

Multidimensional Organizational Climate Measurement Inventory MOCMI - verification of author's Climate Model and Validation and validation of the tool

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Abstract:

Aim: The paper aims to conduct a pre-analysis of the 9-dimensional model of organizational climate making use of the author's inventory measuring organizational climate and its validation.

Research method: In order to construct the author's theoretical model of organizational climate, the literature of 1968-2011 was researched. This research selected 57 potential elements of climate which afterwards were divided into 9 dimensions. On the basis of extensive 10-year research and experience of the author related to the phenomenon of organizational climate and conceptualization of scale-dimensions, an initial version of MOCMI consisting of 54 items (6 per each scale) was elaborated. This tool was subject to pilot examination, necessary corrections were made and complex validation began comprising accuracy, reliability, discrimination power and normalization as well as a confirmation analysis further on.

Conclusions: The proposed 9-dimensional model of organizational climate has been initially verified and its conceptual correctness confirmed. MOCMI validation procedure and its psychometric values confirm its usefulness as a verified tool fulfilling basic recommendation for correctness. Relative distinctness of organizational climate construct has been confirmed in relation to partially correlated phenomena like job satisfaction, organizational culture assessment and occurrence of pathological situations. An access was provided to an abridged 27-item MOCMI-S version which also attained a satisfactory psychometric parameters.

Originality/ value of the paper, contribution to development of science: The deliberations included in the elaboration are a logical continuation of interest in the author's long-term research on organizational climate which under Polish circumstances remains a barely recognizable construct. The presented research confirms conceptual correctness in perception of the climate and its systematization. The publication presents preliminary research on interdependency between the climate and derivative constructs (satisfaction, organizational culture, pathological phenomena) whose boundaries have not been clearly defined in the Polish achievements. Simultaneously, based on the research the author's tool of measuring organizational climate has been elaborated and verified as Polish attainments contain few of such considering appropriate psychometric parameters.

Implications of the research: The obtained results constitute the beginning of research on in-depth verification of the organizational climate model which may be conducted using MOCMI or MOCMI-S. A broader usage of the elaborated and verified tools by representatives of science and practice may provide a lot of interesting research directions in the future for example dependency of the organizational climate construct on other variables of the organizational environment and the cause-and-effect relation.

Limitations of the research: The organizational climate model has been so far verified only on the basis of a questionnaire technique. In the future the research on specificity of organizational climate will require application of other approaches for instance interviews, observations, analyses of documents etc. Also MOCMI and MOCMI-S tools will require extension of a research sample in view of elaborating valid, detailed and specific norms.

Keywords: *organizational climate, research concepts and perspectives of organizational climate, multidimensional model of organizational climate, validation, normalization.*

JEL codes: M12, M51, M52

1. Introduction

The phenomenon of organizational climate is strongly related to the problem of managing employee teams in organizations and elements of the so called soft motivation. Attention to this important factor at work results in creation of such conditions so that teams could effectively and efficiently complete tasks assigned by organizations. Naturally, the essence of organizational climate corresponds to aspects like the level of job satisfaction, compliance with organizational culture or occurrence of any other positive or negative situations in work environment. However, the previous long-term international research reveals only partial dependence between those aspects.

Despite the fact that international literature relatively clearly distinguishes these categories, some researchers still treat them as identical or generate another constructs being a conceptual mixture of these notions. It is worthwhile underlying that the organizational climate construct temporarily corresponds with the issue of management styles and the first research on the social climate of groups (an original term resulting from behaviour and operation of team leaders) began already in 30s of the last century.

The level of good feeling at work and related satisfaction merely constitute one but not the most important result of creating a specific organizational climate. Similarly to the case of tying up the problem of organizational culture, created formally only at the end of 70s, with the concept of organizational climate.

There is a possibility that a organizational culture of a specific institution will be evaluated highly or a specific type of culture will be diagnosed however this will not translate into a high

evaluation of organizational climate. The term and the importance of organizational climate have been made more precise by numerous elaborations and theoretical deliberations which are not always supported with quantitative research. Indicating the structure of this phenomenon and its dimensions can be one way of making organizational climate more precise.

This elaboration continues work and author's research on organizational climate and its multidimensional nature. Based on the previous scientific achievements an organizational climate was elaborated however it was not confirmed and verified with relevant quantitative research. This elaboration aims to verify on one hand conceptual correctness of the organizational climate construct and its structural model and on the other to work out a tool enabling us to measure this phenomenon reliably.

2. Assumptions and results of author's previous research on the problem of measurement of organizational climate

2.1. The assumed definition of organizational climate

Over the years 2010 and 2014 the author of this paper conducted in-depth research on various ways of defining and perceiving the phenomenon of organizational climate and its specific changes. The study into the literature covered the period of 1955-2013 and isolated about 60 definitions, concepts and ways of understanding the category of organizational climate in the foreign literature and about 30 proposals in the Polish literature (Wudarczyński 2014a). The distinguishing trends in the way of defining organizational climate identified dependency on perception and opinions (the importance of feelings, interpretation and perceptions observed by employees in the context of organizational situation), relative permanence (occurrence in a particular period, a more changeable and dynamic phenomenon than an organizational culture but more permanent rather than temporary moods, attitudes and feelings of employees), collective nature of occurrence (groups, teams, a higher than individual level, justified by statistics with multilevel research), an impact on attitudes and behaviour of employees (affecting motivation, effectiveness and engagement largely dependent on the perception of attitudes and behaviour of management and immediate superiors) as well as characteristics of work environment in a smaller or greater scope (a descriptive context of work environment directly related to employees and tasks). The analyses and comparisons of various approaches in defining organizational climate have resulted in the author's definition of this phenomenon as a dominant type of atmosphere released in an

organizational environment at a certain time, on various levels, perceived and subjectively evaluated by employees, oriented on efficiency and organizational effectiveness, being dependent on selected elements of an organizational culture as well as current organizational determinants (Wudarzewski 2016). Organizational climate perceived this way reveals the concept of considering this approach as follows: (Wudarzewski 2012):

- an **attributive** concept – the climate displays features and properties of an organization and may be considered as attributes of an organization,
- a **subjective** concept – the climate created on the basis of individual perception and feelings of employees which may be differentiated and changed in time,
- an **interactive** concept - the climate is subject to interdependencies between an organizational environment, individual and groups perceptions,
- a **management** concept – the impact and importance of managerial behaviour on shaping the climate, the selection of management styles and the level of the climate perceived,
- a **motivational** concept – organizational climate is a derivative of needs and expectations of employees and a degree of their satisfaction,
- a **cultural** concept- organizational climate „manifests” itself in selected elements of an organizational culture.

When finishing the first stage of the in-depth deliberation over organizational climate, the author also distinguished the following research perspectives for future research (Wudarzewski 2014b):

- a **theoretical** perspective- continuation of the research related to various ways of interpreting the climate, its theoretical and conceptual connections to an organizational culture, job satisfaction, atmosphere in a team, organizational identity, the morale of employees etc., systematization of achievements in relevant climate directions (for services, safety, creativity etc.).
- a **methodological** perspective – a broader recognition of measuring evaluation compliance in researching the climate on verified levels of perception (individual, team, organizational and international) and the use of subsequent tools of measuring organizational climate and relevant climate directions, searching alternative or complementary diagnostic solutions,
- a **validation** perspective- adaptation and validation of another tools of measuring the climate and climate related phenomena, consideration of justifiability of elaborating norms of climate

taking into account specificity of operation profile (production companies, service oriented companies) and organizational levels, considering possibilities of applying adaptation and validation procedure as gars other management tools, broader consideration and comparison of the adaptation and validation methodology,

- an **empirical** perspective – continuation of the research on organizational climate and the climate directions, researching other phenomena and gathering data (regarding an organizational culture, job satisfaction, organizational identity), searching for correlations and cause and effect dependencies between those phenomena.

The issue of verifying the multidimensional organizational climate measurement model and validation of the tool construed on its basis presented in this paper clearly refers to a methodological and validation perspective as well as partially to the empirical one as finally the author intends to conduct in-depth research on various aspects of measurements and evaluation of organizational climate in the nearest future.

2.2. Multidimensional nature of organizational climate and the proposed theoretical model

The author’s separate research covered the problem of multidimensional nature of organizational climate and the review as well as systemization of the previous achievements in this field. Over the period 1968-2011 dimensions, elements and factors shaping organizational climate proposed by 30 authors were analysed, those occurring more often were selected and then direct and indirect associations with particular elements of the climate were marked with „X”. On this basis, the first phase of the research identified 57 potential elements of the climate omitting those indicated by under 10 authors and then 9 remaining potential dimensions of organizational climate were distinguished including their specific components. A theoretical model of organizational climate constructed this was presents its structure from the perspective of multidimensional nature (Wudarzewski 2013). The specification of the components of this model is presented by table 1.

Table 1. The structure of the author’s theoretical model of organizational climate

Dimensions the author’s theoretical model of organizational climate	Interpretation of the dimension	Symbol of the scale of the climate
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<i>Management style</i>	Management style of a superior adequate for tasks, superior-subordinate relations, superior's adequate support for subordinates.	MS
<i>Flexibility</i>	Openness to changes, formality, innovation, openness to experience.	F
<i>Employee relations</i>	Conflicts (the level of conflict) between interests of particular employees, friendly human relations supporting cooperation and effectiveness.	ER
<i>Autonomy</i>	Responsibility, employees taking part in decision making, independence of employees, centralization (its extent), a risk (readiness to take a risk), freedom, supporting individual initiatives.	A
<i>Communication</i>	Effective communication, keeping touch with top management.	CM
<i>Clarity</i>	Transparent and clear principles and procedures, targeted actions, current objectives (updates and review of objectives).	CL
<i>Motivation of employees</i>	Factors enhancing motivation for efficiency and effectiveness of tasks being completed, appreciation of employees and emphasizing their participation in important tasks, rewarding a well done job, functioning of an evaluation system.	ME
<i>Standards</i>	Business and professional challenges, a degree of persuasion, the quality of employee qualifications, organizational achievements, development of qualifications and skills of employees, the spirit of "professionalism and organization".	ST
<i>Team engagement</i>	Team involvement, loyalty (identification- effort of employees related to a work place), team cooperation, mutual trust.	TE

Source: own study.

Based on the author's previous works and deliberations of other researchers the following assumptions were made as regards 1) creation and development of organizational climate by distinguishing dimensions 2) interdependencies between particular dimensions and organizational climate 3) internal bonds and relations between the propose dimensions of organizational climate.

Despite the fact that the elaborated model generated interest and it was recognised as a conceptual merit of the author's deliberations on the climate, attention has been drawn to the necessity of subjecting it to operationalization and detailed validation and empirical analyses in the future research (Zbierowski 2014). The author has posed the following research questions in this respect:

- 1) How to examine the elements of the proposed model of organizational climate (tools, stages)?

- 2) Does the proposed structure of the model meet the criteria of psychometric accuracy?
- 3) What is the scope and intensity of internal relations between components of the model? Do correlations between dimensions occur and now how strong are they and are they important from the statistic point of view?
- 4) What is psychometric validity of measurement like based on the results obtained?
- 5) Do diagnosed items significantly differentiate respondents in the research on organizational climate?
- 6) What are the possibilities of generating norms using the standardized scale?
- 7) How do representatives of various organizational circles (an industry, a company, a region, work environment) evaluate organizational climate and its dimensions?

Question 1 firstly refers to the need of elaborating an appropriate model of author's questionnaire measuring organizational climate. Such a tool must take into account measurement of the mentioned 9 dimensions as well as items of the questionnaire should comprise characteristics interpreting dimensions and its ingredients. Finally, the author intend to elaborate a toll generated based on the proposed model, consisting of a questionnaire, a sheet of organizational climate profile, instructions for respondents as well as a detailed specification of norms for various research groups.

Questions 2, 3, 4, 5 and 6 relate to the problem of complex psychometric verification of the new tool. According to recommendations of specialists and methodologists dealing with psychometry such as Brzeziński (2016), Hornowska (2016), Michałowski and Holas (2013) and (Kaczmarek 2011), the validation analysis should comprise the research on accuracy, reliability, discrimination power and normalization.

Question 7 corresponds with evaluation of organizational climate as a whole and its dimensions provided in the model by various organization participants of different industry, region and specificity of work environment. These deliberations refer on one hand to the empirical research on the climate and on the other to the normalization procedure regarding elaboration of appropriate norms for respondents from particular groups.

The presented theoretical model and the previously conducted research on multidimensional nature of organizational climate constituted the beginning of works on the author's tool of

measuring organizational climate MOCMI (Multidimensional Organizational Climate Measurement Inventory) taking into account 9 dimensions described above. A detailed review of the components and elements of organizational climate constituted the basis of distinguishing 54 items for the first version of the tool (6 items per each scale) evaluated on the scale 1-6. Building their contents also accounted for recommendation of applying part of reverse questions (reverse scoring).

3. Psychometric verification of MOCMI tool

Psychometry is a scientific discipline of psychology defining conditions to be met by tools measuring psychological traits as well as analysing and constructing models combining results of these measurements with real values of measured traits (Hornowska 2000). Psychometric research comprises among others: ways of building test items, elaborating criteria selecting test items with the best parameters, principles of transforming test answers into figures, principles of evaluating results and their interpretation, principles of defining a degree of bias of test results towards a specific social group. The analysis of publications devoted to validation procedures shows a similarity and coherence of procedures (accuracy, reliability, an analysis of discrimination power and normalization) regardless of their research context. Polish researcher Sztabiński draws attention to the fact that the validation methodology was introduced based on psychology however it may be applied to sociological research (Sztabiński 2005 and 2011). The quoted author claims that these procedures should refer to directly unobservable phenomena and should take into account distinctness of research and include opinions and feelings referring to traits and phenomena inaccessible for direct observation.

According to the author of this publication, measurement of organizational climate with an appropriate tool meets the above criteria as it refers to phenomena and organizational situation in a work place which cannot be directly observed and to a large extent depend on various feelings and opinions of employees as well as in many places are not possible to be measured directly by a researcher. This view is confirmed by numerous validation procedures performed with respect of organizational environment factors such as: management styles, ways of solving conflicts or organizational climate. The selected examples of validation tools measuring the climate include the publications by: Sims, Lafolette and Muchinsky (Sims and LaFollette 1975; Muchinsky 1976), Fernández (López Fernández 1988), Lin and others (Lin C. and others 1997), Patterson and West

and others (Patterson and West and others, 2005) or by Polish researchers: Chępa (1993), Paluchowski (1998), Durniat (2012) and Wudarczyński (2017).

3.1. Assumptions of preliminary psychometric verification

As part of validation analyses over MOCMI tool and according to the recommendations of the authors quoted above, an assumption was made as regards accuracy, reliability, discrimination power and normalization possibilities. Proper validation is often preceded by pilot research identifying among others the time of completing the questionnaire, ambiguous factors making it difficult for respondents to interpret as well as the number of items which have not been evaluated. This stage is significant as it gives possibilities of making changes and adjustments before proper research begins on larger samples.

The author has made an assumption about conducting pilot research using a preliminary version of MOCMI on a group of 50 respondents and identification of situations when the number of unevaluated items or doubts exceeds 5%. Furthermore, the pilot research aimed to assess the time needed to fill in the questionnaire.

An important starting point for validation research on MOCMI inventory was provided by consideration of specificity of a potential attempt which could be approximate to groups considered by other researchers of tools for measuring organizational climate as well as the previous research of the author. Table 2 includes a review of attempts in the selected validation Polish and international research on tools of measuring organizational climate.

Table 2. The size and characteristics of research sample in selected processes validating tools and questionnaires measuring organizational climate

Author and date of publication	Tools subject to validation	Sample size	Characteristics of a sample
Luis Andrés López' Fernández Date of publication: 1988 Date of data collection: 1987	Questionnaire surveying organizational climate for employees of health services	328	<ul style="list-style-type: none"> • Position and industry: medical services employees, positions: nurses, health services employees, administration workers, medical advisors of a district health centre in Granada • Gender: male • Age: employees under (N=73) and over (N=251) 40 years old • Dwelling: urban area of Granada (N=124) and vicinity (N=204) • Employment form: no information

			<ul style="list-style-type: none"> • Education: no information.
<p>S. Chęłpa</p> <p>Date of publication: 1993</p> <p>Date of data collection: 1992</p>	<p>Kolb's questionnaire surveying organizational climate.</p>	100	<ul style="list-style-type: none"> • Position and industry: executive workers, miners from Lubin KGHM „Polska Miedź”, positions: operator of heavy machinery and mining equipment, front miner, fitter-mechanic, blaster, electric locomotive driver, • gender: male, • age: 20-59, • Dwelling: no information, • Employment form: no information, • Education: primary to upper, secondary.
<p>W. Paluchowski</p> <p>Data publication: 1998</p> <p>Date of data collection: 1994-1996</p>	<p>Questionnaire surveying organizational climate (author's).</p>	407	<ul style="list-style-type: none"> • position and industry: employees of various organizations, private and state owned production enterprises and budget units (health services and Polish TV), • gender: no data, • age: no data, • Dwelling: no information, • Employment form: no information.
<p>N. Anderson, M. West</p> <p>Date of publication: 1998</p> <p>Date of data collection: 1992-1996 (1& 2 research</p>	<p>Questionnaire – inventory surveying team climate, innovations (author's TCI, Team Climate Inventory).</p>	<p>Research 1 (971)</p> <p>Research 2 (155)</p>	<ul style="list-style-type: none"> • Position and industry: employees of 121 organizations: health services (35 organizations, N=273), social care (42 organizations, N=360), psychiatric care (20 organizations N=118), oil corporation (24 organizations, N=220) –971 employees in total, • gender: no data, • age: no data, • Dwelling: no information, • Employment form: no information, • Position and industry: 155 managers of employee teams from 27 hospitals, • gender: no data, • age: no data, • Dwelling: no information, • Employment form: no information.
<p>M. West and others</p> <p>Date of publication: 2005</p> <p>Date of data collection: 1994-199</p>	<p>Questionnaire surveying organizational climate (author's).</p>	6896	<ul style="list-style-type: none"> • Position and industry: employees from 55 various organizations in UK employing from 60 to employees in the areas of production, metallurgy, technical and machining, production of rubber products and others, • gender: no data, • age: no data, • Dwelling: no information, • Employment form: no information.
<p>K. Durniat</p>	<p>Rosenstiel and Bögel's Questionnaire surveying organizational climate.</p>	<p>Research 1 (233)</p>	<p>Research 1</p> <ul style="list-style-type: none"> • Position and industry: employees employed in Wrocław: National Tax

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Date of publication: 2012		Research 2 (367)	Office N=86), construction company Elektromontaż Zachód (N= 66) and Telekomunikacja Polska (N=81),
Date of data collection:			<ul style="list-style-type: none"> • gender: no information, • age: no information, • Dwelling: no information, • Employment form: no information, • Position and industry: employees.
Research 1 (2004-2005)			
Research 2 (2005-2006)			

Source: own study based on Wudarzewski 2014a.

The research attempts shown in the above table do not display clear regularities- they vary in terms of the number and specificity of an industry and they have only one factor in common namely current employment. On this basis the author has assumed conducting the research by means of the preliminary version of MOCMI on the sample of at least 300 people considering basic demographic data such as gender, age, education, the nature of job done (employees divided into: blue collar workers, customer service, sales representative, technicians and engineers, administration workers), level in an organization and region of employment. The organizational climate variable should not differentiate employees according the basic parameters such as gender or age however this should be confirmed by the author's next in-depth research on MOCMI and organizational climate. On this preliminary stage the research sample had a relatively open nature not satisfying representative conditions for the whole Polish population. Active employment and a variety in membership to an organization were the basic criteria for participation in the research. Using the previous author's contacts with business and organizations the initial validation research was supposed to be carried out among participants of organizations from Lower Silesia, Opole, Greater Poland and Silesia. In the future the author does not exclude conducting research on samples restricted by precise quantitative and qualitative criteria as well as satisfying the requirements of representativeness in a better way.

The analysis of validity aims to show that the new tool measures what it is supposed to measure, enables completion of research goals, helps to identify discrepancies between intentions of the author's questionnaire which is being examined in reality (Brzeziński 2016, Hornowska 2016, Dębska and others 3). The validity analysis may be conducted in a narrower or broader scope however out of various ways of examining validity (content related, theoretical, face validity, internal, external, expert, similarities and differences) analyses of internal structure of a text and

factor analyses (exploratory) are cited using rotation e.g. Varimax, convergent and varied making use of correlation factors of appropriate statistical relevance possibly supported by (but not always) a confirmatory analysis (c.f. Wudarzewski 2014a). The author decided to conduct an internal, convergent, verified and initially confirmatory validity analysis for MOCMI.

A reliability analysis provides information about accuracy of the measurement, a size of a mistake made by a diagnostician interpreting the results obtained by means of a verified questionnaire and defines permissible boundaries of the mistake and conditions for accepting the results (cf. Brzeziński 2016; Hornowska 2016, Dębska and others 2013). The most frequent methods of assessing reliability include those measuring stability of results in time, sustainability and homogeneity however in practice conducting research with the same tool is related to numerous difficulties and limitations. Alpha Cronbach parameter is a very popular indicator of measuring reliability of psychometric tools associated with measurement of internal inter-correlations of components. The author of this elaboration decided to apply this solution and evaluation of MOCMI reliability.

Measurement of discrimination power occurs more seldom in validation procedures and it is sometimes combined with the reliability analysis. This type of analysis aims to define the extent an item differentiates respondents in terms of a related feature as well as to show that the researched parameters do not concern typical, common, relatively weak and predictable parameters but also slightly differentiating ones (Wudarzewski 2014a). Ways of analysing discrimination power include the student's t-test for two extreme groups, quartile groups or show correlation interdependency between particular questionnaire items and the overall result (cf. Michałowski and Holas 2013). The author has decided to analyse discrimination power of MOCMI items using the first and the second method.

The final stage ends the validation process with an analysis of possibilities of generating diagnostic norms and a scale-key enabling us to transform raw results into a selected standard scale or an percentile rank (Wudarzewski 2014a). A key problem is to assess correspondence of results obtained for scales and an overall result by means of theoretical distribution (normal one). The Kolmogorov- Smirnov test (K-S) is most often used to verify such similarities. If the obtained results do not reveal a normal distribution, it is possible to generate percentile norms. Such a solution was applied in OCE method measuring organizational climate by HayGroup (Wudarzewski 2017).

3.2. Pilot study

The preliminary research preceding the proper validation of MOCMI was conducted in 2015 on a sample of 50 persons consisting of 25 women and 25 men. The respondents represented an age between 26 and 64. Eight people in the group were experts in management issues providing additional consultation as regards correctness and usefulness of initial MOCMI version. Observation of respondents completing the questionnaire did not require introduction of changes in most cases however as you can see in table 3 7 items from various scales requires changes to the contents. Relevant adjustments were made mainly on the basis of questions and suggestions of people from the pilot group.

Table 3. The percentage results of the pilot study as regards doubts about correct interpretation of particular items of the initial MOCMI version

MANAGEMENT STYLE SCALE	Item 1a	Item 1b	Item 1c	Item 1d	Item 1e	Item 1f
The number of situations raising doubts or not making an assessment by respondents	4%	1%	2%	2%	4%	2%
FLEXIBILITY SCALE	Item 2a	Item 2b	Item 2c	Item 2d	Item 2e	Item 2f
The number of situations raising doubts or not making an assessment by respondents	3%	4%	3%	0%	6%	10%
EMPLOYEE RELATIONS SCALE	Item 3a	Item 3b	Item 3c	Item 3d	Item 3e	Item 3f
The number of situations raising doubts or not making an assessment by respondents	0%	1%	0%	0%	2%	1%
AUTONOMY SCALE	Item 4a	Item 4b	Item 4c	Item 4d	Item 4e	Item 4f
The number of situations raising doubts or not making an assessment by respondents	1%	16%	3%	0%	3%	4%
COMMUNICATION SCALE	Item 5a	Item 5b	Item 5c	Item 5d	Item 5e	Item 5f
The number of situations raising doubts or not making an assessment by respondents	1%	1%	0%	3%	3%	2%
CLARITY SCALE	Item 6a	Item 6b	Item 6c	Item 6d	Item 6e	Item 6f
The number of situations raising doubts or not making an assessment by respondents	0%	2%	2%	3%	6%	8%
EMPLOYEE MOTIVATION SCALE	Item 7a	Item 7b	Item 7c	Item 7d	Item 7e	Item 7f
The number of situations raising doubts or not making an assessment by respondents	2%	0%	1%	5%	12%	3%
STANDARDS SCALE	Item 8a	Item 8b	Item 8c	Item 8d	Item 8e	Item 8f
The number of situations raising doubts or not making an assessment by respondents	0%	0%	3%	6%	1%	3%

TEAM ENGAGEMENT SCALE	Item 9a	Item 9b	Item 9c	Item 9d	Item 9e	Item 9f
The number of situations raising doubts or not making an assessment by respondents	0%	3%	1%	2%	4%	2%

Source: own study.

The adjustments made did not significantly change the assumptions of the theoretical model of organizational climate and were minor or simplified the wording of the items. The first 50 trail measurements made by means of MOCMI took from 8 to 20 minutes whereas 38 persons needed from 10 to 13 minutes to make an assessment. This result showed the first essential information about potential usefulness and possibilities of applying the validated tool to practice – measurement of organizational climate comprising 54 items may be made without significant time consumption by respondents and their organizations.

3.3. Verification of MOCMI validity

The preliminary pilot study did not provide the basis for making significant changes to MOCMI assumptions based on the concept of the theoretical model of organizational climate in the period between 2015-2017 this phenomenon was measured on the sample of 682 people. The proper analysis included completely and correctly completed questionnaires in the number of 659. A detailed analysis of the validation sample is presented in table 4.

Table 4. Specification of MOCMI N=659 validation attempt

Structure of a sample as regards gender	Structure of a sample as regards age group	Structure of a sample as regards the nature of job done	Structure of a sample as regards the organizational level	Structure of a sample as regards employment in the province
<i>men:</i> N=250	<i>youth (17-18):</i> N=25	<i>employees doing physical jobs:</i> N=90	<i>employees:</i> N= 25	<i>Lower Silesia:</i> N=362
	<i>students (20-24):</i> N=38	<i>customer service and sales:</i> N=264		
	<i>adults (25-35):</i> N=320			
<i>women:</i> N=409	<i>adults (36-45):</i> N=320	<i>Administration workers:</i> N=230	<i>lower and medium level management:</i> N= 25	<i>Silesia:</i> N=115
	<i>adults (36-45):</i> N=60		<i>Top management, board members, company owners:</i> N= 25	<i>Opole:</i> N=105
	<i>adults (36-45):</i> N=16	<i>Engineering and technical workers:</i> N=75		<i>Greater Poland:</i> N=77

<i>Total: N=659</i>	<i>Total: N=659</i>	<i>Total: N=659</i>	<i>Total: N=659</i>	
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Source: own study.

Verification of the tool structure based on the obtained results was the first research on validity of MOCMI tool. As part of the exploratory analysis (a factor analysis carried out by means of a principal component analysis) Statistica programme (version 12) was applied. In order to distinguish the suggested number of factors, the application was set for the maximum theoretical possibility of separating the number of factors (54 in this case) and that way a 12-factor structure was isolated which deviated from the expected 9-factor system. However, a detailed analysis of the chart, convergence of charging factors by allocated item as well as the analysis of values of shares in variations for particular factors and its considerable drop for the last three factors combines with small charges (the values did not exceed the level of 0.4 and they were mostly at the level between 0 and 0.15) suggested that a more correct structure of MOCMI should be the one consisting of 9 alleged, planned factors-dimensions. This way, similarly to the validation procedure applied by inter alia Topolewska and others, Statistica application was set so that the exploratory analysis had an enforced 9-factor structure (cf. Topolewska and others 2014). The result of this analysis was subject to Varimax rotation and detailed results were put down in table 5. Items for particular scales were marked with symbols from „a” to „f” whereas places of correct assignment to the factor-scale were marked grey.

Table 5. Results of researching the structure of MOCMI questionnaire using a factor analysis, a method of principal components and Varimax rotation on sample N=659 for the enforced 9-factor model

	<i>SCALE SK</i>	<i>SCALE E</i>	<i>SCALE RP</i>	<i>SCALE A</i>	<i>SCALE KM</i>	<i>SCALE KL</i>	<i>SCALE MP</i>	<i>SCALE ST</i>	<i>SCALE ZZ</i>
<i>Item 1a</i>	0,679	0,041	0,104	0,047	0,191	0,105	0,077	0,031	0,000
<i>Item 1b</i>	0,815	0,105	0,134	0,049	0,102	0,093	0,115	0,092	0,067
<i>Item 1c</i>	0,611	0,039	0,122	-0,015	0,035	-0,007	0,097	0,063	0,130
<i>Item 1d</i>	0,781	0,105	0,116	0,030	0,066	0,123	0,108	0,066	0,107
<i>Item 1e</i>	0,776	0,063	0,079	0,066	0,173	0,104	0,091	0,022	0,020
<i>Item 1f</i>	0,715	0,061	0,019	0,023	0,058	-0,102	0,132	0,092	0,065
<i>Item 2a</i>	0,117	0,694	-0,033	-0,018	-0,004	-0,180	0,054	0,034	0,045
<i>Item 2b</i>	0,173	0,750	0,107	-0,044	0,059	0,144	-0,022	0,042	-0,132
<i>Item 2c</i>	-0,019	0,679	-0,027	-0,049	-0,071	0,090	-0,152	-0,036	0,078
<i>Item 2d</i>	0,095	0,762	0,013	0,022	0,067	0,135	0,016	0,117	0,102
<i>Item 2e</i>	-0,039	0,620	0,072	-0,053	0,145	-0,069	0,085	0,002	0,114

<i>Item 2f</i>	0,105	0,701	0,021	0,089	0,013	-0,144	0,131	0,025	-0,014
<i>Item 3a</i>	0,183	-0,034	0,714	0,070	0,131	0,033	0,135	0,047	0,138
<i>Item 3b</i>	0,088	0,041	0,673	0,048	-0,025	0,064	-0,048	0,018	0,096
<i>Item 3c</i>	0,380	0,065	0,582	0,107	0,029	0,052	0,165	0,003	0,056
<i>Item 3d</i>	0,235	0,076	0,695	0,012	0,067	0,106	0,080	0,138	0,197
<i>Item 3e</i>	0,100	0,019	0,630	-0,037	0,106	-0,046	0,106	-0,034	-0,029
<i>Item 3f</i>	-0,052	0,039	0,703	0,049	0,201	0,002	0,055	0,031	0,068
<i>Item 4a</i>	0,051	-0,065	0,022	0,562	-0,084	0,057	-0,135	0,012	-0,120
<i>Item 4b</i>	0,117	0,003	0,055	0,747	0,063	0,070	0,041	0,002	0,047
<i>Item 4c</i>	-0,065	-0,038	-0,111	0,665	0,036	-0,027	-0,145	-0,001	-0,025
<i>Item 4d</i>	0,079	0,028	0,080	0,634	0,051	-0,279	0,046	-0,002	0,141
<i>Item 4e</i>	0,224	0,011	0,156	0,665	0,032	-0,003	0,083	0,030	0,061
<i>Item 4f</i>	-0,110	-0,006	0,034	0,648	-0,027	0,162	0,017	0,035	-0,070
<i>Item 5a</i>	0,293	0,022	0,121	0,032	0,625	-0,058	0,169	-0,076	-0,029
<i>Item 5b</i>	0,045	0,000	0,066	-0,031	0,735	0,042	-0,010	0,064	0,091
<i>Item 5c</i>	0,231	0,055	-0,059	0,013	0,696	0,135	0,162	0,168	0,126
<i>Item 5d</i>	0,240	0,088	0,079	0,035	0,740	0,156	0,169	0,030	0,049
<i>Item 5e</i>	0,149	0,010	0,086	0,041	0,783	0,077	0,117	0,078	-0,040
<i>Item 5f</i>	-0,121	0,013	0,145	0,008	0,793	0,165	0,042	0,128	0,130
<i>Item 6a</i>	0,037	0,048	-0,082	0,026	0,242	0,598	0,241	0,141	0,169
<i>Item 6b</i>	0,292	0,023	0,165	0,076	0,185	0,443	0,336	0,086	0,090
<i>Item 6c</i>	0,215	0,060	0,004	0,042	0,242	0,628	0,228	0,196	0,186
<i>Item 6d</i>	0,182	0,036	0,137	0,100	0,280	0,552	0,307	0,199	0,083
<i>Item 6e</i>	0,049	-0,027	0,123	-0,086	0,083	0,728	-0,012	0,033	-0,225
<i>Item 6f</i>	0,218	0,010	0,103	0,073	0,196	0,485	0,299	0,195	0,091
<i>Item 7a</i>	0,019	-0,032	0,086	-0,057	0,082	0,073	0,703	0,093	-0,015
<i>Item 7b</i>	0,096	0,050	0,063	0,058	0,094	0,132	0,690	0,202	0,193
<i>Item 7c</i>	0,207	0,034	0,023	-0,020	0,153	0,181	0,680	0,133	0,069
<i>Item 7d</i>	0,110	0,001	-0,036	0,042	0,085	-0,176	0,523	0,039	0,153
<i>Item 7e</i>	0,233	0,011	0,144	-0,029	0,067	0,134	0,721	-0,013	-0,039
<i>Item 7f</i>	0,106	0,034	0,092	-0,003	0,211	0,069	0,708	0,074	0,087
<i>Item 8a</i>	0,088	0,006	0,151	0,049	-0,002	0,024	0,166	0,664	-0,007
<i>Item 8b</i>	-0,003	0,056	-0,101	0,062	0,024	0,203	0,020	0,625	0,079
<i>Item 8c</i>	0,137	0,019	-0,056	0,015	0,126	0,013	0,099	0,708	0,021
<i>Item 8d</i>	0,063	0,056	-0,070	0,020	0,175	0,017	0,105	0,640	0,158
<i>Item 8e</i>	0,108	0,069	0,093	-0,004	0,091	0,073	0,158	0,727	-0,019
<i>Item 8f</i>	0,014	0,037	0,173	-0,047	0,105	0,166	-0,019	0,728	0,103
<i>Item 9a</i>	0,079	0,006	0,251	-0,006	-0,056	-0,306	0,126	-0,001	0,467
<i>Item 9b</i>	0,118	0,092	0,053	0,035	0,224	-0,026	0,149	0,135	0,685
<i>Item 9c</i>	0,184	0,074	-0,074	0,060	-0,166	-0,211	-0,030	-0,083	0,586
<i>Item 9d</i>	0,080	-0,017	0,400	0,003	0,286	0,189	0,103	0,157	0,498
<i>Item 9e</i>	0,157	-0,006	0,140	0,001	0,084	0,084	0,090	0,081	0,711
<i>Item 9f</i>	-0,043	0,021	0,301	-0,002	0,134	0,143	0,032	0,064	0,658

Source: own study making use of Statistica program.

The presented result clearly shows strong charging the factors by conceptually thought item at considerably lower loads for the remaining assigned situations- out of all 54 items 22 have lower loads below the level 0.7 whereas 21 are at the level between 0.6-0.7. The lowest values of loads correctly assigned are the level higher than 0.4. When comparing these levels with results for other already verified and permitted for use psychometric tools such as PROKOS, BIP or LMI construed

by a unit specialized in psychometry called Workshop of Psychological Tests, the result of the 9-factor analysis of MOCMI tool structure may be considered satisfactory (cf. Matczak and Martowska 2013; Klinkosz and Sękowski 2013, Jaworowska and Brzezińska 2014).

Preliminary results of the confirmatory analysis carried out on a separate sample N=132 partially confirm correctness of the model and the 9-factor structure of MOCMI. The parameters confirming correctness of the organizational climate model and the structure of the tool include RMSEA (result 0.0374 for the confidence interval of 90% (0.0282; 0.0453) and CFI (0.907), lower parameters than expected were obtained by GFI (811) and NFI (842) indicators. It should be emphasized that the research on the full version is still going on and detailed results will be presented by the author in subsequent publications.

Further research on MOCMI validity was oriented on evaluation of convergent validity by measuring it with a new, validated tool parallel to those already verified and discriminant validity accounting for measurement of other than organizational climate features. The author decided to carry out such in-depth research in 2016 on the sample of 137 employees employed in various organizations in Lower Silesian province.

Apart from MOCMI, also OCE technique was used in Wudarzewski's adaptation (Wudarzewski 2017) as well as a questionnaire of organizational climate measurement of Rosenstiel and Bögel in Durniat's adaptation (Durniat 2012). An overall result of organizational climate was a reference point. Measurement of organizational climate with the tools were made for three consecutive days. Detailed results of correlations between the obtained results were presented in table 6.

Table 6. Correlations between the overall evaluation of organizational culture generated by tools such as MOCMI, OCE and Rosenstiel and Bögel's questionnaire on sample N=132

Correlations analysed	r-Pearson correlation coefficient	p<0,05
<i>Correlation with OCE result</i>	0.676	0.000
<i>Correlation with Rosenstiel and Bögel's result</i>	0.787	0.000

Source: own study making use of Statistica program.

According to the criteria suggested by Gulidorf both results of r-Pearson correlation coefficient are at a quite high level with a relevant level of statistical significance (cf. Rathy and Samy 2014). A slightly lower level of correlation between MOCMI and OCE may result from the

fact of a huge difference in the number of items affecting an overall result (WIPKO: 54 items; OCE: 14 items), though the result approximate to 0.7 may be considered as a high correlation. This is confirmed by the fact that power of correlation with Rosenstiel and Bögel's questionnaire (including 55 items – almost the same number as in MOCMI) is considerably higher. Results of correlation presented in Table No 6 confirm expected convergent validity of MOCMI tool.

When analysing discriminant validity other (but partially related) than organizational climate constructs were taken into account such as job satisfaction, organizational culture, occurrence of negative phenomena and a threat of mobbing. For these purposes we used respectively MSQ tool (measurement of job satisfaction)¹, OCAI (a questionnaire for organizational culture assessment: clan culture, adhocracy culture, market culture and hierarchy culture)², CTIQ (a questionnaire identifying the type of organizational culture: power culture, task culture, person culture, role culture)³, NAQ (Negative Act Questionnaire)⁴ and ORM (assessment of the risk of mobbing). The research on discriminant validity comprised the same respondents as in case of measuring organizational climate. The diagnosis of the above phenomena was made a week apart and conducted within two consecutive days – the author assumed that the research on the climate and other phenomena would be carried out at short intervals for the purposes of securing similar situations and organizational circumstances. Detailed results of the correlation between the parameters were presented in table 7.

Table 7. Results of correlations between an overall evaluation of MOCMI organizational climate and general results of other phenomena partially related to organizational climate

Correlations analysed	r-Pearson correlation coefficient	p<0,05
<i>Correlation with job satisfaction result (MSQ)</i>	0,263	p=0,002
<i>Correlation with the result of clan's organizational culture (OCAI)</i>	0,218	p=0,010
<i>Correlation with the result of adhocracy's organizational culture (OCAI)</i>	0,178	p=0,036
<i>Correlation with the result of market organizational culture (OCAI)</i>	-0,169	p=0,048
<i>Correlation with the result of hierarchy organizational culture (OCAI)</i>	-0,162	p=0,057
<i>Correlation with the result of power organizational culture (HARRISON)</i>	-0,376	p=0,000
<i>Correlation with the result of task organizational culture (HARRISON)</i>	-0,155	p=0,070
<i>Correlation with the result of personal organizational culture (HARRISON)</i>	0,235	p=0,006
<i>Correlation with the result of role organizational culture (HARRISON)</i>	0,287	p=0,001

¹ Minnesota Satisfaction Questionnaire, Jachnis A., 2008.

² Organizational Culture Assessment Instrument, Cameron, K. & Quinn, R., 2015.

³ Culture Type Identification Questionnaire, Handy C., 1983.

⁴ Negative Act Questionnaire, Einarsen S., Hoel H., 2001.

<i>Correlation with the result of negative actions (NAQ)</i>	-0,304	p=0,000
<i>Correlation with the result of assessing mobbing risk (ORM)</i>	-0,266	p=0,002

Source: own study making use of Statistica programme.

Based on the above results it should be noticed that the research on discriminant validity confirmed the conceptual assumptions of the organizational climate model and MOCMI tool. The overall result of organizational climate is not significantly related to the constructs of job satisfaction, various types of organizational cultures or negative phenomena and mobbing although trends and directions of correlations display expected, supposed values (e.g. the mobbing results is negatively correlated with the overall result of organizational climate, results of job satisfaction, personal cultures and the role are positively correlated with general results of climate). The highest (though comparatively lower level) parameters of correlation refer to interdependencies between organizational climate and power culture and negative actions. In two cases the correlation turned out to be statistically insignificant. To sum up the obtained results, we may say that assessment of organizational climate is to a lesser degree or partially related to the constructs such as satisfaction, organizational culture (its type) or pathological phenomena which confirms long-term previous research on organizational climate and its relative distinctiveness (cf. Wudarczyński 2014a). In the context of MOCMI validation procedure there are no grounds for measuring one of the analysed properties instead organizational climate. Nevertheless, in the author's view it is worthwhile conducting in-depth research in this scope on the extended sample.

In the validity analysis the last stage involved the study aiming to provide information on simultaneous general relations to components-scales of the climate as well as relative mutual distinctiveness, namely the study into internal correlation between MOCMI components. It was assumed that dimensions of the considered model of organizational climate should be partially correlated otherwise the situation might arise when treating scales separately was unjustified. The results of this analysis are presented by table 8. Also in case of this analysis, high mutual correlations between the scales were not observed, however it should be emphasized that there were more partial correlations in the anticipated supposed combinations i.e. clarity-communication, clarity-employee motivation and management style in respect of employee relations, communications and employee motivation. It is also important that the research presented in this part of the publication on interdependencies is focused on the most important general results whereas the author intends to recognize those interdependencies in a more thorough way.

Table 8. Results of internal correlations between MOCMI scales

	MANAGEMENT STYLE Scale	FLEXIBILITY Scale	EMPLOYEE RELATIONS Scale	AUTONOMY Scale	COMMUNICATION Scale	CLARITY Scale	EMPLOYEE MOTIVATION Scale	STANDARDS Scale	TEAM ENGAGEMENT Scale
MANAGEMENT STYLE Scale									
FLEXIBILITY Scale	0,209 p=0,00								
EMPLOYEE RELATIONS Scale	0,368 p=0,00	0,109 p=0,00							
AUTONOMY Scale	0,124 p=0,00	-0,014 p=0,71	0,121 p=0,00						
COMMUNICATION Scale	0,341 p=0,00	0,115 p=0,00	0,273 p=0,00	0,054 p=0,16					
CLARITY Scale	0,366 p=0,00	0,091 p=0,02	0,281 p=0,00	0,061 p=0,11	0,46 p=0,00				
EMPLOYEE MOTIVATION Scale	0,363 p=0,00	0,085 p=0,02	0,267 p=0,00	0,004 p=0,91	0,357 p=0,00	0,456 p=0,00			
STANDARDS Scale	0,221 p=0,00	0,122 p=0,00	0,152 p=0,00	0,049 p=0,20	0,256 p=0,00	0,391 p=0,00	0,296 p=0,00		
TEAM ENGAGEMENT Scale	0,283 p=0,00	0,126 p=0,00	0,389 p=0,00	0,066 p=0,08	0,261 p=0,00	0,194 p=0,00	0,278 p=0,00	0,213 p=0,00	

Source: own study making use of Statistica programme.

To sum up this part of the paper it should be said that results of the research on MOCMI validity have displayed appropriate and mostly desirable psychometric parameters.

3.4. Verification of validity of MOCMI tool

The study into validity has confirmed high credibility and measuring accuracy of the validated tool. The Alpha Cronbach ratio of the entire questionnaire is very high and amounts to 0,901. Also the assessment of reliability of particular MOCMI scales confirms their credibility -

Alpha Cronbach ratios, though differentiated, reached a level higher than 0.7 (according to Nunnally's criterion). Table 9 shows particular parameters of reliability for MOCMI scales, for cases of removing specific items from the scales as well as correlation rates between particular items and the result of the scale.

Table 9. Results of the reliability analysis of the overall result, scales and MOCMI items

		<i>Alpha Cronbach when removing an item:</i>	<i>Correlation between a scale item and a scale result</i>
MANAGEMENT STYLE SCALE <i>Alpha Cronbach: 0,868</i>	<i>Item 1a</i>	0,852	0,629
	<i>Item 1b</i>	0,825	0,777
	<i>Item 1c</i>	0,867	0,538
	<i>Item 1d</i>	0,838	0,711
	<i>Item 1e</i>	0,834	0,730
	<i>Item 1f</i>	0,855	0,611
FLEXIBILITY SCALE <i>Alpha Cronbach.: 0,802</i>	<i>Item 2a</i>	0,773	0,554
	<i>Item 2b</i>	0,756	0,630
	<i>Item 2c</i>	0,786	0,496
	<i>Item 2d</i>	0,754	0,636
	<i>Item 2e</i>	0,789	0,480
	<i>Item 2f</i>	0,771	0,562
EMPLOYEE RELATIONS SCALE <i>Alpha Cronbach.: 0,809</i>	<i>Item 3a</i>	0,759	0,652
	<i>Item 3b</i>	0,790	0,535
	<i>Item 3c</i>	0,781	0,562
	<i>Item 3d</i>	0,759	0,669
	<i>Item 3e</i>	0,798	0,479
	<i>Item 3f</i>	0,785	0,547
AUTONOMY SCALE <i>Alpha Cronbach: 0,738</i>	<i>Item 4a</i>	0,726	0,390
	<i>Item 4b</i>	0,674	0,582
	<i>Item 4c</i>	0,707	0,455
	<i>Item 4d</i>	0,707	0,456
	<i>Item 4e</i>	0,684	0,533
	<i>Item 4f</i>	0,709	0,446
SCALE COMMUNICATION SCALE <i>Alpha Cronbach:0,863</i>	<i>Item 5a</i>	0,854	0,569
	<i>Item 5b</i>	0,851	0,597
	<i>Item 5c</i>	0,836	0,681
	<i>Item 5d</i>	0,828	0,711
	<i>Item 5e</i>	0,827	0,724
	<i>Item 5f</i>	0,835	0,674
CLARITY SCALE <i>Alpha Cronbach.: 0,820</i>	<i>Item 6a</i>	0,794	0,573
	<i>Item 6b</i>	0,790	0,590
	<i>Item 6c</i>	0,776	0,657
	<i>Item 6d</i>	0,770	0,691
	<i>Item 6e</i>	0,327	0,423
	<i>Item 6f</i>	0,788	0,599
EMPLOYEE RELATIONS SCALE	<i>Item 7a</i>	0,795	0,553
	<i>Item 7b</i>	0,769	0,670
	<i>Item 7c</i>	0,773	0,655
	<i>Item 7d</i>	0,329	0,386

<i>Alpha Cronbach:</i> <i>0,818</i>	<i>Item 7e</i>	0,780	0,621
	<i>Item 7f</i>	0,782	0,613
<i>STANDARDS SCALE</i> <i>Alpha Cronbach:</i> <i>0,801</i>	<i>Item 8a</i>	0,774	0,540
	<i>Item 8b</i>	0,788	0,481
	<i>Item 8c</i>	0,764	0,583
	<i>Item 8d</i>	0,780	0,513
	<i>Item 8e</i>	0,754	0,622
	<i>Item 8f</i>	0,758	0,613
<i>TEAM ENGAGEMENT SCALE</i> <i>Alpha Cronbach.:</i> <i>0,741</i>	<i>Item 9a</i>	0,732	0,389
	<i>Item 9b</i>	0,681	0,556
	<i>Item 9c</i>	0,740	0,354
	<i>Item 9d</i>	0,708	0,467
	<i>Item 9e</i>	0,669	0,600
	<i>Item 9f</i>	0,693	0,546

Source: own study making use of Statistica programme.

The research into a hypothetical reduction of particular components of MOCMI inventory indicated a slight improvement of the reliability ratio only in two situations as well as in case of four items a slightly lower correlation level with the scale result (below 0.4) as compared to Kline's recommended criterion. Considering current high reliability parameters, remote possibilities of their improvement by removing an item, relative coherence of previous results, homogeneity of MOCMI structure (the same number – six items for each scale) as well as anticipated more complete research possibilities, the author assumed leaving the current items and scales without modifications to the structure of the questionnaire. The results of researching reliability confirm that the proposed tool meets criteria of psychometric correctness and may be used as a tool of relevant reliability and credibility features.

3.5. Verification of discrimination power of MOCMI items

The analysis of discrimination power of items was conducted using two independent attitudes – measurement of correlation results of an item with the scale result and comparison of quartile variation by means of a t-student test. The outcome of the former method was presented in table 9 whereas the outcome of the latter is included in table 10.

Table 10. Results of the discrimination power analysis of MOCMI items using a method of comparing quartile variations with a Student's t test

<i>Item</i>	<i>p- variations</i>	<i>Analysis of equality of variances</i>	<i>P</i>	<i>t</i>	<i>t - sectionl</i>	<i>Assessment of discrimination power</i>
<i>Item 1a</i>	0,000	different variances	0,000	-52,022		appropriate discrimination power
<i>Item 1b</i>	0,000	different variances	0,000	-59,346		appropriate discrimination power
<i>Item 1c</i>	0,000	different variances	0,000	-41,767		appropriate discrimination power
<i>Item 1d</i>	0,000	different variances	0,000	-52,704		appropriate discrimination power
<i>Item 1e</i>	0,000	different variances	0,000	-53,933		appropriate discrimination power
<i>Item 1f</i>	0,000	different variances	0,000	-52,356		appropriate discrimination power
<i>Item 2a</i>	0,000	different variances	0,000	-53,171		appropriate discrimination power
<i>Item 2b</i>	0,489	equal variances	0,000		-77,317	appropriate discrimination power
<i>Item 2c</i>	0,000	different variances	0,000	-55,952		appropriate discrimination power
<i>Item 2d</i>	0,000	different variances	0,000	-35,563		appropriate discrimination power
<i>Item 2e</i>	0,000	different variances	0,000	-44,623		appropriate discrimination power
<i>Item 2f</i>	0,000	different variances	0,000	-33,335		appropriate discrimination power
<i>Item 3a</i>	0,994	equal variances	0,000		-77,563	appropriate discrimination power
<i>Item 3b</i>	0,052	equal variances	0,000		-82,941	appropriate discrimination power
<i>Item 3c</i>	0,000	different variances	0,000	-58,338		appropriate discrimination power
<i>Item 3d</i>	0,118	equal variances	0,000		-79,496	appropriate discrimination power
<i>Item 3e</i>	0,000	different variances	0,000	-58,933		appropriate discrimination power
<i>Item 3f</i>	0,000	different variances	0,000	-55,378		appropriate discrimination power
<i>Item 4a</i>	0,000	different variances	0,000	-59,135		appropriate discrimination power
<i>Item 4b</i>	0,000	different variances	0,000	-53,082		appropriate discrimination power
<i>Item 4c</i>	0,000	different variances	0,000	-57,641		appropriate discrimination power
<i>Item 4d</i>	0,000	different variances	0,000	-52,322		appropriate discrimination power
<i>Item 4e</i>	0,000	different variances	0,000	-54,909		appropriate discrimination power
<i>Item 4f</i>	0,000	different variances	0,000	-55,148		appropriate discrimination power
<i>Item 5a</i>	0,000	different variances	0,000	-50,902		appropriate discrimination power
<i>Item 5b</i>	0,039	different variances	0,000	-59,980		appropriate discrimination power
<i>Item 5c</i>	0,731	equal variances	0,000		-39,960	appropriate discrimination power

<i>Item 5d</i>	0,000	different variances	0,000	-57,302		appropriate discrimination power
<i>Item 5e</i>	0,004	different variances	0,000	-55,830		appropriate discrimination power
<i>Item 5f</i>	0,000	different variances	0,000	-42,051		appropriate discrimination power
<i>Item 6a</i>	0,000	different variances	0,000	-45,183		appropriate discrimination power
<i>Item 6b</i>	0,000	different variances	0,000	-56,224		appropriate discrimination power
<i>Item 6c</i>	0,638	equal variances	0,000		-38,873	appropriate discrimination power
<i>Item 6d</i>	0,228	equal variances	0,000		-38,009	appropriate discrimination power
<i>Item 6e</i>	0,203	different variances	0,000		-38,361	appropriate discrimination power
<i>Item 6f</i>	0,000	different variances	0,000	-47,666		appropriate discrimination power
<i>Item 7a</i>	0,000	different variances	0,000	-51,945		appropriate discrimination power
<i>Item 7b</i>	0,000	different variances	0,000	-54,585		appropriate discrimination power
<i>Item 7c</i>	0,000	different variances	0,000	-58,871		appropriate discrimination power
<i>Item 7d</i>	0,000	different variances	0,000	-55,964		appropriate discrimination power
<i>Item 7e</i>	0,000	different variances	0,000	-50,126		appropriate discrimination power
<i>Item 7f</i>	0,000	different variances	0,000	-57,964		appropriate discrimination power
<i>Item 8a</i>	0,000	different variances	0,000	-58,696		appropriate discrimination power
<i>Item 8b</i>	0,000	different variances	0,000	-49,276		appropriate discrimination power
<i>Item 8c</i>	0,000	different variances	0,000	-73,754		appropriate discrimination power
<i>Item 8d</i>	0,000	different variances	0,000	-56,253		appropriate discrimination power
<i>Item 8e</i>	0,206	different variances	0,000		-76,988	appropriate discrimination power
<i>Item 8f</i>	0,000	different variances	0,000	-51,322		appropriate discrimination power
<i>Item 9a</i>	0,000	different variances	0,000	-52,451		appropriate discrimination power
<i>Item 9b</i>	0,000	different variances	0,000	-51,934		appropriate discrimination power
<i>Item 9c</i>	0,000	different variances	0,000	-51,732		appropriate discrimination power
<i>Item 9d</i>	0,006	different variances	0,000	-29,602		appropriate discrimination power
<i>Item 9e</i>	0,000	different variances	0,000	-49,120		appropriate discrimination power
<i>Item 9f</i>	0,000	different variances	0,000	-47,991		appropriate discrimination power

Source: own study making use of Statistica programme.

The outcomes of the first and the second method of assessing discrimination power have shown that there are no grounds for reduction of MOCMI inventory and removal of items slightly

differentiating the surveyed group of employees. The validated tool has got appropriate psychometric properties when it comes to discrimination power.

3.6. Verification possibilities of normalization of MOCMI tool

The last procedure of the basic validation process involved recognizing possibilities of generating norms standardized for MOCMI scales and the overall result. Detailed results of this analysis are included in table 11.

Table 11. Results of analysing the specifics of scores distribution for scales and the general result of MOCMI

Organizational climate scale MOCMI	Max D	K-S p	Lillief. p	W	p
MANAGEMENT STYLE Scale	0.115	p < 0.01	p < ,01	0.957	0.000
FLEXIBILITY Scale	0.079	p < 0.01	p < ,01	0.984	0.000
EMPLOYEE RELATIONS Scale	0.050	p = 0.06	p < ,01	0.987	0.000
AUTONOMY Scale	0.088	p < 0.01	p < ,01	0.983	0.000
COMMUNICATION Scale	0.092	p < 0.01	p < ,01	0.962	0.000
CLARITY Scale	0.070	p < 0.01	p < ,01	0.983	0.000
EMPLOYEE MOTIVATION Scale	0.098	p < 0.01	p < ,01	0.973	0.000
STANDARDS Scale	0.100	p < 0.01	p < ,01	0.983	0.000
TEAM ENGAGEMENT Scale	0.066	p < 0.01	p < ,01	0.993	0.000
<i>General result of MOCMI organizational climate</i>	0.0420	p = 0,189	p < ,01	0.995	0.03

Source: own study making use of Statistica programme.

Despite the fact that correspondence with the normal distribution according to K-S test has been proved only for the “employee relations” scale and quite clearly for the overall MOCMI result, statistics D for K-S test may suggest that distributions for the remaining MOCMI scales do not significantly deviate from the normal distribution. For instance a situation in the validation procedure may be given as regards a Questionnaire of Team Role Belbin’s carried out by Witkowski and Ilski (cf. Witkowski and Ilski 2000). Taking into account the arguments and a cautious approach towards constructing normal results, the author elaborated two types of norms for MOCMI scales : percentiles (not accounting for correspondence with normal distribution) and a T-score scale (assuming correspondence, insignificant difference as regards the specificity of normal distribution) which may be used according to discretion of a person measuring organizational climate. Standardized sten scores were elaborated for the overall result of MOCMI organizational climate. Figure 1 presents a distribution of general results of organizational climate including parameters adapted for normal distribution.

In view of this publication's author, the preliminary procedure of verifying the organizational climate model and validation of MOCMI inventory relatively confirms conceptual assumptions and usefulness of the tool which possesses satisfactory psychometric parameters. The considered questionnaire may be useful in researching organizational climate and may be treated as a verified tool. Nevertheless, the author is fully aware that the research work on MOCMI has just commenced so in the near future the author is planning to carry out extended research related to a possibility of generating detailed norms for particular industries, levels and regional location.

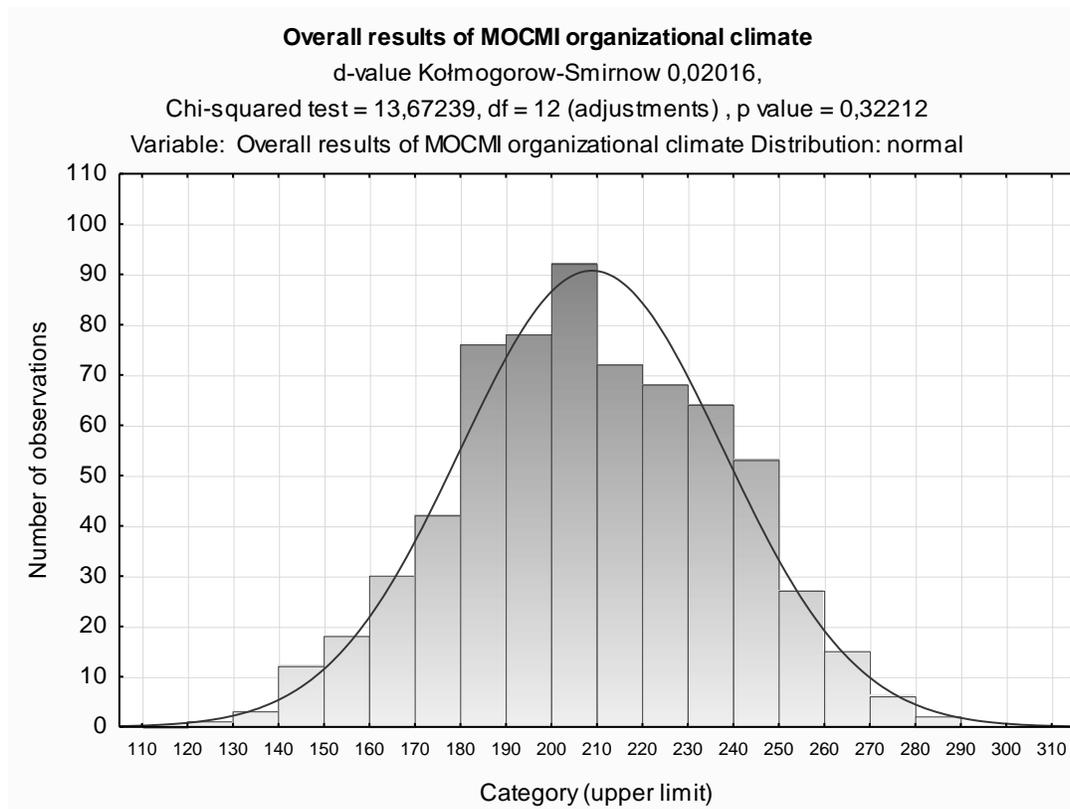
The author owns copyright to a full version of MOCMI tool and as part of scientific cooperation he declares his readiness to provide free access to the questionnaire for research purposes and assistance in generating and analysing results using percentile and T-scores norms⁵. Simultaneously the author has created an abbreviated MOCMI-S version which constitutes a reduced form of the full version tool based on the items with the best psychometric properties⁶. The abbreviated version also has satisfactory psychometric properties and despite slightly lower reliability indicators it may still be treated as a statistically verified version confirmed by validation parameters. Detailed psychometric parameters including a complete version of MOCMI-S⁷. The convergence analysis of scales with the normal distribution displayed a greater deviation than in case of the full version which is why for each dimension of the climate percentile norms were construed as well as sten scores for the overall result.

⁵ If you are interested in the use of MOCMI inventory please contact the author by e-mail: grzegorz.wudarzewski@wsb.wroclaw.pl.

⁶ MOCMI-S consists of 37 items: 27 proper and 10 buffer ones.

⁷ The use of MOCMI-S version does not require permission of the author who as part of scientific development and mutual cooperation is interested in giving access to the results of MOCMI-S research. Potential users of this version are requested to contact the above mentioned author's e-mail address. The author is also ready to send complete MOCMI-S materials in the PDF format and to send graphs of results un condition they had been provided in the Excel format.

Figure 1. Chart of adjusting the variable of the overall result of MOCMI organizational climate to normal distribution



Source: own study making use of Statistica program.

4. Conclusions

Considerations included in this elaboration constitute a continuation of works on the organizational climate model. As far as the research questions in the publication are concerned, it may be established that the proposed structure of the model has been relatively positively verified though subsequent research on interdependencies between its particular components will be necessary in the future. Elaborated and verified MOCMI tool confirms conceptual correctness of the model, possesses appropriate psychometric properties of validity, reliability, discrimination power and may be used as a proved and credible alternative to other methods of measuring organizational climate. At present the author is conducting in-depth empirical research using MOCMI in the context of assessment of organizational climate and its dimensions by representatives of organizational environment (an industry, a company, a level, a region, work environment).

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APPENDIX NO 1a**A specimen of MOCMI-S questionnaire**

Multidimensional Organizational Climate Measurement Inventory MOCMI-S short version
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author: Wudarzewski Grzegorz

Name and surname (diagnostic code): Age:

Education (field of study):

Gender: (M / F) Profession: Date of assessment.....

Instruction

The inventory below consists of 37 statements relating to work environment, organizational conditions, employee relations and the possibility of proper performance of work. Refer to the situation that occurs in your workplace (in the immediate environment of your position) and below each statement cross out the most adequate rating on a scale of 1-6, bearing in mind that the assessment on the left denotes denying the content of the statement whereas the rating on the right denotes confirmation of this content. Below the rating scale for each statement there are interpretations of individual assessments. **ATTENTION!** Interpretations of assessments are not always the same and depend on the context of the statement, so before selecting each assessment, read the content of individual interpretations. Try to make an assessment for each statement, and in situations where you are not sure of the answer, try to mark the one that is most consistent with your feeling. While assessing your workplace, follow the observations regarding the work context. In case you would like to change the rating, mark the wrong one with "NP" and the right one with "PR".

Additional remarks:

1. Try to assess work situations not on the basis of individual situations, but the time of at least 3-4 weeks and preferably a few months.
2. Do not think about how other employees would assess statements - evaluate according to your feeling and your situation.
3. Try to evaluate in a balanced way - evaluate the place and working conditions, leaving out emotions and individual conflicts.

1. The job I do gives me a lot of satisfaction.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	such situations sometimes happen but rarely	such situations happen	I confirm	I definitely confirm

2. People with whom I cooperate ensure that we work in a friendly atmosphere.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	the atmosphere is seldom fairly tolerable	rather yes but tensions happen	I appreciate the atmosphere in which I work	very good, friendly and hospitable atmosphere

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3. I often hear at work that I have to do tasks in accordance with the procedures that someone „at the top” invented .					
1	2	3	4	5	6
Such a situation has never happened to me	there are no such situation	it happens sometimes but rarely	Such situations happen	I can often hear that	Yes this is the rule

4. I would recommend my work place to other people.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	I consider it average	Yes but there are moments when I do not think this way	I confirm	I definitely confirm

5. The people with whom I cooperate deceitful.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	such situations sometimes happen but rarely	such situations happen	I confirm	I definitely confirm

6. I can feel that the job I do develops me.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	I sometimes feel that way but rarely	there are situations when I feel that way	I confirm	I definitely confirm

7. My and my colleagues’ superior gives us certain freedom in completion of tasks.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	sometimes it is like that but seldom	such situations happen	It often happens	I definitely confirm

8. I do not like the tasks I have to do.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	only some of them	Yes, I would willingly get rid of them	I confirm	I definitely confirm

9. My superior can distinguish well-performed work from work done on an average level.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	sometimes it is like that but seldom	such situations happen	It often happens	I definitely confirm

10. The organization in which I work is not always loyal and honest with employees.					
1	2	3	4	5	6
such a situation has never happened	such situation happen very rarely	a few such situation happened but not many	such situations happen	I confirm, I can feel it this way	I definitely confirm

11. My superior consistently sticks to previously agreed arrangements.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	sometimes it is like that but seldom	such situations happen	It often happens	I definitely confirm

12. The company in which I work does not have a good reputation in the environment.					
1	2	3	4	5	6
It has a very good reputation	I do not confirm, it has a good reputation	It has a good reputation, people rather not talk badly about it	Yes but opinions in this respect are divided	I confirm, many people talk about it badly	It definitely has a bad reputation

13. My superior is the right person in the right place.					
1	2	3	4	5	6
I definitely do not think so	s/he is not a good manager	s/he sometimes makes serious mistakes	Seldom but s/he sometimes makes mistakes	s/he is a good manager	I definitely think so

14. I know my superior's principles - I know what he cannot tolerate and what he considers to be work done above the standard.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	sometimes it is like that but seldom	such situations happen	It often happens	I definitely confirm

15. I rarely experience discomfort at work due to tensions and misunderstandings.					
1	2	3	4	5	6
Unfortunately, I feel such discomfort every day	I often feel such discomfort	There are days when I feel such discomfort	I sometimes feel such discomfort but rarely	actually I do not feel such discomfort	definitely the feeling of such discomfort is strange to me

16. I have a positive attitude when I come to work.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	Rather yes but not always	Yes apart from few situations	I confirm	I definitely confirm

17. Taking care of a high quality is not the most important for the management at my work place.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	sometimes it is like that but seldom	such situations happen	It often happens	I definitely confirm

18. The information I receive at work helps me to carry out my tasks correctly.					
1	2	3	4	5	6
It definitely doesn't help	It doesn't help	It seldom helps	It rather helps but not always	It helps	It definitely helps

19. My superior can motivate me appropriately to work.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	sometimes it is like that but seldom	rather yes	I confirm	I definitely confirm

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20. I often leave work tired and exhausted.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	Rather seldom	There are days when I feel this way	I confirm	I definitely confirm

21. I have an impression that my superior does not tell me everything about the actual situation and intentions.					
1	2	3	4	5	6
I have never had such an impression	I don't think s/he would be hiding something from me	I sometimes have such an impression but rarely	There are situations when I feel this way	I confirm	I definitely confirm

22. My superior uses various options to carry out tasks, but most often they are adequately matched to the current situation.					
1	2	3	4	5	6
Definitely not, they reflect reality	I assess most of them as inadequate	I would rarely assess my superior's methods as adequate	Yes, I perceive some of them as adequate	I perceive most of the as adequate and appropriate	I definitely confirm and assess them as adequate

23. I have serious doubts as to how I should do my work, so that it would be well evaluated by the superior.					
1	2	3	4	5	6
I completely disagree, these issues are absolutely clear	I do not confirm, employees know evaluation criteria	I rather think that there are no problems with what work must be done	in some situation it isn't actually clear	I agree, employees have doubts about the issue how work should be done	Definitely yes, it is a serious problem affecting the quality of work

24. I would not recommend products/services of my company to my acquaintances.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	most of them may be recommended, only some of them not	I think most of them are average	I confirm	I definitely confirm

25. My superior's management style is not appropriate to the nature of the tasks s/he performs.					
1	2	3	4	5	6
management style perfectly adequate to tasks, no other	I think that the management style is appropriate to the nature of tasks	considering advantages and disadvantages of the management style I would rather consider it appropriate	I have serious doubts whether the management style is appropriate	I think the management style does not really match the nature of tasks	Definitely yes, the manager must be changed

26. I feel that I am not informed about mistakes I make.					
1	2	3	4	5	6
I definitely do not confirm, it is absolutely clear to me	I know what mistakes I make because I am informed about them	I am informed about the most important mistakes	I think I should be better informed about mistakes	I am not informed about mistakes	No one has ever talked to me about the mistakes I made

27. The evaluation system that I am subjected to has many shortcomings and does not motivate me to do my job better.					
1	2	3	4	5	6
I definitely do not confirm, the system is adequate and motivating	I think the system is appropriate	The system is relatively well construed, requires minor adjustments	It is partially useful, requires a few adjustments	I think it has a lot of shortcomings and does not perform its function	It should definitely be corrected

28. I have no reason to hide my profession and the job I do.					
1	2	3	4	5	6
I definitely do not confirm, people very negatively evaluate my profession	I do not confirm	I must hide it from some people	Most people are not prejudiced against the job I do	I confirm	I definitely confirm, I am proud of the job I do

29. Joint cooperation motivates me and colleagues to greater efficiency and strengthens a sense of responsibility.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	sometimes it is like that but seldom	I could agree with this view	It is often so	It is definitely so

30. The company in which I work is modern, well organized – it is oriented to new trends and solutions.					
1	2	3	4	5	6
I definitely do not confirm	I wouldn't say it is a modern and well-organized company	There are few areas like that	Rather yes, a few areas like that may be shown	I confirm	definitely yes

31. Important decisions are often taken without me and colleagues I work with.					
1	2	3	4	5	6
We have as strong influence on the decisions made	Our opinion is often taken into account when making decisions	Only some decisions are taken without us	A lot of decisions are made like that	I confirm, decisions are made without us	Obviously our opinion is of no importance

32. My company is recognized in the market where it operates.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	rather no, it is not well recognized	Yes, at least for part of the market	I confirm	I definitely confirm

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33. I highly appreciate the skills and qualifications of people in my team.					
1	2	3	4	5	6
I definitely value professionalism and qualifications of colleagues low	I do not consider my colleagues as professionals	I consider few colleagues as professionals	There are professionals among my colleagues but not all of them	Yes, my colleagues are professional	Definitely yes, it is difficult to find someone more qualified

34. The system of rewards and punishments that refer to me and my colleagues is incomprehensible to us and often changed.					
1	2	3	4	5	6
I assess the current system as very good	I have no reservations to the existing system	Apart from few situations the system works correctly	In some situations the system is incomprehensible	I have reservations to the existing system	I definitely confirm, the system has got a lot of faults

35. The scope of my tasks and responsibilities varies depending on the situation of the organization.					
1	2	3	4	5	6
definitely not, it is always defined and fixed	It is most often fixed, it only changes in justified cases	It happens but changeability is within the limits	I would agree in this respect	It is so	It is definitely so

36. A lot of people would like to work in my company.					
1	2	3	4	5	6
I definitely do not confirm	I do not confirm	rather no	I think yes	I confirm	I definitely confirm

37. I appreciate my and my colleagues' team cooperation.					
1	2	3	4	5	6
I assess it badly	We don't get on well	it leaves much to be desired	Rather good but there are exceptions	I assess it well	Definitely yes, almost perfect

APPENDIX 1b

Generating the result

Instruction of calculating results of the measurement

The inventory includes 27 diagnostic and 10 buffer positions (not included into results of organizational climate). Below there is a key according to which the assessment of items assigned to the relevant organizational climate scales should be taken into account. Some items are inverted (marked with the symbol "R") for which the results should be calculated according to the following scheme: score 1 is converted to 6; score 2 into 5; score 3 into 4; score 4 into 3; score 5 into 2 and 6 into 1. The remaining scores are translated directly.

MANAGEMENT STYLE SCALE: Items: 13, 19, 25(R)

FLEXIBILITY SCALE: Items: 11(R), 22, 35

EMPLOYEE RELATIONS SCALE: Items: 5(R), 15, 3

AUTONOMY SCALE: Items: 7, 2(R), 31(R)

COMMUNICATION SCALE: Items: 18, 21(R), 26(R)

CLARITY SCALE: Items: 14, 23(R), 34(R)

EMPLOYEE MOTIVATION SCALE: Items: 6, 9, 27(R)

STANDARDS SCALE: Items: 17(R), 30, 33

TEAM ENGAGEMENT SCALE: Items: 10(R), 29, 37

SCALE OF ORGANIZATIONAL CLIMATE OVERALL RESULT: Items: 2(R), 3, 5(R), 6, 7, 9, 10(R), 11(R), 13, 14, 15, 17(R), 18, 19, 21(R), 22, 23(R), 25(R), 26(R), 27(R), 29, 30, 31(R), 33, 34(R), 35, 37

Count and add the points scored in particular scales and for the overall result and then write the results in RR box (raw result).

Scale MS	Scale F	Scale ER	Scale A	Scale CM	Scale CL	Scale EM	Scale ST	Scale TE	OVERALL RESULT OF ORG. CLIMATE
RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
TR	TR	TR	TR	TR	TR	TR	TR	TR	TR

Next, analyse the table of standards from Appendix 1c and on their basis determine the percentile norms for individual organizational climate scales and for the overall result of the sten scores according to the following pattern:

$$\text{Direct raw result calculated into sten} \left(\begin{array}{l} \text{Direct raw result decreased by} \\ \text{the value of 85\% or 95\% range} \\ \text{and calculated into sten} \end{array} \quad \begin{array}{l} \text{Direct raw result increased by} \\ \text{the value of 85\% or 95\% range} \\ \text{and calculated into sten} \end{array} \right)$$

Depending whether you want to specify the range of the result with the probability of 85% or 95%, decrease and increase the direct raw result into the appropriate variant from the SEM table. An example overall result of organizational climate =95 for the confidence interval 85%:

Direct raw result = 95 decreased result= 86 increased result= 104
 Result expressed in sten scores should look as follows:4 (3 ; 5)

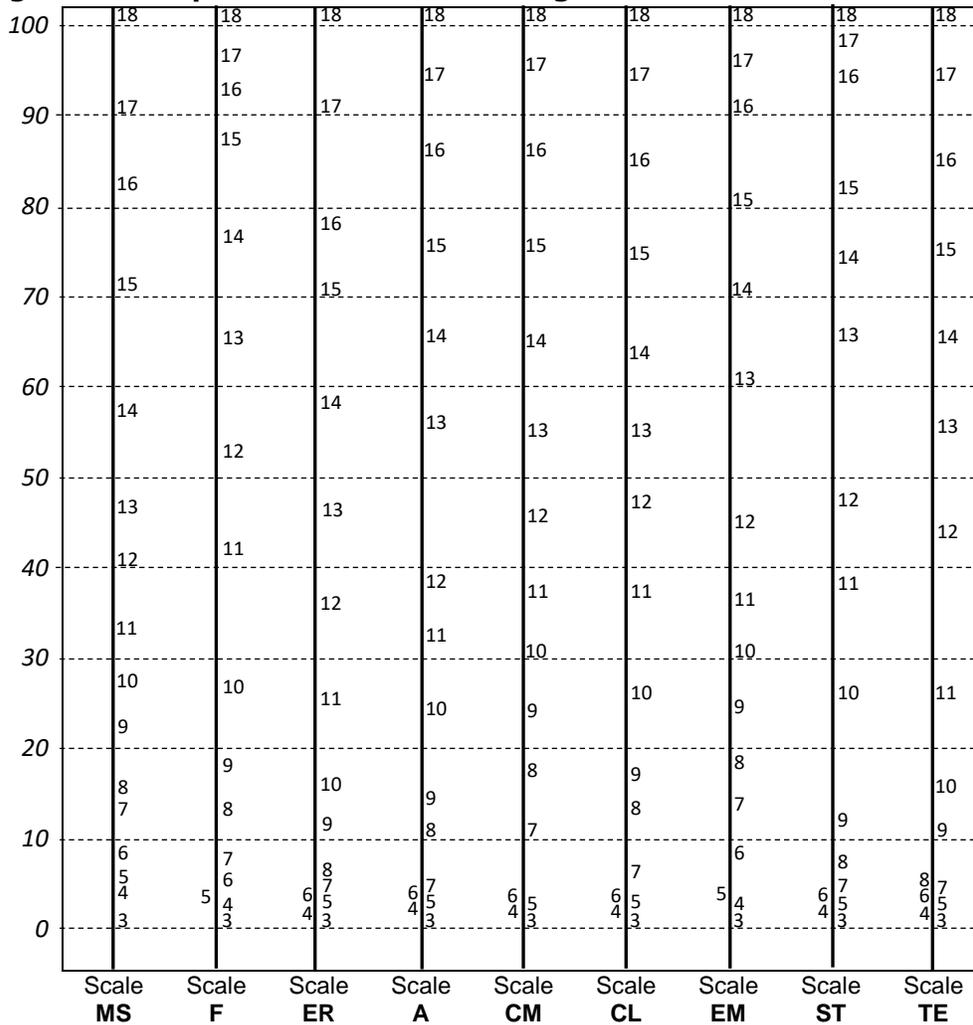
APPENDIX NO 1c

Sten scores and percentile norms

Table of sten scores for the overall result of organizational climate

Raw result	Transformed result	Psychometric interpretation of the result
27-71	1 sten	very unfavourable organizational climate
72-79	2 stens	unfavourable organizational climate
80-88	3 stens	
89-97	4 stens	
98-106	5 stens	typical organizational climate
107-114	6 stens	
115-123	7 stens	increased level of organizational climate
124-132	8 stens	favourable organizational climate
133-141	9 stens	
142-162	10 stens	very favourable organizational climate

Diagram of the percentile network of organizational climate scales



APPENDIX NO 1e

Psychometric parameters and results of the explorative and confirmatory analyses for MOCMI-S tool

	SCALE MS	SCALE F	SCALE ER	SCALE A	SCALE CM	SCALE CL	SCALE EM	SCALE ST	SCALE TE	Alpha Cr. Removal of it.	Correlation It - Sk
<i>Item 1a</i>	0.852	Factor load values for the MOCMI - S version								0.745	0.791
<i>Item 1b</i>	0.826									0.817	0.716
<i>Item 1c</i>	0.794									0.836	0.696
<i>Item 2a</i>		0.824								0.596	0.626
<i>Item 2b</i>		0.779								0.672	0.557
<i>Item 2c</i>		0.794								0.706	0.533
<i>Item 3a</i>			0.766							0.708	0.559
<i>Item 3b</i>			0.711							0.680	0.578
<i>Item 3c</i>			0.768							0.635	0.625
<i>Item 4a</i>				0.715						0.628	0.452
<i>Item 4b</i>				0.803						0.581	0.490
<i>Item 4c</i>				0.760						0.525	0.529
<i>Item 5a</i>					0.737					0.763	0.633
<i>Item 5b</i>					0.809					0.712	0.686
<i>Item 5c</i>					0.808					0.727	0.665
<i>Item 6a</i>						0.437				0.727	0.560
<i>Item 6b</i>						0.460				0.605	0.671
<i>Item 6c</i>						0.429				0.720	0.568
<i>Item 7a</i>							0.771			0.651	0.630
<i>Item 7b</i>							0.745			0.660	0.623
<i>Item 7c</i>							0.751			0.743	0.547
<i>Item 8a</i>								0.731		0.671	0.492
<i>Item 8b</i>								0.775		0.572	0.571
<i>Item 8c</i>								0.774		0.620	0.538
<i>Item 9a</i>									0.748	0.634	0.527
<i>Item 9b</i>									0.779	0.594	0.551
<i>Item 9c</i>									0.720	0.633	0.536
Overall result:	0.858	0.745	0.755	0.675	0.807	0.765	0.766	0.713	0.711	Alpha Cronbach for scales	
0.874											
<i>Parameters of the confirmatory analysis:</i>											
<i>Tool structure: 9-factor</i>											
<i>Chi² 304.687 (p= 0.012875)</i>											
<i>RMSEA 0.0287</i>											
<i>Lower boundary (for confidence intervals 90%) 0</i>											
<i>Upper boundary (for confidence intervals 90%) 0.0467</i>											
<i>GFI 0.849</i>											
<i>NFI 0.842</i>											
<i>CFI 0.968</i>											

Source: own study making use of Statistica and SPSS programs.