2h).

If a poka-yoke or similar production mechanism were in place, the alarms would signalise undesired situations regarding professional training programs (courses, seminars, conferences, etc.) and approaches to employees' lifelong learning (2g). This item has the lowest values for most surveyed organizations ( $M=3.54$ ), judging by Table 2. To be clear, we discuss management and administrative positions and their professional training in surveyed organizations. Although coaching and practicing tennis players must be at much higher levels, there is plenty of room for improvement regarding the professional skills of those who do their business outside the tennis courts. Better training practices contribute to higher organizational performance (Vlachos 2008), especially regarding service quality and rate of innovation (Morley/Slavic/Poór/Berber 2016), which are particularly important for our study.

Although the job design features were rated very positively, elements of the reward system and performance appraisals didn't follow the same or even similar patterns. Items indicating equity of wages and bonuses for all employees (2a) and reward management (2d) seemed to be the weakest links of the HRM systems in surveyed organizations. Thus, respondents were unsatisfied with the fairness levels of the performance and reward management system ( $M=4.05$ ). This result implies that it is necessary to pay additional attention to the fair treatment of the employees and the development of appropriate stimulations (Williams/Pitre/Zainuba 2002; Chelladurai 2006).

Further, we discuss constructs for the performances of TQHRM processes and practices identified as belonging equally to TQM and HRM systems. Given the results presented so far, it was not surprising that respondents in our survey perceived the employees' connection with tennis clubs' overall goals and objectives as sufficiently strong. This result is noted through the mean values for understanding the purpose ( $M=5.74$ ) (3b) and appreciation of roles and contributions ( $M=5.39$ ) to the fulfilment of the organization's purpose (3a). Additionally, the respondents assessed the elements describing information flow and communication (3d) connected with the quality management systems of surveyed organizations, their marketing functions, and the HRM framework with a mean value of  $M=5.02$ .

A relatively new HRM international standard, as stated in ISO 30408, provides guidelines on human governance, which uses a quality management framework to establish the basis of the whole HR matrix. The standard states: "The organization should establish communication methods to ensure that necessary infor-

mation is disseminated to all levels of the organization, including internal and external stakeholders" (ISO 2016: 4). Thus, we see confirmation of the necessity to follow this guideline by the results of our study; this also supports one of the main hypotheses about the importance of appropriate strategic thinking for human resources and quality management in sports organizations, presented as one of the findings from Weerakoon (2016) in our literature review. Table 3 shows the descriptive statistics and Pearson's correlation coefficients between the constructs defined in our research.

Table 3 Descriptive statistics and Pearson correlation coefficients of the constructs

	N of Items	Mean	SD	Median	TQM	HRM	TQHRM
TQM	9	4.69	0.625	4.67			
HRM	8	4.64	0.800	4.62	0.661***		
TQHRM	4	5.05	0.789	5.25	0.718***	0.644***	
Overall performance	5	4.60	0.856	4.50	0.689***	0.566***	0.678***

\*p<0.05 \*\*p<0.01 \*\*\*p<0.001

Among almost all the defined variables, we can notice the existence of strong positive correlations between each of the two. The predominant relationship can be detected between TQM and TQHRM ( $r=0.718$ ,  $p<0.001$ ). Furthermore, overall performance is strongly correlated with TQM ( $r=0.689$ ,  $p<0.001$ ) and TQHRM ( $r=0.678$ ,  $p<0.001$ ), while its correlation with HRM is of medium strength ( $r=0.566$ ,  $p<0.001$ ). This result implies that TQM, HRM, and their synergy impact the overall performance of the organizations.

To examine the model presented in Figure 1, we used a simple SEM model. The results are given in Table 4.

Table 4 Summary of the SEM model

Dependents	Predictors	Estimates	SE	CR	Finding
TQHRM	← TQM	0.655***	0.097	6.753	H1 supported
TQHRM	← HRM	0.297***	0.076	3.916	H2 supported
Overall performance	← TQM	0.520***	0.125	4.153	H3 supported
Overall performance	← HRM	0.098	0.089	1.108	H4 not supported
Overall performance	← TQHRM	0.376***	0.097	3.862	H5 supported
Fit indices					
TQHRM R <sup>2</sup>	0.567				
Overall performance R <sup>2</sup>	0.548				
Chi-square	435.365***				
RMSEA	0.077				
CFI	0.903				
TLI	0.872				

\*p<0.05 \*\*p<0.01 \*\*\*p<0.001

When observing the influence of TQM and HRM on TQHRM, they have both shown to be significant, explaining 56.7 % of the variability in TQHRM. The results further show that TQM and TQHRM statistically significantly influence the overall performance, while HRM does not. The influence of HRM on the overall performance of tennis organizations is not so prominent when combined with the previous two. It is probably contained in the effects of TQM and TQHRM. The model explains 54.8 % of the variability of the overall performance.

The fit indices that are used were the Chi-Square statistic, the Comparative Fit Index (CFI), the Tucker–Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA) (Kenny/Kaniskan/McCoach 2015; Liu/Chen 2015; Steiger 2016). In the model, RMSEA was 0.077, TLI was 0.872, and CFI was 0.903, which are acceptable (Nikolić/Maričić/Nikolić 2022). Smaller values for the fit indices are caused by the smaller sample than recommended for our analysis. However, as discussed above, considering the population and sample sizes, our sample is satisfactory. The second reason can be found in our variables' 7-point Likert scale distribution. As some authors have encountered, the combination of a smaller sample and asymmetric categorical distributions might lead to lower expected fit indices across random samples (Savalei/Rhemtulla 2013; Xia/Yang 2019). The Chi-Square test was statistically significant.

We have performed EFA to scrutinise our data further. We used the maximum likelihood extraction method and rotated our factors using the promax rotation method. The Kaiser-Meyer-Olkin test value is 0.808, which is considered a good result. Furthermore, Bartlett's test of sphericity, where the null hypothesis states that variables are unrelated and therefore unsuitable for structure detection, is statistically significant ( $B=1428.352$ ,  $p<0.001$ ). Thus, we reject the null hypothesis, showing that factor analysis results are practical and can be interpreted. The results of EFA are given in Table 5.

**Table 5 Results of the exploratory factor analysis**

	F1	F2	F3	F4	F5
Compliance with the stakeholder requirements	0.999				
Level of employees' awareness is aligned with their jobs	0.981				
Process approach is applied	0.939				
All tasks are executed according to policies and procedures	0.644				
Information flow, internal and external communication	0.606				
Salary is in line with job requirements	0.592				
Employees appreciate their role in the fulfilment of the purpose of the organization		0.790			
Relations among employees are professional and friendly		0.717			
Employees understand purpose of the organization		0.671			

	F1	F2	F3	F4	F5
Leadership in the organization		0.483			
The organization has adequate mechanisms for the integration		0.359			
Type of education is in line with job requirements		0.289			
The efforts of organizational management result in the fulfilment of the purpose of the organization			0.638		
Mission and vision are clearly defined			0.481		
The organization often introduces new rules and procedures			0.437		
Level of education is in line with job requirements			0.303		
Career planning and development				0.754	
Fair performance and reward management				0.652	
The scales of salaries and bonuses are equitable for all employees				0.619	
Professional trainings frequency and subjects meet lifelong learning needs of employees					0.493
Compliance with national sports laws and strategy					0.149
ESSL, % Variance	22.838	14.374	5.938	4.803	2.356
ESSL, % Variance, Cumulative	22.838	37.212	43.150	47.953	50.309
RSSL	5.030	3.894	1.990	2.805	0.928

ESSL – Extraction Sums of Squared Loadings, RSSL – Rotation Sums of Squared Loadings

We note from Table 5 that EFA extracted five factors. The factors explained 50.309 % of the variance in the model. We incorporated these factors into the Multinomial logistic regression model for further analysis. The dependent variable in the model is the Achievement group, where the first group represents clubs with the highest achievements.

When comparing the first and second-level achievement groups, the only significant predictor is Factor 3. The coefficient is negative, and the odds ratio is less than 1, so if Factor 3 increases, the tennis club is more likely to be the first-level than the second-level organization. Factors 2 and 3 are significant predictors when comparing the first and third-level achievement groups. If Factor 3 increases, the tennis club is more likely to be a first-level organization than a third-level organization. Factor 2 has a positive coefficient, and the odds ratio is over 1. Thus, if it increases, the tennis club is more likely to be the third-level than the first-level organization. The observation is the same when comparing the first and fourth-level organizations. Finally, the significant influence is only for Factor 3 when comparing the first- and fifth-level organizations. The Chi-Square Likelihood Ratio Test is statistically significant; the Cox and Snell value is 0.654, and the Nagelkerke is 0.686. Thus, the model has more than 65 % of the explained variability.

Judging by the discussion above, Factor 3 is the most dominant factor when determining the achievement groups of the surveyed sports organizations. Factor



3 implies that the mission and vision are clearly defined, the efforts of organizational management result in fulfilling the organization's purpose, the organization often introduces new rules and procedures, and the level of education is in line with job requirements. Thus, in line with previous conclusions, if the mission and vision are clear and prominent, the management efforts are fruitful, procedures are clearly defined, and employees have suitable job positions, the sports organization is more likely to have higher achievements.

## 5. Conclusions, Contributions, and Limitations of the Study

As we aim to distinguish among the main conclusions of our research, we present some of the most important results regarding TQM and HRM of sports organizations in Serbia. Considering the fragility of the complete system of sports, especially in the context of transitional processes in developing countries such as Serbia, organizational culture and management style are essential dimensions of organizational resilience and flexibility necessary to ensure the sustained success of sports organizations (Jovanovic/Athanailidis/Laios/Alexopoulos 2014). While analysing their critical success factors, we should also emphasise that, compared to other industries, sports organizations have specific characteristics that differentiate the implementation of management processes and practices in general and make them unique in many ways. These differences are among the limitations of our study. They may be observed through the application of specific managerial techniques and competencies (Duclos-Bastías et al. 2021), stability of the constancy of change regarding the evolution of organizational culture, especially when talking about the culture of innovation and innovativeness, external adaptations, and internal interactions among the members of a sports organization (Delshab et al. 2022). Additionally, sports organizations from countries harmonizing with the EU standards must follow up on the changes and reforms of their political, economic, and social systems. With this dynamic of transformations, the performance of sports organizations become visible primarily through international and national positioning, redistribution of results, customer satisfaction, and continual growth.

While operating in the described circumstances, sports organizations are utilizing mechanisms demonstrating both the application of TQM and the cultivation of HRM practices. As a result, it seems that Serbian tennis organizations have become able to develop mutually beneficial relations with their current internal and external environments and the new generations of youth. Therefore, our study aimed to identify TQM and HRM elements predominantly practised in the surveyed sports organizations. The organization's leadership and the system and process approach are among the Serbian tennis clubs' most salient critical success factors. "Leadership is the ability to formulate a worthy vision and inspire people to make a total, willing, and voluntary commitment to accomplishing

or exceeding organizational goals" (Goetsch/Davis 2015: 118). Hence, it is not surprising that the results of our study show how mission and vision were clearly defined in these organizations, which was intertwined with their employees' high level of understanding. Paired with well-defined roles, this enabled them to contribute to fulfilling their organization's purpose, once again proving the necessity of stronger employee engagement and interaction among them (as we noted in Delshab et al. (2019) and Delshab et al. (2022)).

Our research has also shown that TQM and HRM practices in the surveyed sports organizations have had strong tendencies towards the overall performance of the organizations, especially TQM. This conclusion arises not only from the organizations' clearly defined mission and vision but also from the informal communication, clear policies and procedures, the rise of operating responsibility given to the employees, and appropriate mechanisms for integrating their work toward the adopted mission. Here, we can observe basic patterns of the complexity leadership theory (Osborn/Hunt 2007; Uhl-Bien/Marion/McKelvey 2007), which are entirely in line with the broader human and social capital management theory based on the complexity paradigm (Djuric/Filipovic 2015; Djuric/Dobrota/Filipovic 2020). These findings lead us to one of the most compelling conclusions and contributions of our study: sports clubs, in their functioning, achieve organizational results by applying the principles of some of the cutting-edge theories in the field of management and organization, such as complexity science or human and social capital management, most likely without being aware of it. Consequently, these patterns stimulate the cultivation of management approaches aligned with the organization's purpose and adequate mechanisms for integrating the processes. Information flow and internal and external communication are based on friendly but professional employee relationships.

Finally, levels of compliance were also the subject of our attention. They are vaguely separated from TQM and have gained particular attention recently as a standalone management system (Makowicz 2023) but may also vary from country to country (Michaelis/Mercuri/Schoch/Ollivier 2023). Levels of compliance are respectable in the relationships practised with the main stakeholders and implementation of internal policies and procedures, especially regarding integrating processes within the organization based on stakeholder requirements. The best example of this practice is respondents' opinions expressing high appreciation for elements of the HRM, such as the job design and payment systems. However, on the other hand, bonuses and reward management systems were not considered fair and equitable. It will be the main challenge for sports organizations in the future, alongside the need for more sophisticated management of professional training programs, lifelong learning, and better compliance with national sports laws and strategies. Based on these findings, we can also add to the contributions of our research the confirmation of the hypothesis from

both De Knop et al. (2004) and Mohsen Allameh et al. (2014) that elements of well-structured TQM model applied in a sports organization genuinely increase its effectiveness, but not to the full extent if appropriate human resource management practices are not directly used in the organization (following the findings of Flamini et al. (2023)).

This study has two main potential limitations: (1) geographical/cultural and (2) sectoral, i. e. organizational versus individual. The latter is because not only is each industry sector specific by itself, but it may be wrong to perceive sport as an industry. Some authors were strongly opposed to the implementation of common management in sports organizations, calling on „bringing sport back to sport management” and transitioning to a “sport-focused model of sport management” (Gammelsæter 2021: 257, 267) or even „sport without management“ (Newman 2014: 612). As discussed in the introduction, one of the main arguments for this lies in the claim that research on managing sports organizations should focus on sportsmen themselves rather than an organizational framework. However, the results of our study showed clear trends of how these two were inseparable. The main contribution of our research is not only the confirmation of Burke-Litwin's model (Burke/Litwin 1992) in sports organizations. Its findings may be useful as guidelines for managers in sports organizations regarding the critical success (and potential failure) factors they should pay attention to in their managerial work since these sportsmen, to some extent, "operate" in an environment created by their organizations.

The limitation we specified as geographical is the lack of research into the critical success factors of management and organization in sports. This limitation has undermined various comparative analyses of our results with the results of other studies, for example, of management and organization in Serbian sports (to compare the performance of tennis with other sports organizations in Serbia) or management of tennis organizations in general (for comparative analysis with the performance of tennis organizations in Europe or the world). Accordingly, our research is, to some extent, compared with the results of existing, relevant research in the field, but at the same time, it contributes to and enlarges the corpus of this topic.

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