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X-tream IndexandMulti-parameter Personality Dimensionfor Managers' Cognition and Decision-making in the Modern Corporate Environment

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ABSTRACT *The text deals withthe development trends in the modern corporate environment in conjunction with the requirements ofthe quality of professional managers' abilities. It cites specific characteristics of the corporate environment and suggests further parameters complementing standard models that deal with abilities and aptitudes of managers.In the context of education and vocational training for management and business in the modern corporate environment, it presents individuals' natural potential which is impossible for an individual to acquire by common training and educational models but which can still be identified and developed via Connatural management approach.It concerns the potentialand abilities which, beside hard skills and soft skills, result in positive or negative performance of professional managers and entrepreneurs, or which are associated with the risk of different ways of human error.In this context, it presents particular results of the pilot research focused on identification of sub-indices of selected dimensions and parameters for the development and validation of a unifying N-dimensional X-TREAM index.*

KEYWORDS : corporate environment, X-tream index, connatural management, connatural potential.

Introduction

Our external environment, bothhuman and the environment of human systems, like our inner environment are constantly changing.We are changing and similarly are characteristic features of human systems, which we create in this environmentfor different purposes and functions. While we may agree or disagree withthis trivial statement, often the meaning and consequences of these changes are difficult for us to recognize, imagine and we rarely respect them, whether as individuals, representatives or managers of institutions and human communities (systems) in the form of corporations.

Modern corporate environment is an environment of the company itself or a specific organizational unit and at the same time it is an environment that is formed by corporations, it means entities acting as legal bodies.In the following text we will concentrate on some issues related to management andbusinessin this environment in terms of qualities and potential associated with cognition, decision-making and conduct of professional managers and entrepreneurs who not only learn, decide and behave in various situational and systemic or professional contexts and processes, but also organize andlead human systems in a dynamically changing and complex environment. In our practice, we focus on possibilities, approaches and methods of cognition, development and cultivation of these qualities and potentials and draw experienceparticularlyfromtraining individuals for demanding, security and corporate environments. We will point outthe changes in the needs and requirements related to the human potential in this environment, and present some considerations about the trends that we see in practice in the selection processes and training of people for this environment.This contribution is one of the outcomes of the research project of Newton College internal grant agency "Life satisfaction and integrity of manager's personality in the context of execution ofmanagerial practice" and presents the results of research that is aimed at identifying the sub-indices for the development and validation of a unifying N-dimensional X-tream index.

Theoretical background

We use the term corporate environment in the context of professional management. It allows us on the one hand more comprehensively and on the other more specifically to proceed to considerations regarding professional managers,their suitability and training for performing the activities and functions in organizational units and organization of relations and processes between these entities in the wider environment.Professional management concerns the creation, organization and management of relationships and processes, thus not only leadership and management of people and human systems, but also creating knowledge for decisionmaking and conduct, information sharing, working with networks of relationships, processes, etc.

It turns out that the importance of the share of so-called cold knowledge and skills provided in the process of learning by classical models of training is sharply declining in the modern corporate environment.

We distinguish two basic modes of corporate environment. The first mode is the environment of organizational entity of the human system, or company (corporation) itself and the second mode is the environment that corporations, the entities acting as legal bodies, form by its existence,functions and activities.It is specific for the first mode that the environment of every economic entity conduct in a corporate environment createsan "internal knowledge" world with its own value system, specific organization of relations and forms of exercising influence, control and power as well as cognitive models for decision-making and conduct.These aspects become evident in both internal and external environments and are closely related to qualities of potentialand professional skills of individuals who are members or strive forthe membership in this environment.They are closely related not only to what this organization or economic entity provides but also to what the corporate environment is like.In terms of the second mode, it is true that the above-mentioned aspects of the internal environment of a business, i.e. values, functions and methods of learning and decision making as well as the organization of relations necessarily follow the values, functions and relationships of the external environment, which in the case of corporate environment, the environment of business and trade, determines whether the entity will survive or become extinct.

In this context, it appears an important distinction whether in an indoor environmentof the entity prevails strategy of thinking, cognition, decision making and conduct that on one side of the continuum is a strategy focused on profit, influence, superiority and victory

and on the other on cooperation, usefulness, meaningfulness for the environment, etc.Survival of the entity in the long-term point of view depends on the extent to which its internal environment accords with the external environment.Mobility on this continuum, the degree of accord, balancing and harmonizing of "relationships" and processes are key criterion requirements for the modern professional management.We emphasize that this does not concern social or interpersonal relationships.They form only one relationship layer or relationship aspect of the organizational entity and the environment.Professional managers are in terms of the above mentioned the main factors in the organizational environment.Their dominant functions are cognition, decision making, organization and management (creation, maintenance and cultivation) of internal environment relations and of a business relationship with the external environment.

Trends in the development of modern corporate environment, in this context, highlight the need to define and formulate the requirements for the quality of skills of the professional managerseparately from traditionally presented models, whichwith varying degree of importance emphasize those aspects that are both typical for the environment of discipline, which has created the model(such as economics, occupational psychology, sociology, etc.) and they are also indebted to the specifics of the professional environment for which the model is created (for example production).In this sense, we consider it important to emphasize that in the modern corporate environment significantly increased the trend that characterizes it as an artificial environment, not only because it is made by people, but especially because ofa considerably increased proportion and application of modern communication and information technologies.The consequence of a rising share of technology is for example a specific reduction of cognition and application of artificial intelligence models for processing data and information into "knowledge", which affects for example thinking activity of cognitive continuum and the way of manager's cognition, but also their decision making and conduct.Closer to the issue see e.g. Kostroň L. (1998), KR Hammond (2000), NN Taleb (2011, 2013, 2014), D. Kahneman (2010, 2012), C. Swarnalatha, T. Prasanna (2012), M. Spitzer (2014).

The result of use of the application potential of modern technology on the one hand is the fact that this "artificial" environment further and constantly evolves by itself, and especially the fact that the growth of dynamics and complexity of its development, as well as the growth of the scope of the consequences concerning decisions and acting therein, shows characteristic features of a challenging environment and to a greater extent itrequires potential, aptitudes and abilities needed for long-term coping with difficult situations, greater dynamics of changes, load and stress.Therefore, there are growing requirements for aptitudes and abilities that humans in natural conditions and environments do not use longterm or even permanently, but rather sporadically, situationally or expediently.

Partial selected outputs in the requirements for professional managers for the modern corporate environment, based on the analysis of trends in the development of this environment are as follows:

Network literacy and IT management,competence for the use of the potential of modern information and communication technologies and for networking, information, knowledge sharing, creating and organizing relations and processes.Competitive advantage currently has a very short duration. Proactivity, speed, critical, creative, and system/contextual thinking seem meaningful.

The ability to cognitively manage changing conditions and development of relationships in terms of mental mobility in decision making and conduct in various environmental and situational conditions (natural / artificial environment, decision making under uncertainty, vagueness and risk, solving analytical tasks / heuristics, etc.).

Change of the nature of work, dynamics, and demands, and its interference to personal life in all areas and spheres places greater demands on individual's personality, ability to maintain, cultivate and develop psychophysical and mental condition.

These and further changes make specific demands on the selection and training of professional managers to operate in the a modern corporate environment, not only in terms of knowledge, but also in terms of application oftheir natural potential in abilities and skills at the output of the preparation process.The dynamics and complexity of systems changes and their environment puts less emphasis on specific knowledge, and greater emphasis on skills and personal development of natural potentials tocapabilities required by the current, situation, process and environment.For example, on the psychological spectrum,certain aspects begin to dominate. These are aspects of extremely specific personality aptitudes or qualities that are not standard for commoninterpersonal contacts and relationships, and which mayfor example, in relation to the situation and role, even reach values characteristic of psychopathy.Closer to the issues eg. K. Dutton (2014), R. Hare, P. Babiak, P. (2007), Koukolík F., (2010, 2013), P. Arora, (2012), S. Baron - Cohen, (2014).

However, for mental agility in managing demanding, complex or dynamically evolving situations, for decision making and conduct under uncertainty, or for the execution of activities and functions in specific conditions, these aspects are perceived as useful and even desirable if an individual uses these qualities with detachment, interest and awareness.Cognition in this area, in terms of qualitiesofcapabilitiesand their cultivation, is focused on an internal human environment. For example there are modern approaches, methods and disciplines, such as different variants of the application of cognitive science or neuroscience (neuroleadership etc.), which are currently on the increaseand focus attention on the preparation of professional managers forpersonal development and continuous self-improvement and their natural potential in terms of personal and professional life.Some approaches put more emphasis on potential ofan individual and human system using modern technologies and can be found on "the interface between brain and machine" (M. Kaku, 2015, p. 84), while others emphasize the natural potential of an individual as an entity in the environment andare on the interface between a human and their environment, whether natural or artificial.

It turns out that, in addition to knowledge, abilities and skills that can be obtained or built by education and training, there is an area of natural potential, which ison the background of skills and abilities,which cannot be this way clearly comprehendednor can be "improved" by modern technology. This natural potentialis related tothe qualities which are expressed as the following levels of selected capabilities:

Mobility between concrete and abstract (for example solving problems ofheuristic type, decision making and conduct in a particular situation versus systemic, process and mediated decision making and management).

Mobility on the cognitive continuum from mostly analytical to mostly intuitive (L. Kostroň, 1998 KR Hammond, 2000; D. Kahneman, 2012).

Decision making and conduct in complex and dynamically changing conditions, burdened with uncertainty, lack of information or a high risk.

In view of the foregoing, it is necessary to consider the manager for the modern corporate environment to be an individual who possesses professionalism as a mature and comprehensive competence for working in a specific situational, professional and system environment, whether it be to act in a particular economic entity, or in a network environment of global business.These are the qualities of abilities and skills that are not directly available in the external models of education and training, and are based on the identification and cultivation of the natural potential of an individual, as they relate to the level of their psychophysical and mental condition, for example in terms of the ability to accept change and the ability of proactive adaptation to its consequences. They also relate to the potential for critical, creative and systematic thinking, the ability to change the cognitive models for decision making and conduct, etc., which are rooted in the foundation of the professional mastery of management, reported by e.g. P.M. Senge (2007), R. Saliger, V. Pokorný, E.Pindešová, (2010), Shilpa Trivedi (2012) and others.

X-tream index
In the long term we are interested in the natural potential of people which forms the background of different abilities, skills and functions. It turns out that they are multidimensional. More dimensions, which can be used to describe individuals, or to identifythem using a vari-

ety of tools, methods and procedures, are reflected in them.We focus on three basic dimensions.The first dimension is the area of mental or cognitive condition. The second one is the area of psychophysical condition and the third is the area of personalitycondition.The reason is that the sub-indicators, or parameters, such as the level of knowledge, one-timecognitive performance in tests under standardized conditions, physical performance under strain, or the presence of selected personality characteristics have very low and limited informative value, similar to the potential risk of failure, when we predict the success of an individual in terms of managing the situation or accuracy of decision making.It turns out that the validity of the prediction of their success relates to the relations between these dimensions (parameters) and the way of their organization, reflecting in the overall level of condition of the particular individual.Therefore, in the context of Connatural management approach (hereinafter CNM), we focus on the index which we named X-tream index,based on the name of methodology concerning selection and training of professional managers.

CNM approach, like Cognitive management, is focused on the natural potential building abilities and skills that are useful and necessary for professional managers' cognition, decision making, conduct and leadership in the modern and constantly evolving corporate environment. In this sense, CNM focuses on the qualities that are natural in varying degrees and quality to all people, thus even to the organizations of human systems,and they are also included in all situational contexts in which they may find themselves.In other words, they are naturally found in any context and can be applied anywhere and anytime. In CMN approach we named these qualitiesconnatural potential.Every person naturally possessesthem to a certain degreeand in a certain composition, and they are open to cognition, management and cultivation.They relate to the natural human potentiality, based on the ability to stand out from the usual schemes of cognition, patterns of thinking, standards of decision making and norms of conduct.It is also important to mention that the qualities are "moving", and a sort of "dissolved" in the sub-parameters and in different dimensions.Therefore it is not possible to relate them specifically to a single parameter or dimension and it can also be said that they relate to the current organization of relations between parameters, dimensions and situations (see below).What has been mentioned above shows that a professional manager should possess the abilities and skills in three, not as usually stated in two areas. These areas are:

hard skills – professional and systematic knowledge and skills necessary for work;

soft skills – skills needed for the creation, maintenance, development and management of direct relations between people;

connatural potentials –soft skills and abilities (individual, implicit, tacit);developing on the basis of natural potential.

These three areas of skills and qualities are based on Cognitive Management (Saliger, Pokorný, Pindešová, 2010) and form the foundation ofCNM approach for a corporate environment. (Koleňák, Pokorný, Ambrozová, 2013).CNM approach can be loosely translated as natural qualities management. This formulation includes two aspects:

natural qualities management, in the sense of managing the natural quality of human potential and human systemspotential;

nature management, in the sense of cultivating the ability to distinguish between natural and artificial, and respect the natural conditions and influences of situations and environments, potentialof organizations and people for their existence.

X-tream methodology features an environment with sophisticated multidisciplinary methodology of variability and testing of quantity and quality of the individual's performance level and the course of changes in their condition in several dimensions and in different situational tasks.It allows you to create conditions for the above-mentioned fundamental three dimensional and multiparametric detection and evaluation of indicators related to the performance of the individual and the ways they handle various demands of situational tasks.In this sense, the actual methodology and experimental selection or development courses, formed on its basis, have multidimen-

sional character.In terms of a higher rate of frequency of indicators and complexity of observation, as well as the dynamics of changes, the methodology introducesan N-dimensional environment (M. Kaku, 2008, pp. 48-54, Kostroň, 1998) and requires special approaches in terms of processing and evaluation of the collected data.Because in a traditional one-, two- or three-dimensional environment the problem of identifying the relations between the sub-parameters and dimensions is difficult to solve, it was necessary on the one hand to create a methodologically sophisticated unifying environment with multiple dimensions, which on the other hand increases the complexity and demands on the measurement, collection and statistical processing of data.Therefore, we turn to development and validation of a unifying N-dimensional X-tream index, which currently includes three basic multiparametric dimensions and other specific dimensions, expressing for example the characteristics of the demandsof situational task-setc. The index allows us to overcome the limitations of profiles and connect various disciplines, dimensions and parameters describing and studying human beings, their potential and skills in different conditions of situational tasks.

We focus on the interface of the internal and external human environment, and identifying the qualities of natural potential of their internal environment. X-tream methodology allows you to simulate conditions of situational tasks for cognition, decision making and human behavior especially in the following dimensions of situational tasks:

Static - dynamic dimension - presents on the one hand tasks with a small speed of development and changes, and on the other those with high speed of development and changes.

Known - unknown dimension - presents on the one hand the standardized situations with a sufficient amount of information and knowledge for their solution, and on the other hand the new situations, requiring a transformation of hitherto applied methods (innovation), or creation of new ones (inventing).

Standard, symmetrical, certain - random, risky, asymmetrical dimension - presents on the one hand tasks requiring standardized procedures, abilities and skills (usually hard skills) and on the other hand the situations, where the solutions are affected by coincidences, unexpected effects or changes in conditions, etc.

Artificial - natural dimension - presents on the one hand situational taskswith a predominant proportion of modern technologies and on the other hand the situational taskswith a minimum of modern technologies.

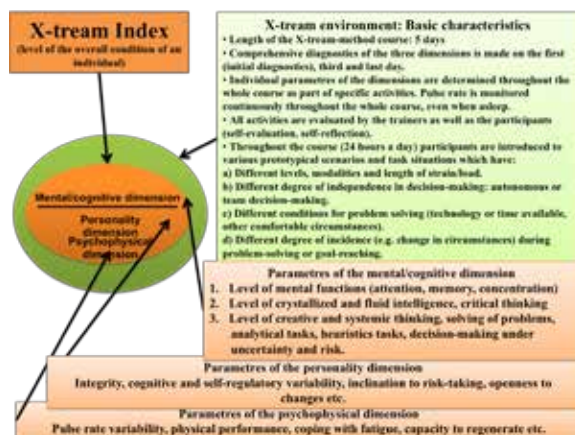The following diagram shows the sub-dimensions of the basic version of X-tream index.

Fig. 1 Sub-dimension of the basic version of X-tream index

The three basic multiparametric dimensions that we monitor by various methods during courses with X-tream methodology are:

Mental performance.
Physical performance and psychophysical condition.
Personality aptitude.

Not only specific results of individuals in sub-tasks and situations, but also monitoring of development trends and transformation of the current state of condition are recorded.This is demandingin terms of the organization of the course, standardization of experimental situations and continuous evaluation of the results.In cases where the course is conceived as developmental, the demands for reflection and feedback to participants during the course increase. In terms of individual dimensions we use standardized methods and technologies.

In the dimension of mental performance it concernsability tests focused on intelligence, critical thinking, decision making under stress and mental functions such as attention, memory, concentration, etc. These are monitored in terms of performance under standard conditions and at different stages of the course.This is e.g. the test method D 48 Domino.The test reveals essentially the intellectual potential of the individual, and it registers both the achieved level of intellect and its resources, and it enables prediction of future intellectual performance.The test called Decision-making under time pressure is a method of mapping the comprehensive performance of the individual, where you can find several types of stress: stress given by situation, achievement motivation, the test itself and time pressure.The test called Numerical rectangle is aimed at detecting optical observation, discriminationand distribution of attention in conditions requiring a high pace of operations.Attention test d2 allows determination of the individual performance in attention and mental concentration.

The dimension of psychophysical conditioninvolves continuous monitoring and evaluation of the heart rate (TF) variability (For details see e.g. K.Javorka, 2008) using a Polar Team System set, which is designed for multiple measurements. It measuresfor example the morning TF parameters (response of organism to stress), sleep mode TF - the average value, changes in heart rate during exercise (or after standardized tests of physical fitness, for example Ruffiertest (rest10 minutes =TF0, 30 squats in 30 s = TF1, in 1 minute=TF2) or a test of physicalfitness called X-Stream (sit-ups in 1 minute, push-ups in 30 s, Burpee test - stand, squat, push-up position, squat, stand – 20 times). We also monitor changes associated with different types and levels of exertion during the course.

In the personality dimensionwe deal with personality characteristics monitored for example by the methods called GPOP, Big Five or SPARO. GPOP method proceeds from the following assumptions: Differences in personality are manifested through different inclinations or preferences.Different inclinationscan be classified by means of ten global scales, which are combined in pairs: extroversion (E) and introversion (I), senses (S) and intuition (N), thinking (T) and feeling (F), focus on decision making (J) and focus on perception (P), tension and relief.Big Five method is the five-factor personality questionnaire, which maps the factors of neuroticism, extroversion, openness to experience, kindness and diligence.The SPARO method is used to detect basal structure and dynamics of self-control, integration and personality psychological resistance.

The results obtained by the above mentioned methods are sequentially processed and then ultimately used to identify good and the best individuals.What appears to be possible is the fact that relations between sub-parameters and dimensions form a network environment where you can use statistical methods to identify levels of particular key parameters for predicting the level of quality of the natural potential of individuals, and especially groups of relations, criteria and parameters that allow to predict the rate of this potential in the individual with a higher degree of certainty.

Other detection tools, in addition to methods of psychological and physiological diagnosis, are various model situations and tasks that allow open and secret observation, linear, knowledge and analytical tasks to monitor the quantity and quality of performance, especially heuristics examining the output, result, decision making and decision procedure. Situations of continuous type with higher complexity (complex and long-term) have high informative value.They include described cognitive, moral, social, emotional and other aspects. Generally, the results of psychological examination show that better

individuals and the bestout of the better ones (qualitative research) prove, for example:

relative stability of the internal structure in time.

deviation from the norm, not the extremity.

situational mobility and the ability to quickly calm down in a challenging situation and recovery after the performance (or during) and others.

In addition to measuring outputs and outcomes from sub-tasks,records of observers / instructors, as well as the participants themselves (individual and group reflections), are kept and evaluated.

In the following text, we will focus on selected parameters, found by the method of GPOP. The objective of the pilot research is, based on statistical data processing, to set individual parametric indices of factors, or formulas to calculate these indices.

Methodology
We focused the pilot research on the identification of multiparametric dimension sub-indicesof personality aptitudes, using data from the questionnaire GPOP.Data for statistical processing was acquired in courses where the X-tream method was applied. In total, we collected data of 128 respondents aged 20 to 25 years. For the purpose of the statistical processing, we chose data ofonly those 82 respondents whocompleted the courses with varying degrees of success.

GPOP (Golden Profiler of Personality) is a questionnaire method by John P. Golden, used for understanding personality in the context of psychological types by C. G. Jung.Jung determined two approaches of relating to the outside world (introverted and extroverted) and defined four mental functions which relate to human reasoning, and describe acquisition of information (intuition and sensory perception) and its processing (thinking and feeling).GPOP method builds on the questionnaire called Myers-Briggs Type Indicator (MBTI) and to identify the preferences of mental functions it adds other scales related to how a person realizes their reasoning in decision making and conduct, and also a specific scale oriented on aptitudes related to coping with stress.

Every human prefers certain ways of perception and decision making. Perception can be viewed as a function which is the result of our senses (Type S), and a different type of perception, based on our intuition (N). Decision-makingfunction is then the result of the analysis process, of thinking (T) or feeling, and of the individual system of internal values (F). Both of these functions are further affected by the orientation toward the outside world - extroversion (E) and inner world (I).The dominance of individual functions is underlined by the dimensions of openness (P) and reserve (J), in terms of focus on the systematic implementation of the decision or preference of adapting to changes.

Then we statistically processed the values obtained for individual functions in order to identify the sub-indices of a multiparametric dimension of personality aptitudes.

Statistical data processing
Factor analysis is based on the selection of correlation and partial correlation coefficients. The correlation coefficient represents the closeness of linear dependence of individual variables and partial correlation coefficients. Partial correlation coefficient shows a similarity of two variables in such a situation that the other variables are assumed constant. If it is possible to explain the dependence of variables using common factors, the partial correlation coefficients are very small, close to zero.To perform the factor analysis it is necessary to have n observations of each k variables ($X_1, X_2, X_3, \ldots X_k$). Correlation coefficients would be high in absolute terms, if exist linear dependences between defined variables. On the assumption that condition of dependence of common variables is met, partial correlation coefficients of variables ($X_1, X_2, X_3, \ldots X_k$) will be very small.To assess the suitability of factor analysis can be used two tests(Škaloudová, 2010; Hinton et al., 2004; Řezanková, 2010; Field, 2009):

Kaiser-Meier-Olkin (KMO) is coefficient which could reach values

between 0 a 1. Its value is done by rate of squares sum of correlation coefficients and squares sum of correlation and partial coefficients. Acceptable value is 0,50 and higher. Best one is 1,0.

Usage of **Bartlet's sphericity test** is in testing null hypothesis, that correlation matrix of variables is unit (on diagonal are only ones, others are zeros). If null hypothesis is rejected, factor analysis could be used for defined variables. Best value of Bartlet's test is 0,0, but acceptable is 5% error.

Factor analysis has become relation between standardized variables X_i and linear combination of less number of hypothetic factors F_j (see formula):

$$X_i = a_{i1}F_1 + a_{i2}F_2 + a_{i2}F_2 + \cdots + a_{im}F_m + e_i$$

For i = 1, 2, 3, …k, where

k – number of variables

m – number of factors; **m<n**

e_i – specific part of variable X_i

The way to determine the number of factors and the size of the factor loads represent extraction methods *of principal components* gives non-correlated factors, sorted by their variance. Own analysis tries to reduce number of variables to express variance of original variables. If there are high correlations between variables, the total variance can express by one main component. The implementation of this method gives a clear factor solution where the variable exhausts highest possible percentage of variance.

For verification of factor analysis Cronbach's alpha indicator must be used. This indicator is seen as reliability coefficient, which is used as kind of analogue of the correlation coefficient. Usually, it is possible to reach values in the interval <0, 1>. Zero as extreme value describes situation, in which individual variables are uncorrelated. On the other hand, the value of 1 describes the correlated variables. When the value is closer to 1, there is reported higher degree of conformity (Hrach, Mihola, 2006; Řezanková, 2010; Leech, Barrett, Morgan, 2005).Cronbach's alpha could be calculated by formula:

$$\alpha = \frac{N \times \bar{c}}{\bar{v} + (N-1) \times \bar{c}}$$

where
N – defined minimal sample size
– average internal covariance between variables
– averagevariance

Results
Usages of factor analysis reveal the reduction of surveyed corporate performance indicators whichcompanies use in their own measurement processes. The main input into factor analysiswas a correlation matrix which showed the individual correlation values of the chosenindicators.

Factor analysis was applied on three fields, which play important role in soft abilities of individual employees. According to basic requirements of factor analysis, all fields were verified by KMO test and Bartlett's test of sphericity (see Table 1)

Table 1: KMO and Bartlett's Tests for individual fields

		GPOP
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,557
Bartlett's Test of Sphericity	Approx. Chi-Square	311,206
	Df	21
	Sig.	,000

As first step, minimal value of KMO test must be reached at least 0,5. Second step confirms applicability of factor analysis with significance such p value (). From observed result of KMO test GPOP filed is acceptable, and was put under testing.

The total variance of inputs in the factor analysis can be explained by means of a descriptionof the process of extraction. The beginning of extraction (Initial Eigenvalues) includeswhole components which were put into the extraction. In the second step (ExtractionSums of Squared Loadings), according to the key (Eigenvalue ≤ 1), there is a reduction tothe four strongest components which are used in the next step of processing. The last step(Rotation Sums of Squared Loadings) shows the differences in individual components.From this point of view, Extraction Sums of Squared Loadings with cumulative percentageis important.

The total variance of the GPOP field is explained due to eigenvalues, whichrepresents the total variance explained by each factor. In extraction, all components weredivided into two component groups, from which only one is strong. This new component groups havediverse depth with the previous four components (see Table 2).

Table 2: Rotated component matrix for components

	(1)	(2)	(3)
Extroversion	,421	,089	-,842
Introversion	,005	,315	,904
Sensing	-,396	,714	,245
Intuition	,826	,012	-,312
Thinking	,276	,866	,128
Judging	-,459	,785	-,058
Perceiving	,899	-,214	-,057
Cronbach's alpha	,777	,757	*Could not be calcualted*
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.a a. Rotation converged in 5 iterations.			

Calculating the final value of acceptable factors needs the transformation of individualcoefficients. These coefficients have become the significance of used elements. Their sumtotal has to be 1. The index of the factor of   cognitive situational flexibility was defined by this procedure.

Index of ____ = 0,4847×IN+0,5153×P

where
IN – Intuition
P – Perceiving

Calculating the final value of acceptable factors needs the transformation of individualcoefficients. These coefficients have become the significance of used elements. Their sumtotal has to be 1. The index of the factor of realistic concluding and decision makingwas defined by this procedure.

$$Index\ of\ \_\_\_\_ = 0{,}5151 \times T + 0{,}2760 \times J + 0{,}2089 \times S$$

where
T - Thinking
J – Judging
S – Sensing

On the basis of the calculation index of the factor, the mean value of the index was found.This value represents the average factor for each set of data recorded. We can say thatthese indices reflect low bonds within a factor. This is due to the range of possible answerslisted in the questionnaire.

Table 3: Evaluation of observed factors

	Mean	Standard deviation	Variance
Index of (1)	4,1528	1,86224	3,468
Index of (2)	6,7294	2,44395	5,973

Source: Own work

To modify the indexes, there are necessary to use a rating scale for companies which determines, whether the tool is used. For the calcu-

lation of the total index, it is necessary to put theanswers of individual respondents into the appropriate index formula and compare them.

Discussion

By processing the statistical data from the GPOP questionnaire we obtained the formulas of two sub-indices for N-dimensional X-tream index, which in its basic version includes three multiparameter dimensions. This is one of the first steps by which we try to identify and assemble a functional system of individual sub-indices, which are used situationally, in terms of reasoning, decision making and conduct in the context of managerial positions and in relation to the complexity of situational tasks and environment.

The purpose of our research is mainly:

- Finding the factors with key indicators in individual dimensions.
- Finding the key relationships between individual dimensions depending on the individual's abilities to handle the quantitative and qualitative requirements of X-tream course situational tasks.
- Identification of objective criteria and parameters enabling a comprehensive assessment of the individual's potential for predicting their abilities to navigate in the situation and context, as well as appropriately judge and correctly decide in solving problems and conduct in various and changing conditions.

It turns out that other aspects also participate in the quantity and quality of performance in solving different situational tasks beside those aspects which are related to the level of basic psychological functions of the individual (such as attention, memory, etc.) and so-called intelligence (measured by standard tests of crystalline and fluid intelligence). These aspects reflect in an individual degree of preference of specific mental functions formulated by C. G. Jung.For example, variation in situational tasks and their conditions in different dimensions shows that the results in the tests of cognitive abilities and some basic mental functions, performed under standard conditions have limited informative and predictive value for the success of decisions and acting of individuals in solving various situational tasks. An interesting role can be played by such personality factors that are related to the preferences of a particularhuman in terms of their own way of processing information, decision making and conduct, in relation to the environment and the requirements of the particular situation.As identified indices suggest, there may be a degree of individual's tendency to perceive the situation comprehensively and be able to involve changes and newly emerging options in the solution process,and simultaneously there may be a degree of tendency to judge realistically, think critically and proceedsystematically.These qualities are not opposite, but they show the importance of the individual's mobility in terms of situational and conscious use of the above-mentioned functions in the process of problem solving by the individual.In this sense, from our point of view it concernsboth the mobility on the cognitive continuum by K. R. Hammond, and the ability on the one hand to proceed systematically and methodically, and on the other effectively, flexibly and proactively change the course of action in connection with the development of solutions to situations, or even invent non/standard or new solutions / decisions in the process of completing the taskin both natural and artificial conditions.

Conclusion

In terms of trends in the development of a modern corporate environment,we considered important especially those trends that make newspecific demandson the quality of abilities of people or managers to effectively solve situations in this environment.Situational tasks in this environment can be simulated for this environment for example by using a multidimensional X-tream methodology and we can identify the degree of potential natural qualities of individual'sabilities that can be applied in solving them.These qualities can not only be recognized, but also influenced and cultivated, but theycannot be acquired by the standard models of training.For their identification and development it is not possible to go only by way of technology in the form of visions of implants, miniaturization and multi-functionality of technologies, or availability of information and sharing of knowledge through communication and information networks.

One of the requirements of the modern corporate environment for professional managers in terms of cognition, decision making and actingis cognitive mobility in the sense of conscious movement on cognitive continuum in problemsolving and mental maturity in terms

of conscious learning processes and reflected processing of the current experience in particular practice.These aspects are then reflected in both the cognitive and personality dimensions and they enable to effectively cope with changing conditions and requirements (systemic, process, specific and situational) of the corporate environment.

In this context, we focused the pilot research on identifying sub-indices of multiparametric personality dimensions, using data from GPOPquestionnaire. We used statistical processing of data to identify and determine formulas for the calculation of two sub-indices -index of cognitive situational flexibility and index of realistic reasoning and decision making.

In practice, in relation to the above mentioned indices it turns out that, for example:

- Individuals with balanced preferences both in the mode of perception, realistic assessment of the situation and systematic solution procedures, and in the mode of complex perception and operational situational adaptation have a higher success rate in solving heuristic problems, as well as in situations with higher dynamics, complexity and occurrence of coincidences, asymmetric influences and changes in the problem solving process.
- Individuals with habits for solving tasks and decision making with the use of modern technologies for information processing tend to think and make decisions in the context of displaying information on the situation and the habit of "cooperation" with these technologies.In the event of changes in conditions, or even failure of technology,it is difficult for them to get the necessary knowledge from the information available, and they "invent" something new.
- As for the phenomenon of "authority" of technology and standard solutions, some individuals have a tendency for greater trust in information provided by technologies than their own judgment about the situation and its evolution. There is a trend to consider this information to be correct, sufficient and the like,while in bad decisions they prefer the idea of "system error" rather than the ideaof the need for changes in cognitive model, process algorithm, etc., and in this direction they delegate the responsibility for these decisions.

Our goal is the identification and utilization of natural potential of people and their cultivation into abilities and skills of an individual so as to be capable of being useful and makingcorrect decisions, having correct conduct and also managinghumans and human systems in any situational environment dynamically and changing conditions of different levels of complexity.Connatural management as a multidisciplinary approach, X-tream methodology as a multidimensional and multiparametric environment and the pursuit of unifying X-tream index represent one of the possible approaches to cultivation of natural potential in the background of professional managers'abilities to perform the activities and functions in the modern corporate environment.

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