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Skills and Learning Styles of Innovative Companies' Employees

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When faced with various challenges, modern organizations must be able to function effectively. These challenges include globalization, technological advancements, necessity to operate in the state of permanent flux, and finally, generation of intellectual capital, which delivers the competitive edge. As a consequence, the management of a modern organization and its diverse staff, which enables the company to operate effectively without generating losses or conflicts, becomes critical. Nowadays, organizations have to constantly look for innovative ways of conducting business. The conclusion drawn from observing successes of such organizations proves that taking a closer look at the issue of Human Resources (HR) diversity's role is worthwhile. Especially the analysis of managerial skills and learning styles in the context of companies' innovation seems of particular relevance. The managerial skills and their development are the basis for successful management processes in a modern company. The aim of this study was to identify and assess skills and learning styles of innovative companies' employees. The empirical material was collected in 2016 on the basis of a research conducted among employees of innovative companies established in Poland. The results of the present research allowed to analyze the impact of the respondents' independent variables on their skills and learning styles. As a result of the study, recommendations for managers and Human Resources Management (HRM) specialists were formulated on how to successfully manage employees' various skills and learning styles.

Keywords: employees' skills, learning styles, innovative company

Introduction

When faced with various challenges, modern organizations must be able to function effectively. The challenges include globalization, technological advancements, necessity to operate in the state of permanent flux, and finally, generation of intellectual capital, which delivers the competitive edge. As a consequence, the management of a modern organization and its diverse staff, which enables the company to operate effectively without generating

losses or conflicts, becomes critical. Another vital factor is demographic changes, which demand a new approach towards the matter of employees' age and the related generation gap to be adopted. The development of an organizational culture enabling the competencies of employees of diverse age to be applied has become significant.

The present paper attempts to evaluate respondents' skills and their cognitive styles. The fact that both the skills exhibited and learning styles play a vital role in the development of effective HRM tools was embraced. The analysis of the managerial skills and learning styles in the context of companies' innovation seems particularly significant. The managerial skills and their development are the basis for successful management processes in a modern company.

Skills and Learning Styles in the Literature

Modern enterprises operate in the state of a permanent flux. This pertains to all aspects of their operation due to the fact that conditions of manufacturing, technology, employees' competences, and, finally, clients' preferences change. Among chief factors determining the success of a modern enterprise, its innovativeness assumes the primary position. Innovation has been extensively discussed in the literature of the subject due to the fact that it constitutes a fundamental dimension of entrepreneurship (Shane, 2003). Innovation plays a significant role in the development of individual companies and whole economies. Entrepreneurship requires the introduction of innovations understood as the implementation of creative ideas or novelties into economic practice. J. A. Schumpeter, the precursor of the term, believed that innovation is a critical element of entrepreneurial activity (Schumpeter, 2004). The introduction of innovation is considered one of the most significant functions of an entrepreneur. The ability to develop or swiftly adapt innovative solutions in enterprises may offer a continuous competitive edge.

The literature of the subject highlights the fact that innovation varies in character, scope, power, and impact. It may also possess various origins – some innovations require years of systematic work, others result from a sudden realization, a coincidence (Glinka & Gudkova, 2011). Innovation may also pertain to various areas. According to Bessant and Tidd (2007), it may be reduced to the following four: (1) product innovation, (2) process innovation, (3) position innovation, (4) paradigm innovation, associated with what the organization does.

The concept of diversity management belongs among the non-traditional branches of management. It reflects the current status of economy and society. HR managers should create a company that allows diverse employees to express themselves individually, while maximizing their work com-

petencies. Nowadays, managing diversified human resources is becoming an important component of building the successful strategy of a modern organization. In such organizations, the diversity of employees' potential constitutes an important value (Armstrong et al., 2010). This is especially significant for innovative, global companies, which should look towards the future. Diversity leaders play a key role in the process of creating a successful organization (Childs, 2005).

In the literature of the subject there are various definitions of the concept of diversity. In addition, diversity management is understood in very different ways. The understanding of the term depends on the country, the type of organization, its culture, as well as economic and social factors. Both narrow and wide approaches to diversity can be found in the literature of the subject (Rakowska, 2014). The narrow approach means that one or two dimensions are taken into consideration (e.g., gender and age). The wide approach, in turn, has several dimensions, e.g., age, gender, marital status, social status, sexual orientation, disability level, religion, personality, moral values, culture (Kossek, Lobel, & Brown, 2005). Research carried out by offices of the European Commission contain the following dimensions of diversity: age, gender, ethnic group, nationality, disability, sexual orientation (European Commission, 2011).

The literature of the subject presents many different diverse human resources management models. They differ from one another in terms of the level of complexity, assumptions, goals and perspectives. One of the recent research directions is the search for relations between diverse human resources management and company innovation.

At present, new markets, consumers' new requirements and preferences, exert significant influence upon organizations, especially in times of instability. Organizations must be diverse and generate value for themselves, and their employees and consumers. Innovation constitutes one of the chief tools for achieving that. It is employees who, by their knowledge, skills, learning methods and knowledge-sharing, stimulate innovation the most (Bassett-Jones, 2005).

Therefore, diversity is characteristic for creativity and innovation of modern companies, and may present a basis for achieving a permanent competitive edge. On the other hand, diversity results in misunderstandings and conflicts at a workplace, which may present severe consequences for the company (low work quality, absences, reduction of competitiveness). As a consequence, modern companies are faced with a paradox: when embracing diversity, they risk the emergence of conflicts. However, should they avoid diversity, they risk the loss of competitiveness (Héroux & Fortin, 2016). It is of particular importance for innovative companies that, by applying their employees' diversity, may generate further breakthrough solu-

Figure 1 A Continuum of Cognitive Style (adapted from Allinson & Hayes, 2012)

tions. Such companies promote innovative attitudes among their employees, understood as any activities directed at the creation, implementation and successful application of novelties in the organization (Yuan & Woodman, 2010).

Managerial skills associated with diversity management gain particular significance in such conditions. Those skills largely determine opportunities for development, which seems fundamental both for the organization and employees functioning in the changing labor market.

Apart from managers' and employees' skills, learning styles of individuals are also critical for the development of competence potential. The styles determine the way of thinking, identification of facts and assimilation of information.

The Cognitive Style Index (CSI) developed by Allison and Hayes (2012) was decided to be used in the present paper. 'The cognitive style is an individual's preferred way of gathering, processing and evaluating data' (Allinson & Hayes, 2012). CSI describes the way a person thinks, perceives and remembers information. CSI is also known as an important concept in the areas of education and management. Knowledge of an individual's cognitive style can be useful in HRM processes, e.g., selection, placement, motivation and development.

Allinson & Hayes (2012) identified five notional learning styles. At the extremes, intuition and analysis (intuitive and analytic styles) can be found. However, a cognitive style often involves elements of both intuition and analysis. In the middle of the continuum, there is the adaptive style, which implies a balanced blend of the two cognitive modes (Allinson & Hayes, 2012). The quasi-intuitive style and quasi-analytical styles neighbor the adaptive style (Figure 1).

Research Methodology

Empirical analyses were conducted on the basis of a questionnaire. The first part of the questionnaire concerned respondents' skills. The areas

Table 1 Respondents' Structure

Age	Percentage
20–29	23.6
30–39	36.5
40–49	21.9
50–59	14.3
60–69	3.7

Position	Percentage
Executive	24.8
Specialist	57.9
Manager	17.3

Sex	Percentage
Man	48.4
Woman	51.6

of skills were selected for the survey on the basis of the literature review in the field of employees' competencies (Shavelson, 2010; Baran & Kłos, 2014; Hartig, Klieme, & Leutner, 2008). Two contexts were essential – work carried out by the person and possibilities of developing employee potential in the future.

Respondents were asked to assess 14 areas of knowledge and skills, such as: (1) Own workload management, (2) Stress management, (3) Learning, (4) Career management, (5) Interpersonal communication, (6) Resolution of conflicts, (7) Cooperation with representatives of other cultures, (8) Leadership, leveraging, (9) Cooperation with people of all ages, (10) Cooperation with the opposite sex, (11) Swift adaptation to new conditions, (12) Mobilization to long-term work effort, (13) Ability to carry out duties of others and one's own, (14) Creative thinking.

The skills were evaluated on the basis of the selection of advantages indicated in the respondents' self-assessment (5 out of 14 skills could be selected).

In the second part of the questionnaire, respondents replied to questions regarding their cognitive style. The Cognitive Style Index (CSI) developed by Allison and Hayes (Allinson&Hayes, 2012) was employed. There are five cognitive styles identified in the model: (1) Intuitive style, (2) Quasi-intuitive style, (3) Adaptive style, (4) Quasi-analytic style, (5) Analytic style.

Empirical data was collected in 2015, in Poland. The empirical material was collected during a study carried out on a group of 1276 respondents – employees of innovative companies. The acquired results enable conclusions regarding HR management in the context of managerial skills and knowledge of learning styles applied in employee development to be drawn.

The empirical data was presented in contingency tables and analyzed statistically. The chi-square test was applied due to the character of the variables. Differences amounting to $p < 0.05$ were determined as being statistically significant.

Females constituted a slight majority of respondents (51.6%). People below 39 years of age dominated (60%). As regards positions held, specialists prevailed (57.9%), and approximately every fourth respondent held an executive position (24.8%) (Table 1).

Table 2 Skills vs. Respondents' Sex (%)

Skills	Male	Female
Creative thinking	55	45
Ability to carry out duties of others and one's own	45	55
Resolution of conflicts	54	46
Interpersonal communication	38	62
Career management	55	45
Stress management	52	48
Own workload management	45	55

Notes Test χ^2, df = 1, $\chi^2_{critical} = 3.84$, $p < 0.05$.

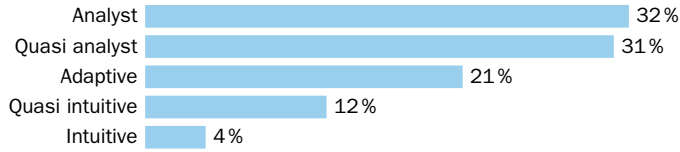

Figure 2 Learning Styles Presented by Respondents ($N = 1276$)

Skills and Learning Styles – Research Results

Skills self-assessed by respondents constituted the first evaluated area. The attempt at acknowledging whether the skills are determined by respondents' sex revealed statistically significant differences in 7 out of 14 skills. Male respondents assessed their skills higher than female ones. This is true for the following skills: creative thinking (54.8% vs. 45.2%), conflict solving (54.3% vs. 45.7%), career management (55.2% vs. 44.8%), stress management (52.1% vs. 47.9%). On the other hand, the following skills were evaluated by female respondents higher than by male ones: own workload management (55.4% vs. 44.6%), ability to carry out duties of others (55.2% vs. 44.8%), interpersonal communication (62% vs. 38%).

The second area to be analyzed in the present study was respondents' learning styles. Results' evaluation indicated that the analyst (32.4% of respondents) and quasi-analyst (30.8% of respondents) styles dominated (in accordance with the Allinson & Hayes key). The intuitive style was selected the least frequently (3.5%) (Figure 2).

The evaluation of whether sex determines the learning style indicated statistically significant differences in two cases. Sex determines the quasi-intuitive learning style, which is present in women more frequently (14% vs. 10%). In addition, sex determines the analyst style exhibited by men more often (36.8% vs. 28.3%) (Table 3).

The assessment of whether respondents' age determines the dominance of a learning style indicated statistically significant differences in

Table 3 Learning Styles vs. Respondents' Sex (%)

Learning styles	Male	Female
Analyst*	37	28
Quasi analyst	31	31
Adaptive	20	23
Quasi intuitive*	10	14
Intuitive	3	4

Notes * Statistically significant differences; test χ^2, df = 1, $\chi^2_{critical} = 3.84$, $p < 0.05$.

Table 4 Learning Styles vs. Respondents' Age (%)

Learning styles	60–69	50–59	40–49	30–39	20–29
Analyst*	4	19	22	37	18
Quasi analyst	3	17	23	36	20
Adaptive*	4	7	24	36	29
Quasi intuitive*	4	7	19	40	30
Intuitive*	0	9	11	27	53

Notes * Statistically significant differences; test χ^2, df = 4, $\chi^2_{critical} = 9.49$, $p < 0.05$.

Table 5 Learning Styles vs. the Main Specialization of Respondents' Job Position (%)

Main specialization	(1)	(2)	(3)	(4)	(5)
Technical works*	34	34	22	8	2
Administr., organizational, legal, personnel	31	32	21	12	4
Finance, accounting, reporting*	43	26	15	13	3
Project work, research, innovation	27	31	21	17	3
Information technology	48	33	15	2	3
Marketing, sales, logistics*	20	25	31	16	7

Notes Column headings are as follows: (1) analyst, (2) quasi analyst, (3) adaptive, (4) quasi intuitive, (5) intuitive. * Statistically significant differences; test χ^2, df = 4, $\chi^2_{critical} = 9.49$, $p < 0.05$.

case of four learning styles, i.e., analyst, adaptive, quasi-intuitive and intuitive. Only in case of the quasi-analyst style no statistically significant differences were observed (Table 4).

Among those representing the intuitive style, the majority (53.5%) was represented by the youngest age group (20–29 years of age) and none of respondents represented the oldest age group (60–69 years of age). Among those representing the quasi-intuitive style, people of 30–39 years of age represented the majority (40.4%). The second largest group consisted of 20–29 year-olds. Similar distribution was observed in case of the adaptive learning style (36.2%: 30–39; 28.8%: 20–29). People of 30–39 years of age constituted the majority as far as the analyst style is concerned (36.6%). The second largest group was represented by 40–49 year-olds (21.7%).

Table 6 Learning Styles vs. Respondents' Skills (% among respondents representing a particular learning style)

Respondents' skills	(1)	(2)	(3)	(4)	(5)
Own workload management*	46.7	49.0	64.6	69.7	69.2
Stress management	37.8	37.7	39.4	37.2	35.1
Learning*	22.2	38.4	47.1	49.9	47.9
Career management*	22.2	15.2	21.2	8.9	13.1
Interpersonal communication*	48.9	47.7	43.1	31.8	27.6
Resolution of conflicts	17.8	16.6	21.9	22.1	20.3
Cooperation with rep. of other cultures	4.4	4.0	4.7	2.0	2.7
Leadership, leveraging*	20.0	14.6	8.4	6.4	6.1
Cooperation with people of all ages*	28.9	39.7	39.8	47.3	46.0
Cooperation with the opposite sex	11.1	11.9	12.4	15.8	17.7
Swift adaptation to new conditions	42.2	39.7	35.4	37.4	30.5
Mobilization to long-term work effort	15.6	21.9	21.5	26.7	25.9
Ability to carry out duties of others and one's own*	13.3	15.2	13.1	19.1	21.8
Creative thinking*	37.8	42.4	33.2	27.5	30.3

Notes Column headings are as follows: (1) intuitive, $N = 45$, (2) quasi-intuitive, $N = 151$, (3) adaptive, $N = 274$, (4) quasi-analyst, $N = 393$, (5) analyst, $N = 413$. * Statistically significant differences; test χ^2, df = 4, $\chi^2_{critical} = 9.49$, $p < 0.05$.

The assessment of whether respondents' learning style determines the dominance of the main specialization of the respondents' job position, indicated statistically significant differences in three out of six cases (Table 5). Among those representing the technical works, every third respondent represented the analyst or quasi-analyst learning style. In the same group, every fifth respondent represented adaptive style. Tasks in the areas of finance, accounting, reporting were generally realized by those representing the analyst learning style (43%). If the area of tasks boiled down to marketing, sales or logistics, people of adaptive learning styles represented the majority (30.7%).

The analysis indicated no statistically significant differences among learning styles in relation to the position held. The styles do not determine the position held (executive, specialist, manager).

In addition, the analysis of correlation between learning styles and respondents' skills was also undertaken. Statistically significant differences were observed in the case of 8 out of 14 skills (Table 6).

In this case, statistically significant differences were observed in those skills, whose values in case of the particular learning style diverged considerably from the values of other styles. Consequently, the skill of career management seems an interesting example, as it was selected as an advantage by 22.2% of the intuitive style's respondents and only by 8.9% of

those from the quasi-analyst group. On the other hand, the ability to carry out duties of others was selected much more frequently by representatives of the analyst (21.8%) and quasi-analyst (19.1%) styles than by those from adaptive (13.1%) and intuitive (13.3%) groups.

The largest number of respondents represented the analyst (32.4% – 413 respondents) and quasi-analyst (30.8% – 393 respondents) styles. Representatives of these groups indicated the following as their advantages the most frequently: own workload management (69.2% of the analyst style group and 69.7% of the quasi-analyst group, respectively), learning (47.9% and 49.9%, respectively) and cooperation with people of all ages (46% and 47.3%, respectively). Leadership and leveraging were declared the least frequently (6.1% and 6.4%, respectively).

The intuitive style was represented by the fewest respondents (3.5% – 45 respondents in total). The group selected the following as their advantages the most frequently: interpersonal communication (48.9%), swift adaptation to new conditions (42.2%) and creative thinking (37.8%).

Summary

The analysis of research results indicated that the self-assessment of skills is determined by respondents' sex. The following skills were evaluated as considerably more significant by men than women: creative thinking, conflict solving, career management, stress management. On the other hand, women assessed own workload management, ability to carry out duties of others and interpersonal communication as more significant than men did. Such results seem interesting due to the fact that men considered 'hard' competencies, those which can be grasped and quantified, as their advantages. The literature of the subject highlights these skills as typically 'male.' As a consequence, the issue of the self-assessment's source may arise. Is the source associated with an objective evaluation conducted by respondents or is it simply a result of a stereotypical perception of male/female social roles? Female respondents considered interpersonal communication (also a stereotypically 'female' feature), workload management and multitasking as their advantage. All these findings offer a solid basis for further in-depth qualitative studies, which can deliver answers to the question of the extent to which the self-assessment is a result of stereotyping or an extent of the actual acquisition of skills by respondents.

The analyst (32.4% of respondents) and quasi-analyst (30.8%) became dominant learning styles among respondents. The intuitive style was the least frequently indicated (3.5%). This may have resulted from the specific character of respondents, dominated by people holding positions of specialists in their organizations. Such positions demand meticulousness and logical thinking.

The analysis of correlations between the learning style and respondents' skills revealed statistically significant differences in 8 out of 14 skills. Such fact denotes that the values of these skills in case of one of the styles considerably diverged from the values in other styles. For example, career management characterized representatives of the intuitive style. On the other hand, the ability to carry out duties of others constituted an advantage of the analyst and quasi-analyst. Further studies in this domain ought to be considered as well.

The literature of the subject emphasizes the necessity of innovation and creativity as a basis for successful realization of entrepreneurial objectives. However, it is not feasible without the development of suitable conditions for seeking opportunities, generating new activities and implementing innovations. For that to be possible, managers and HRM specialists ought to enable employees to develop their personal competences, especially as far as creativity and creative competences, self-management directed at achieving objectives, and social competences are concerned. Openness towards employees' diversity may be one of the means for identifying such competences among the employed.

Especially, managers and HR specialists ought to be receptive and sensible to employees' and applicants' diversity. They ought to be aware of the fact that, e.g., sex determines the self-assessment of employees' values, which, in turn, may influence the way they carry out their duties and their willingness to develop competencies in a particular area. Diversity should be treated not as a risk but as an opportunity for the organization. However, for such way of thinking to take roots in an organization, diversity must become one of the fundamental values in the company.

Research results indicated that respondents' age exerts significant influence upon their dominant learning style. In the case of the intuitive style, the youngest group constituted the majority of respondents. Consequently, managers ought to pay particular attention to new generations entering the labor market and coexisting in companies side by side with representatives of older generations. Such conditions demand new HRM tools, ones which will need to be developed by and for companies, especially the innovative ones, to be applied.

The fact that employees and their skills constitute a potential for development and innovation ought to be kept in mind. This requires proper management and involvement of employees of diverse potential – age, competencies, education, etc. Cooperation and the development of a model for communication in such a diverse group need to be generated. In such conditions, much depends on managers' competencies and experience. In order to utilize the potential of people of diverse age, mentoring programs or inter-generational bridges ought to be developed in companies.

Also managers must constantly develop (according to the idea of lifelong learning) and improve their diversity management skills, effective use of potential of diverse employee groups, and generation of synergies, in order to make full use of the potential offered by diversity.

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