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The measurement of job satisfaction attributes in a group of knowledge workers based on the example of the University of Gdańsk teachers

Introduction

The purpose of this article is an attempt to describe the methodology for the identification of an advancement and the characteristics of work satisfaction attributes in the context of specifics of work based on knowledge.

Regardless of the characteristics and a form, the organizational structures and methods of work, the employees should fulfill the goals and objectives of the employer effectively, and they ought to feel a positive emotional attitude towards their work environment at the same time [Borowska-Pietrzak, 2014, p. 46–63]. An institution with objectives not strictly directed at business purposes, and which in its philosophy of human resource management should balance of social and economic objectives, unlike e.g. it takes place in business organizations, can constitute an interesting reference for researching conditions and tools of employee involvement [Listwan, 2010]. Colleges and universities, especially state-owned, where the essence and meaning of work is teaching, research, development and creation of innovative solutions in the field of science may be examples of such institution in conditions of today's Polish labor market.

1. A higher education institution as a knowledge organization

The specifics of academic teacher's work is closely related to the knowledge itself, its shaping, improvement, development, and dissemination. It can be assumed that the member of research and teaching staff of a university can be defined as the knowledge worker [Nogalski, Kowalczyk, 2007]. The research subject in a herein text is constituted by the academics of the Faculty of Management at the University of Gdańsk. Accordingly one encounters here specific working conditions where, on the one hand, there are high requirements as far as a constant increase in competences and work standards (e.g. the proceedings on a promotion to the ranks

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of PhD. and associate or full professor.) are concerned. On the other hand, there are structures and work processes similar to non-profit institutions. The main elements of the development strategy of the University of Gdańsk (UG) are based on [http://arch.ug.edu.pl/pl/dz_org/prawo/?tpl=strategia2020, 2015]:

1. The values of the UG – the primary values of the university are: rational pursuit of truth through innovative research, following the best practices of world science, modern education for the development of civilization and social development, mutual respect and trust, tolerance for diversity of views and solidarity of the entire academic community.
2. The UG mission: The mission of the university is to educate highly valued alumni equipped with comprehensive knowledge, skills and competencies necessary for social and economic life based on knowledge, and bringing a long-lasting contribution to the scientific comprehension of the world and solving its important contemporary issues.
3. Vision of the UG: The next decade will be characterized by development of the University enabling to create a new quality in education, research and cooperation with the environment. Education will cover a wider range of courses enriched with new valuable and utilitarian content disseminated with innovative teaching methods. Research studies will be implemented using sophisticated approaches and they will cover new areas to meet the needs of the modern world, the country and the region. Strengthening the material potential and intellectual capital will take place by means of more and more intensive links with foreign and domestic partners.

To meet the above described strategic challenges and assumptions – the UG university teacher should absolutely constantly learn, and he has to possess distinctive competencies' components distinctive for a knowledge worker. In spite of many centuries of tradition in the existence of universities, the beginning of understanding a scientist in such a way can be dated at the period of forming foundations of a knowledge-based economy – the establishment of the new economy organizations [Kawka, 2014]. The formation a new group of workers is strongly rooted in the knowledge domination as a leading component in the enterprises management. In the most general terms they can be divided into the following categories [Donnelly, 2006, p. 80]:

- Professionals of codified knowledge – a majority group of employees, whose experience is based on a thorough education,

- Organizational specialists – a part of employees less seen, the holders of a specific, dedicated knowledge, often tacit, of the sole organization, informal parts
- New era employees – exceptional individuals, who have unique, hard to imitate niche resources of knowledge and skills that are difficult to replace.

Knowledge and innovations are beginning to play a key role in achieving the goals of an organization with the development of economy based on new economic and social foundations. Employees are required to be flexible in their behavior and work forms. This may create a new area for employee competency based on [Borowska-Pietrzak, 2014, p. 57; Gableta, Pietroń-Pyszczek, 2004, p. 43]:

- A gradual increase in skills by work process' intellectualization,
- The need of professional reorientation throughout the period of active employment, continuous replenishment and improvement of the skills quality,
- The surge in the importance of skills through the intellectualization of work process
- Increased versatility and the ability to undertake new professional and organizational roles in short periods of time,
- Increasing creativeness and innovativeness of employees,
- Increasing demand for workers skillful in functioning in multicultural environment,
- A development of alternative jobs based on the digitization of the work processes,
- Self-discipline and independence,
- Ability to organize ones' own work, including making the division of tasks executed in a virtual environment and at the workplace,
- Responsibility and earning trust,
- Loyalty to an employer,
- High level of self motivation.

Referring to the above-described background of systemic changes' conditions affecting the formation of a new kind of worker in the organization, the following features of the work environment can be determined [Toffler 2006, p. 428]:

- The variety of tasks and activities along with the broadening scope of duties,
- New tasks with unexpected and continuous reorganizations in work,
- The flexibility to adapt to changing conditions.
- Multiply number of subjects in management relations,
- The search for self-identity and the meaning of work.

These are obvious features of the research and teaching work. In this context it is justified to shape satisfaction and commitment of a new type of employee in terms of increasing work responsibility, increasing a level of independency in the work, which gives the possibility to use talents and skills of the knowledge workers. These are the workers, who look for a meaning of work, and not just the only income [*ibidem*, p. 429]. At present a new professional group grows with a very wide range of defining such a set – employees using knowledge to work on and with the information [Nogalski, Kowalczyk, 2007]. And it certainly defines, or it should define, research and academic workers. It is difficult to univocally define research academics, whose work at information processing and new streams of information generating – taking into account many different categorization as: the nature of work, a technology of work, an object, and the work environment [Mikuła, 2012, p. 45]. In this light, new economy based staff will be independent, as well as starting his/her career, academics, researchers in scientific centers, or employees of the education sector. Also we can include following group of professionals in this category as: legal, financial and business advisors, artistic creators, managers, teachers and educational staff, employees of telecommunications services, computer programmers, computer network administrators, designers, engineers, PR and advertising professionals, lawyers, investment advisers, architects, planners, marketers, producers and film directors, editors, writers, journalists [Mikuła, 2012; Rifkin, 2003, p. 225]. As one can see, it is a list of very broad range and it does not exhaust the whole set of other possible professions that one includes into knowledge processing and commercializing workers. Their job is to create a new, important for the customer forms of intellectual property, and sharing with them a common work ethic based on the values of creativity, individuality, diversity and meritocracy [Pietruszka-Ortyl, 2012, p. 46].

2. Academic staff and knowledge workers

Taking the above considerations into account, we can assume that it is a description of the professional roles of employees working „on and for processing collections of information data”, transforming the knowledge workers evolutionary. One should first of all realize, that there it is not formally described or created job – it is rather a new professional role, a new dimension of fulfilling one’s duties, problem solving, achieving goals. This is a position, and it is often informal, to which an employee is taking own knowledge, as an essential component of their professional success in today’s enterprise. It can be said that a knowledge worker is an attitude of a certain self-awareness of its intellectual potential the employer can

benefit from. In this context we have the formation of mentoring (tutor) relationship – professor – student, based on the importance and exclusiveness of knowledge. It is not about a formal expression of the organizational functions, but about building a relationship particular for knowledge workers, such relationship that is based upon the establishing authority and loyalty. Knowledge workers, or as specified by D. Jemielniak – intellectual workers, constitute a special community. Distinguishing features of this group by the specific culture of professionalism approach to work processes indicate a high social prestige of these employees [Jemielniak, 2007, p. 92]. These are workers far less likely susceptible to procedural activities to motivate by employers because they often have attractive alternatives to the current place of employment. Accordingly, the conventional management methods, including forms of manipulating and stimulating, are just insufficient [*ibidem*]. Knowledge nomad mentality, a mobile freelancer who offers his services at the given time and for a given employer who will offer a more suitable contract, with first of all the monetary profits – these are the features of knowledge workers. Hence, a modern approach to shaping motivation and engagement systems is one of the key postulates of the new realities shaping of human resource management in the context of knowledge workers. It is one of the prerequisites of introduction of deferred motivation systems, e.g. with flexible tools packet [Kawka, 2014, p. 126].

In summary, referring e.g. to the concept T.H. Davenport, a knowledge worker is a performer in a given organizational structure, who is rewarded for the process, most often of individual thinking, of introducing innovations, stimulating the development of the organization, the development of new products and services. The work is thus a phenomenon of intellectual properties in its nature, based upon a high level specialised knowledge, education and experience, and it is focused on the creation, dissemination or practical application of knowledge [Davenport, 2007, p. 16–23]. The knowledge worker is thus described as any employee of a modern organization, who uses his mind to achieve professional goals, in conditions of flexible work and based on creative skills, there is a large level of autonomy in terms of time and forms of performing their duties, he is unwilling to share knowledge, he has to become more involved in the process of the daily professional routine, and he has a high degree of intelligence [Czubasiewicz, 2009, p. 247]. These are workers, who create a standard and quality of human capital in the organization. Such a description is characterizes the essence of scientific and research work at the university.

One should assume here that there is quite a big collection of determinants reducing the perception of the actual level of satisfaction and engagement of science in Polish realities. In Polish universities there are conditions

inhibiting the development of academic staff. These are mainly social (including cultural) and political-economic factors, which are reflected in organizational and salary solutions existing in universities [Striker, Wojtaszczyk, 2009, p. 475–479]. Such situation may limit stimulation of a high involvement level of knowledge workers – the research and scientific workers in Poland. Bringing up the situation of research workers one has to consider the professional burn-out problem. H. Sęk, while analyzing the conditions of this syndrome in case of academic staff, begins her deliberation with characteristics of changes in the higher education system [Sęk, 2000, p. 239].

Taking the above into consideration the identifying and assessment of satisfaction attributes of a given professional group, i.e. academic teachers, sounds to be a very important and interesting problem. Methods and tools of the research process were previously described in e.g. [Borowska-Pietrzak, 2014, p. 46–63]. The mechanism of the perception of satisfaction measuring is based on estimating the sum of the positively or negatively evaluated objective attributes using the adopted measurement scale. It results in a final weighted value perceived at a given time by measuring the individually perceived difference in value level of the positive and negative perception of a given attribute at that time by the employee. The questionnaire consisted of a two-stage evaluation of 23 defined factors that could potentially affect the perception of job satisfaction.

It was assumed that the overall level of satisfaction should take into account the summed up individual assessment given by employees to two potentially separable areas, but concerning the same factors described in the questionnaire as following parts:

A) the evaluation of a significance of a given professional satisfaction factor in life of an employee, which corresponds to a general validity (constant over the long term) of a factor to a particular stage of a respondent's career, no matter where he works;

B) the evaluation of a level of a given satisfaction factor offered by the employer, which indicates the assessment of the current (temporary) perception of satisfaction and the impact of a given factor.

3. Empirical research

The presented survey of a employee satisfaction was conducted in April and May 2015 among academic staff at the Faculty of Management at the University of Gdańsk (called WZUG). The study involved 80 teaching and research members of staff representing all departmental Institutes. This represents about 40% of full employment at the Faculty. The balanced distribution in age structure has been achieved in an empirical study

– employees up to 40 years of age represent 34%, to 50 years of age – 36% and 30% of staff is over 50 years old. The studied population consisted of 51% female and 49% male employees. Considering the professional experience, the largest group of studied academics were employees of work experience between 6 and 19 years – over 40%, and over 30 years – 24%. In the analyzed group managers (heads of department, institutes or authorities dean) constituted 14% of the respondents. Almost 60% of studied employees had the PhD degree, and 34% were members of senior academic staff. 54% of the group were employed also outside the home university (UG is not their only workplace). Considering the above presented statistics of the diagnosed group, one can recognize it as a representative set of employees.

The overall result of professional satisfaction index for studied population reached +49.2 p. in scale of [-207; +207], where the value [0] would indicate on the one side the lack of a satisfaction, or on the other hand, the lack of discouragement to work. „The 0 point” means the employee does not declare any level of growth or decline in a perception of satisfaction. Results with positive values (with a plus) indicate a direction of satisfaction, negative values of index (with a minus) can be understood as a lack of satisfaction. The obtained results show less than 24% on a positive satisfaction scale. We can adopt, that it is a rather mean level of sense of satisfaction in a context of the scale in a questionnaire. A dispersion of results between the minimum (-53 p.) and maximum (+150 p.) values is located in a lower half of the adopted scale. This may indicate a fairly significant diversification of the achieved results, confirming the reliability of the used tool in the research process.

The overall result of the employee satisfaction studies at the Faculty of Management UG can be considered as relatively high. Around 85% of the respondents obtained results above the zero point, while 57% of scientists at WZUG indicated their level of satisfaction above average. What should be emphasized, a statistically significant correlation between the declared level of satisfaction and demographic variables, namely subjective attributes of satisfaction there has not been diagnosed in the study group [Borowska-Pietrzak, 2014]. They are: 1. age; 2. sex; 3. experience; 4. a job position; 5. a scientific degree; or 6. a number of workplaces. As the table 1 shows below, there were no strong statistically significant relations between subjective attributes and perceived level of satisfaction. However, the most visible, slightly dependent positive effect is noted with regard to the age and type of position. Gender is completely uncorrelated.

Table 1. Correlations between a level of satisfaction and subjective attributes in a group of academics at WZUG (Pearson coefficient)

Items of subjective factors of satisfaction	Age	Sex	Experience	Job position	Scientific Degree	Numbers of workplaces
Level of declared satisfaction (Pearson's r)	+0,22	-0,03	+0,16	+0,23	+0,17	+0,19

Source: Own study.

The distribution of results of satisfaction index level, accordingly +48 p. for men and +50 p. for men, confirms this assumption. Significant differences are noted in groups occupying managerial and non-managerial posts. In. Definitely a higher level of job satisfaction (+75 p.) is declared by managerial staff. Employees in lecturer posts indicated their satisfaction at +45p. A similar relation can be seen in the division for an seniority and age of employees of WZUG. A much higher level is noted for mature employees, with extensive experience and seniority +55 p. Relatively low levels of satisfaction were identified among young staff and a low experience level +38 p. This result is the lowest among analyses of the objective attributes at all. Consequently, a differentiation depending on the degree and the academic title must be indicated – members of senior academic staff assessed their level of satisfaction at +68 p., while the staff of assistant professor or Master's degree levels generated output of +41 p. It shows significant differences (23 p.) in a perception of job satisfaction according to university titles.

The distribution of gained points depending on whether an employee works only at the UG or takes other similar jobs provides an interesting observation. A much higher score of job satisfaction has been achieved by staff, for whom work at the UG is not the only one workplace +54 p., while academics whose employment is only at UG gained +44 p. The summary of described results are presented in the table 2.

Table 2. The results of the satisfaction level according to division of employees' categories

Categories of employees' division (subjective attributes of satisfaction)	Job satisfaction level (in points)
1a. Female	+48.5
1b. Male	+50.7
2a. Low level of professional experience	+38.5

Categories of employees' division (subjective attributes of satisfaction)	Job satisfaction level (in points)
2b. High level of professional experience	+55.2
3a. Non-managerial job position	+45.2
3b. Managerial job position	+75.3
4a. Academic degree of Ph.D./M.Sc.	+41.5
4b. Academic degree of professor	67.8
5a. Job position only at UG	43.9
5b. Job position not only at UG	53.8

Source: Own study.

Summing up the above results, we can conclude, that a significant increase in the level of a job satisfaction among the academics is derived from the following variables: a promotion in the structure of the university, taking managerial posts, an increase in experience in teaching, and an extra work outside the UG. It may be deduced that job satisfaction is rather low – from perspective of academics from WZUG, who just began their work (only at this university), while they are in early stages of their scientific development. To make some generalizations, we can say, that a young academic at the beginning of his academic carrier has a lower perception of job satisfaction. A higher a level of job satisfaction will be gained as the time goes by, with the growth of a career.

Another interesting dimension of analysis of the obtained results in all examined cases (80 persons) is the fact that in the survey in all the various 23 items (attributes) lower satisfaction values in the B part than A part of questionnaire were obtained. This means that knowledge workers, who are researchers of WZUG definitely have higher expectations than conditions in which they work. Maximum indication in a part A of the questionnaire indicated the following attributes (average value above +2.30 point): management style of a superior [item no. 6], the importance of the tasks on the job position [item no. 14], the possibility of professional development [item no. 22], obtained achievements and professional successes [item no. 23] – these are the most desired attributes of professional satisfaction in opinion of surveyed population of academics. However, their implementation in practice, which is indicated in the part B, each item was evaluated at, one point lower on average. This may be one of the sources for the not too high assessment of the overall perception of job satisfaction. This means, that important attributes are not adequately implemented in practice. In the case of knowledge workers it is quite crucial.

The attributes in part B with the lowest score of all, reaching the smallest average level of assessment below zero (i.e. they have been evaluated

as those, which in practice are the least satisfactory items) are as follows: a total income from work [item no. 1, -0.3], the adequacy of income to performance [item no. 2, -0.6], bonuses, non-wage incomes [item no. 4, -0.4], and expressing of appreciation to the employee by superiors [item no. 5, +0.3]. Interestingly, the greatest disproportions (the biggest differences between part A and B) in the assessment of individual attributes in the study population were identified for the same, above-mentioned factors. They constitute an essential source of low perception of satisfaction. They concern in the most aspects of substantial material. There are not also the most high level items declared as the factors in part A, which is a natural assumption in relation to knowledge workers [Kawka, 2014]. Major disproportions primarily result from a negative perception of work at the university.

Table 3. The greatest disproportions between the expected and real attributes of satisfaction

Attributes	Average value the part A	Average value the part B	Average difference
Total income from the job [item no.1]	+2.07	-0.3	-2.35
The adequacy of income and a type of work [item no.2]	+2.20	-0.6	-2.77
Clear and open communication principles and criteria for the award compensation [item no.3]	+2.20	+0.39	- .81
Expressing appreciation to the employee by superiors [item no.5]	+1.46	+0.3	-1.88

Source: Own study.

In turn attributes like: personal relationships with a supervisor [item no. 11, +1.74], diversity of tasks performed [item no. 13, +1.69], a level of individual responsibility for the results [item no. 16, +1.65], and a level of independence and autonomy in the work process of the employee [item no. 19, +2.01] are the top-rated indications in the B part of the satisfaction questionnaire.

Conclusions

To summarize the above considerations, it is clear that academics indicate an average positive level of satisfaction. But this level is higher along the line of career growth and development of university employees. The main sources, that influenced a level of satisfaction are based on objective non-material attributes, while the source of dissatisfaction are aspects

related to income incentives. Categories of knowledge workers as the academics are a part of trend related to new economy employees [Kawka, 2014]. A base for sense of high satisfaction is located in aspects related to higher level of needs and values, but negative perspective of satisfaction is strongly depended on material incentives and fundamental needs. Therefore, it can be assumed that the described results confirmed in a way a concept of F. Herzberg. One can assume here that research staff members of a university should feel a level of satisfaction from work in order to utilize their intellectual capital in an optimal way. It is achieved mostly by internal factors – Herzberger motivators. Problems arising from non-adequate level of substantial tools may potentially generate a strong feeling of dissatisfaction and limit interest to develop further and utilize the potential of acquired knowledge. In is with to underline here that the presented results of the research univocally indicate that an increase in satisfaction growth is achieved along a promotion of a career path. It should be taken into consideration while planning careers of research employees of higher education institutions. The satisfaction is strongly connected with a balanced and rational development of university workers which depends on knowledge, potential and an attitude of a teacher himself. At the same time it is, which has been confirmed by the research, significantly dependent on well-designed programs of motivation and support by university superiors, particularly as far as young researches are concerned.

The most important fact is, that on the background model of knowledge workers, the higher level of development of employee, the higher level of job satisfaction.

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Summary

The goal of this paper is to try to identify a level and characteristics of work satisfaction attributes in the context of knowledge work conditions. Despite characteristics and a form of a given organizational structure and work methods, its providers should emotionally perceive their work environment in a positive way. A high education institution is one of key subjects considered as a knowledge organization, thus it may constitute a representative point of reference for the presented research. Embedding the research on conditions of perceiving satisfaction and the employee involvement in a work environment of research-teaching staff presents a significant context for stipulations on correlations between a knowledge workers' managing process (an optimization of intellectual process), and a level of work fulfillment perception by them. A higher education institution, which does not have strict business goals, should first of all balance social and economic goals in its human resources management. The presented research results do not confirm such correlations. The satisfaction with work of strongly associated with wages. Besides a level of work satisfaction declared by research staff of a higher education institution depends to a large extent on the hierarchy and a position in a structure in an organization. The lower the institutional position of a lecturer is, i.e. lesser professional experience, a level of satisfaction is significantly lower.

Keywords

human resources management, an intellectual capital, job satisfaction, knowledge workers, a knowledge organisation