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Evaluation of competences possessed by security guards employed by private security

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EVALUATION OF COMPETENCES POSSESSED BY SECURITY GUARDS EMPLOYED BY PRIVATE SECURITY

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ABSTRACT

The present article provides research data elicited from the leading managers (experts) of a private security concerning the evaluation of competences. The article offers classifications of the security guard competences and an algorithm for the computation of the level of their importance. The findings show the distribution of competences falling into the categories of very important, important, and slightly important competences. Investigation into the correlation of findings indicates that the system for the evaluation of security guards competences ought to be characterised by a larger number of indices under evaluation.

KEYWORDS

internal evaluation, external evaluation

INTRODUCTION

EU private security sector employs millions of people, and this index rises steadily[1]. Private security is a dominant factor of public security in the world, (the ratio of the private security sector employees to the governmental criminal service officers is about 2:1)[2]. The tendencies of economic development foresee the growth of public threats and dangers[3] as well as further development of private security. It is envisaged that over the coming 10 years the demand for working places in the USA private security sector will increase by 15% which is a much higher growth rate compared to the overall rise in working places in the total USA economy[4].

Specific personnel management targets are formed in the security. Personnel selection and deployment at essential positions (selection) is appraised as a key factor affecting the security, stability and development of performance in business[5]. The personnel selection procedure concentrates on the study and evaluation of potentialities, competences and personal properties of candidates (human recourse). The security staff evaluation procedure demands identification and determination of values of weights of specific personal criteria required for occupying a definite position at work[6]. It is necessary to create universal algorithms for the

[1] J. van Dijk *The world of crime.* Los Angeles, CA: Sage Publications, 2008.

[2] C. Dixson, Growth in the use of private security providers. *Human Rights and Business Dilemmas Forum*, 2011. Retrieved from: http://human-rights-forum.maplecroft.com/showthread.php?5124-Growth-in-the-use-of-private-security-providers&p=16431

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[6] S. Dadelo, Z. Turskis, E. K. Zavadskas, R. Dadeliene, Multiple criteria assessment of elite security personal on the basis of ARAS and expert methods. *Journal of economic computation and economic cybernetics studies and research*, 2012, 48(4). p. 1-23.

staff selection[7]. The currently operated personnel selection and evaluation systems are usually oriented to the reduction of business costs in order to optimize the planning of the demand for and the distribution of staff[8]. In the area of security this idea is implemented by classifying objects by their importance and risk as well as by identifying the staff selection criteria and determining their values. Relatively, the private security objects may be divided by security measures applied by them and the character of values entrusted to them: 1) observation; 2) non-armed guard; 3) armed guard; 4) personal guard[9]. An **urgent** task is to search for factors affecting the efficaciousness of security guards'professional performance. Identification of the values of weights of security guards'professional performance will serve as a basis for the optimization of employee evaluation and selection for carrying out tasks differing in terms of complexity and character, and for the generation of algorithms of the security guard selection procedures[10]. The process of private security staff selection ought to direct the evaluation of properties possessed by a security guard in two directions: external (evaluation by a direct superior) and internal (personal abilities and properties)[11]. This process requires defining key competences of security workers and rating them depending on work aims. However, evaluation and decisions taken by a single person are less correct than those made collectively with the difference between the two amounting to 26%[12] and finding mathematically evaluated existing

weighting factors, because there is no method able to effectively assess the optimal combination of the dynamic properties of the system. It is clear that all players rated indicators have different effects on their performance. However, there are no objective methods; arrows of weight and expert assessment of the methods used can be considered subjective but based on objective methods. The **purpose** of study: determination of the values of weights and importance of competences possessed by private security staff.

METHODS

Research subject: Leader managers (experts) of G4S Lietuva (n=22) with not less than 10 years of service at private security structures involving execution and organisation of security.
Research object:
Security guards competences. Description of the notion of competences depends on the area, subject and specific character of research[13]. When appraising professional performance of a security guard, competences ought to be understood as external and internal factors affecting the efficaciousness of professional performance, and generated by the security guard's personality.
Security guards internal evaluation (x): the data received were classified into six groups of competences (variables) regarding the features analysed[14] (Table 1):

1. Theoretical and practical preparation (x_1): knowledge, skills, abilities, practical experience–acquired throughout life;
2. Professional activity (x_2): carrying out required tasks;
3. Mental qualities (x_3): individual psychical qualities vital for performance of professional activities;
4. Physical development (x_4): morphological indications of a body;
5. Motor abilities (x_5): personal physical conditions allowing carrying out physical

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[8] J. van den Bergh, J. Belien, P. De Bruecker, E. Demeulemeester, L. De Boeck Personnel scheduling: A literature review. *European Journal of Operational Research*, 2013, 226. p. 367-385.
[9] Z. T. Nowicki, *Ochrona osób i mienia*. TNOiK, Toruń, 1999.
[10] S. Dadelo, Z. Turskis, E. K. Zavadskas, R. Dadeliene Integrated multi-criteria decision making model based on wisdom-of-crowds principle for selection of the group of elite security guards. *Archives of Budo*, 2013, 2(9). p. 135-147.
[11] Dadelo S. *Czynniki determinujące kompetencje pracowników ochrony na Litwie*. AWF Warszawa-Vilnius. 2005.
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[14] S. Dadelo, op.cit.

tasks at work or home, during leisure, and reflecting the level of physical qualities;

6. Fighting efficiency (x_6): a set of physical and mental qualities influencing the ability to effectively carry out actions fighting an adversary in direct contact.

Security guards external evaluation (y): factors selected based on A. Sakalas (2003) modified methodology (Table 1)[15]. They have been assessed on nine criteria that could affect security guards professional competences:

1. Specialty knowledge, professionalism (y_1): versatility, knowledge about their and related occupations;
2. Diligence and positive attitude to work (y_2): activeness, responsibility, discipline, zeal, vocation to work;
3. Behaviour with colleagues and supervisors (y_3): the ability to cooperate and work in a team;
4. Reliability at work (y_4): ability and willingness to perform tasks independently;
5. Quality of work (y_5): the ability to avoid mistakes;
6. Workload performance (y_6): the ability to carry out the maximum amount of work;
7. Image (y_7): the self-representational skills (exterior, posture, language culture);
8. Development rate (y_8): the ability to quickly adapt to new requirements and new working conditions;
9. Being promising (y_9): potential for career.

Determination of criteria weights by expert.

The expert judgment method was used to determine criteria weights. The algorithm of criteria weight establishment and process of calculation[16] is presented in Table 2. Once calculations were performed, criteria weights were established (Table 1).

Determination of statistical relation between variables (expert judgement).

In order to find relations between variables Pearson linear correlation coefficient (r) was calculated; $p<0.05$ criterion was chosen for the determination of the reliability of relation.

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RESULTS

Research allowed determining the values of internal and external factors affecting the values of competences possessed by security guards. For the analysis of security guards' internal evaluation factors (objectively depending on the abilities possessed by a security worker) appraised by experts (Figure 1), they were divided into three groups: 1) Very important (Theoretical and practical preparation (x_1) – 0.25; Mental qualities (x_3) – 0.21; Motor abilities (x_5) – 0.21); 2) Important (Fighting efficiency (x_6) – 0.16); Slightly important (Professional activity (x_2) – 0.09; Physical development (x_4) – 0.09). For the analysis of values of weights of security guards' external evaluation factors (subjectively depending on the appraisal given by the security guard's superior) (Figure 2), they were also divided into three groups: 1) Very important (Diligence and positive attitude to work (y_2) – 0.19; Reliability at work (y_4) – 0.17); 2) Important (Quality of work (y_5) – 0.14; Specialty knowledge, professionalism (y_1) – 0.13; Behaviour with colleagues and supervisors (y_3) – 0.13); 3) Slightly important (Image (y_7) – 0,08; Workload performance (y_6) – 0.07; Development rate (y_8) – 0.06; Being promising (y_9) – 0,03). Following the computation of correlations of factors evaluated by experts (Table 3), we determined factors having the greatest and the most frequent relations with other factors. These data allow us to determine universal factors reflecting generally the competences of a security guard. Appraisal of the security guards internal evaluation factors shows that Fighting efficiency (x_6) has the biggest number of reliable ($p<0.05$) relations. However, this factor is negatively related with Theoretical and practical preparation (x_1) ($r= –0.511$), with Professional activity (x_2) ($r= –0.594$) and with Mental qualities (x_3) ($r= –0.594$). This indicates exceptional character and importance of this factor in the security guards' professional performance. Appraisal of the security guards'external evaluation factors provides dispersion of relations, with the dominance of negative relations. Image (y_7) and Quality of work (y_5) as well as Workload performance (y_6) and Being promising (y_9) are marked for the abundance of reliable ($p<0.05$) relations with other

expert evaluation factor indices. Analysis of relations between the indices of internal and external evaluation shows that Motor abilities (x_5) and Development rate (y_8) factors are marked ones.

DISCUSSION

With the globalization processes gaining speed all over the world, discussion about particular professional requirements to be met by people working in the private security sector are becoming more and more intensive[17]. A security guard accounts for the success of a private security, the quality of services offered, the clients'or other persons'confidence in private security structures and, most important, and the security of society[18]. Inquiry into the legislation of different states shows that most often the states provide only the minimum requirements (age, good health, basic training, and the absence of previous conviction record) for persons wishing to engage in the private security activities. Laws regulating the work of private security enterprises do not prescribe separately the requirements binding on a leading manager or a security guard of a private security. Private security enterprises have to create professional standards and employment procedures applicable to common and elite workers[19]. Research carried out by authors indicates that workers employed by private security enterprises ought to meet high requirements: the workers must be very knowledgeable about legislation, technology, physiology, etc., their physical and mental condition must be good, they must be given favourable conditions for the development and refreshment of acquired knowledge and skills which enables their adaptation to the ever-

changing requirements in the labour market[20]. Research data allowed determining the values of weights of security guards'factors affecting their professional performance. Expert judgement ranked the factors as very important, important, and slightly important ones. However, inquiry into the correlation between expert judgements of the indices of examined factors revealed that factors with the greatest values of weights correlate with other factors poorly, and vice versa: factors with smaller values of weights are marked for a great abundance of correlations. This allows assuming that our research has covered only a part of factors affecting professional performance of security guards. Data on factors belonging to a very important group embrace unknown and undefined qualities of a security guard. Future inquiry into the competences possessed by security guards must analyse Theoretical and practical preparation (x_1), Mental qualities (x_3), Motor abilities (x_5), Diligence and positive attitude to work (y_2) and Reliability at work (y_4) in greater detail and look for their relations with other factors. It is possible to forecast that a system for the evaluation of security guards must be richer in terms of factors; this will enable to appraise their competences more objectively and precisely. It is necessary to develop new methods and systems for the evaluation and distribution of professional competences; these systems and methods must offer a chance to appraise factors which are hard to diagnose or yet unknown.

CONCLUSION

In Lithuania, like in many countries of the world, unified criteria for the security guards'evaluation are missing. The algorithm presented here provides landmarks in the creation of a comprehensive and thorough system for the security guards'evaluation. The research revealed the internal and external principles of security guards'evaluation. By values of weights, very important, important and slightly important factors affecting the professional performance of a security guard have been determined. The system developed for the security guards'evaluation

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appraises unknown factors, so it is vital to increase the number of factors offered for evaluation and to evaluate their values of weights.

This will allow us to make the security staff evaluation procedure more efficacious.

Table 1. Criteria (competences) *x* and *y* components ranks

Expert \ Criteria	x_1	x_2	x_3	x_4	x_5	x_6	y_1	y_2	y_3	y_4	y_5	y_6	y_7	y_8	y_9
1	6	1	5	3	2	4	7	9	4	8	5	3	6	2	1
2	5	2	3	1	6	4	7	9	5	6	8	2	3	4	1
3	5	1	3	2	6	4	5	9	4	6	8	1	7	3	2
4	6	1	5	3	4	2	5	9	7	8	6	3	4	2	1
5	6	1	5	2	3	4	7	9	6	8	5	3	4	2	1
6	5	1	4	2	6	3	5	9	6	8	7	3	4	2	1
7	4	2	3	1	6	5	4	8	5	9	7	2	6	3	1
8	6	2	5	3	4	1	6	8	5	9	7	3	4	2	1
9	5	4	6	3	2	1	7	9	4	8	6	3	5	1	2
10	5	4	6	1	2	3	6	7	4	9	8	3	5	2	1
11	4	1	3	2	6	5	5	8	6	9	7	2	4	3	1
12	6	2	4	1	5	3	6	9	5	7	8	4	3	2	1
13	6	4	5	1	3	2	5	9	6	8	7	3	4	2	1
14	6	3	5	1	4	2	7	8	6	9	5	4	3	2	1
15	4	1	3	2	6	5	5	9	7	8	6	3	2	4	1
16	4	1	3	2	6	5	7	9	8	6	5	4	2	3	1
17	6	1	4	2	3	5	6	8	7	9	4	5	2	3	1
18	6	3	4	1	5	2	6	9	8	7	4	5	2	3	1
19	4	1	5	2	6	3	4	9	8	6	7	1	5	3	2
20	6	2	4	1	5	3	5	9	6	7	8	3	4	2	1
21	5	2	6	3	4	1	6	8	7	9	5	4	3	2	1
22	4	1	6	3	2	5	6	9	7	8	5	4	2	3	1
Σ	114	41	97	42	96	72	127	190	131	172	138	68	84	55	25
ΣΣ			462							990					
Average	5.182	1.864	4.409	1.909	4.364	3.273	5.773	8.636	5.955	7.818	6.273	3.091	3.818	2.500	1.136
Attribute rank	1	5	2	6	3	4	5	1	4	2	3	7	6	8	9
Attribute weight	*0.247*	*0.089*	*0.210*	*0.091*	*0.208*	*0.156*	*0.128*	*0.192*	*0.132*	*0.174*	*0.139*	*0.069*	*0.085*	*0.056*	*0.025*

Table 2. The expert judgment method (Kendall, 1970)

Determining criteria weights	r — number of experts, n — number of criteria considered, $j = \overline{1,\, n}$; $k = \overline{1,\, r}$; $r \geq 7$
Interviewing the highly skilled experts	t_{jk} — j^{th} criterion rank given by k^{th} expert
Sum of ranks for each criterion	$\bar{t}_j = \sum_{k=1}^{r} t_{jk}$
Average criterion rank	$\bar{t}_j = \dfrac{\sum_{k=1}^{r} t_{jk}}{r}$
Criterion weight	$w_j = \dfrac{\bar{t}_j}{\sum_{j=1}^{n} \bar{t}_j}$
Dispersion of experts ranking values	$\sigma^2 = \dfrac{1}{r-1}\sum_{k=1}^{r}\left(t_{jk} - \bar{t}_j\right)^2$
Variation	$\beta_j = \dfrac{\sigma}{\bar{t}_j}$
Ranking sum average	$V = \dfrac{1}{r}\sum_{j=1}^{n}\sum_{k=1}^{r} t_{jk}$
The total square ranking deviation	$S = \sum_{j=1}^{n}\left(\sum_{k=1}^{r} t_{jk} - V\right)^2$
The coefficient of concordance $(W \geq 0.5)$	$W = \dfrac{12S}{r^2\left(n^3 - n\right)}$
The significance of the concordance coefficient (no related ranks) $\chi^2_{\alpha,v}$	$\chi^2_{\alpha,v} = \dfrac{12S}{rn(n+1) - \dfrac{1}{n-1}\sum_{k=1}^{r} T_k}$, where $\dfrac{1}{n-1}\sum_{k=1}^{r} T_k = 0$
Rank of table concordance χ^2_{tbl} when the importance equal to 1%	The freedom degrees value of a solved problem $v = n - 1$; $\chi^2_{tbl} = $ form statistical table
Compatibility of expert judgment	If $\chi^2_{\alpha,v} \succ \chi^2_{tbl}$ — The hypothesis about the consent of experts in rankings is accepted

Table 3. Correlations between the ranks of security guards criteria (competences)

|	x_1	x_2	x_3	x_4	x_5	x_6	y_1	y_2	y_3	y_4	y_5	y_6	y_7	y_8
x_2	0.281													
x_3	0.271	0.413												
x_4	-0.109	-0.385	0.423											
x_5	-0.408	-0.397	**0.813***	-0.353										
x_6	**-0.511***	**-0.594***	**-0.594***	-0.147	0.273									
y_1	0.334	0.196	0.270	0.156	**-0.476***	-0.122								
y_2	0.045	-0.305	-0.201	0.124	0.200	0.069	0.015							
y_3	-0.198	-0.336	-0.081	0.041	0.281	0.104	-0.192	0.221						
y_4	0.141	0.221	0.379	0.193	**-0.456***	-0.153	0.002	**-0.713***	-0.166					
y_5	-0.132	0.154	-0.241	-0.367	0.358	-0.039	**-0.428***	-0.047	**-0.525***	-0.250				
y_6	0.402	0.175	0.259	0.015	-0.394	-0.148	**0.479***	-0.097	0.376	0.300	**-0.681***			
y_7	-0.011	0.075	0.045	0.067	-0.032	-0.089	-0.302	-0.080	**-0.680***	-0.022	**0.495***	**-0.737***		
y_8	**-0.529***	**-0.444***	**-0.674***	-0.241	**0.576***	**0.678***	-0.228	0.112	0.361	-0.353	0.000	-0.185	-0.315	
y_9	-0.249	0.055	0.095	0.210	0.078	-0.171	-0.181	0.256	-0.190	**-0.428***	0.219	**-0.541***	**0.521***	-0.086

Note: * - p<0,05
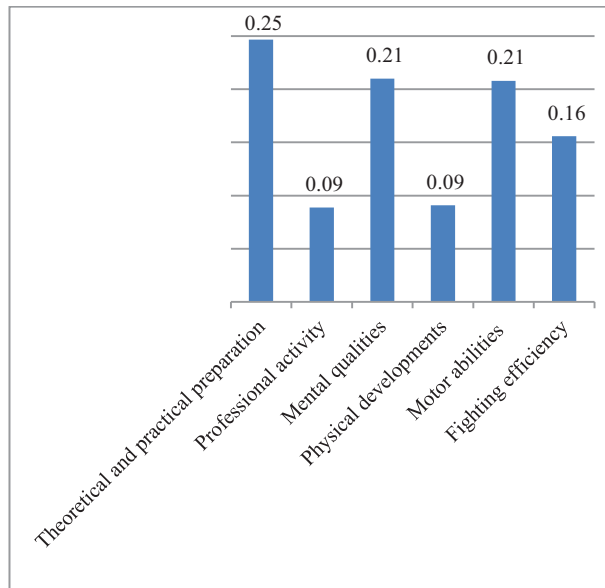
Figure 1. Internal evaluation criteria weights of security guards
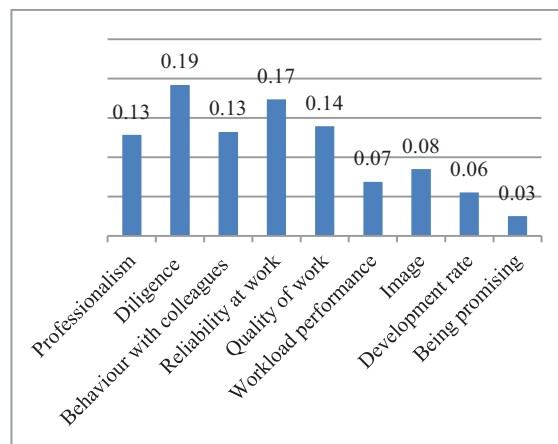

Figure 2. External evaluation criteria weights of security guards

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