

OPTIMIZATION OF TRADITIONALLY DESIGNED STRUCTURE OF SPORTS ORGANIZATION

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Abstract

The aim of work is defining and optimization of traditionally designed structure of sports organization with all elements necessary to achieve sports result and profit. For the purpose of solving problems we designed virtual sport club with all associated functions and individual roles, so mechanic and organic structure is satisfied. For flexibility of function coordination and time component we included project managers in system which resulted with system softness, which means we largely eliminated rigidity of hierarchy on the inside and from the outside. After making imaginary structure, all people got individual functional status to cover all needed functions. Such model automatically defined individual roles. That is how we acquired 205 entities totally out of which 26 first line managers, 7 second line managers and 4 third line managers. The others are executive staff. The entity sample is generated in wide context and described arbitrarily so we could potentially (on manifest and latent level) discover information relevant for possible optimization and equals $n=205$. From initial 80 variables, after data structure inquiry we kept 40. After basic statistics we conducted data taxonomy to determine structure of relations inside entity, i.e. general types that exist in this type of structure. We used Uditax algorithm for distinct taxon identification (Bonacin, 2004). Processing has given 6 relatively balances taxon where first taxon gathers directors and highly professional performance, second taxon gathers pioneers, third taxon cadets, fourth taxon juniors, fifth taxon seniors and sixth taxon gathers technical support. The gained results clearly indicate that in reality there is clear set of action types in entity set and it is directed toward three basic functions in sports organization: 1. Logistics (management), 2. Product (sports section) and 3. Support (maintenance). Optimization can be implemented in such a way to actually structure sports organization according to the given model.

Key words: sport organisation, structure, optimization, taxonomy

Introduction

Today's world is a complex and uncertain place for a living. In such a world, it is not easy to make decisions. Even if a person has everything needed to make a final decision, it is possible that there is several solutions offered. *How to make appropriate, optimal decision? And what that means for the field where the decision is being made?* According to classic theory of decision making, rational decision maker is tending to make optimal decision. This means following: he will be aware of idea that there is disharmony between the real and wanted situation, then he will recognize, set, organize and/or sort goals that must be accomplished to avoid disharmony and then, based on this goals, recognize available routs of action. When he analyzes and compares all actions offered, ha has to know how to pick the one that gives the best outcome, apropos the one that maximizes usefulness, (Bahtijarević-Siber & Sikavica, 2001).

Therefore, maximized usefulness in achieving pre-set goal is what a man wants today. However, a man always wanted more, and as more as possible, according to the level he was at and the resources he could reach. Science and technology helped a lot, but he always had needed to decide and optimize certain situations. The development of cognition and science followed the only possible path. That path was characterized by attempts to understand, explain and eventually control everything that was available for a man and what surrounded him. (Katić & Bonacin, 2001). A man integrated new discoveries into familiar knowledge sets, used them in practice and routed them into clear, concrete and usually limited purposes (Katić i Bonacin, 2001) while building new models and forming new goals. For lack of knowledge, actualy for limited knowlegde he was prone to rule everything round him.

Through the whole written (or somehow recorded) history, there has been a „golden thread“ of human existence – management as a motive that enabled survival and adaptation to constant changes to a man – we call it development (Bonacin Da., 2008). Since the most primitive epoch of its existence, a man possessed knowledge (some levels of it) about significance of internal and external resources. He was also familiar with their integration and organization into meaningful structures.

There have always been different levels in knowledge and man had to manage to reduce the differences. However, the levels and the conditions of their existence are changing constantly. By researching all preserved historical remains, we can clearly notify that a man used his new knowledge since beginning and optimized the way of living, making optimal decisions so he would make his life easier and maximized usefulness at the contemporary level of development (*Opća enciklopedija, 1967; Drašković & Makek, 1983*) In a long term, every new discovery led to social improvement. That is why it was optimized. The knowledge was shared, new discoveries were applied and practiced and the society profited and progressed. From all, above mentioned, we are aware of what we have today and we can conclude that everything that we are force us to optimize what we have and to move forward. In the ancient times, the vision of future was not “fill empty stomach”, but with new discoveries this vision evolved into what it is today.

This brings us to the conclusion there are two ways of optimization: spontaneous or stochastic which is natural and reacts as combination of random conditions or intentional or routed. It is logical to conclude that management, even if it originated as a spontaneous need to manage available resources, has become intentional and routed way of optimization of available resources the moment when it outgrew into one of the most important functions and tools of today's way of living. (*Aksentijević et al., 2008*). A man can not be alone and since he mingles with other people, naturally he creates various relations and gathers in different ways depending on his goals and opportunities. So formed groups exist and function in the outside world they are interrelated with and inside them there is their internal surrounding.

In order to define and later eventually optimize so formed group, in this case sports organization, we have to, as much as possible, discover all about its external and internal surroundings. According to general system theory, sports organization is defined as very complex, dynamic and opened system with management which consists of sub-systems and elements of interdependent parts of the unit. It is founded to maintain sport activities with the aim of gathering as numerous membership and achieving top sport results. It is a part of social system, in other words form of social upgrade. It is dependent on surroundings and their correlation and as such it presents a part of general sport system (*Malacko & Rađo, 2004*). functioning of sports organization has political, economic and other positive and negative influence on individuals and society and such it is of great relevance as well as its eventual optimization.

Research goal

The aim of this work is to determine sport organization traditional structure regarding starting functional definition of units and individual roles inside of it. Even though, in today's practice, dominates approach where it is possible to abstract a part of business functions outside of business subject core (like financial service, legal service, laboratory, school of sports, marketing,...) but in this research we imagined that sports organization has all its functions integrated. That is how we can structure and analyze actual functionality and operability of sport organization, since in the finish all this functions that are extrapolative joined to the core have their price, as well as the time of reaction and relevance and is reflected on sport and financial result. By the way, it can appear in other situations (cost positions, information conglomeration, bottlenecks...) that part of functions has to be relocated out of sport organization or the other way around. But such services on the market are very expensive and unattended so the starting model is much more logical. The *subject* of this work is hypothetical sport organization whose optimizations is necessary for better functioning of individuals within i.e. individual role they perform regarding to expected functions inside organization. The purpose of work is definition and optimization of traditionally designed structure of sport organization along with all containing elements needed.

And all this in case that analyze results point out difference that can be recognized as area of optimization. Hypothesis says: It is possible to provide suggestions for more efficient business (optimization) using quantitative determination of traditionally designed structure of sport organization.

Methods

According to traditional model of organizational structure, the function determines structure in such a way where organizational units are formed according to suitable business functions. In each, so formed functional unit, performance of

related and similar jobs like supply, production and realization was combined (Bahtijarević-Šiber & Sikavica, 2001) as well as training and athletes preparation, diagnostics and rehabilitation, marketing and public relations etc.) In function organizational structure, every functional unit covers certain area but for the purpose of the whole organization. There are mutual goals (sport result and profit), labor division depending on the area where individual belongs to and with all this hierarchy of responsibility and commanding top-down, area of management along with vertical and horizontal coordination and communication. (Figure 1.).

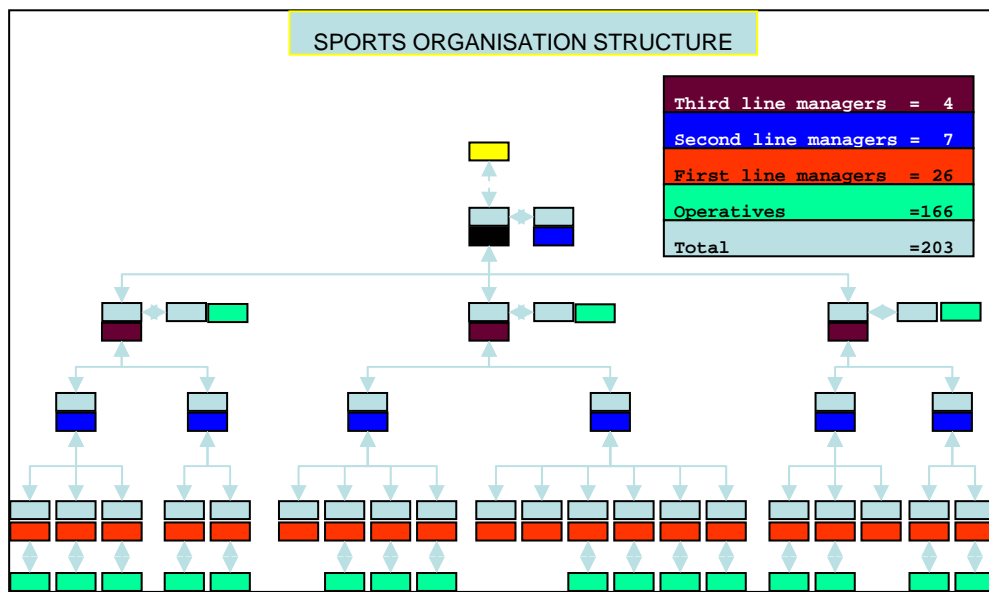


Figure 1. Traditionally designed structure of sport organization with staff

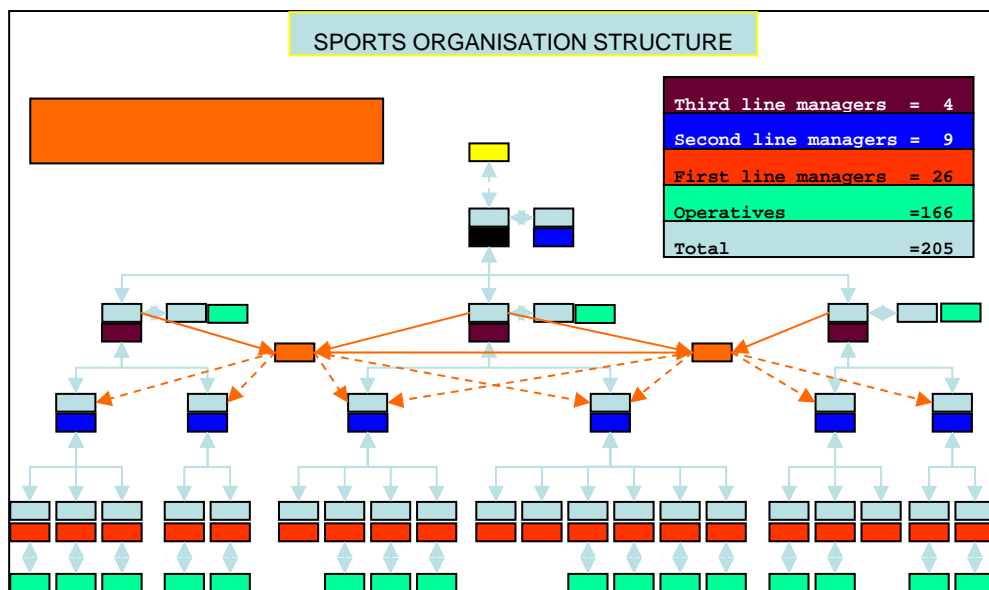


Figure 2. Corrected traditionally designed structure of sport organization

Table 1. List of variables applied in research

Hierarchy level (n)
Autonomy level (1 – 5)
Number of subordinates (n)
Number of subordinate functions (n)
Number of managers (n)
Set significance (1 – 5)
The amount of reception up (1 – 5)
The amount of reception down (1 – 5)
The amount of emission up (1 – 5)
The amount of emission down (1 – 5)
Final decision (1 – 5)
Set cost (1 – 5)
Individual cost (1 – 5)
Energetic engaging (1 – 5)
Professional engaging, skills (1 – 5)
Science engaging (1 – 5)
Team allowance (1 – 5)
Communicativeness t (1 – 5)
Education level (1 – 5)
Irreplaceable (1 – 5)
Seriousness regarding work (1 – 5)
Salary (1 – 5)
Experience (1 – 5)
Open toward external influence (1 – 5)
Access to money resources (1 – 5)
Significance of expected speed in business (1 – 5)
Business trips (1 – 5)
Potential vertical mobility (1 – 5)
Potential horizontal mobility (1 – 5)
Task variability (1 – 5)
Proportion of physical performance area (1 – 5)
Level of fix daily time engagement (1 – 5)
Level of sophisticated professional knowledge (1 – 5)
Knowledge of technology for task accomplishment (1 – 5)
Access to technical equipment (1 – 5)
Computer requirement (1 – 5)
Foreign language requirement (1 – 5)
Personal professional public relation (1 – 5)
Ability to react in surrounding (1 – 5)
Available for public (1 – 5)

In current traditional model in the middle level we entered coordinators (project managers) whose manager function is not permanent but shows in specific situation with limited duration (i.e. sports hall needs to be built or two players has to be sold for high price, everything that is not urgent and does not demand gathering of an entire management but one project team limited size with limited goals) which means from time to time. Project managers and relations they establish were brought in for three reasons; a) *necessity for certain flexibility in business*, b) *to modulate functions of different groups not in leadership but only as inner sector partly authorization transfer when situation demands*, and c) time component is crucial – *occasionally* (Figure 2). Introduction of project managers made system adjustable, in other words rigidity of hierarchy was avoided internally and externally. Evidently, like this model is composed of mechanic and partly of organic organization. (Šunje, 2002).

The entity samples i.e. advent or things that we identify, and which are defined for the purpose of some research always have to follow certain terms and characteristics, so generated results and conclusions have reliability and transparency on other samples of the same population (Bonacin et al., 2001). After creating imaginary structure, each individual in sport organization got their functional status due to cover all necessary functions. Such model automatically defined individual roles. That is how we acquired 205 entities totally out of which 26 first line managers, 7 second line managers and 4 third line managers. The others are executive staff (player, employees in certain sections and departments etc.) The *variable sample* is generated in wide context and described arbitrarily so we could potentially (on manifest and latent level) discover information relevant for possible optimization and equals n=205. At first we had more than 80 variables, but after data structure inquiry for further purpose of processing we kept 40.

This occurred because some variables are actually combination of two or more other variables that are already in the system so their including did not bring new information, but created linear combination of those variables so contaminating relations among data. Analytically and with detail scanning of genuine data, final set was reduced to 40. During variable construction we paid attention, whenever it was possible, that data exist in the range of estimates 1 – 5, except when variable presented counting of obvious phenomena. All estimations were conducted by three competent assessors (the author of this work and two doctors of kinesiology) and linear combination of their statements (particles) was rounded to the whole number equally to initial range. After basic statistics data taxonomy was conducted to determine structure of relations

inside entity, i.e. general types that exist in this type of structure. This approach can be conducted in several ways, and for this work to emphasize differences of existing types we chose *Uditax algorithm* for distinct taxon identification (so entities belong to one and only one taxon), of Bonacin 2004. All individual (entities) in described structure (max n=205) are explained with 40 variables. With Uditax model of distinct taxon, in preliminary actions of this complex procedure same parameters were applied, but data were presented as average values of individuals and taxon on each variable for easier understanding. Based on gained results and hypothesis perspective optimization of sport organization structure will be suggested as a form of paradigm organizational forms in different terms of functional consolidation.

Results

Table 2. Statistical parameters of applied variables

Variable	AVG	STD	MIN	MAX
Hierarchy level (n)	1.34	0.80	1	5
Autonomy level (1 – 5)	2.06	1.27	1	5
Number of subordinates (n)	3.68	20.39	0	204
Number of subordinate functions (n)	1.46	2.77	0	31
Number of managers (n)	4.63	0.89	1	5
Set significance (1 – 5)	3.07	1.14	1	5
The amount of reception up (1 – 5)	3.06	1.10	1	5
The amount of reception down (1 – 5)	1.69	1.03	1	5
The amount of emission up (1 – 5)	2.60	1.00	1	5
The amount of emission down (1 – 5)	1.57	0.97	1	5
The number of decisions (1 – 5)	1.80	1.00	1	5
Set cost (1 – 5)	2.60	1.24	1	5
Individual cost (1 – 5)	1.49	0.83	1	5
Energetic engaging (1 – 5)	4.00	1.41	1	5
Professional engaging, skills (1 – 5)	2.64	1.21	1	5
Science engaging (1 – 5)	2.22	0.83	1	5
Team allowance (1 – 5)	3.53	0.93	1	5
Communicativeness t (1 – 5)	2.62	1.09	1	5
Education level (1 – 5)	2.15	1.21	1	5
Irreplaceable (1 – 5)	2.96	1.15	1	5
Seriousness regarding work (1 – 5)	1.88	0.96	1	5
Salary (1 – 5)	1.95	1.06	1	5
Experience (1 – 5)	2.33	1.15	1	5
Open toward external influence (1 – 5)	3.72	1.29	1	5
Access to money resources (1 – 5)	1.31	0.63	1	5
Significance of expected speed in business	3.13	0.89	1	5
Business trips (1 – 5)	2.39	0.97	1	5
Potential vertical mobility (1 – 5)	3.57	1.47	1	5
Potential horizontal mobility (1 – 5)	2.41	1.13	1	5
Task variability (1 – 5)	3.28	1.09	1	5
Proportion of physical performance area (1 – 5)	2.10	0.68	1	5
Level of fix daily time engagement (1 – 5)	4.62	0.93	1	5
Level of sophisticated professional	2.73	1.28	1	5
Knowledge of technology for task	2.18	0.71	1	5
Access to technical equipment (1 – 5)	1.53	0.99	1	5
Computer requirement (1 – 5)	1.90	1.42	1	5
Foreign language requirement (1 – 5)	2.08	1.30	1	5
Personal professional public relation (1 – 5)	3.07	1.27	1	5
Ability to react in surrounding (1 – 5)	2.61	0.95	1	5
Available for public (1 – 5)	2.78	1.12	1	5

(AVG= average value, STD=standard deviation, MIN,MAX= minimal and maximal result)

Table 3. Uditax position of extracted taxons with average values

N	47	50	28	28	20	32
Variables and range / %	22.93	24.39	13.66	13.66	9.76	15.61
Level in hierarchy (n)	1.17	-0.43	-0.43	-0.43	-0.43	-0.04
Autonomy level (1 – 5)	1.40	-0.84	-0.84	-0.05	0.74	-0.44
Number of subordinates (n)	0.61	-0.18	-0.18	-0.18	-0.18	-0.18
Number of subordinate functions (n)	0.57	-0.17	-0.17	-0.17	-0.17	-0.18
Number of managers (n)	-1.24	0.42	0.42	0.42	0.42	0.17
Set significance (1 – 5)	0.03	-0.06	-0.06	0.82	1.70	-1.68
The amount of reception up (1 – 5)	-0.21	0.85	-0.06	-0.97	-1.88	1.05
The amount of reception down (1 – 5)	1.11	-0.67	-0.67	-0.67	-0.67	1.00
The amount of emission up (1 – 5)	0.38	-0.59	-0.59	-0.59	-0.59	1.78
The amount of emission down (1 – 5)	1.57	-0.58	-0.58	-0.58	-0.58	0.00
The number of decisions (1 – 5)	1.20	-0.81	-0.81	0.16	1.20	-0.68
Set cost (1 – 5)	-0.33	-0.49	0.32	1.14	1.95	-1.25
Individual cost (1 – 5)	0.91	-0.59	-0.59	-0.59	1.84	-0.52
Energetic engaging (1 – 5)	-1.19	0.69	0.71	0.71	0.71	-1.02
Professional engaging, skills (1 – 5)	1.00	-1.36	-0.53	0.29	1.12	0.17
Science engaging (1 – 5)	1.47	-0.27	-0.27	-0.27	-0.27	-1.10
Team allowance (1 – 5)	-0.36	-0.57	0.51	1.59	0.51	-0.74
Communicativeness t (1 – 5)	0.95	-0.57	-0.57	0.34	1.26	-1.09
Education level (1 – 5)	1.55	-0.95	-0.95	-0.13	-0.13	0.24
Irreplaceable (1 – 5)	0.41	-0.84	0.04	0.91	1.79	-1.24
Seriousness regarding work (1 – 5)	1.12	-0.92	-0.92	0.12	1.16	-0.24
Salary (1 – 5)	1.34	-0.90	-0.90	0.05	1.00	-0.43
Experience (1 – 5)	0.92	-1.15	-0.28	0.59	1.46	-0.72
Open toward external influence (1 – 5)	-0.44	1.00	0.22	0.22	0.22	-1.43
Access to money resources (1 – 5)	0.92	-0.49	-0.49	-0.49	1.09	-0.39
Significance of expected speed in business	0.26	-0.14	-0.14	0.98	0.98	-1.51
Business trips (1 – 5)	0.50	-0.40	-0.40	0.63	1.67	-1.34
Potential vertical mobility (1 – 5)	-0.39	0.97	0.97	-0.39	0.29	-1.64
Potential horizontal mobility (1 – 5)	0.69	0.52	0.52	-0.37	-1.26	-1.17
Task variability (1 – 5)	0.43	0.66	0.66	-0.26	-0.26	-1.86
Proportion of physical performance area (1 – 5)	0.99	-0.14	-0.14	-0.14	-0.14	-0.88
Level of fix daily time engagement (1 – 5)	-1.33	0.41	0.41	0.41	0.41	0.34
Level of sophisticated professional	0.90	-1.36	-0.57	0.21	1.00	0.51
Knowledge of technology for task	0.62	-0.25	-0.25	-0.25	-0.25	0.06
Access to technical equipment (1 – 5)	0.98	-0.53	-0.53	-0.53	-0.53	0.67
Computer requirement (1 – 5)	1.21	-0.64	-0.64	-0.64	-0.64	0.73
Foreign language requirement (1 – 5)	1.57	-0.83	-0.83	-0.06	-0.06	-0.18
Personal professional public relation (1 – 5)	0.50	-0.85	-0.06	0.73	1.52	-0.95
Ability to react in surrounding (1 – 5)	0.48	-0.65	0.41	0.41	1.47	-1.31
Available for public (1 – 5)	0.30	-0.69	0.20	1.09	1.09	-1.17

Results in Table 3. indicates in which sense management exists, in other words how are entity roles grouped in such model of sport organization. Accepting their start number n= 205 that actually exists in model methodologically we search for less types and based on their gathering in the entity area (of individuals),

Based on gathering inside of entity, with data processing or transformation with Uditax model (model of distinct taxons, where individuals belong to one and only one taxon) we gained 6 relatively balanced taxon, which means there is no taxon that contains extremely large or small number of entities. It is noticeable that first taxon gathers 47 (22.93%) entities and that is directors and highly professional performance, second taxon gathers 50 (24.39%) entities that is pioneers, third

taxon gathers 28 (13.66%) entities that is cadets, fourth taxon gathers 28 (13.66%) that is juniors, fifth taxon gathers 20 (9,76%) entities that is seniors and sixth taxon gathers 32 (15.61%) entities and that is technical support. In table 5. results of entities projected on taxons were specified. In the case of the first taxon it is obvious that it crystallized management organization personnel starting with general manager, business secretary, sub-sector coordinators (KAM and KAT) further health manager, diagnostic doctor all the way to market status manager, promotional manager, legal manager, manager for the values owned and maintenance engineer. First taxon describes managing and presents management frame of work in this model of sport organization. With insight on Table 4 where it shows entities that are projected on second, third, fourth and fifth taxon.

Table 4. Positions of certain entities on isolated taxes

	TX1	TX2	TX6	TX3	TX5	TX4
	47	50	28	28	20	32
General manager	3.93					
Business secretary	1.72					
Sub sector coordinator KAM	2.34					
Sub sector coordinator KAT	2.28					
Anthropology status manager	3.00					
Secretary						1.70
Sports manager	2.62					
Tactical trainer	1.10					
Programmer	1.08					
Scout	1.87					
Trainer of primary selection	1.23					
Sport school trainer A, B (2)	1.12					
Pioneer A (25)		1.26				
Pioneer B (25)		1.26				
Cadet trainer A, B (2)	1.18					
Cadet A (14)			1.03			
Cadet t B (14)			1.03			
Junior trainer A, B (2)	1.30					
Junior A (14)				1.44		
Junior B (14)				1.44		
Senior trainer A, B	1.84					
Senior A (10)					2.09	
Senior B (10)					2.09	
Health manager	2.25					
Support kinesiology professional	1.61					
Diagnostic doctor	1.79					
Laboratory technician						2.01
Nurse						1.92
Psychologist	1.56					
Sociologist	1.37					
Physiatrist	0.93					
Kinesiology therapist	0.74					
Physical therapist	0.69					
Manager of market status	2.74					
Secretary						1.96
Promotional manager	2.54					
Market analyst	1.80					
Offer and demand	1.28					
Advertisement	1.22					
Contact with source of funds	1.31					
Merchant						0.97
Salesman						1.56
Communication toward outside	1.90					
Communications with fans	1.43					
Public relations with media	1.47					
Manifestation organizer	1.56					
Legal manager	1.30					
Representing lawyer	0.69					
Representing lawyer (assistant)						1.30
Contract lawyer	0.69					
Contract lawyer (assistant)						1.30
Organizer	1.66					
Material resource manager	2.33					
Secretary						1.96
Financial manager	1.35					
Sales	1.33					
Financial accountant						2.13
Financial referent						2.15
Supply	1.33					
Material accountant						2.13
Material referent						2.15
Chief of salaries and individual costs						1.94
Administrative referent						2.19
Manager for the values owned	1.37					
Chief of facilities	0.96					
Property man						2.05
Maintenance engineer	1.68					
Electrical – mechanic A, B (2)						1.90
Carpenter						1.93
Superintendent						2.04
Others						2.03
Security r A, B (8)						1.85
Hygienist A, B (3)						2.22

It is visible that entities of immediate importance are represented such as *pioneers* (beginners), *cadets* (the ones that already overcame technique), *juniors* (the ones that are good technicians and now they fight for their status inside sport organization) and *seniors* (formed teams, ready for high scores). It is obvious we talk only about sport groups, which means that this taxons present *direct sports machinery* (players) divided into age categories.

With insight on *Table 4.* into entities which are projected on sixth taxon, the presence of technical profession is visible from secretary, laboratory technician, nurse, merchant, salesman, legal assistant, financial accountant, administrative referent, property man, electrical-mechanic, carpenter, superintendent, security and hygienist. *Sixth taxon thus presents technical support* and the frame of technical support in this model of sport organization. After detail overview of the results we can highlight three above-types of taxon in other words three global mechanisms of structuring.

And these are:

1. Managers of all levels *logistics*;
2. Operative support *technique*;
3. Direct sport machinery (players) *product*.

It is necessary to emphasize that of three types - two are universal (logistics and support) and only one is specific (sport machinery) which points out that any organizational subject (company, sport organization,...) keeps the universal part (management and support) and specialists which differs subjects from category to category. It would mean that this model could be applied in any category with different specific type. Anthropological perspective is that interested individuals that join such organization according to their jurisdiction, have to decide what are their interests since there are three options a) whether they will be managers of some level, b) maintainers of some level and c) or they will be "producers" (i.e. players) of some level, because their jurisdiction limits other possible operations (Figure 6).

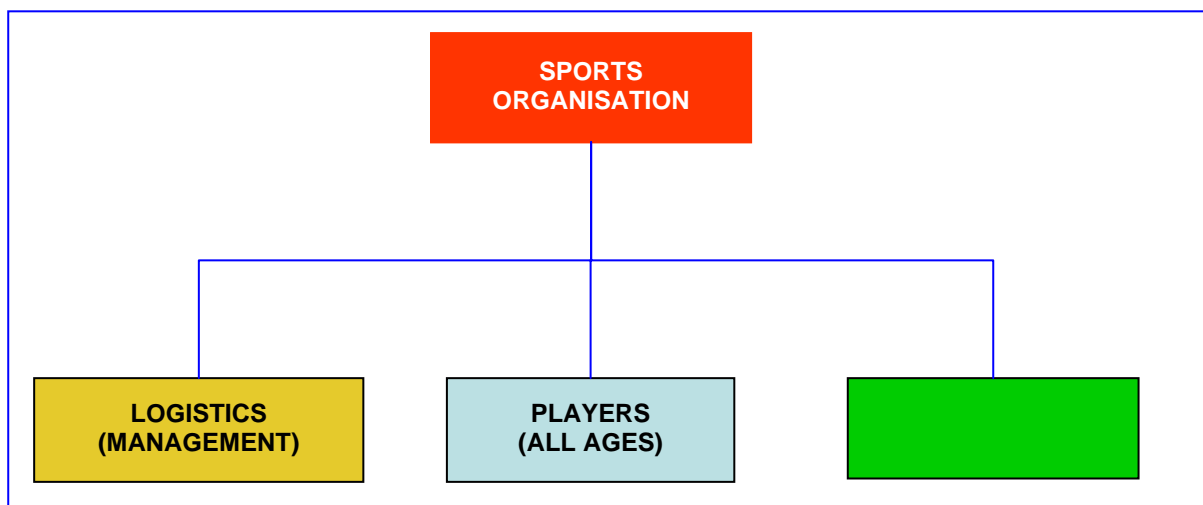


Figure 3. Global model of sport organization structure based on taxons

Discussion and conclusion

For purpose of defining sport organization, under traditional model with internal correction (project managers) virtual sport club with all necessary functions and individual roles was designed, so mechanic and organic structure is satisfied. That organization was subject to analysis. We defined 40 (at first 84) variables where all individuals in that structure were specified.

Variables are defined in such way to gather all relevant data about inner structuring as well as about possible external bilateral (from the outside toward inside) functioning. It was defined 205 entities assorted in functional sets and levels. To gather information about existing types on this data we applied Uditax algorithm for distinct taxon explication.

Based on the results we can confirm work hypothesis H_0 : It is possible to provide suggestions for more efficient business (optimization) using quantitative determination of traditionally designed structure of sport organization.

Gained results point out the fact that in reality there is a clear set of actions of entity sets. And it is directed toward three basic functions in sport organization: 1. Logistics (management), 2. Product (sport machinery), and 3. Support (maintenance).

Optimization, therefore, can be conducted in a way that sport organization in reality needs to be structured according to mentioned model, because that is how it will fulfill its basic functions without neglecting other aspects of business and functioning. (Potočan, 2006).

Therefore, we should certainly try to overcome differences in discoveries, in other words theory of knowledge gap. (Šorđan, 2008; Šuman & Pšunder, 2008).

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OPTIMIZACIJA KLASIČNO DIZAJNIRANE STRUKTURE SPORTSKE ORGANIZACIJE

Sažetak

Cilj rada je definiranje i optimizacija klasično dizajnirane strukture sportske organizacije sa svim sadržajnim elementima koji su potrebni radi ostvarenja sportskog rezultata i profita. Za potrebe rješavanja problema dizajniran je virtualni sportski klub sa svim pripadajućim funkcijama i pojedinačnim ulogama, tako da zadovolji mehaničku i organsku strukturu. Zbog fleksibilnosti, usklađivanja funkcija te vremenske komponente, u sustav su uvedeni projektni menadžeri čime se dobilo na mekoći sustava, tj. u pozitivnoj mjeri je uklonjena rigidnost hijerarhije interno i eksterno. Nakon izrade zamišljene strukture, svim pojedincima u sportskoj organizaciji dodijeljen je individualni funkcionalni status s ciljem da se pokriju sve potrebne funkcije. Takav model gotovo po automatizmu definirao je individualne uloge. Ukupni broj tako dobivenih entiteta je 205 od čega menadžera prve linije 26, menadžera druge linije 7 i menadžera treće linije 4. Operativci su svi ostali. Uzorak entiteta generiran je u najširem kontekstu s ciljem proizvoljnog opisa kako bi se potencijalno (na manifestnoj i latentnoj razini) otkrile informacije od značenja za moguću optimizaciju a iznosio je $n=205$. Početni broj varijabli bio je više od 80 ali je nakon uvida u strukturu podataka za kasnije svrhe obrade zadržano 40. Nakon osnovne statistike izvršena je taksonomizacija podataka kako bi se utvrdila struktura odnosa u prostoru entiteta, tj. općih tipova koji stvarno u takvoj strukturi egzistiraju. Korišten je Uditax algoritam za identifikaciju distinktnih taksona, Bonacina iz 2004. Obradom je dobiveno 6 relativno izbalansiranih taksona pri čemu prvi takson okuplja upravljače i visoko stručno djelovanje, drugi takson okuplja pionire, treći takson okuplja kadete, četvrti takson okuplja juniore, peti takson okuplja seniore a šesti takson okuplja tehničku podršku. Dobiveni rezultati jasno upućuju na činjenicu kako u realnosti postoji jasan skup vrsta djelovanja skupa entiteta, a usmjeren je prema tri temeljne funkcije u sportskoj organizaciji: 1. Logistika (upravljanje), 2. Proizvod (sportski pogon) i 3. Potpora (održavanje). Optimizacija, dakle, može biti izvršena na način da sportsku organizaciju u realnosti treba strukturirati prema navedenom modelu.

Ključne riječi: sportska organizacija, struktura, optimizacija, taxonomizacija
