Performance Quality: Influence of Work Environment Factors for Informal Training Transfer

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Abstract

The principal purpose of the present paper is to examine the effect of work environment (social support and job characteristics) for the transfer of training. Although the transfer of training is a complex process highly affected by a range of different factors, it is important to enhance attention to work environment; the effect of work environment upon the benefits of training has not been extensively covered in research literature, however, it may have a significant effect when building an efficient training system in the organisation. The authors of the studies have demonstrated that social support (supervisor support and peer support) maintains the strongest links with the transfer of training, and accounts for 31 per cent of the benefit of training, in the meantime autonomy and workload neither correlates with the benefits of training, not predict them. Therefore, ensuring social support is a necessary precondition for higher efficiency of training, and higher performance quality.

Keywords: *performance quality, work environment, training transfer, supervisor support, workload, social support, work characteristics.*

1. Introduction

Training is not an end in itself. Just like any other activity, training requires time, energy and investment (Topno, 2012), therefore it is vital that the knowledge acquired within the framework of training are appropriately used in professional activities and would facilitate attaining the prescribed objectives. Ordinarily organisations, on an annual basis, allocate considerable amounts for the development of training programme (Kia & Ismail, 2013), as part of our efficiency enhancement efforts (Seyler *et al*, 1998). According to J. H. Park & T. Wentling (2007), managers of organisations in all seek to ensure that all investment allocated to the development of human capital yield benefit. However, not infrequently, managers of organisations are not entirely content with the level of training transfer (Baldwin & Ford, 1988; Broad & Newstrom, 1992; Rakštelienė at al., 2017), and training does not benefit the organisations to the extent initially expected (Ruževičius & Serafinas, 2011). G. M. Alliger *et al*. (1997) claimed that where the training transfer is conducted in a systemically faulty manner, and employees fail to adopt new knowledge in their work and constantly suffer failure, the entire situation amounts to a problem to be addressed by the organisations themselves. An analysis (Baldwin & Ford, 1998; Broad, 1997; Facteau *et al*., 1995) showed that only about 10–15 per cent of the training knowledge is used in practice. Therefore, the transfer of the knowledge acquired in the course of training is increasingly becoming a leverage point with direct impact upon the results of the organisational performance (Saks & Belcourt, 2006).

The purpose of the present study is to assess the impact of the working environment upon the training transfer.

Tasks of the study:

1. Examine the resolution of the factors in the working environment and the training transfer;
2. Examine the link between the working environment and the training transfer;
3. Examine the link between the supervisor support and the training transfer;
4. Examine the link between the peer support and the training transfer;
5. Examine the link between the workload and the training transfer;
6. Examine the link between the autonomy at work and the training transfer;
7. Identify the working environment factors forecasting the extent of the training transfer;
8. Develop, on the basis of the study results, a model for the training transfer;
9. Formulate the key conclusions and proposals regarding any further studies.

2. Literature review

Description of the training transfer. J. H. Park & T. Wentling (2007) define the training transfer as an ability of students to generalise and apply the knowledge and skills at work. According to D.J.J. Nijman, *et al*. (2006) training transfer should be considered a necessary step in ensuring that the training programmes are effective, and the planned investment return is properly generated. A proper training transfer is referred to as the efficiency of the employees in adapting their knowledge,

skills and views acquired in the training context (Cromwell & Kolb, 2004). Training transfer is ordinarily understood as a generalisation of new knowledge, and application of such knowledge in the working environment when formulating new skills (Baldwin & Ford, 1988). E. F. Holton III *et al*. (2002) defined the training transfer as the level of applying in workplace of the knowledge, skills and views acquired by the trainees in training. Training transfer is an effective and continuing application, by trainees to their jobs, of the knowledge and skills gained in training (Broad & Newstrom, 1992). M. L. Broad and J. W. Newstrom (1992) claim that training may result in a relatively low-level transfer, referred to as "voluntary" or "unsupported transfer," particularly if trainers focus only on developing and delivering training programs that meet the learning needs. E. F. Holton III *et al*. (2000) concluded that learning is of little value to employees until it is transferred to performance.

According to J.Z. Rouiller & I. L. Goldstein (1993), studies on training transfer are to a larger extent related to the applicability of the knowledge acquired as part of formal education, as the knowledge acquired within the framework of informal training, having regard to its context and the content, are easier applied in workplaces. Therefore, the applicability of the knowledge acquired within the framework of informal training has been to a much lesser extent covered in research literature, and fewer studies have been dedicated to the subject. Nevertheless, in the modern environment managers of organisations and human resources specialists encounter numerous outstanding issues related to the applicability of knowledge in workplaces (Rouiller & Goldstein, 1993).

According to M. L. Broad & J. W. Newstrom (1992), J. D. Daniels *et al*. in order to obtain the desirable degree of TT, it is necessary that managers understand the factors determining the efficiency of training transfer.

Effects of work environment on the transfer of training. In research literature, work environment is often referred to as a vital condition for training transfer because it may support the transfer process, or, on the contrary, suppress it (Rouiller & Goldstein, 1993; E. F. Holton III *et al*., 2000). Although quite a number of researchers have been highlighting the importance of the work environment, and sometimes it is perceived to be of equal importance to the studying (Rouiller & Goldstein, 1993), there is still no clear understanding regarding the role of the work environment to training transfer (Alliger *et al*., 1997). Work environment acts as a 'moderate' between the training transfer and other important factors, such as the context of the organisation and the person's stance towards work (Rouiller & Goldstein, 1993). J. Xiao (1996) highlighted the role of the work environment upon the person's possibilities to transfer the training outcomes and his motivation to do that.

T. T. Baldwin & J. K. Ford (1988) claim that the support of immediate supervisor is of vital importance to the transfer of training. The supervisor support may be expressed in a number of ways: encouragement to participate in training events, determination of operational objectives, behavioural modelling, application of knowledge, drawing up of operational plans, initiation of the discussions on the use of knowledge in operations, involvement of employees in the development of training programmes, provision of assistance in studying and recognising and awarding of the employees for the progress in the transfer of training (Garavaglia,1993; Rouiller & Goldstein, 1993; Smith-Jentsch *et al*., 2001; Xiao, 1996). According to E. F. Holton III *et al*. (2007), supervisory support is the assistance from the superiors reinforcing the desire of the employees to use the knowledge acquired in training.

Another important factor shaping the transfer of training is peer support (Clarke, 2002), which, in respect of the transfer of training, may be even more important than the support offered by the immediate supervisor (Gilpin-Jackson & Bushe, 2007). Peer support is ordinarily manifested through the encouragement of the transfer of training, solution of problems and providing expert assistance (Martin, 2010). According to E. F. Holton III *et al*. (2007), peer support strengthens the motivation of the employees to use at their workplace the knowledge acquired in training.

J. Z. Rouiller & I. L. Goldstein (1993) specifically highlighted the importance of characteristics of work and claimed that employees may apply the knowledge acquired in training only provided their workload is reduced. In the opinion of D. Russ-Eft (2002), workload does affect the transfer of training. 'It is important that employees have sufficient time and energy, to facilitate the transfer of training; a person's workload may facilitate or impede learning or apply the knowledge in workplaces'.

Another important characteristic of a job is autonomy at work, which, as claimed by J. R. Hackman & G. R. Oldham (1974) involves the freedom of decisions on the employee part, discretion of the employees in scheduling the work, and selecting the procedures in carrying out the assignments. Autonomy means an increasing responsibility of the employee for his actions, activity, in passing the job-related decisions, and enhanced manifestation of the employees' autonomy. F. Coelho & M. Augusto (2010) claimed that autonomy can motivate and enable employee to try new ideas and learn from consequences and expend their domain-relevant skills.

3. Study methodology

Based on the theoretical assumptions the authors of the present paper developed a scheme for an empiric study that is presented in *Figure 1*.

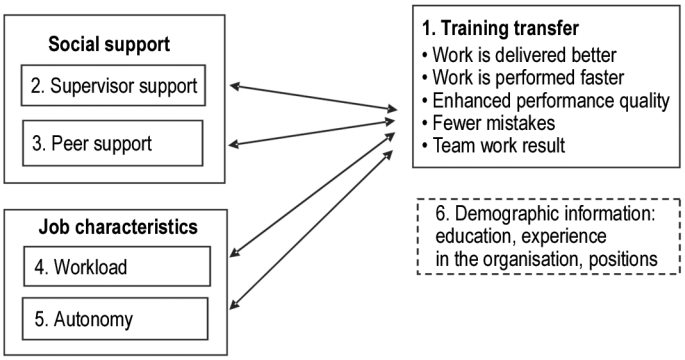


Figure 1. Theoretical scheme of a quantitative study (compiled by the authors based on T.T. Baldwin & J.K. Ford, 1988)

Three study hypotheses were presented on the basis of the scheme in *Figure 1*:

- *First hypothesis 1 (H 1):* Supervisor support is favourably related to the transfer of training.
- *Second hypothesis (H 2):* Peer support is favourably related to the transfer of training.
- *Third hypothesis (H 3):* Workload is adversely related to the transfer of training.
- *Fourth hypothesis (H 4):* Autonomy a work is favourably related to the transfer of training.
- *Fifth hypothesis (H 5):* Social support and job characteristics forecast the use of the knowledge acquired through training at workplaces.

Sample. The organisation selected as the study object is a public-sector institution that at the time of the study had 181 employees. A convenience sampling method was used for the purpose of the study, total 135 responses were received from the employees; the final sample consisted of 133 employees having excluded 2 employees whose replies to the additional question whether they use in their work the knowledge from

training was negative. The 133 employees accounted for 73.5 per cent of the employees and reflect the opinion of the population with a selected probability and the tolerance. On the basis of the sample size formula with 95 per cent probability and the 5 per cent tolerance, the resulting sample required for the study consisted of 123 employees. Thus, the responses received from the sample of 133 employees represent the opinion of the entire organisation.

Study methods. The study employed a questionnaire survey method with the questionnaires uploaded on the internet thus ensuring the anonymity of the participants. The questionnaire is made of six parts: questions on the demographic characteristics of the participants, transfer of training, social support (supervisor support and peer support), job characteristics (workload and autonomy), in addition to the open questions on the experiences of the employees in attending the training classes. The responses were assessed at a five-level Likert scale from '1' (strongly disagree) to '5' ('Strongly agree').

The analysis was carried out using a statistical package *SPSS statistic 23.0*. The internal structure of the scales of supervisor and peer support, workload, autonomy at work and the transfer of training used for the purpose of the study applying the key factor component analysis with a varimax rotation, and the internal consistency of the scales was assessed in terms of *Cronbach* α scores. The calculation of indicator variables was followed by the assessment of the interrelation between the variables using the *Pearson correlation coefficient.* The statistical differences between the indicators in the analysed groups were assessed by applying the Student to test according to the significance coefficients: if $p \leq 0.05$, the differences between the indicators are considered statistically significant. The predicted factors of the dependent variable – the training transfer were assessed using the *multidimensional linear regression*. In regression analysis the regression equation relates one variable Y, the so-called dependent variable with the independent variables X1, X2, ... XK. For the purpose of the present study the dependent variable is the variable Y – Training transfer, and the independent variables are: X1 – Supervisor support, X2 – Peer support, X3 – Workload, X4 – Autonomy.

Demographic indicators. The participants of the study were inquired about education, work experience in the organisation, position. The questionnaire presented possible versions of responses.

The transfer of training was assessed in terms of statements describing the significance of the acquired knowledge for the performance of work (e.g. the tasks are completed faster) and the quality of the work performed (e.g. improved quality, fewer mistakes, etc.). The basis of the scale is the J. Xiao scale (1996) consisting of six statements and called Output of transfer behaviour. Examples of the statements: *'when applying the knowledge acquired through training I complete the work tasks better, when applying the knowledge acquired through training I complete the work tasks faster'*. The scale was supplemented by a statement designed by the authors of the paper drawn up on the analysis of the relevant literature – *'when applying the knowledge acquired through training I attain better results'*.

The Cronbach alfa score of the internal consistency of the scale is 0.87. The findings of the factor analysis of the key components with a varimax rotation showed that the data were suitable for the analysis, and one factor was identified explaining 66.9 per cent of the dispersion.

The supervisor support was assessed on the basis of a scale of eleven statements and designed on the basis of J. Xiao (1996) scale *Supervision*, J. R. Kirby *et al*. (2003) *Good supervision scale*, and E. F. Holton III *et al*. (2007) scale *Supervisor support*. The authors of the paper, included in the Supervisor support scale eight statements on the basis of the analysis of research literature, e.g. *'interested what knowledge and skills I acquired through training, helps applying the knowledge acquired through training'*. The Cronbach alfa score of the internal consistency of the supervisor support scale is 0.93. The findings of the factor analysis of the key components with a varimax rotation showed that the data were suitable for the analysis, and one factor was identified explaining 58.7 per cent of the dispersion.

The peer support was assessed on the basis of a scale of eleven statements and designed on the basis of J. Xiao (1996) scale *Supervision*, J. R. Kirby *et al*. (2003) *Good supervision scale*, and E. F. Holton III *et al*. (2007) scale *Supervisor support*. The authors of the paper, included in the Peer support scale seven statements on the basis of the analysis of research literature, e.g. *'take into account the ideas proposed regarding the transfer of training, do not criticize when I apply the knowledge acquired through training at work'*. The Cronbach alfa score of the internal consistency of the entire scale is 0.93. The findings of the factor analysis of the key components with a varimax rotation showed that the data were suitable for the analysis, and one factor was identified explaining 62.9 per cent of the dispersion.

The workload was assessed on the basis of the scale of four statements, on the basis of the *Workload scale* designed by J.R. Kirby *et al*. (2003). The Workload scale was supplemented by a statement designed by the authors of the paper – 'My workload is normal. Since the statement is formulated as negative, for the purpose of computing the data, the responses were inverted, i.e., 1 point is considered equal to 5 points, two points are considered equal to four points, four points are considered equal to two points, and five points – to one point). The Cronbach alfa score of the internal consistency of the workload scale is 0.88. The findings of the factor analysis of the key components with a varimax rotation showed that the data were suitable for the analysis, and one factor was identified explaining 74.7 per cent of the dispersion.

The Autonomy scale consists of five statements selected on the basis of the scale designed by M.K. Ahuja *et al*. (2007) (e.g. *'at work I can independently plan the time allocated for the performance of work'*). The Cronbach alfa score of the internal consistency of the supervisor support scale is 0.76. The findings of the factor analysis of the key components with a varimax rotation showed that the data were suitable for the analysis, and one factor was identified explaining 52.5 per cent of the dispersion.

4. Results and discussion

When asked a question whether having returned to work the employees use all the knowledge that they have acquired through training programmes, most of the respondents (111) replied that they apply some of the knowledge, 22 respondents indicated they apply all the knowledge, and two respondents indicated they do not use the knowledge in their work at all. The present study analyses the data of the entire sample, because the data analysis showed that the differences between the averages of all analysed indicators of the groups according to demographic characteristics (education, work experience and position) are not statistically significant.

The first task of the study is to examine the resolution of the factors in the working environment and the training transfer. The obtained results demonstrated that all the statements referring to the transfer of training scored higher than an average, and the aggregate average score was as high as 3.88 of 5 possible. The participants of the study claimed that the biggest benefit of the transfer of training was a higher quality of completing the tasks. Two statements, i.e. 'when applying the knowledge acquired through training I complete the work tasks better, 'by applying the knowledge acquired through knowledge the quality of my work improves' were scored four out of five possible. The lowest score – 3.71 – was assigned to the statement *'when applying the knowledge acquired through training I complete the work*

tasks faster', though the score significantly exceeds the average score and in general the score is fairly high.

In terms of individual variables all the average values are similar and are higher than the average (*Table 1*).

Table 1. Work environment factor averages (M), standard deviations (SD) (compiled by the authors on the basis of the study results)

Work environment indicators	Averages (M)	Standard deviations (SD)
Supervisor support	3.62	0.64
Peer support	3.61	0.66
Workload	3.26	0.83
Autonomy	3.50	0.61

The data in *Table 1* show the highest score assigned to social support (supervisor support, M = 3.62, and peer support, M = 3.61). The lowest score was assigned to the Workload factor (M = 3.26). It may be concluded that all job characteristics, except the workload factor, were scored sufficiently high.

Interrelation of the work environment factors with the knowledge applicability at work

The second task of the study is to examine the interrelation between the work environment factors and the training transfer. The Pearson correlation coefficients estimated from among the indicators being analysed are presented in *Table 2*.

Table 2. Coefficients of correlation of the knowledge acquired through training and the work environment characteristics (compiled by the authors on the basis of the study results)

Variables	Supervisor support	Peer support	Workload	Autonomy
Application of the knowledge acquired through training	0.492**	0.476**	-0.095	0.114
Supervisor support	1	0.523**	-0.299**	0.210**
Peer support		1	0.012	0.014
Workload			1	-0.305**
Autonomy				1

**p ≤ 0.01;
*p ≤ 0.05

The data of *Table 2* show that the supervisor support is most closely related to the training transfer (r = 0.492, p ≤ 0.01), and correlate to the peer support (r = 0.476, p ≤ 0.01). The analysis of the interrelation between the different variables shows a correlation link between the supervisor support and the peer support (r = 0.523, p ≤ 0.01), the employees that assigned high score to the supervisor support, equally highly scored the support provided by their colleagues. This shows that the social environment in the organisation is assessed positively. It is also important to note that a higher score of the supervisor support negatively related to the workload (r = - 0.299, p ≤ 0.01), i.e. in case the supervisors provide more support, the employees assess the workload to be lower. Although the workload indicator average is not very high (3.26 points out of five possible), it still is higher than the average 3-point indicators, which shows that in order to reduce the workload it is important to increase the support by the supervisors. The supervisor support is also related to the assessment of autonomy at work (r = 0.210, p ≤ 0.05): the employees who have assigned higher score to the supervisor support, assigned similarly high score to the possibility to work independently (autonomy at work). The peer support is not related to the workload, or the autonomy. The results lead to a conclusion that within the social environment of the organisation specifically important is the support on the part of the supervisor because the study showed the significance of the supervisor support to the workload and the autonomy at work as assessed by the employees. Attention should be paid to the link between the autonomy and the workload – the employees who assigned higher score to the possibilities of autonomy at work, considered the workload to be lower (r = 0.305, p ≤ 0.01). Therefore, in order to reduce the workload, it is important to ensure higher autonomy. Studies of employees of different professions showed that the regulation of workload is a very important factor for the purpose of organising the work, because they are closely related to the performance and the quality of work (e.g. Van Bogaert *et al*., 2013), satisfaction with work (e.g. De Cuyper & De Witte, 2006), stress at work (e.g. Greenglass *et al*., 2001), and such factors may have an impact upon the employees' health (e.g. Faragher *et al*., 2005), or even trigger low motivation or an intention to quit the job (e.g. Houkes *et al*., 2001).

Link between the supervisor support and the training transfer

The verification of the first hypothesis required an estimation of the link between the training of transfer and the supervisor support. It should be noted that the supervisor support correlates not only with the overall benefit from the transfer of training, but also with the individual statements of training benefit scale. The results received showed that the supervisor support correlates with all the aspects of the transfer of training: the strongest correlation was recorded between the supervisor support and the better fulfilment of tasks (r = 0.483, p ≤ 0.01), and the higher quality of work (r = 0.436, p ≤ 0.01). The other indicators also testify to a strong list with the supervisor support. The aggregate training transfer indicator is also strongly related to the assessment of the supervisor support (r = 0.492, p ≤ 0.01). Therefore, it is important to examine which specific aspects of the support on the part of the immediate supervisor are most strongly related to the transfer of knowledge. The estimated Pearson correlation coefficients are presented in *Table 3*.

Table 3. Correlation links between the statements of the supervisor support scale and the benefit from training (compiled by the authors on the basis of the study results)

Statements of the supervisor support scale	Training transfer
Explores the difficulties that I encounter when applying the knowledge I have received through training	0.227**
Discusses with me the possibilities of transfer of training	0.360**
Defines the objectives that encourage me to apply the knowledge acquired through training	0.437**
Always prepared to provide advice or recommendations so that I could apply the knowledge acquired through training at work	0.348**
Helps in the training transfer process	0.387**
Take into account the ideas proposed regarding the transfer of training	0.490**
Praise me if I apply the knowledge acquired through training at work	0.438**
Interested in what knowledge I acquired through training	0.390**
Does not criticise me when I apply the knowledge acquired through training at work	0.401**
Encourage me to apply in my work the knowledge acquired through training	0.336**
Provides feedback on how well I perform using the knowledge acquired through training	0.343**

**p ≤ 0.01

Table 3 shows that that the transfer of training is most strongly related to the following aspects of the supervisor support: '*takes into account the ideas proposed regarding the transfer of training'* (r = 0.490, p ≤ 0.01), 'commends me in front of my peers when I apply the knowledge acquired through training (r = 0.438, p ≤ 0.01), and *'defines the objectives that promotes me to apply the knowledge acquired through training'* (r = 0.437, p ≤ 0.01). The links to the other aspects are significant too, therefore in order to benefit more from the transfer of training, the managers should consider the significance of the support to employees and provide such support.

The results of the study allowed to confirm the first hypothesis (H1) – supervisor support is positively related to the transfer of training.

The interrelationship between the peer support and the training transfer

The verification of the second hypothesis required an estimation of the link between the training of transfer and the peer support. Peer support is most strongly related to the attainment of better results (r = 0.427, p ≤ 0.01), better performance of the tasks (r = 0.424, p ≤ 0.01), and a higher quality of work (r = 0.405, p ≤ 0.01). The correlation between the latter indicators was also clearly identified in relation to assessing the supervisor support, therefore it may be concluded that social support is important in seeking quality in work. Since the peer support is related to the indicators defining the application of knowledge, it is important to explore the links of the individual aspects of the support with the transfer of training. The estimated Pearson correlation coefficients are presented in *Table 4*.

Table 4. Correlation links between the statements of the peer support scale and the training transfer
(compiled by the authors on the basis of the study results)

Statements of the peer support scale	Transfer of training
Explore the difficulties that I encounter when applying the knowledge I have received through training	0.390**
Discuss with me the possibilities of the transfer of training	0.321**
Always prepared to provide advice or recommendations so that I could apply the knowledge acquired through training at work	0.410**
Help in the training transfer process	0.370**
Take into account the ideas proposed regarding the transfer of training	0.378**
Praise me if I apply the knowledge acquired through training at work	0.360**
Interested in what knowledge I acquired through training	0.428**
Do not criticise me when I apply the knowledge acquired through training at work	0.341**
Encourage me to apply in my work the knowledge acquired through training	0.401**

**p ≤ 0.01

Table 4 shows that that the transfer of training is most strongly related to the following aspects of the peer support: 'Interested in what knowledge I acquired through training' (r = 0.428, p ≤ 0.01), *'always prepared to provide advice or recommendations so that I could apply the knowledge acquired through training at work'* (r = 0.410, p ≤ 0.01), and *'encourage me to apply in my work the knowledge acquired through training'* (r = 0.401, p ≤ 0.01). An important observation is that there is also a link with the remaining aspects, therefore in the organisation it is useful to use the peer support in the same way as the supervisor support, in order to obtain more benefit from the transfer of training.

The results of the study allowed to confirm the second hypothesis (H2) – peer support is positively related to the transfer of training.

Link between the workload and the transfer of training

For the purpose of examining the third hypothesis it should be noted that the aggregate ratio of benefit from the application of knowledge is not significantly related to the workload (r = - 0.095). Although the workload and the individual statements of the transfer of training scale and the overall indicator correlate negatively, the resulting links are not statistically significant. Thus, the third hypothesis (H3), claiming that the workload is negatively related to the transfer of training was not confirmed, as the link was not established. The resulting negative trend in the link may be related to the fact that the employee workload in the organisation in question is not very high (3.26 points, *Table 1*). 28 employees (20.1 per cent of the respondents) indicated that their workload is high (the workload indicator is 4), and as few as 4 employees indicated that their workload is very high (the workload indicator is 5 points). Another possible reason is a relatively limited sample of the study, possibly the trend would be more prominent, if all the employees of the organisation participated in the study.

Link between autonomy and the transfer of training

The verification of the fourth hypothesis required the identification of the link between autonomy and the indicator of the transfer of training and the individual statements of the transfer of training scale. The results of this exercise showed that autonomy is related to two statements of the transfer of training scale: *'when applying the knowledge acquired through knowledge the quality of my work improves'* (r = 0.183, p ≤ 0.05), *'when applying the knowledge acquired through training I attain better results'* (r = 0.171, p ≤ 0.05). However, contrary to what was expected, autonomy does not correlate to the aggregate knowledge application indicator (r = 0.114), therefore the fourth *(H4) hypothesis is not confirmed, i.e. autonomy at work is not related to the transfer of training*.

Nevertheless, autonomy is an important factor for the employees in the organisation, because autonomy facilitates the transfer of training, helps in improving the quality of the results, and attaining better results. The overall trend of the identified positive links could be more prominent had all the employees of the Company participate in the study.

Predicted factors of the transfer of training

The fifth hypothesis claiming that social support and job characteristics predict the transfer of training was verified by way of a multidimensional regression analysis. Dependant variable – the transfer of training indicator, and the independent variables are the supervisor support, peer support, workload and autonomy. The closer is the determination coefficient R^2 to one, the larger part of the dispersion of the dependent variable is explained in terms of the linear regression, i.e. the better description of the dependent variable is produced by the regression function (Čekanavičius and Murauskas, 2004). Regression model is suitable for the analysis: the multicollinearity indicator for each independent variable (VIF) is less than 4, and the model materiality p = 0.001. The obtained results of the regre-ssion analysis are presented in *Table 5*.

Table 5. Results of regressive analysis
(compiled by the authors on the basis of the study results)

Independent variables	Dependent variable Application of the knowledge acquired through training	
	Standardised β (Beta) coefficients of predicted variables	VIF
Supervisor support	**0.328****	1.615
Peer support	**0.304****	1.446
Workload	0.013	1.220
Autonomy	0.45	1.126
Determination coefficient R^2	0.310	
F	14.586	

**p ≤ 0.01

The results of the regression analysis showed that both indicators of social support accounts for 31 per cent of the variation in the training benefit indicator (R^2 = 0.310). That means that with respect to up to 69 per cent of the transfer of training phenomenon significant may be some other factors not covered by the study, and which may account for the remaining 69 per cent of the variation in the dependent variable.

The analysis included the calculation of point estimates of the coefficients of the multidimensional linear regression equation (*Table 6*).

Table 6. Coefficients of regressive analysis
(compiled by the authors on the basis of the study results)

Model		Unstandardized coefficients of regression analysis *(Unstandardized B)*	*Coefficients Std. Error*	*Significant (p)*
1	*(Constant)*	1.598	0.463	0.001
	Supervisor support	0.305	0.860	**0.001**
	Peer support	0.276	0.080	**0.001**
	Workload	0.010	0.058	0.870
	Autonomy	0.044	0.075	0.561

Table 6 shows the point estimates of the coefficients of the multidimensional linear regression (coefficients of the sample regression equation): b0 = 1.598, b1 = 0.305, b2 = 0.276, b3 = 0.010, b4 = 0.044.

The standardised regression equation coefficients BETAj serve as a basis to identify the variable Xj that exercise the largest impact Y on the forecast, j = 1,2,...4. *Table 5* shows that the largest coefficient is $BETA_1$ = 0.328. That means that the supervisor support to a largest extent predicts the transfer of training. It may also be at 99 per cent guarantee that all coefficients of the regression equation of the social support (supervisor support and peer support) (*Table 6*) are significant (p = 0.01). However, the workload (p = 0.870) or autonomy (p = 0.561) do not predict the transfer of training.

The results of the regression analysis allow a conclusion that the fifth hypothesis of the study was confirmed in part – out of all factors of the work environment only social support predicts the transfer of training.

5. Training transfer model

Having carried out an analysis of the research literature, and summarised the results of the study, also referring to the cycle of continuous improvement by E. Deming, the authors of the present paper have developed a transfer of training model, reflecting the key stages in the operations; the implementation of the stages could contribute to the building of an efficient training system in the organisation (*Figure 2*).

Additionally, the model integrates a sub-system of the Deming continuous improvement cycle consisting of a logical four-steps sequence (Pan-Do-Study-Act), because in order to ensure a maximum efficiency of the training system the training system must be continuously improved. The model shows that the efficiency of training in the organisation depends on a number of balanced actions within the system ranging from planning to the performance of completing actions. In the planning stage, based on the information obtained through an analysis of the research literature, special attention to the identification of the training needs, and the reconciling of the training with the objectives of the organisation. The authors of the paper also recommend providing for a ratio for measuring the efficiency of training, and to be used by unit managers in relation to an annual evaluation. This would ensure a more extensive inclusion of the employees and a more responsible planning of training needs. Unit managers would be more interested in appointing the employees to the specific training only, the employees would be given certain objectives, and receive feedback.

The stage the execution of training and the transfer of training should specifically take into account the following aspects: organisation of quality training (proper infrastructure, qualified lecturers, implementation of the training programme reconciled with the content of work), and the application of the knowledge acquired through training in workplaces. It is important to note that the stage does not end with quality training exercise, because such training does not have any purpose unless it is transferred to the professional activity. For the knowledge to be applied in work, it is necessary to ensure both the supervisor support and the peer support (based on the survey carried out by the authors), because the two dimensions correlate with the indicators of the benefits of training: faster execution of tasks, better quality and attaining better performance results. Managers of companies must bear in mind that they not only have to define certain targets for their employees before training, but also constantly inquire the practical applicability of the knowledge, take into account the ideas proposed by the employees, commend the employees and refrain from criticising in case they fail. The prevailing environment among the peers must be motivating – all employees must feel that their peers will be always prepared to help them in case there are any difficulties in applying the knowledge acquired in training, that the peers will in all cases sincerely explore any problems, if they occur in forming new skills, and shall be always interested in new knowledge and new experiences, will duly consider any new proposed ideas.

In the evaluation stage, the authors of the paper recommend using the D.L. Kirkpatrick (2009) model that encompasses the four levels of training evaluation:

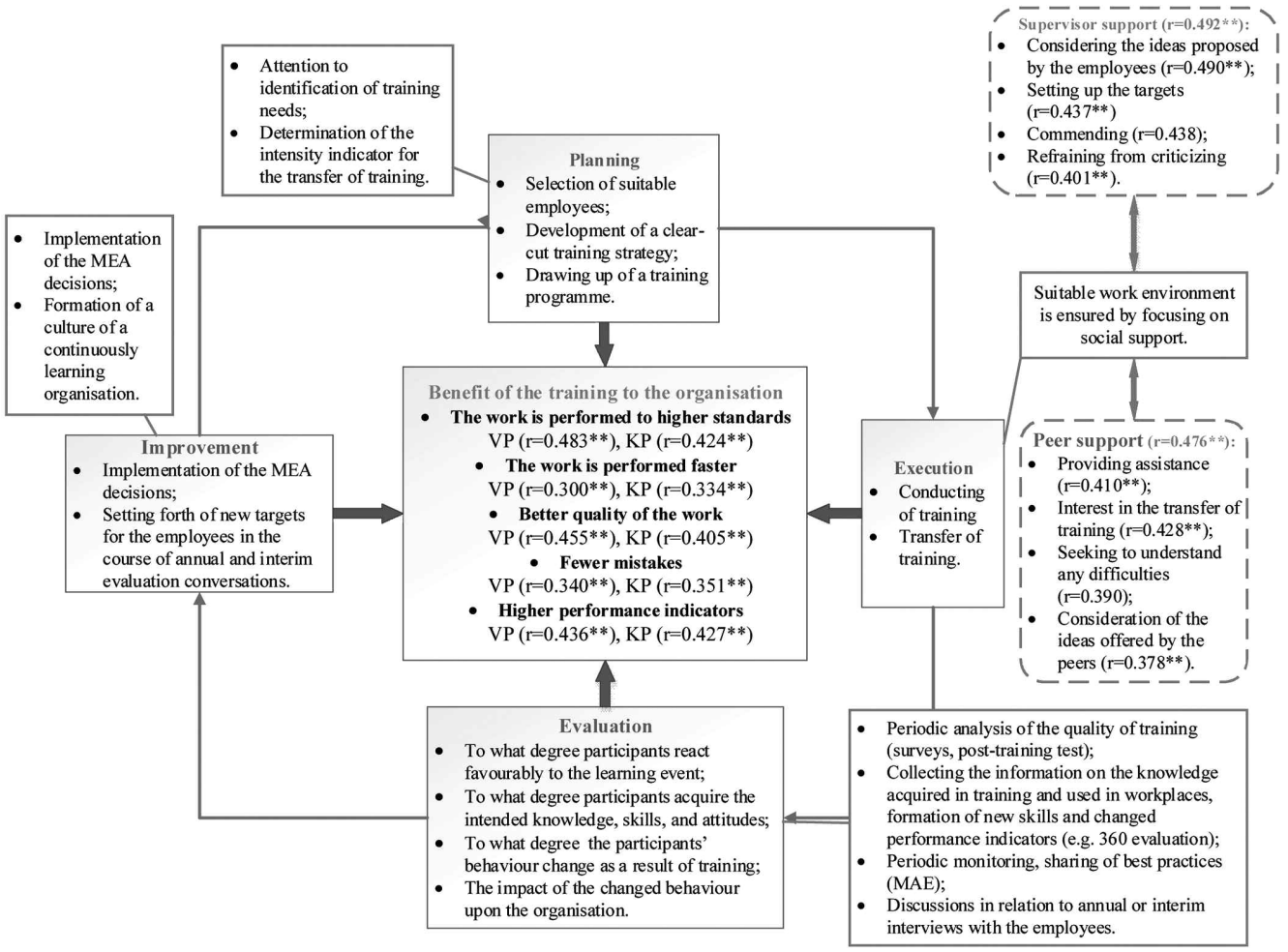
- To what degree participants react favourably to the learning event;
- To what degree participants acquire the intended knowledge, skills, and attitudes;
- To what degree the participants' behaviour change as a result of training;
- The impact of the changed behaviour upon the organisation.

Each evaluation level is important and affects the other level, therefore all the levels have to be evaluated in a systemic manner. In the evaluation stage it is important to evaluate the quality of the completed training, the compliance of the training to the content of the work, the objectives of the organisation (questionnaires after the training), the change in the level of training after the training (e.g. test of the change in the level of knowledge), the progress in the application of the knowledge acquired in training in workplaces (for instance, a 360 evaluation, where inquiries on the change in behaviour are placed to subordinates, peers and managers). Systemic discussions could be held and decisions regarding improvement could be passed at the Management evaluation analysis meetings (MEA).

The implementation of the MEA decisions, while prescribing for new objectives takes place in the fourth – the improvement – stage of the cycle. By continuously improving the training system, learning from mistakes and exchanging good practice, the organisation gradually builds a culture of continuously learning organisations; maintaining such organisation is vital in building a vital organisation able to properly manage changes.

6. Conclusions

Since training is not an end in itself, and the activity also requires time, energy and investment, the transfer of training is a mandatory condition in ensuring an efficient corporate governance of the organisation. In research literature the applicability



- ***p ≤ 0.01*
- *r – strength of correlation, i.e.., if r = 0, there is no dependence between the variables, and if r =1 or -1, the variables are completely dependent;*
- *SS – supervisor support*
- *PS – peer support*
- *MEA – management evaluation analysis*
- *the information provided in the boxes in blue means the stages of the E. Deming cycle, connected by thin arrows, and the thick arrows relate the stages with the result of the transfer of training – the benefit of training for the organisation;*
- *the information presented in the boxes in orange and marked in a continuous line specifies the information presented in blue boxes;*
- *the information presented in orange and marked in a broken line specifies the key social support elements affecting the wok environment;*
- *the arrows in orange shows the link between supervisor support and peer support with the work environment.*

Figure 2. Model of the training transfer
(compiled by the authors based on the information from the research literature and the study results)

of knowledge acquired through training can be defined in a number of ways. Frequently, such applicability is defined as the degree of ability of students to generalise and apply knowledge, and the formation of new skill in the work environment. Work environment is often referred to as a vital condition for training transfer because it may support the transfer process, or, on the contrary, suppress it. The relevant literature specifically highlights social support because social relations (establishing of objectives, timely feedback, offering of assistance, etc.) have direct impact upon the motivation of employees to apply the knowledge in their activities. In the meanwhile, job characteristics were allocated only some limited attention, although, in the opinion of the authors, the workload context and autonomy (the independence of the employee) are undoubtedly important factors, which have to be responsibly managed by the managers of the company in order to ensure efficiency of training.

The original study conducted concluded that social support is an important factor when seeking quality in work, because both the supervisor support and the peer support are related to attainment of better performance, and the higher quality of work. The supervisor support in general, and the individual aspects of the supervisor support (considering the ideas proposed by employees, commending in front of the peers, defining the targets, etc.) are to the strongest extent related to the transfer of training, and predicts the result. The supervisor support is important also in the context of the evaluation of the workload, because where the supervisors grant more support, the employees assess the workload as lower. The supervisor support is also related to the assessment of autonomy at work: the employees who have assigned higher score to the supervisor support, assigned similarly high score to the possibility to work independently (autonomy at work). The peer support is not related to the workload, or the autonomy. The results lead to a conclusion that within the social environment of the organisation specifically important is the support on the part of the supervisor, and that such support must be granted on a timely basis. The peer

support in general and the individual aspects of peer support (interest in the knowledge acquired by the peers, preparedness to offer assistance and advice, encouragement to apply the acquired knowledge at the workplace) are also related to the transfer of knowledge, therefore in order to maximize the benefit from training, it is reasonable to make use of peer support too.

Job characteristics (workload and autonomy at work) are not related to transfer of training, and do not predict the results. Nevertheless, autonomy is an important factor for the employees in the organisation, because autonomy facilitates the transfer of training, helps in improving the quality of the results, and attaining better results. In summary, it may be concluded that the results of the multidimensional regression analysis in fact replicate the correlation links: only the social support factors (supervisory support and peer support) are related to the transfer of training, also it is those factors that predict the benefit of the training. The present study has not revealed the role of job characteristics and their impact on the transfer of trainings. The model prepared by the authors shows that the efficiency of training in the organisation depends on a number of balanced actions within the system of well-balanced actions and factors ranging from planning to the performance of completing actions. It is important to ensure the implementation of each and all stages presented in the model, as the procedure to build an efficient training system within the organisation and its continuously learning culture.

Performance quality studies further development insights. Since workload and autonomy neither correlate with the benefits of training, nor predict it, it would be useful to identify under what conditions such job characteristics would be meaningful. Considering that from among all the factors predicting the transfer of training, the social support factors account for 31 per cent of the benefit of training, it is highly beneficial to analyse also other factors that would be relevant in the transfer of training (such as satisfaction with work, engagement in work, work motivation, matching of the training content with expectations, etc.).

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