Figure 1: Deffnition of the holism in the Dialectical Systems Theory.The cases from fotball/soccer practice are selected purely indicatively. SSG=small sided games.

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| (1) The whole (sistemicity) | in thinking at the same time we capture the synergy of all the elements that make up the game (match) in its widest sense: e.g. the number of players, the game tasks, individual, group and team tactics, the result, conditions etc . Legality of the game is reflected correctly in the time, spacel and energy. The individual elements are not the central theme. | - SSG involve simultaneously e.g. developing all possible essential technical/tactical elements at the level of team tactics in the phase of attack and defense, and fulfill the respective energy requirements |
| (2) Parts (systematicity) | each part of the game is treated separately (match, the training process ... ): e.g. defensive line, midfield, attack , individual tecnical/tactical behavior of the player, physical fitness, individual tactical choices, etc. as separate topics | -SSG cover, for example, essential tecnical/tactical elements of group tactics in both phases of the game (eg. defensive line with or without ball possession); |
| (3) Relationships (correlation, dialecticness, interdependence) | We are dealing with connections that are formed between the individual parts of the whole; e.g. relations between the goalkeeper and the defensive line, the relationship between the defense and the midfield, relationships that are developed according to the opponent, in both phases of the game in the interaction between them | - SSG has at the forefront for example the aspect of cooperation between players (individual, group and team tactics); |
| (4) realism (reality proximity, materialism) | We consider, how the selected content is actually realized in practice, and whether the SSG in its appearent shape is sufficiently similar to reality from the technical/tactical and energetical point of view | - SSG consistently illustrate the legality of the game time-spacely and energeticaly |

Figure 2: A summary of the basic characteristics of systemic thinking. Cases are selected purely indicatively.

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| **Systemic / holistic way of thinking** | **Non-systemic / unilateral thinking** |
| ***Interdependence/s, the relationship/s, opennes, dialectical system of aspects*** | ***Independence, dependence , closed-in behavior, individual aspect*** |
| - The thinking covers all the essential aspects of the soccer game at the same time (eg . technical/tactical aspect, aspect of physical preparation, importance of the result, economics, aesthetics, etc . ) | - Analysis of the performance of a player is limited e.g. only to the aspect of his physical fitness |
| ***The complexity (and also complication)*** | ***Simplicity, the complication, the parts alone*** |
| - The game includes many technical/tactical elements that form a meaningful and coherent complex of technical/tactical knowledge | - from the complex of technical/tactical knowledge we expose only some specific knowledge (eg. Individual can properly recieve the ball) |
| ***Attractors , influential forces (🡪 relations )*** | ***Isolation, no influential forces (🡪 no relations)*** |
| - Between the different parts of the team (eg . defence and midfield) there are relationships that contribute to the teams' functioning like coherency, coordination and maintaining the balance of the game | - The relationship between e.g. defence and midfield are not considered, we do not perceive them; parts of the team are considered separately; eg. goalie coach is the only one for them |
| ***Emergence , emerging (🡪 synergy )*** | ***No processes that create new properties*** |
| - Mentioned relationships between the parts of the team create new features of the game; New opportunities are offered for their development in a more efficient and creative game. Many coaches observe some "solutions" of the players and trying to fit them into the concept of the game. | - Because they do not perceive or do not take into account the relationships, there are no ways to new features, eg. team did not kick in |
| ***Synergy, system, a hierarchy of systems*** | ***No new features based on relationships*** |
| - Team is well-coordinated, functioning as a whole, without misunderstandings | * no cooperation of players in the game instead of individualism |
| ***Whole and holism, the interdisciplinary approach*** | ***Only parts and characteristics of components, single-professionalism*** |
| - Team is well-coordinated, functions as a whole without misunderstandings, the players are in fitness, technical and tactical training , which also takes health into account, etc., the specificities of the opponent and conditions in the next match, etc. | * In consideration we cover only one aspect that is prevailing (eg. aspect of physical fitness) and on the match we look only from this perspective. We interpret problems exclusively from this aspect. |
| ***Network, interactions (of professions , .. )*** | ***No interactions (of professions , .. )*** |
| - Team is well-coordinated, it functions as a whole, without misunderstandings, because the coaches/trainers interact with each other and with doctors and others; they also listen to the players, not only themselves, etc. | * Trainer's analysis of the game does not take into account (or does not detect) other aspects (e.g. from the analysis are excluded e.g. the aspect of physical fitness, psychological aspect, ambitions, etc.). |

Figure 3: The difference between (1) apparent, (2) requisite and (3) total holism.

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| One-sidedness  with limitation to a single chosen aspect - the mental image | Dialectical system (= network), which combines all of essential and only essential aspects in a mental and/or emotional picture of this phenomenon, which corresponds to the law of requisite holism and therefore sufficiently reduces reductionism, so that it allows enough realistic hearing. | Total holism with the network of completely all aspects - mental images |
| SSG with a focus on a single aspect chosen. Example: SSG focusing exclusively on the development of special endurance | SSG, which include neither one individual selected aspect, except for the individual exercise phase, nor all of them at the same time, but on the basis of requisitely holistic analysis; it covers what we consider the most essential aspects and their interactions; it could also differ for every exercising individual separetly according to his/her advantages and weaknesses as an individual and as a team member. | SSG which simultaneously cover technical/tactical aspects of the game (at the level of the individual, group and team) and enable concurrent development (maintenance) of all aspects of the game in synergy . |

Figure 4: The equation of the conditions for the emergence of innovation = in practice of the users of beneficial novelties. Legend: X = factor relationship; all the conditions are necessary for success.

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| **Invention- suggestion** | A new idea on SSG, new organization, a new process of learning or designing the game, new methods in the development of motor skills, etc. |
| ***X*** |  |
| ***Enterprise and entrepreneurship*** | How present is the entreprise/entrepreneurial approach in the way of thinking and functioning in the club management?  How much risks are the coaches and players willing to take? How do they overcome their fear and exaggerated respect for the opponent? How do they overcome their conceit, which is stifling their imagination? How bravely and wisely at the same time the trainers compose and enforce their long-term views on the development of the team and the effort for its achievement? |
| ***X*** |  |
| ***Management*** | How do coaches compose short-term programs and enforce them into learning-training process (trainings, matches)? |
| ***X*** |  |
| ***Holism*** | How and how much do coaches attain sufficient holismfor the players to come to practice with pleasure and work extremely hard and ambitiously, because there is no boredom, workload and demands are placed slightly above capacity, which consequently rise? |
| ***X*** |  |
| ***Coleagues*** | How much is the experts team receptive to learning, the development and introduction of novelties into practice? How much are they willing and able to take into account each other due to mutual differences, making them complementarity? |
| ***X*** |  |
| ***Culture*** | Sports culture is associated with the characteristics of the society. Question: would a soccer environment where the skipping of midfield with long passing "traditionaly" dominates, allow the development of SSG that are based on ball posession (eg . position games) and on a continuous form of attack at all? |
| ***X*** |  |
| ***Suppliers*** | Are the members of the professional staff (sports leader, the leader of the youth groups, coaches, fitness trainers, physiotherapists, ... , caretakers of the soccer field and equipment) receptive to implementation of innovations in the working practice? From whom do they learn? |
| ***X*** |  |
| ***Customers*** | Spectators, sponsors, donors, parents of young players, their schools, clubs in higher leagues, to which the players of adequate quality could be sold to help maintainingof the favorable conditions for the growth of new ones. And the like. |
| ***X*** |  |
| ***Competitors*** | More successful clubs are generally more receptive to innovations that bring benefits at all levels of functioning (vision, organizational level, content selection, procedures of trainers selection) ... Competitors are also all the other contents of leisure time and all other ambitions and habits of the players and professional staff outside their own competition process. |
| ***X*** |  |
| ***Natural environment*** | How healthy is the playing surface maintained (environment, changing rooms, immediate surroundings) so that the participants do not inhale anything dangerous for health, in terms of the location of the playing field, on traffic and climate, seasons, etc. |
| ***X*** |  |
| ***Broader social conditions*** | The city conditions, opportunities to get support from citizens, schools, other organizations and the local management to the team/club, 'viole' and similar fan clubs and their harmful behavior ( Večer, 19 Dec. 2015, reported that the penalty that was prescribed by the NZS in 2015, due to the behavior of only »viole« amounts over 33,000 euros.) |
| ***X*** |  |
| ***Random influences happiness .*** | Effect of referee`s mistakes, poor game conditions, injuries, shots in the post, etc. |

Figure 5: Likely providers (eg. the Faculty and Institute of Sport) and customers (eg. soccer clubs) by the footsteps of perfection of innovations, simultaneously probable users.

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| **The degree of perfection of (possible) novelty** | **Likely offerers (in general)** | **Likely offerers (in soccer)** | **Likely customers (in general)** | **Likely customers (in soccer)** |
| The new idea (any) | anyone | eg . the authors of the idea of ​​SSG | who senses promising ideas | eg . who appreciates the idea of ​​a new SSG |
| The invention (= a promising new idea) | anyone who suspects that the new idea is promising | eg . authors who suspect that the idea of ​​a new SSG is promising | no one, unless it becomes a suggestion, because it disappears into oblivion and it is not in the offer | eg . club that is willing to support the idea of ​​a new SSG, because it is considering it promissing |
| Suggestion (= recorded promising new idea) | inventors and (research) organizations without a lot of will and knowledge for the technical development, production, marketing and trading of the invention | eg . authors who know just how to record and show the idea of ​​a new SSG to the others | entrepreneurs, prepared to take high risk and low compensation to the owner – inventor or the organization of the invention | eg . club, that gets enough convinced by the record of the idea on ​​a new SSG, so it begins to explore and develop the potential innovation |
| Potential innovation  (= usable but not yet beneficially used novelty) | inventors and research and developmental organizations with the knowledge and will for technical development, less so for production, marketing and trading of the invention, researched till the potential innovation | eg . authors who are able and want to develop the idea of ​​a new SSG till the practical usefulness, but not to trade it or practicaly use it otherwise | entrepreneurs, ready for production and marketing, but less so for technical- technological and other exploratory and developmental risks | eg . club, which supports the development of the idea of ​​a new SSG till practical use, but is not using it yet in practice or marketing |
| Innovation (= proven useful novelty; this is decided by customers, not the owners) | development and manufacturing organizations with a desire of rental benefits and indirect spread of its market (rarely individual inventors) | eg . research organization or club that developed the idea of ​​a new SSG, it is using it with new benefit and/or trades it | entrepreneurs and managers, less willing to take production and market risk than to take the risk of obsolescence and dependence | eg . club, which has used the idea of ​​a new SSG for itself with benefit |
| Former innovation - now beneficial routine | practitioners who use the established novelty in everyday practice and are the role models | eg . club, which uses the established idea of ​​a new SSG and is a role model | practitioners, who imitate the established novelty | eg . club, which imitates the established idea of ​​a new SSG |
| Former innovation - now abandoned | authors of substitutional new ideas | eg . authors of a new SSG, that promises more than the existing one | supporters of alternative new ideas | eg . clubs, who support the ideas of ​​a new SSG, that promises more than the existing one |

Figure 6: Invention-innovation-diffusion process (IIDP).

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| **Stage of IIDP** | **The main inputs** | **The usual outcomes** | **The usual creators of the outcomes** | **The usual economic status** |
| *Generating ideas, especially inventions* | Creative thought, time and resources for research | Promising brainchild from a piece of research, hidden information/knowledge | Imaginative, professional people and groups - researchers, professional and/or amateurs | Labor costs and research funds, no revenue/profit from the market |
| *Creating suggestions from inventions* | Written etc. expression of invention | Recorded promising brainchild/idea | The authors of the inventions and consultants for the recording process | The costs of preparing the record, no revenue/ profit |
| *A potential diffusion of suggestions* | Offer on the market of inventions/ suggestions within and/or outside organizations | Partial sale, partial ommision, partial transition to one's own development of the suggestion | Owners of the suggestions (authors and/or other) with co-workers | Offer costs, revenue/profit from sold suggestions |
| *Creating potential innovations from suggestions* | Creative thought, time and resources for development of the suggestion into a potential innovation | Utilizing new product/method/ procedure/ management style/ potential market/ organization/business object | Imaginative, professional people and groups - developers, professional and/or amateur | The cost of labor and resources for developing, no revenue/profit |
| *A potential diffusion of potential innovation* | Offer on the market of potential innovations within and/or outside the organization | Partial sale, partial ommision, partial transition to one's own use of the potential innovation | Owners of the potential innovations (authors and/or others) and their (marketing) co-workers | Offer costs, revenue/profit from sold potential innovations |
| *Creating innovations from potential innovations* | Creative thoughts, time and resources for the development of potential innovation into the innovation, including all operations | Benefically applied new market/product/ method/procedure/ management style/ potential market/ organization - in users' organizations | Imaginative, professional people and groups - developers of novelties and market for them, professionals and/or amateurs, including all operations | Offer costs, revenue/profit from sold innovation (inside and/or outside the organization) |
| *Any potential diffusion of innovations* | Offer on the market of innovations within and/or outside the organization, in particular to the extra customers/clients (after the first ones) | In wider circles usefully applied new market/ product/method/ procedure/ management style/ potential market/ organization | Owners of the innovation (authors and/or others) and their marketing co-workers | Offer costs, revenue/profit from additionaly sold innovations (inside and/or outside the organization) |