

CORRELATION OF LATENT DIMENSIONS OF TOP MANAGERS IN SPORTS ORGANIZATIONS IN THE AREA OF WEST HERZEGOVINA COUNTY

¹*School Vocational High School "Široki Brijeg" from Široki Brijeg,*

²*Faculty of Teacher Education, University "Džemal Bijedić" in Mostar,*

³*Faculty of Sports and Physical Education, University of Sarajevo*

Original research:

Abstract

This research has the character of a transversal study with the aim of analyzing and determining the correlations of latent dimensions of respondents who perform the functions of top managers in sports clubs in the West Herzegovina County. As top-level managers in sports organizations, they monitor and perform all processes in business and sports functions, analyze them, and make appropriate decisions based on the analysis. The results of this research showed that the method of main components in the top managers from sports clubs from the West Herzegovina County extracted 10 isolated factors, which exhaust 76.1% of the total valid variance. Orthogonal projections of vectors of manifest variables on vectors of latent dimensions are presented in the structure matrix. By analyzing the structure of variables, we see that ten isolated factors have been singled out, each of which in its own way explains and hypothetically covers certain areas that are interesting for this research. It is evident that all ten isolated factors are dominated by variables and answers that hypothetically cover the work space and competencies of top management, and that the basic focus of the respondents is on the organizational factors of the club to which they belong.

Keywords: Top managers, sports clubs, factors

Introduction

The goal of every organization, including sports, is to operate successfully and profitably, and the economic effects must be greater than the investment. It is clear that without the education of staff for specific business processes in sports, it is certainly not possible to achieve long-term success, as evidenced by the current situation in BiH sports. "A manager in sports can be defined as an organizer, manager of a sports and business organization whose goal is to achieve certain sports and business results." (Bartoluci, 2003: 155). In Bosnia and Herzegovina, there is a problem of theoretical conceptualization, because no group of sports leaders has been explicitly singled out who could formally and informally manage the complex processes of sports development in the country. Accelerated development of technology requires managers to acquire the necessary knowledge and skills to manage technology. With the ongoing explosion of multimedia interactive technologies, sports managers and educators of sports management face many challenges in terms of process

management within sports organizations. Managers occupy different levels in the organization. The degree of their responsibility also depends on the level at which they are. Just as the roles and jobs of sports managers may differ, so do different levels of responsibility at different levels of management, which increase with increasing levels of management. Depending on their function, level and role, sports managers are responsible for managing human resources, communication, morale and culture within the organization, promoting the values of the organization, as well as initiating and managing change within the organization. As with general management, we also have three levels of manager in sports management (Bartoluci, 2004). Top-level managers in a sports organization are persons who monitor and perform all processes in the business and sports function, analyze them, and make appropriate decisions. The most important act of a top manager is to make decisions that are crucial for the successful functioning of a particular sports organization. He directly participates in the planning of the entire

organization, the development of human resources, and controls the goals of the sports organization.

variables that mostly explain the segment within the club's distribution of work (selection of quality athletes

Methods

Subject and objective of the research

The subject of this research is the analysis of the latent dimensions of top managers in sports organizations in the West Herzegovina County.

The aim of this research is to determine the structure of the research space of top managers in sports organizations in the West Herzegovina County.

Procedure

The internal and external organization of sports organizations from the West Herzegovina County was analyzed on a sample of 186 respondents. Respondents who were part of this research within their organizations perform the duties of top managers. In accordance with the research problems, a systematic methodological approach was achieved, using appropriate logical, mathematical and statistical methods and procedures at the univariate and multivariate level. For the purposes of this paper, analyzes were applied that included elementary statistical parameters and factor analysis.

Results and Discussion

The method of main components in the top managers extracted 10 isolated factors that exhaust 76.1% of the total valid variance (Table 1). The first factor exhausts the most information on the applied system of variables 23.9%, the second factor exhausts 13.1%, the third factor exhausts 10.9% while the others exhaust a smaller percentage of information. The fourth factor exhausts 6.7%, the fifth 5.8%, the sixth 3.9%, the seventh 3.5, the eighth 2.9, the ninth 2.6 and the tenth 2.3 the total variance.

The matrix of the main components (Table 2) of the organization in the sports organizations of top managers presents the non-rotated factor weights of each of the ten isolated components. The values presented in the table represent the saturations of individual manifest variables by the factors marked at. Orthogonal projections of vectors of manifest variables on vectors of latent dimensions are presented in the structure matrix (Table 3). Analyzing the structure of the matrix, we see that the first factor includes nine

Table 1. Factor analysis in the space of internal organization of sports associations of top managers

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Lambda	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.299	23.951	23.951	10.299	23.951	23.951
2	5.657	13.156	37.107	5.657	13.156	37.107
3	4.704	10.940	48.047	4.704	10.940	48.047
4	2.902	6.749	54.796	2.902	6.749	54.796
5	2.501	5.817	60.613	2.501	5.817	60.613
6	1.683	3.913	64.526	1.683	3.913	64.526
7	1.527	3.552	68.078	1.527	3.552	68.078
8	1.282	2.981	71.060	1.282	2.981	71.060
9	1.160	2.697	73.756	1.160	2.697	73.756
10	1.019	2.370	76.127	1.019	2.370	76.127

and talents in the club is good, club policy is destructive, we have excellent communication with the environment, all goals are realistic and achievable, the statute and rules of conduct in the club are all adhered to, all in the club are one team and we work, the organization of work and tasks in the club is good, our state federation has all the necessary infrastructure for sports development, political environment contributes to sports development), so this factor can be defined as a factor: Orientation towards the execution of tasks. In the second isolated policy factor that explains the strategic approach to club policy, the variables stood out the most (our club has a strategically clear direction, professional people are in important positions in the club, managerial policy in the club is good, in our club everyone does the job they are in charge of, the club's communication at the international level is excellent), so this factor can be called: Personnel policy of the organization. The third isolated factor singled out variables that hypothetically cover the space of expertise of people within club structures (our club needs reorganization, people in the club management system are not professional enough, our club pays

Table 2. Matrix of the main components of the internal organization of sports associations of top managers the top of the columns

Component Matrixa	Component									
	1	2	3	4	5	6	7	8	9	10
1. Our club needs a reorganization	-.130	.242	-.586	-.250	.122	-.332	.373	.030	.067	.164
2. Our club has a strategically clear direction	.010	.580	.209	-.272	.149	-.113	.234	.036	-.334	.281
3. The people in the club's management system are not professional enough	-.201	.430	-.331	.180	-.206	-.246	.117	.069	.122	.230
4. The selection of quality athletes and talents in the club is good	.628	.036	.416	-.095	.231	-.367	-.045	-.125	.104	.075
5. There are enough sponsors for the smooth running of the club	-.572	.319	.303	.286	.109	.222	-.005	.156	-.042	-.222
6. Professional people are in important positions in the club	.298	.716	.229	-.050	.130	.013	-.158	.002	-.232	.070
7. A better number of people and volunteers are needed for the better work of the club	-.446	-.069	.480	.011	-.399	-.153	.110	-.254	-.155	.048
8. The managerial policy in the club is good	.373	.674	.238	-.177	.185	.033	-.018	.062	.150	-.133
9. In our club, great attention is paid to work with younger ages	-.186	-.501	.535	.079	-.330	.208	-.088	.079	.236	.069
10. Clear goals and quality plans and programs in the club have been set	.357	.715	.150	-.056	.109	-.277	-.035	.175	.211	-.075
11. Club policy is destructive	-.748	.194	-.373	.124	-.077	.091	.108	-.054	-.148	-.011
12. Interpersonal relationships in the club are bad	.520	-.300	-.335	-.368	.199	-.008	-.077	-.024	-.159	-.157
13. Enough work is being done on club promotion and marketing	-.277	-.353	.474	.227	.042	.039	-.383	.244	-.144	.090
14. In our club, everyone does the job they are in charge of	.444	.596	.278	-.263	.065	.049	.101	.051	.052	.083
15. Mass is our goal	-.452	-.203	.501	.158	-.125	-.300	.163	-.085	-.196	.051
16. Quality and top results in the club are long-term goals	-.613	.405	.384	.203	-.203	-.039	.000	.047	.142	-.035
17. We have excellent communication with the environment	.721	-.193	.370	-.221	.045	.150	.024	.070	.133	.119
18. The club's communication with schools is maximally achievable	-.449	-.115	.456	.210	-.062	.258	.467	.134	.151	.177
19. The club's communication at the international level is excellent	.463	.405	.152	-.087	.153	.386	.061	.332	-.283	-.001
20. The culture of management and athletes is in an enviable new position	-.608	.349	.419	.257	-.186	.073	-.011	-.037	-.071	-.004
21. All set goals are realistic and achievable	.734	-.164	.248	-.159	.250	.246	.020	-.048	.095	-.052
22. The club works exclusively according to the plan and program	-.563	.240	.349	.104	-.058	-.151	-.312	.113	.194	-.210
23. The statute and rules of conduct in the club are all adhered to	.674	.001	.324	-.095	-.060	-.152	-.149	.266	-.131	.208
24. Stakeholders (interests of individuals and groups) in the club are clear enough	-.434	-.127	.261	.201	.408	.017	.461	.192	-.089	.119
25. Everyone in the club is one team and that's how we work	.728	-.137	.372	-.132	-.098	.080	.037	.117	.153	.127
26. The goals of the club are not the same for everyone and clear to everyone	-.251	-.696	-.307	-.150	.196	.006	.013	.190	.097	.168
27. The organization of work and tasks in the club is good	.567	-.058	.394	.160	-.072	.413	.006	-.071	.229	.084
28. There are long-term, medium-term and short-term plans and goals of the club	-.537	.339	.326	-.257	.161	.011	-.200	.039	.173	.139
29. Our state union is a stable financial institution	.187	.640	-.285	.404	.009	.210	.110	-.024	.191	.092
30. Our state federation is the basis for the development and launch of football	-.389	-.394	-.078	.223	.483	-.064	-.088	.099	.218	.261
31. The advantages of the club are in the maximum help of city structures	.479	.224	-.015	.298	.182	.242	.108	-.537	.300	-.067
32. Own infrastructure is a great advantage for the club	-.571	.294	.337	-.230	.222	.090	-.023	-.090	-.077	-.016
33. Financial assistance of the club is defined by the regulations on financing	.458	-.067	.094	.587	.313	-.183	.185	.066	-.069	-.162
34. Financial support from higher levels of government to the club needs to be better	-.148	-.487	.484	-.450	.114	.127	.052	-.156	.094	.060
35. Competent and quality human resources in our state union work in key positions	.590	-.279	-.080	.437	-.092	.238	.007	-.004	-.071	.367
36. Our state union operates on legal regulations and laws	-.505	-.114	-.136	.069	.601	.088	-.127	.291	.089	-.168
37. The plan and program provide funds for quality training of existing staff in the club	.340	.357	-.081	.362	-.076	.182	-.474	-.215	-.152	.302
38. Our state federation has all the necessary infrastructure for the development of sports	-.625	.359	-.196	-.015	.317	.137	-.058	-.059	.253	.197
39. Our state federation has excellent cooperation with clubs	.418	-.045	-.200	.589	.269	-.169	-.166	.017	-.009	.056
40. The relationship between businessmen and our club is enviable	-.308	-.031	.248	-.115	.497	.250	.009	-.468	-.165	.069
41. The political environment contributes to the development of sport	.603	-.074	.359	.136	-.097	.091	.338	.002	.053	-.270
42. The organization of football clubs in the county is in an enviable new position	-.429	-.206	.401	.010	.496	-.390	-.097	-.228	-.084	.002
43. All government structures in the city /county have recognized the importance of top sport	.583	-.176	.206	.521	.246	-.088	.101	-.002	-.207	-.146

much attention to working with younger ages), so we call it : Abilities and knowledge of managers. The highest projection in the fourth isolated factor, have variables (financial assistance of the club is defined by the regulations on funding, our state federation has excellent cooperation with clubs, all government structures in the county have recognized the importance of top sport). We can call this factor institutional support to the club.

The largest projection in the fifth isolated factor we can call; Defining the goals of the organization, they have variables (The goals of the club are not the same for everyone and clear to everyone, Our state federation has all the necessary infrastructure for the development of sports). Variables have the highest projection in the sixth isolated factor (For the better

work of the club, more people and volunteers are needed, Mass is our goal, Organization in football clubs in the county is at an enviable level). This factor can be defined as: Creating basic prerequisites for the development of the organization. The seventh isolated factor that covers the economic and social dimension of sports is variable: (There are enough sponsors for the smooth operation of the club, Interpersonal relations in the club are bad, Communication between the club and schools is maximally achievable, Culture of management and athletes is enviable , The stakeholders in the club are clear enough). This factor can be called the economic and sociological subsystems of sport.

Table 3. Matrix of the structure of the organization of sports associations and federations of top managers

	Structure Matrix									
	Component									
	1	2	3	4	5	6	7	8	9	10
1. Our club needs a reorganization	-.241	.115	-.797	-.158	.184	.042	-.177	.159	-.047	-.115
2. Our club has a strategically clear direction	.066	.783	-.290	-.127	-.129	-.105	.096	-.130	.201	.065
3. The people in the club's management system are not professional enough	-.271	.068	-.547	-.105	.026	-.056	.146	.351	.225	.330
4. The selection of quality athletes and talents in the club is good	.813	.237	.025	.383	-.194	-.022	-.265	-.147	.017	.058
5. There are enough sponsors for the smooth running of the club	-.472	.178	.197	-.089	.173	-.139	.555	-.184	.579	.007
6. Professional people are in important positions in the club	.209	.735	-.113	.106	-.285	.167	-.112	-.104	.381	.423
7. A better number of people and volunteers are needed for the better work of the club	-.126	-.086	.231	-.305	-.206	-.676	.475	-.082	.162	-.116
8. The managerial policy in the club is good	.367	.587	-.203	.105	-.308	.384	-.100	-.152	.469	.201
9. In our club, great attention is paid to work with younger ages	.184	-.408	.654	-.194	-.014	-.243	.474	.014	-.088	-.198
10. Clear goals and quality plans and programs in the club have been set	.376	.536	-.358	.178	-.237	.250	-.121	.115	.551	.274
11. Club policy is destructive	-.853	-.080	-.276	-.362	.261	-.221	.293	.008	.202	.023
12. Interpersonal relationships in the club are bad	.270	-.018	-.025	.169	-.059	.335	-.714	-.016	-.471	-.220
13. Enough work is being done on club promotion and marketing	-.011	-.092	.713	-.019	.337	-.381	.275	.018	.074	-.056
14. In our club, everyone does the job they are in charge of	.465	.641	-.196	.040	-.396	.326	-.051	-.100	.247	.182
15. Mass is our goal	-.104	-.071	.266	-.068	.073	-.744	.487	-.076	.135	-.236
16. Quality and top results in the club are long-term goals	-.329	.097	.042	-.299	.015	-.368	.642	-.014	.672	.109
17. We have excellent communication with the environment	.811	.144	.286	.236	-.300	.342	-.171	-.079	-.330	-.069
18. The club's communication with schools is maximally achievable	-.136	-.050	.207	-.120	.118	-.218	.873	-.159	.057	-.249
19. The club's communication at the international level is excellent	.230	.686	.103	.225	-.270	.531	-.070	.015	-.011	.129
20. The culture of management and athletes is in an enviable new position	-.390	.145	.162	-.252	-.015	-.413	.648	-.109	.552	.148
21. All set goals are realistic and achievable	.695	.131	.234	.365	-.247	.465	-.281	-.271	-.307	-.060
22. The club works exclusively according to the plan and program	-.254	-.020	.201	-.284	.182	-.359	.342	-.003	.728	.014
23. The statute and rules of conduct in the club are all adhered to	.708	.355	.241	.285	-.264	.125	-.250	.258	-.186	.123
24. Stakeholders (interests of individuals and groups) in the club are clear enough	-.227	.128	.051	.111	.454	-.271	.577	-.259	.034	-.367
25. Everyone in the club is one team and that's how we work	.810	.125	.254	.261	-.380	.308	-.113	.070	-.284	.006
26. The goals of the club are not the same for everyone and clear to everyone	-.162	-.451	.118	-.173	.594	-.078	-.084	.063	-.474	-.444
27. The organization of work and tasks in the club is good	.756	-.027	.049	.433	-.277	-.096	-.066	.112	-.004	.146
28. There are long-term, medium-term and short-term plans and goals of the club	-.160	.266	.042	-.537	.285	-.246	.310	-.257	.567	-.031
29. Our state union is a stable financial institution	-.112	.216	-.477	.256	-.168	.478	.124	.071	.235	.614
30. Our state federation is the basis for the development and launch of football	-.179	-.312	.080	.017	.800	-.200	.181	-.160	-.065	-.123
31. The advantages of the club are in the maximum help of city structures	.308	-.082	-.235	.436	-.316	.416	-.056	-.437	-.005	.439
32. Own infrastructure is a great advantage for the club	-.299	.316	.069	-.430	.197	-.299	.329	-.429	.476	-.157
33. Financial assistance of the club is defined by the regulations on financing	.287	.019	.012	.868	-.004	.113	-.021	.006	-.078	.128
34. Financial support from higher levels of government to the club needs to be better	.270	-.137	.434	-.340	.102	-.258	.149	-.438	-.181	-.531
35. Competent and quality human resources in our state union work in key positions	.355	-.140	.168	.503	-.135	.296	-.046	.174	-.608	.409
36. Our state union operates on legal regulations and laws	-.443	-.054	.084	-.045	.756	.018	.082	-.213	.250	-.285
37. The plan and program provide funds for quality training of existing staff in the club	.093	.183	.033	.200	-.177	.193	-.185	.040	.015	.849
38. Our state federation has all the necessary infrastructure for the development of sports	-.506	.073	-.327	-.414	.504	-.023	.276	-.275	.414	.133
39. Our state federation has excellent cooperation with clubs	.176	-.098	-.062	.694	.162	.163	-.234	.132	-.123	.431
40. The relationship between businessmen and our club is enviable	-.156	.130	.133	-.141	.253	-.210	.138	-.794	.048	-.095
41. The political environment contributes to the development of sport	.544	.047	.168	.520	-.529	.269	.062	-.040	-.152	-.105
42. The organization of football clubs in the county is in an enviable new position	-.034	-.017	.181	-.009	.495	-.666	.129	-.470	.264	-.270
43. All government structures in the city / county have recognized the importance of top sport	.400	.040	.212	.866	-.131	.102	-.096	-.045	-.220	.132

Organizational system of the club. In the tenth isolated

In the eighth isolated factor, one variable stood out (The relationship between businessmen and our club is at an enviable level), which also covers the space of the economic dimension of sports, and we can call it; economic-profit function. In the ninth isolated factor, variables stood out (There is a sufficient number of sponsors for the smooth operation of the club, clear goals and quality plans and programs in the club, quality and top results in the club are long-term goals, the club works exclusively according to plan and program, There are long-term, medium-term and short-term plans and goals of the club, Competent and quality human resources in our state union work in key positions). These variables hypothetically cover the space of organization of management in a sports organization, and this factor can be called:

Table 4. Intercorrelation matrix of isolated components of the organization of sports organizations

Com	Component Correlation Matrix									
	1	2	3	4	5	6	7	8	9	10
1	1.000	.115	.149	.284	-.288	.137	-.186	-.019	-.154	.013
2	.115	1.000	-.111	.002	-.126	.111	-.007	-.093	.242	.090
3	.149	-.111	1.000	.010	.020	-.136	.141	-.078	-.090	-.145
4	.284	.002	.010	1.000	-.068	.182	-.101	.030	-.144	.174
5	-.288	-.126	.020	-.068	1.000	-.162	.048	-.108	.029	-.155
6	.137	.111	-.136	.182	-.162	1.000	-.235	.031	-.135	.145
7	-.186	-.007	.141	-.101	.048	-.235	1.000	-.093	.217	-.041
8	-.019	-.093	-.078	.030	-.108	.031	-.093	1.000	-.090	.116
9	-.154	.242	-.090	-.144	.029	-.135	.217	-.090	1.000	.146
10	.013	.090	-.145	.174	-.155	.145	-.041	.116	.146	1.000

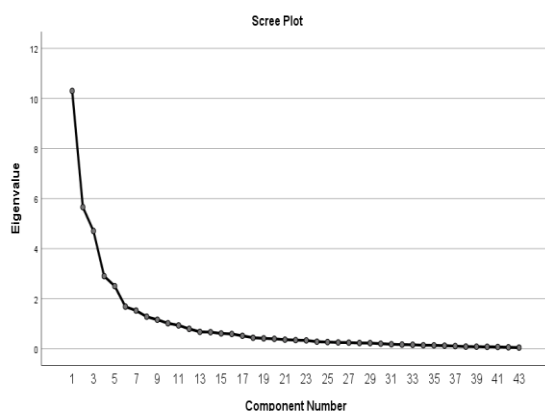
factor, the variables stood out (Our state union is a stable financial institution, financial support of higher levels of the state towards the club should be better,

the plan and program provide funds for quality training of existing staff in the club). These variables hypothetically also cover the space of the economic dimension of sport. It's just that now it's about institutional support to organizations. So we can call this factor: Institutional support to sports organizations.

Correlation of the matrix of isolated components (Table 4) we see that the first factor has the greatest correlation with the fifth factor (-, 28), which can be characterized as a weak correlation.

By looking at the Scree plot we can see the exact fracture of the curve that tells us about taking factors at the relevant level, therefore, in top managers the most dominant factors that were isolated are the first, second and third factors (Diagram 1).

Graph 1. Scree plot of isolated components of the organization of sports organizations of top managers



Conclusion

Factor analysis is a research technique, such that the results and the way of using these results are always left to the personal judgment of the researcher, and not to strict and rigid statistical rules. The number of factors we obtain by factor analysis is often large. The results of this research tell us that the method of main components in top managers extracted 10 isolated factors, which exhaust 76.1% of the total valid variance. Orthogonal projections of vectors of manifest variables on vectors of latent dimensions are presented in the structure matrix. By analyzing the structure of

these variables, we can see that ten isolated factors have been singled out, each of which in its own way explains and hypothetically covers certain areas treated by this research. Each of these isolated factors determines the variables that have the largest projections on each of these ten isolated factors. It is evident that all ten isolated factors are dominated by variables and answers that hypothetically cover the work space and competencies of top management, and that the basic focus of the respondents is on the organizational factors of the club to which they belong. Which is logical considering the profile of the respondents who were part of this research.

References

1. Bartoluci, M., Skoric, S. (2009). Characteristics of managers in the management of sports organizations. // Methodological organizational forms of work in the fields of education, sports, sports recreation and kinesitherapy / Neljak, Boris, editor (s). - Zagreb.
2. Čolakhodžić, E., Rađo, I. (2011). Methodology of scientific research work in kinesiology. Faculty of Teacher Education, Džemal Bijedić University, Mostar.
3. Đedović, D. (2011): Structural and functional aspect of management in sports institutions in the City of Mostar, Doctoral dissertation, Mostar, University "Džemal Bijedić" in Mostar, Faculty of Teacher Education.
4. Malacko, J., Rađo, I. (2006): Human Resources Management in Sports, Faculty of Sports and Physical Education, Sarajevo.
5. Tomić, M. (2007): Sports Management, Data Status, Belgrade.

Corresponding author:
Damir Đedović
 University "Džemal Bijedić", Mostar
 Faculty of Teacher Education,
 E-mail: damirdj86@yahoo.com

Submitted: 13.05.2022.

Accepted: 24.05.2022.