Human Capital Management in the Wandering Context of Events – Challenges for the Managerial Staff

edited by Marzena Stor

Publishing House of Wroclaw University of Economics and Business


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CONTENTS

Chapter 3

COMPETENCY MODEL OF THE RESEARCH AND ADMINISTRATIVE SUPPORT STAFF IN POLISH UNIVERSITIES – THE EMPIRICAL RESEARCH RESULTS

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3.1. Introduction

According to Browning et al. (Browning, Thompson, and Dawson, 2017), the science and higher education sector is a dynamic environment in which universities compete globally for resources, including high-quality staff. In a highly competitive research environment, staff competencies can be a relevant success factor as they usually have been the subject of research oriented towards an individual or organizational ability to express effective job performance in the context of expected real job proficiency (Cook, Wildschut, and Sander, 2017).

In 2011, the European Commission published a document entitled "Towards a European Framework for Researcher Careers" as a helpful categorization of research job characteristics, including the necessary and desirable competencies for each of the research career stages. The document was implemented to have a bridging function for the sector-specific, national and institutional frameworks, providing a common language to a wide variety of actors from across the research community worldwide. At the same time, it was assumed that these frameworks constitute a general background for the preparation of more detailed and context-specific solutions.

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According to Sew et al. (Sew, Yahya, and Tan, 2019), the catalysts for change from the traditional model of the university functioning into an entrepreneurial one, are the competencies of researchers. Moreover, taking into account the "active innovation" paradigm (Meissner and Shmatko, 2019), which states that individuals are the main drivers of innovation in organizations, such a transformation process might require implementing practices oriented on diagnosing and developing competencies which could be defined as key for research excellence. It should also be taken into consideration that for the effective functioning of a university, an important factor is the cooperation of all employees (academic and non-academic) based on effective management processes (Uniwersytet Mikołaja Kopernika w Toruniu, 2020).

In this context **the goal of this chapter** is to propose a competency model of the research and administrative support staff that could boost the process of transforming the traditional Polish universities into entrepreneurial academic entities. For this reason, the next section is devoted to the theoretical foundations for the competency model in the academic environment, in which the authors firstly present a review of literature on the general concept of competency, and then focus on the competencies from the academic and research perspective. The following section describes the empirical research methodics used in the project which resulted in the competency model of research and administrative support staff. Consequently, the next part of this chapter presents competencies included in the competency model, an example of a competency profile, and a way of assessing competency. The research summary and final conclusions make up the last section.

3.2. Theoretical foundations for the competency model in the academic environment

For over 30 years, the notions of competence and competency have been increasingly present in the area of HRM and replaced the concept of qualifications (Cook et al., 2017). During that time the concept of competency and competence has been used interchangeably in numerous publications.

According to Anzengruber et al. (Anzengruber, Goetz, Nold, and Woelfle, 2017), the term 'competence' refers to the general competence, the quality of an individual or a set of skills that allows one to perform in certain situations. Competency refers to a set of traits that influence one on certain actions, and a specific skill set of activities that one can use to measure, and demonstrate the universal competence. Competences have attracted a lot of research, however competencies usually have been focused on individual or organizational ability to express effective job performance in the context of expected real job proficiency (Cook et al., 2017). Competences are defined as the ability to do the work which means that individuals have the knowledge, skills and values required in jobs of today and tomorrow (Phuc and Matsuura, 2016). In such a context competences are defined as acquired personal

skills demonstrated as one's ability to provide a consistently adequate, high level of performance in a specific job function (Numminen, Virtanen, Hafsteinsdóttir, and Leino-Kilpi, 2021), or performing and completing a certain task or a group of related tasks (Hensel, Meijers, van der Leeden, and Kessels, 2010; Savanevičienė, Stukaitė, and Šilingienė, 2008; Sew et al., 2019).

A certain distinction between competence and competency was also made by M. Stor, whose interpretation of competence (plural – competences) means the potential ability or potential capability to function in a given situation, while competency (plural – competencies) focuses on the actual performance in a situation (Stor, 2016, p. 165). Thus, competences make employees capable of fulfilling their job responsibilities, and their competencies make them perform their jobs as expected. In other words, competencies are determined by comparing where the employees are now with the established performance standards developed in the work environment according to their roles and setting based on standard (template) competences (Stor and Kupczyk, 2015). This means an employee needs competence before he or she can expect to achieve competency (Kupczyk and Stor, 2017). Consequently, competency means the skills, knowledge, personal characteristics, and behaviour needed to effectively perform a role (work) in the organization and help the business meet its goals in gaining and maintaining its competitive advantage. Therefore, competencies are related to the actual action or the results of this action obtained in a specific situation (Stor, 2016).

The nature of competencies shows that they have unique characteristics or qualities that are difficult to copy (Hensel et al., 2010). Additionally, individual competencies contain explicit knowledge, personal skills and experiences with individuals' results and judgement of organizational values which are obtained in their social context (Ubeda and Santos, 2007).

However, significant differences were observed in the effectiveness of managers using task, relations, and changing capabilities. Competencies depend on the organizational context and may be different at various levels of management. According to Anzengruber et al. (2017), at top management level there is a need for more strategic competencies, i.e. change-oriented, which become two to three times more important than at the lowest level. Task-oriented capabilities become significantly less important at the top level and more important at a lower level of management, whilst relations-oriented capabilities are important at all levels.

Many authors conclude that competencies are a multi-dimensional phenomenon that has been classified into two categories, hard and soft. Such a logical structure of competencies, including hard professional competencies which are determined by the area of organization performance, and soft competencies defined by the personal features of the employee, his or her behavior, are necessary for a good performance of the job (Savanevičienė et al., 2008). In the holistic approach professional competencies are also shaped by the context of work, work environment, and the employee's personality and motivation (Forsten-Astikainen and Heilmann, 2018).

This is why the construct of competency has to be perceived as more dynamic and multidimensional, which also includes the employee's personal behavior and ethical values (Forsten-Astikainen and Heilmann, 2018).

As far as academic competencies are concerned, the issue of the change of an academic role needs to be considered. The academic role has changed due to shifts in governmental and societal expectations and to changes in the way the scientific system operates (Kyvik, 2013). Individual behavior in a specific role is not only the product of external expectations about the role holder, but also the result of personal interests. The behavior should be regarded as a function of external expectations, the incentive and reward system, and individual preferences (Kyvik, 2013), giving the possibility of distinguishing competencies according to six tasks related to the role of an academic researcher (Kyvik, 2013):

1) networking,
2) collaboration,
3) managing research,
4) conducting research,
5) publishing research,
6) evaluation of research.

Academic skills can benefit from the internationalization of academic functions that bring new skills and practices, because of the enhanced research networks and the advancement of communication skills (Arokiasamy, Mansouri, Balaraman, and Kassim, 2017). According to Halilem (2010), at individual level entrepreneurial behaviour and skills are connected with gender, experience, status and productivity in research. There is also the important role of social capital and networking activities. Ciolan and Ciolan (2011) also mentioned the role of social networks in academic competencies and motivation development to participate in social learning networks and platforms, in order to contribute to knowledge sharing in communities of practitoners, built on a combination of communication channels.

According to Kyvik (2013), in academic work the proper balance must be constantly sought between contrasting tasks: applying for research funds and doing research; conducting scientific research and commercialization of the results; publishing scientific articles and the popularization of research; working in the laboratory and being available for networking activities and for evaluating other researchers; managing research projects and finding time for one's own research.

Meissner and Shmatko (2019) analyzed the link between researchers' skills and innovation culture, and found that the skills of researchers and the perceived skills value did not match – on the contrary, they created a significant gap. The authors argued that organizations need to be aware of researchers' competencies and develop them further, mainly by establishing and cultivating an organizational culture supportive to innovation and an exchange of a focus on management between individuals, and comparatively less on financial controlling and reporting. They

assumed the rule of the "active innovation" paradigm which stresses the individual as the main driver of innovation in organizations.

Sew et al. (2019) suggested that the competencies of an individual researcher seemed to be a significant success booster of the formation of university-industry collaboration. This strengthened the idea that the researcher competencies of the knowledge market, social capital, and self-leadership constitute the heart of sustainable entrepreneurship which enables them to transform a traditional university into an entrepreneurial university. In order to fill the research gap mentioned by Meissner and Shmatko (2019), and aiming at factors which could boost that process of transformation, the authors conducted a research project which resulted in the model of competencies that could be helpful in this process.

3.3. The empirical research methodics

The main goal of the empirical research was to identify a set of competencies for the research staff and research administrative support employees of academia in Poland relevant for their research excellence. By distinguishing and describing the main processes in which the research and scientific and support staff participate, the authors also posed the main research question (MRQ): what competencies are important for both groups in order to realize these processes effectively? However, in order to answer this, three specific research questions were developed:

- Q1: Which of the staff competencies are essential to support research excellence at universities?
- Q2: Regarding research excellence conditions, which competencies are specific for the profiles of the research staff and research administrative support staff?
- Q3: How to map and evaluate competencies?

The study was carried out as part of the project entitled "Interdisciplinary Centre for Staff Development (ICSD) – a think tank for the development of key competencies of the Polish science and higher education sector", financed by the Ministry of Science and Higher Education. The project intended to develop a unique approach compatible with the concept of the research career development which so far has been operating in Europe (*Towards a European framework*..., 2011). The importance of this research is a potential factor contributing to the further development of HRM practices supporting research excellence in academia, through the targeted and systematic development of the key competencies of personnel involved in the implementation of research processes.

In order to strengthen the research potential of the higher education sector in Poland, universities eligible to participate in the first competition under the "Excellence Initiative – Research University", activities were undertaken aimed at developing a concept and model of key competencies for research and administrative staff in higher education.

On the theoretical competency-based approach, the authors emphasized the importance of competency in the modern world of organization and management. The competitive advantage of a company is achieved by identifying and developing its core competencies. The intended competency model is based on the idea that competency refers to behaviors that underpins efficiency and productivity (Bartram and Roe, 2012). According to this approach, competencies are understood in terms of how knowledge and skills are used for performance, and what knowledge and skills are applied for management (Savanevičienė et al., 2008).

To achieve the goal the authors analyzed the literature, and their own experience, and invited the participants for several meetings and workshops. Researchers and supporting staff from the Polish and foreign universities were invited to participate in the achievement of this goal.

The following outcomes were obtained in the process of competency identification:

- The practices in the field of key competencies development models for researchers and administrative support staff applied at Polish research universities and selected foreign universities of high international renown were compared (in particular, 23 universities forming the consortium of leading research universities in Europe called the League of European Research Universities).
- Experts in Poland and abroad were identified: (a) specialists in designing solutions in the area of diagnosis and analysis of the level of competencies; (b) representatives of research units with internationally recognized reputation, responsible for shaping the human resources development policy in the represented entities.
- Recommendations were formulated for the stage of own research, in particular the assumptions for the construction of a model of key competencies of research staff and administrative support staff of the science and higher education sector in Poland (in particular, taking into account the requirements set by the reform for research universities based on the assumptions of the program of the Ministry of Education and Science called "Excellence Initiative – Research University") and experts and entities – potential partners of ICSD in further stages of the project were identified (in terms of type: conferences, expert opinions, etc.).
- Twenty HEIs entitled to take part in the first competition within the "Initiative of Excellence – Research University", namely Warsaw University, Technical University of Gdańsk, AGH University of Science and Technology, Warsaw University of Technology, Adam Mickiewicz University in Poznań, University of Technology of Poznań, Jagiellonian University, Medical University of Gdańsk, Silesian University of Technology, The Nicolaus Copernicus University in Toruń, University of Wrocław, Lodz University of Technology, Wrocław University of Science and Technology, University of Gdańsk, University of Lodz, Medical University of Bialystok, Poznan University of Medical Sciences, Medical University of Łódź, Pedagogical University of the National Education

Commission in Kraków, University of Life Sciences in Wrocław. Sixteen universities responded to the Rector's appeal and close cooperation was established with them through a number of workshop meetings on the Teams platform.

- As part of the cooperation with the above mentioned universities, workshops were held where our partners were asked to discuss the key processes of research excellence, the developed set of competencies, their definition and indicators as well as competency profiles for researchers and support staff. Within the framework of cooperation with foreign countries, discussions commenced with experts at the University of Valencia (Professor Jose Maria Peiro) and at KULeuven (Professor Martin Euwema), concerning the aim of the project and future cooperation and the procedure adopted and the results of the work on developing a competency model for researchers and support staff.

As a result of the tasks set out in the schedule, a description of four fundamental processes which form the basis for the adequate choice of competencies was developed. The process of preparing the description of the processes as a basis for research excellence was based on the results of discussions among internal experts in the US and on several webinars during which the participants (internal and external experts) discussed the subsequent phases of the process description.

Each of these processes was described by means of a process map distinguishing the key tasks, decisions, data used, studies and connections between these elements. Hence, maps of the four key processes for achieving research excellence were developed.

These maps take the form of graphical elaborations and provide the basis for further activities. In the course of the task, a range of necessary knowledge, skills and attitudes were assigned to each of the processes described earlier. The set of these aspects was then grouped (using the meta-plan method) into 36 competencies with distinguished areas of meaning (definitions).

The first webinar of the project consisted of two panels with four speakers. The event was attended by 49 people (researchers and administrative support staff). The first panel was a workshop for an internal reference team of the UŚ (University of Silesia in Katowice) consisting of NA staff (UŚ researchers with high research potential) and NNA staff (the so-called process experts), in total 21 experts were involved. The goal of the project was the identification of a set of key competencies of research and support staff based on mapping key processes for the development of research excellence, including:

a) acquisition of resources for research/art work:
b) conducting high quality research/art work
c) publishing research results
d) commercialization of research and development results.

The second panel, workshops for the external reference team of representatives of HEIs qualified for the participation in the first Call under the program "Excellence

Initiative – Research University", involved 50 experts, including NA employees (researchers) and NNA employees indicated by the authorities of HEIs participating in the project; altogether 16 HEIs from the above mentioned target group responded positively. The aim of the project was the verification of the results obtained as an outcome of conducting the panel and webinar. The result was the identification and descriptions of key competencies in the model.

3.4. The empirical research findings

As mentioned in a previous section, by distinguishing and describing the main processes in which the research and scientific and support staff participate, the authors posed the main research question, namely what competencies are important for both groups in order to realize these processes effectively? The answer to this question requires the use of an appropriate competency model that allows to precisely indicate the key competencies for individual professional groups, along with the determination of the desired level.

As part of the preparatory work, based on the already described processes, a set of 36 competencies was distinguished that may be required from research and support staff in tasks related to the implementation of these processes. Table 3.1 present a list of these competencies divided into three categories:

a) basic – occurring in various tasks of the scientific – research and support staff;
b) research processes – occurring mainly in the tasks of the research staff;
c) support processes – occurring mainly in the tasks of the support staff.

This list of competencies also provides an answer to the first specific research question (Q1).

The large initial set of the competency models allows for its wide and flexible use. At the same time, it is important to choose the competencies that play a key role when considering specific representatives of the research and support staff.

Good practices from other organizations, including businesses, show that there should be relatively few such competencies, not more than nine. Guided by this assumption, it was also decided to distinguish more specific groups. For the research and development staff, a common distinction was adopted between the research levels from R1 to R4 which mean the following positions in universities:

- R1 – Assistant,
- R2 – Adjunct (Assistant Professor),
- R3 – Associate Professor,
- R4 – Professor.

Table 3.1. List of competencies

Basic	Research processes	Support processes
• Assertiveness • Building a relationship • Building teams • The pursuit of results • Digital • Design activity • Sharing knowledge and experience • Flexibility • Identification with the University • Innovation/creativity • Communicativeness • Analytical thinking • Organization of the work of other people • Organization of own work • Decision-making • Coping with stress • Professional development • Diligence • Cooperation • Influence • Risk management	• Shaping your own image • Market orientation • Strategic orientation/ long-term thinking • Writing texts • Scientific professionalism • Leadership (Scientific Leader) • Knowledge of the market and the publishing process	• Administration • Research project service • Research activity orientation • Obtaining funding • Professional professionalism • Finance management • Managing the commercialization process • Knowledge of the principles of financing research activities

Source: own elaboration.

For the support staff, after numerous consultations it was decided to distinguish two groups: 1) administrative and 2) researchers and experts. This means that a total of seven competency profiles consistent with the distinguished roles were developed. On this foundations there were distinguished such administrative support roles as:

- PA – clerk,
- E – expert.

According to the best practices from other organizations, it was decided that the competency profiles can be created using a method known as an expert panel, which is a meeting of up to a dozen representatives who perfectly know the characteristics of the work in a given role. These persons receive a full description of the competencies. During the meeting, each participant first independently selects the key competencies for a given role. These individual choices are then discussed with the group in such a way as to ultimately select up to nine key competencies by consensus. After agreeing on such a choice, the whole group determines the desired level for these competencies – again referring to the descriptions of competencies. The result of the work is the so-called competency profile presenting the scope of competencies that are key for a given role along with an indication of the desired level. Graphically, the competency profile can be presented using a radar chart. In Figure 3.1 presents such a profile for the research staff at R3 level. This is also the answer to the second specific research question (Q2).

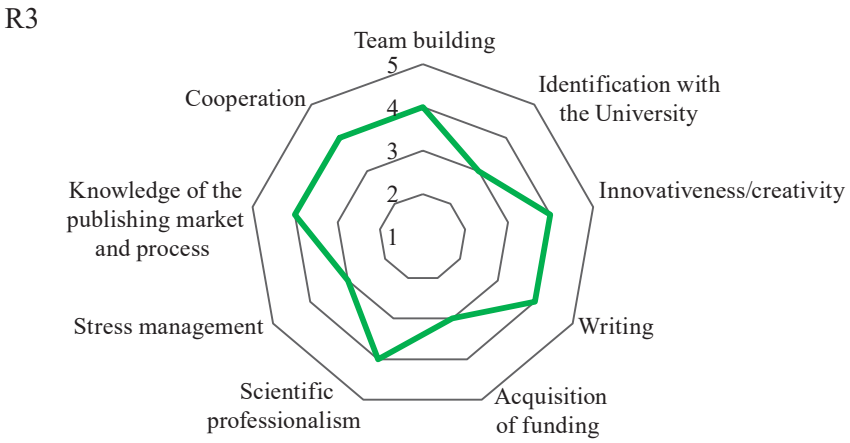

Figure 3.1. An example of the research scientist profile

Source: own elaboration.

For the R3 researcher role, nine competencies were identified as the most important. Their definitions are presented in Table 3.2.

Table 3.2. Definitions of competencies

Competency	Definition
Team building	Creation, integration, and organization of activities of the team and strengthening the potential of individual team members as well as the potential of the whole team
Identification with the University	Acting in the best interest and according to the values of the university. The feeling of being responsible for one's place of work and shaping its positive image in the active way.
Innovativeness/ creativity	Creating and effective implementation of innovative ideas, solutions, and concepts
Writing	Efficient preparation and edition of texts connected with the person's professional activity
Acquisition of funding	Effective acquisition of funds for research and/or implementation activity
Scientific professionalism	Using the professional knowledge and experience in the research activity
Stress management	Effective functioning and ability to cope with stressful situations
Knowledge of the publishing market and process	Searching for and using the diverse opportunities in the scope of publishing and popularization of one's achievements
Cooperation	Establishing and maintaining effective cooperation with other people, based on partnership, in order to achieve the best possible results

Source: own elaboration.

Table 3.3. Observation scale for a selected competency

Name	Knowledge of the publishing market and process				
	Seek out and take advantage of a variety of opportunities to publish and disseminate their own work				
Behaviour indicators	Competency levels				
	A – none v. low	B – basic	C – good	D – expert	E – exceptional
Knowledge of the University's publishing strategy	Does not know the University's publishing strategy	Knows the basic tenets of the University's publishing strategy	Knows the practical importance of the University's publishing strategy	Explains the University's publishing strategy and its challenges to others	Disseminates, promotes the University's strategy for publishing
Searching for access to publications	Is unable to find access to publishing	With the help of others, is able to find access to publications necessary for own activities	Is able to find access to publications appropriate to his/her own activity	Is able to find access to almost any publishing house	Is able to support others in finding access to almost any publishing house
Knowledge of the expectations/conditions/requirements/benefits of different publication venues	Is not familiar with the expectations, requirements and benefits associated with different publishing venues	Knows the basic expectations, requirements and benefits associated with various places of publication	Is well acquainted with the expectations, requirements and benefits associated with various places of publication	Is able to explain to others the expectations, requirements and benefits associated with different publication venues	Takes part in creating the conditions, requirements and expectations of the publication market; is invited to join editorial boards of recognized journals
Understanding of the contemporary information (media) market (identifying and reaching potential recipients of science through various forms)	Does not understand the principles of the contemporary information market	Learns the principles of the functioning of the contemporary information market (how to reach potential recipients of science through various forms)	Understands the principles of the functioning of the contemporary information market (knows how to reach potential recipients of science through various forms)	Actively reaches out to potential recipients of science through various forms of information	Builds a steady, strong presence in the media and information marketplace (including through social and traditional media)
Knowledge of databases with scientific articles	Is not familiar with science article databases	Knows basic databases with scientific articles	Knows the necessary databases with scientific articles for his/her own business	Is well versed in databases with scientific articles related to the scientific field, is able to advise others on the use of the databases	Disseminates knowledge of the use of databases with scientific articles and is able to train others in this field

Source: own elaboration.

Filipowicz (2019) proposed to describe each of the competencies in the form of an observation scale. It presents (in addition to the name and definition) behavioral indicators assigned to a given competency and their description at five levels of development. An example of such an observation scale is presented in Table 3.3. This is also the answer to the third specific research question (Q3).

According to the description in Table 3.3, the competency requirements regarding the seven distinguished roles were developed. The developed profiles can be successfully used as a starting point for assessing the potential and development needs of both research workers and support staff.

3.5. Final conclusions and research summary

To sum up the conducted study, one can say that it was possible to achieve its goal. As a result of the empirical research, the authors identified a set of competencies for the research staff and research administrative support employees of academia in Poland which are relevant for research excellence. The basic set is composed of 36 competencies divided into three main categories, basic, research processes and support processes. Both for the research staff and research support staff, the authors also proposed certain roles and competency levels, which resulted in examples of definitions of competencies and even a sample of a competency profile. Moreover, the study developed specific behavioral indicators for selected competencies. For this reason, it should be recognized that the goal of this chapter has also been achieved, namely the authors proposed a competency model of the research and administrative support staff that could boost the process of transforming traditional Polish universities into entrepreneurial academic entities.

Finally, one can conclude that competency studies have a viable future in developing research excellence of individual employees (research and administrative staff) as well as the whole university (ranking position). Competency profiles for the distinguished roles allow to prepare an assessment process for members of each of them, which is an extensive range of possible research on the competency potential of scientific and support staff. Individual universities may differentiate the scope of competencies in individual profiles, looking for their distinguishing features. This would make it possible to study the relation between the competencies of research and support staff and the achievements of many universities. The practical implication of the study is the possibility to use competency profiles to prepare and implement a measurable approach to different HRM subfunctions, such as recruitment & selection, staff training & development, talent management, competency management, career management and many more.