

## Expert Evaluation of the Expression of Personal Competencies in Professional Activities

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### Abstract

The analysis of scientific literature provides basis for the relevance of personal competence, focusing on the development of individual's opportunities in professional activities. A new modern approach to personal development is associated with learning and development; health, wellness and safe workplaces; human resources measurement, reporting and financial management and empowering competencies/individual skills, comprising critical thinking and analysis; technology knowledge; research capabilities; quantitative and critical legal thinking capabilities. For the purpose of identifying the relevance of personal competencies in professional activities, an expert evaluation of the energy and environmental sectors was conducted. Summary results of the research of personal competencies in professional activities is presented in an expert evaluation model, distinguishing between the most significant and the least significant components. Non-parametric tests and calculation of the concordance of expert opinions by means of the Kendall concordance coefficient  $W$  and  $H_0$  hypothesis tests determine good and very good concordance of expert opinions in all cases.

**Keywords:** competencies, expert evaluations, expression of personal competencies, personal competence, professional activities.

### Introduction

**Relevance.** Most of the examined scientific works highlight relevance and distinction of personal competence (McClelland, 1973; Spencer and Spencer, 1993; Laužackas, 2005; Viitala, 2005; Lustri, Miura & Takahashi, 2007; Boyatzis 2008, 2011; Pukelis, 2009; Adamonienė & Ruibytė, 2010; Atkočiūnienė, 2010; Campion, Fink, Ruggeberg, Carr, Phillips & Odman, 2011; Gražulis, 2013; Diskienė, Stankevičienė & Korsakienė, 2014; Martinkienė, 2014; Niculescu, 2015; Raudeliūnienė, 2016; Zubrickienė & Adomaitienė, 2016; Kaur & Singh, 2016; Bharwani & Talib, 2017; et al.).

The analysis of scientific literature justifies the relevance of competence in the emphasis of the development potential in the activities of an individual, including work, learning and improvement. The relevance and improvement of personal competence is associated with constant scientific and technical change, increasingly complex human activities in all areas. The following features are relevant to personal competence: applicability, continuity, flexibility, accessibility, transposition. Therefore, education and development of competence is an unceasing process for a person to continuously acquire new skills and improve available personal qualities and capacities (Adomaitienė and Zubrickienė, 2011, p. 89).

The study of the relevance of competence in professional activities states that competencies are personal qualities that encourage activities of higher level (Spencer and Spencer, 1993; Lustri, Miura & Takahashi, 2007; Boyatzis 2008, 2011; Martinkienė, 2014; Rekašienė & Sudnickas, 2017). These qualities are a natural talent, susceptibility to improvement/selfimprovement, talent adaptation and knowledge (Lustri, Miura & Takahashi, 2007, p. 186).

In the innovative world, the employees, their knowledge, skills and values are the main resources of an organization's development, rather than the capital, manpower or natural resources. The knowledge employees possess is beneficial to the company's welfare (Mačerinskienė & Bartuševičienė, 2012, p. 98).

The society of the future is an intelligent society, a dynamic, rapidly changing society of educated, mobile, open, creative, responsible and constantly learning people. Therefore, contemporary professional activities require well-educated, highly intelligent, intelligence, creative and self-sufficient employees with full-fledged competencies, rather than higher professional specialization (Adomaitienė & Zubrickienė, 2011, p. 87). Organizations undergo rapid changes, thus, in addition to contemporary requirements to personal competence, the focus should also be on the competencies that will be a success in the future. Constant change causes new requirements to competence, its relevance and development throughout life. This becomes a precondition to personal self-expression. This means the need to develop and use effectively relevant personal qualities, constantly improve competence, working capacity and adaptability, to be capable of living and working actively in the ever-changing, complex social, economic, cultural and political life. Competence is an important factor for an individual in implementing a successful career on the one hand, and for an organization on the other. The competence of the staff and its development enables organizations to realize their goals and to adapt to changing circumstances. The emphasis is on expediency to encourage independent learning and opportunities for personal competence development and improvement (Adamonienė & Ruibytė, 2010).

Knowledge, competence, personal qualities of people develop in the process of working, creating their own value and value of their products. As stated, "yesterday's competencies may no longer be relevant tomorrow, thus flexibility and self-improvement (development)" is to be emphasized in the context of "future competencies" (Grażulis & Markuckienė, 2013, p. 143). Competencies change due to changing environment and this affects the realized activities, leads to continuous development of person's competence as an element of continuous professional development.

**Problem.** The acceleration of globalization processes affects changes of the organization's environment, thus organizations face increased competition, new products and services (Stonienė, Martinkienė, Šakienė and Romerytė-Šereikienė, 2009, p. 92). According to researchers, a few appreciate the need to improve their existing competencies due to constantly changing environment. The acceleration of change and increasing environmental uncertainty require both, competent staff and continuous improvement of their competencies (Atkočiūnienė, 2010, p. 14).

Future prospects are not targeted by widespread training systems with prevailing traditional methods of teaching that are not effective. A new modern approach to competence improvement is associated with concepts such as new learning, self-learning and learning organization. It is learning from the experience of colleagues, exchange of personal knowledge and selfunderstanding (Paloniemi, 2006).

In the meantime, some of the knowledge could be documented and stored, thus ensuring their continued use. The other part was the entirety of tangible resources, such as employee experience, knowledge, skills and abilities, values and other intellectual property. The methods for evaluation of personal competence are alienated from individuals, their interaction and its integration into the organization. Little consideration is given to personal competencies as the main source of knowledge potential. As a result, the evaluation of personal competencies in professional activities becomes a complex and difficult problem.

**The goal:** expert evaluation of the relevance of personal competencies in professional activities.

#### **The research methods and the stages of research organisation:**

**The analysis of scholarly literature**, which serve as basis for the presented concept of personal competency in the context of professional activities (Spencer & Spencer, 1993; Lustri, Miura & Takahashi, 2007; Boyatzis 2008, 2011; Martinkienė, 2014; Melnikas, Jakubavičius, Strazdas, Chlivickas, Lobanova & Stankevičienė, 2014; *Human Resources Professional Competency Framework*, 2014; Bharwani & Talib, 2017; Tsimba, Mathuva & Mwenda, 2017; *OECD Competency Framework*, 2017; et al.). The analysis of scholarly literature enabled sampling of experts and elaboration of a **structured questionnaire** which includes identified blocks of personal competence and their components, individual skills (*Human Resources Professional Competency Framework*, 2014, p. 8). The opinion of energy and environmental experts on the relevance of personal competencies in professional activities can be attributed to **expert knowledge**. Experts logically analyze the problem raised, quantify and formally process the data. According to expert evaluations, the degree of compliance between their opinions on the research subject and the objectivity of expert conclusions are determined, which is affected by the essential, real facts and the interaction of phenomena (Kardelis, 2016). Therefore, the research included the approach of perception and knowledge.

### The stages of research organisation:

Sampling of experts.

Elaboration of the questionnaire to experts.

Expert evaluation, encoding data by means of the SPSS statistical program.

Identification of concordance of expert opinions by means of Kendall concordance coefficient  $W$  and the test of  $H_0$  hypothesis, as well as data analysis and summary.

**Expert evaluation** is perceived as an aggregated opinion of an expert group, which is acquired by means of adapting the knowledge, experience and intuition of professionals/experts. This is a procedure enabling harmonization of the opinions of individual experts and formulation of a common solution. This is one of the most trusted data checking or justification methods that require specialized expertise and experience in a particular area that is not available with many professionals (Kardelis, 2016). An expert is defined as a specialist with specific knowledge and experience in a particular field (lot. *expertus* – experienced) (Sėrikovienė, 2013, p. 26). The professional competence of an expert that is relevant to the solution of the problem under consideration, which in the expert research is referred to as the expert's competence.

From the point of view of V. Podvezko (2005), the assistance of professionals (experts) is indispensable for the purposes of solving economic and social problems, the comparison of different technology or innovation projects, forecasting the development of the process, evaluation of various operational strategies or the strategic potential of the object. An expert assessment method enables the improvement of quality and rationality of the decision-making process, since professionals (experts) can be included in all stages of the decision-making process (Sėrikovienė, 2013, p. 29).

Experts may often have different, controversial opinions and attitudes to the problem, thus it is important to establish the concordance of expert opinions (Podvezko, 2005, p. 101; Podvezko & Podvezko, 2014, p. 112). However, the results of expert evaluations may be applied in practice if a sufficient level of concordance of expert opinions is determined (Podvezko, 2005, p. 101). The credibility of expert assessments depends on the size of the expert group, composition of experts according to their specialties, personal qualities of experts.

The choice of experts was determined by the following:

The need to assess the level of relevance of personal competences in professional activities;

Peculiarities of sectors: the sectors of energy and environment are among the most important sectors of the economy both in economic and social and political terms, thus their peculiarities determined the choice of experts in energy and environment who are practitioners daily dealing with individual elements and processes of management and knowledgeable of sector's activities "from the outside" and "from within".

### 10 experts were selected for expert evaluation according to the following selection criteria:

Position held;

Higher university education;

Expert work experience in the energy or environmental sectors (at least 3 years).

### The expert survey was conducted in April 2018.

The level of compatibility of experts evaluation was established choosing the Kendalls' coefficient of concordance ( $W$ ), which is calculated ranking the assessed criteria (Kendall, 1962). The closer the value of the concordance coefficient  $W$  is to one, the higher is the level of compatibility of evaluations. If evaluations differ significantly, the value  $W$  approximates to zero (Čekanavičius & Murauskas, 2002, pp. 40–42, 2008, p. 40; Podvezko, 2005, pp. 101–102; Podvezko & Podvezko, 2014, p. 112). The identification of the level of concordance of expert's evaluation of the criteria with the value  $m > 7$  was conducted using the value of the distribution  $\chi^2$  (chi-square).

**Statistical hypotheses are formulated** (Čekanavičius & Murauskas, 2008, p. 41):

$H_0$ : Expert evaluations are controversial (i.e. concordance coefficient equals 0);

$H_1$ : Expert evaluations are similar (i.e. concordance coefficient does not equal 0).

**The results of the conducted nonparametric statistical test show** the mean rank of all the evaluated criteria, the sample size ( $N=10$ ), the value of Kendall's coefficient of concordance ( $W$ ), the value of Chi-square, the number of degrees of freedom ( $df$ ) and the p-value (Asymp. Sig.).

**Research ethics.** The research was conducted without violating the rights of research subjects and observing the ethical principles of the research, i.e. the research guaranteed the principle of volunteering, right to be heard without giving personal questions that could harm the subjects, anonymity and confidentiality. The experts were informed that participation in the research and the information provided would not be misused in the future. The experts were introduced to the purpose of the research and the results of the research.

**The analysis of the data of the experts questionnaire survey was conducted with the help of the specialised statistical programme IBM SPSS Statistics for Windows 22.0 and the programme Microsoft Excel 2010**, which provided basis for the distribution of experts participating in the survey based on gender, age, education, qualification, work experience, sector of activity, work area, length of experience, number of employees and positions held.

**A group of 10 experts was selected on the basis of non-probability targeted sampling:** 5 experts worked in the energy sector, the other 5 in the environmental sector. The survey included 6 females and 4 males. All experts had higher university education (8 acquired Master's degree, 2 were Doctors of Science) and at least 3 years of work experience: 1 expert worked as director, 4 experts worked as project managers, 1 was the head of the energy efficiency group, 1 was senior researcher, 2 were product managers, 1 was project development expert. All experts indicated that they had at least 3 years of professional experience, including 5 with 6–10 years, 3 with 16–20 years and 2 with 3–5 years. The age range of experts is 31–40 years of six experts, up to 30 of three experts and 41–50 of one expert. The length of activities on the labour market was 16–20 years, of the 2 interviewed and up to 5 years of the other 2 interviewed. One expert pointed out that his work experience was over 20 years. The work of the experts involved in the survey relates to energy management, 2 experts are related to environmental management and administration, and the other 2 are related to the preparation of investment plans. The main activities of the remaining 3 experts are related to energy production, transmission, distribution, supply (1 person); waste management and management (1 person); air pollution, noise calculation, simulation (1 person).

## Research results

For the purpose of finding out the relevance of personal competencies in professional activities, experts were asked to evaluate the components of personal competence presented on the basis of the structure of professional competence of the human resources (*Human Resources Professional Competency Framework*, 2014, p. 8, 26).

Learning and Development	Health, Wellness and Safe Workplaces	Human Resources Measurement Reporting and Financial Management	Empowering Competences/Individual Skills
Learning culture $W=0.513$	Health and safety $W=0.590$	Competent business decisions $W=1.000$	<i>Critical thinking and analysis</i> $W=0.840$
Learning priorities $W=0.612$		Human resources audits $W=0.722$	<i>Technological knowledge</i> $W=0.790$
Ensuring continuous development opportunities $W=0.977$	Health, safety and wellness policy and procedures $W=0.360$	Human resources information systems $W=0.840$	Research capabilities $W=0.640$
Implementation of learning and development program $W=0.596$	Wellness $W=0.840$	Human resources information $W=0.614$	Quantitative capabilities $W=0.810$
Evaluation of learning and development priorities $W=0.945$	Psychological health and well-being $W=0.490$	Human capital investments $W=0.740$	Critical legal thinking $W=0.812$
Mentoring and coaching $W=0.754$			

**Figure. The values of expert evaluation components of relevance of personal competencies in professional activities**

Personal competence was structured in the following 4 blocks: Learning and Development; Health, Wellness and Safe Workplaces; Human Resources Measurement, Reporting and Financial Management and Empowering

Competences/Individual Skills: Critical Thinking and Analysis; Technological Knowledge; Research Skills; Quantitative Skills; Critical Legal Thinking.

The summary results of the research of personal competence in professional activities is presented in the expert evaluation model (see Figure), where the components of the highest and the lowest relevance are distinguished. The expert evaluation may be considered reliable, since, after calculating the Kendall concordance coefficient  $W$ , the expert opinion on all research issues was in good ( $W=0,612$ ,  $W=0,590$ ,  $W=0,614$ ,  $W=0,640$ ,  $W=0,754$ ,  $W=0,840$ ,  $W=0,712$ ,  $W=0,722$ ,  $W=0,840$ ,  $W=0,740$ ,  $W=0,856$ ,  $W=0,840$ ,  $W=0,790$ ,  $W=0,810$ ,  $W=0,812$ ,  $W=0,810$ ) and in very good concordance ( $W=0,977$ ,  $W=0,945$ ,  $W=0,928$ ). The concordance of expert opinions was excellent on one of the matters which points that  $W$  equals to one. The least concordance of the expert opinions is pointed by the Kendall concordance coefficient lower than 0,600 ( $W=0,513$ ,  $W=0,596$ ,  $W=0,360$ ,  $W=0,490$ ).

The research results point at the value of  $W$  being statistically significantly different from zero in all cases which is also confirmed by  $p$ -values, in all cases lower than the chosen level of relevance  $\alpha$  (0,05).

### **The values of expert evaluation components of relevance of personal competencies in professional activities:**

The most relevant **component of the learning culture** is the capability to anticipate learning opportunities in daily activities as related to the clear identification of knowledge gaps in work activities; review of work plans with the possibility to insert new trainings; identification of the most common errors in work activities. The least relevant component of the learning culture is the capability to define possible strategies for introducing learning and development into organizational culture associated with monitoring day-to-day tasks in order to identify potential opportunities for learning and education; with the implementation of the so-called "brainstorming" in the team to create ideas for integrating learning and education into organizational culture; attending training on effective learning and development programs.

*The most relevant* **component of training priorities** is the capability to select learning priorities of an organization enabling the maximization of return on investment and their alignment them with the business strategy related to the identification of organizational learning priorities that are most in line with the business strategy. *The least relevant* component of learning priorities is the capability to develop organizational learning priorities in consultation with key stakeholders in identifying future learning priorities; collection of information on gaps in employee skills.

The most relevant **component of continuous improvement** is the capability to develop learning objectives, maximizing employee development potential associated with data capture on learning objectives for employees; tailor-made learning goals for employees; drawing up of staff development plans; identification of directions for learning goals; the promotion of education and training for all staff. The least significant component of continuous improvement is the ability to assess the potential of employees to develop the competencies required for the organization's strategic goals in relation to the assessment of employee competence gaps arising from the organization's new strategies; to assess the ability of individual employees to develop the skills necessary for their success in the organization.

The most relevant **component of the implementation of the learning and development program** is the capability to implement relevant and effective learning and development programs related to tracking and applying advanced learning goals and development programs; changing education and training programs based on data on effectiveness. The least significant component of the implementation of the learning and development program is the introduction of recognized adult education and training programs in relation to training; registration of feedback on learning and development programs; recurring, reinforcing knowledge, training; the application of an appropriate education method throughout the organization.

The most relevant **component of the assessment of learning and development priorities** is the capability to assess the effectiveness of learning and development programs associated with the development of a tool for assessing the effectiveness of learning and development programs; assessing whether the learning and development program will be effective in the future; analysis of changes through the implementation of a learning and development program; progress in the implementation of the learning and development program; establishing or continuing or modifying a learning and development program based on analysis. The least significant component of the assessment of learning and development priorities is the capability to document the progress made to achieve learning and development goals associated to reporting on achievements, outcomes following learning and development outcomes.

The most relevant **component of mentoring and coaching** is the capability to inform managers about staff learning and development priorities in the preparation of reports on learning and development priorities; coordination of information on

learning and development goals; providing and updating information for managers about the priorities of employees in learning and development goals; preparing tailored reports and presenting them to executives. The least significant component of mentoring and coaching is the capability to follow the latest mentoring and coaching principles associated with mentoring in learning and coaching; participation in conferences and mentoring lessons; reading articles, searching on mentoring; publishing articles on effective mentoring and coaching.

The most relevant **component of health and safety** is the capability to ensure the compliance of an organization with health and safety regulations and regulations on workplace associated with the assistance to health/safety inspector auditing health and safety matters; periodic inspection of compliance with health and safety standards; observing health and safety regulations for workplaces; responsibility for health and safety at work places; assuming responsibility for health and safety at work places. The least significant capability is following and understanding the laws, regulations and standards related to workplace health and safety associated with the compliance to laws, regulations and standards governing workplace health and safety aspects; participation in training in health and safety at work places; tracking information on upcoming changes in health and safety regulations at workplaces.

The most relevant **component of health, safety and health policies and procedures** is the capability to implement measures reducing the risks to workers' health and safety associated with the provision and assuring of safe equipment; reducing health and safety risks; health and safety training at the workplace. The least relevant component of health, safety and health policies and procedures is the capability to draw attention to environmental issues raised by employees associated to solutions of environmental issues; creation of procedures and mechanisms associated with environmental issues; the development of business culture by drawing the attention of employees to environmental issues and choosing appropriate measures to address emerging environmental issues.

The most relevant **component of wellness** is the capability to develop programs and initiatives that encourage employees to participate in wellness programs associated with the coordination of wellness programs; development of wellness programs; encouraging employees to use wellness programs. The least significant component of health is the capability to explain to managers and employees the benefits of healthy workforce associated with the promotion of healthy lifestyle; the promotion of a balance between work and personal life.

The most relevant **component of psychological health and well-being** is the capability to explain to employees and managers the significance of mental health and psychological well-being and their impact on the results of their work associated with assistance to the manager in collecting quantitative and qualitative research data on the impact of good mental health of workers on the performance of the organization; the development of information brochures on the significance of mental health and psychological well-being in the organization; the preparation of reports on the importance of the proactive approach to mental health and psychological well-being in the organization; the accumulation of quantitative and qualitative research data on the benefits of a good mental health and psychological well-being for the organization; providing evidence of the positive impact of good mental health on organizational performance indicators; the formulation of information on the negative impact of employees' stress and fatigue on organizational performance indicators. The least relevant component of psychological health and well-being is the capability to explain to managers and employees the benefits of an innovative approach to mental health and psychological well-being, associated with the assistance in collecting quantitative and qualitative research data on the benefits to employees of good mental health and psychological well-being for the organization's performance; the accumulation of quantitative and qualitative research data on the importance of the proactive approach to the benefits of psychological well-being in the organization; the preparation of reports on the importance of the proactive approach to mental health and psychological well-being in the organization.

The most relevant **component of competent business decisions** is the capability to align human resources decisions with the overall organizational strategy to ensure that all human resources decisions are made in accordance with the organization's strategy; the definition of the human resources organization's policy in accordance with changes in the organization's strategy; making decisions that promote the changes required for the implementation the organization's strategy. The least relevant is the capability to evaluate how the organization's financial and managerial information affects the human resources strategy associated with reviewing the organization's financial statements; identifying opportunities and obstacles; the definition of a human resources strategy within the organization's financial capacity.

The most relevant **component of human resource auditing** is the capability to assess the results of human resources audits by defining strengths and areas to be improved with the accumulation of human resources audit data; identification of non-compliances after human resources audits; identification of improvement options. The least relevant is the capability



to create an audit program that analyzes human resources policies, procedures, programs and systems associated with the assistance to managers searching for an external service provider to audit human resources.

The most relevant **component of the human resource information system** is the capability to track changes in the development of human resources information systems associated with reading and tracking the human resources information system material. The least relevant is the capability to create a list of specifications and requirements for inputs and outputs of the human resources information system associated with the development of the list for specifications and requirements; assisting managers in collecting information; data accumulation.

The most relevant **component of human resources information** is the capability to define the human resources information required for decision-making in an organization associated with the collection of human resources information; proposal of organizational solutions. The least relevant component of human resources information is the capability to use efficient and effective tools for storing information on human resources associated with the identification of effective human resources tools; improvement analysis; the implementation of human resources information storage.

The most relevant **component of human capital investment** is the capability to identify key performance indicators to measure the efficiency of investment in human capital associated with the identification of the desired results of human capital investment; formulating human results; the evaluation of the efficiency of human capital investment. The least relevant component is the capability to report on the efficiency of investment in human capital, associated with the assistance to reporting on the efficiency of investment in human capital; reporting on the return on investment in human capital; the preparation of recommendations on the modification of investment in human capital based on analytical data.

The most relevant **empowering competencies/individual capabilities** are critical thinking and analysis related to solving day-to-day problems; understanding of key issues; presentation of problems and opportunities; formulating effective solutions and strategies; situations considered in order to make rational decisions and rulings; addressing complex human resource challenges. The least relevant are quantitative skills related to the analysis of simple data/information; accumulation and analysis of important data groups; carrying out complex studies and their inclusion in the wider application.

## Conclusions

The concept of competence is based on a combination of human knowledge, capabilities, skills, personal qualities, experience and other characteristics that determines the professional and efficient performance and the ability to successfully and responsibly act in a variety of changing situations. Scientific literature presents a variety of competency typologies, in which personal competence is recognized and distinguished. The relevance and exclusiveness of personal competence is emphasized in all the research works under the study. The analysis of typology of competences was performed, which enabled revealing the concept and structure of personal competence. Personal competence is related to the capability to know, analyze, improve personal qualities, learn from experience, thinking skills, analysis, ability to find solutions in difficult situations. Personal competence, as an integral part of the professional competence, is relevant and required for the development of other competencies.

Structural components of personal competence are defined as knowledge (formally recognized capabilities), capabilities and skills, concept of self-perception (associated with human personality, person's attitudes, values, attitudes, including their own identity and self-confidence), personal characteristics (associated with human personality, personal qualities), motives (associated with the employee's behavior).

Non-parametric tests and calculation of the concordance of expert opinions by means of the Kendall concordance coefficient  $W$  and  $H_0$  hypothesis tests show that expert opinions were in good or very good concordance in all cases.

The evaluation of the entirety of personal competence in the competencies block of learning and development associated with the optimisation of the capability of organizations, teams and individuals to acquire and apply new competencies, determines that, as listed by experts, the competence of the learning culture is the most relevant in professional activities, while the competence of assuring continuous improvement opportunities is the second by relevance.

The entirety of personal competence in the block of health, wellness and safe workplace associated with the creation and maintaining of healthy and safe workplaces determines the competence of health and safety as one of the most relevant in the professional activities. The competence of psychological health and well-being is the second by relevance. The wellness competence is the least relevant.

Competent business decisions are determined as the most relevant personal competencies in the blok of the human resources measurement, reporting and financial management competencies associated with the ability to collect, manage and process information related to human resources management and the ability to include financial analysis data into the process of making decisions on investing in human resources. The competence of the investment of human capital is the second by relevance. The least relevant competencies are human resource information system and human resources audits.

The evaluation of relevance of empowering competencies/ individual skills in professional activities ranks critical thinking and analysis as the most relevant. Research capabilities are the second by relevance, quantitative skills are the least relevant.

An expert evaluation model is a set of personal competencies associated with a particular job, the performance of a particular work group or the execution of work in a functional area, which is relevant to professional activities.

### The conflict of interest

The authors declare that there is no conflict of interests regarding publication of this article.

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