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**Determinants of stress
in the company
perfecting quality**

1. Introduction

Human resources are the most important and at the same time the most complicated resources in each organisation (Banasova et al., 2011, p. 0091). Companies striving to follow a path of continuous quality improvement are condemned to constant development. The constant changes, and comprehensive evaluation of the operation system's maturity can cause stress among workers. The existence of a good basis for such a possibility does not necessarily mean that it must follow. Everything, in fact, depends on the wisdom of superiors and their awareness of the dangers of this situation.

Stress in the workplace is a phenomenon that has been known for a long time. It was once an embarrassing and neglected problem. Its strength, however, appears to have increased and it has moved higher up the ranks, as evidenced by the numerous publications and research devoted to this subject (Żemigala 2007, pp. 10-12; Trelak 2005 p. 227). Organizations wishing to skillfully adapt to new realities must demonstrate a willingness to change, and this gives rise

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to anxiety, resistance, among employees (Chojnacka 2008, p. 455). This long-lasting state of tension associated with the failure in matching the employee to the work environment is called organizational stress. There are various definitions of the term 'stress'. H. Selye states that it can be recognized as a state of the body, in response to external stimulus (Bartkowiak, 2009 p.14). Polish psychologist J. Strelau defined stress as a state which consists of strong negative emotions and accompanying biochemical and physiological changes in excess of the normal state of arousal (Strelau 1985 p. 58).

Stress causing factors, otherwise known as stressors, can be both work overload and, paradoxically, work underload (Tokarski 2006 pp. 125-126), inappropriate work organization, poor material working conditions (lighting, humidity, temperature, noise, color, space, etc.), working in a hurry, a sense of underestimation or belief in a lack of ability, work in the absence of information or the existence of contradictory messages, or work in which there is a lack of appropriate regulation of ethics or human resource management. As shown by R. Kahn and his colleagues in the course of pioneering research in 1964, determinants of stress can be tied to role conflict, role ambiguity and role overload (cited from: Trelak 2005 p. 228). Employee role conflict arises when are at least two contradictory (mutually exclusive), orders are given at the same time. Role ambiguity arises when incomplete information is transmitted to the employee. In contrast, role overload refers to situations in which the employee requirements are impossible to achieve under the circumstances. Another group of stressors are factors associated with the performance of specific functions within the company, related to the physical appearance of the employee, arising out of or related to ideological characteristics of gender, age, race, religion and the employee's personal problems. There are many methods for the classification of stressors. A synthesized attempt to recognize them was made by, amongst others, the following authors: R. Lazarus and S. Folkman, BS and BP Dohrenwendowie, L. Levi and M. Frankenhauser, J. Ivancevich and MT Matteson and R. Kahn, and pH. Byosiere and H. Walter.

2. Characteristics of the research

In 2011, a study was conducted which aimed to identify the problems of stress in the quality-focused organizations with particular emphasis on the determinants of this phenomenon. The main cognitive objectives brought about the following sub-questions:

1. Do employees of a quality-focused organization feel stress and what is its level of experience?

2. What are the sources of tension and conflict among employees of an undertaking pro-quality policy and what is the intensity of their being experienced?

In view of the object and purpose of the study, it was decided to use quantitative research. The research tool was a questionnaire in the form of a closed survey. It consisted of 29 statements, which were answered according to a scale of one to five, where 1 meant never, 2 - rarely, 3 - sometimes, 4 - often, 5 - always. R. Kahn and his colleagues referred to the concept of stress (role conflict, ambiguous role, role overload). The questionnaire was delivered to the respondents' own hands. Respondents answered by selecting the numbers corresponding to the situation in which they found themselves. A technique of selection of quota units was used in the sample. The study included 56% men, 26% of employees with vocational education or lower, 37% of secondary education and the same percentage of university graduates, 30% of respondents were over 46 years of age, 44% were between 36 and 45 years of age, and the remainder belong to the group of employees not exceeding 35 years. The study comprised of 30% of employees (ie a total of 81) in a manufacturing company operating in Lubuskie, one of the fastest growing companies in the region, which has introduced modern technological and organizational solutions. The management of the organization and the company's products have been honoured with numerous awards and distinctions. Thanks to their quality, the company's products are present on local, national and international markets.

3. Results of the research

The studies completed show that stress is being felt among employees in the workplace. This confirmed the authors conjecture that taking of steps to improve governance and pro-quality policy-making (requiring continuous and permanent improvement in all areas of activity) may, as a consequence, lead to increased staff stress levels. Only 5% of respondents had never felt stress. Others feel the problems associated with this phenomenon with varying intensity. A particularly worrying situation that must be considered is that as many as 28% of respondents often feel stress, and 6% always, which means that they are in permanent stress. Detailed figures are presented in table 1. The second allegation concerned the way in which leaders define the professional responsibilities of employees. Some respondents acknowledged that superiors do not demonstrate precise allocation of functional responsibilities (detailed data presented in table 1). Lack of a clear formulation of expectations

of subordinates is very important because it is one of the basic criteria accounting for the employee, and the settlement of jurisdictional disputes. Without clearly defined professional responsibilities companies can also not be expected to involve employees in improving their work nor taking responsibility for it. This creates scope for abuse of superiors towards employed staff and is a threat to normal employer-employee relations. It is worth emphasizing the fact that 44% of respondents believe that the situation in which the supervisor inaccurately and vaguely defines responsibilities is rare, while 6% of respondents never noticed such a problem. Action should be taken to increase the circle of people satisfied with the method for determining the extent of professional duties.

Another aspect concerned the problem of conflicting employee requirements. Generally, such conflict did not plague those surveyed (17% of respondents stated never, 39% - rarely, a further 39% only sometimes). Only 5% of respondents noticed such a problem.

Staff in a company that constantly strives to improve and perfect its performance were asked to provide a response to a question about the amount of work and the possibility of its completion on schedule. The staff responded almost unanimously that the problem does not exist. Only 5% of the respondents share the opinion that the work is always of such a level that it is not possible to complete it in normal time.

Research shows that 1/5 of employees sometimes feel pressure from colleagues to perform their work to a lower standard. Over half of respondents admitted that they had never experienced such a situation.

Respondents were then asked to share their opinions about the flow of information. The response leaves no illusions. As many as 39% of respondents sometimes feel a lack of information on how to perform tasks which they have been commissioned. The same percentage of respondents rarely had such a problem, however, it is experienced. The question arose as to why only 5% of respondents knew exactly how to perform the assigned task. This indicated that the flow of information between client and contractor was not optimal, which was confirmed by the responses to subsequent questions in the survey.

Most employees were happy with the way the means to carry out their duties was provided. However, a group of respondents was dissatisfied with this (table 1).

Another issue which was raised in the survey concerned the difficulty in choosing the highest priority tasks. Only 5% of the subjects stated that there was often a problem with the choice of priorities in the tasks. This occurred sometimes according to 56% of the workers, associated with the specific company.

This problem rarely affected 17% of respondents, while 22% of respondents stated that the prioritisation of tasks was never a problem (table 1).

Table 1. Indications of the respondents in terms of workplace stressors and their intensity

No.	Assertion	% Responses				
		never	rarely	some-times	often	al-ways
1	I feel stress in the workplace	5	22	39	28	6
2	My immediate supervisor inaccurately and vaguely defines my responsibilities	6	44	6	33	11
3	I feel that I am not able to meet the conflicting demands of different people in my work	17	39	39	0	5
4	There is so much work that I have no way to complete it within normal hours of work	18	50	22	5	5
5	I have to perform some work badly to avoid criticism from colleagues	55	28	17	0	0
6	I feel a lack of information about how to do the tasks assigned to me	5	39	39	17	0
7	Different tasks are assigned to me but sufficient measures are not taken to ensure they can be completed	6	44	33	11	6
8	One of my difficulties is prioritising my workload	22	17	56	5	0
9	In my work it is not clear who is responsible for making decisions about what action should be taken next	17	33	28	22	0
10	It is difficult to meet the demands of my superiors due to mutually contradictory orders	28	17	33	17	5
11	I am assigned so much work that it has a negative impact on the quality of its implementation	17	28	50	0	5

12	I think the work assigned to me is sometimes pointless	11	28	44	17	0
13	I'm not sure that my performance satisfies my superiors	11	50	22	17	0
14	Existing occupational requirements exceed the capabilities of the average worker	28	11	28	22	11
15	I am assigned tasks which are too difficult	6	39	44	11	0
16	I have to do work which I believe should be done differently	6	6	38	44	6
17	I lack information about how my supervisors evaluate my work	10	28	17	28	17
18	Individuals I work with have completely different ideas about what does and does not belong to my responsibilities	11	11	34	33	11
19	I lack information about how I am judged by colleagues at work	22	33	22	17	6
20	I am of the opinion that my superiors give me insufficient time to complete tasks	11	39	33	17	0
21	The powers assigned to me are insufficient to allow me to truly fulfil my obligations	11	22	44	17	6
22	I'm not sure if my employer gives me a 'free hand' to make certain decisions independently	11	28	28	28	5
23	There are days when I am unable to take a break from my duties	0	28	39	33	0
24	I do not have reasonable assurance that I shall enjoy privileges	11	33	44	6	6
25	I sometimes have to choose between my principles and the behaviour expected by my superiors	28	22	33	11	6
26	I have too little information about the final result of the work I do.	22	39	17	22	0
27	I get a lot more responsibilities than others in the same position	11	22	45	22	0

28	I lack news about opportunities for promotion	22	17	17	22	22
29	I feel that I have too much responsibility for the work of others	11	17	50	17	5

Source: own calculations based on survey results

On the assertion in the questionnaire survey: in my work, it happens that we do not know who should make decisions as to what to do next, respondents answered: 22% - often, 28% - sometimes, 33% - rarely, 17% - never. Although 17% of respondents did not encounter decision-making problems with superiors (blur of competence, responsibility), 22% of respondents often do not know who is responsible for solving problems arising in their work.

Another issue raised in the survey concerned the difficulties arising from mutually contradictory orders from superiors. 28% stated that this kind of situation was never encountered, while 33% sometimes had a problem with the behaviour of superiors. The fact that some workers often face difficulties with superiors awaiting the realization of mutually contradictory tasks is disturbing.

Respondents also had the opportunity to comment on overload of responsibilities. Half of the respondents acknowledged that sometimes so much work was assigned that it negatively affected the quality of its implementation. There are, however, among the respondents surveyed (17%) who have never encountered such a situation (table 1).

It is clear that employers should strive to ensure that the value of employees' work is acknowledged, regardless of their actual occupation. Then, the subordinate has a sense of purpose of its own actions. A. Blikle remarks in his book "The Doctrine of quality" the need for understanding of the mechanisms of motivating employees. According to his classification, there is a need for people to look for "the joy of action" and to expect to encounter it during the performance of desired tasks in the workplace (p. 64). It is also believed that the lack of information on the effects of work may result in a sense of work devoid of meaning amongst employees. Analysis of the responses brings a sad conclusion. As many as 17% of employees participating in the study stated that they often perceived their responsibilities as meaningless, while 44% sometimes had doubts about the meaning of the research (table 1). It seems that remedial action should be urgently introduced by the leadership in this situation. It is essential to remove barriers which give rise to the possibility of employees

to feel deprived of pride in their functions. How this can be done will be discussed later in this paper.

Another aspect that appears in the study concerned the knowledge of the employee's evaluation criteria. Most employees know what performance pleases their superiors, however, some of the respondents have doubts (table 1). This situation indicates a problem with ambiguity of the criteria for carrying out the tasks and requires corrective action. Employees should know the standards of performance evaluation.

Nearly 30% of respondents never have problems with the implementation of professional requirements, the same number has them only occasionally. The employers business expectations were too high for 11% of those surveyed. Answers to another question, corresponding to the preceding, shows that the respondents were sometimes assigned to an excessively difficult task, according to 44% of respondents (table 1). It should be noted that Deming, as the creator of EC TQM, considered this. He believed that the requirements should be adequate to the capabilities of employees, and opposed the implementation of the standards which were impossible to achieve. In one of his 14 principles he declared aversion to all forms of propaganda to promote and share incentives to achieve the standard of "zero defects" or high productivity. He took the view that most problems are caused by systems and processes developed by managers which employees were not able to pursue. The following proposal is that expectations of supervisors should be high but realistic. Otherwise, employees may be frustrated and vulnerable to additional stress.

Another issue that posed to the respondents addressed how they work. For the majority of respondents, the work they conducted was consistent with their own vision of the implementation of the task. There was, however, a group of workers (6%) who had a different idea on how to implement the task. Within this group, managers should look for innovators, who could help to improve working methods. Management should strive to make the most of the knowledge and experience of staff. Examples of business practice have shown that sharing ideas helps to bring about bilateral benefits. The staff of the Toyota Corporation generate hundreds of thousands of requests each year. They are analyzed and then implemented. This motivates the staff, for permanent monitoring of all problems occurring in the enterprise. What is important is that motivating workers appears to be not simply the possibility of innovative proposals, but their serious treatment by superiors.

Most respondents admitted that they lack information on how supervisors evaluate their work. Only 10% of employees have full knowledge in this field

(table 1). Management should improve the flow of such information. The problem is not only a lack of ability to communicate information on the assessment by the employee's supervisor but also a lack of willingness to listen and understand on the part of the employee.

Respondents acknowledged that individuals have completely different ideas about what work should and what does not belong to their duties. Only 11% of the respondents radically disagreed with this view (table 1). Thus, many workers have a poor idea of the duties of their colleagues, which is not a positive factor in interpersonal relationships at work and can cause conflicts between colleagues.

The vast majority of respondents admitted that they know how they are judged by other workers. Paradoxically, the flow of information should be considered more efficient than the flow of information on supervisor evaluation.

In the opinion of 39%, sometimes (but rarely) little time was given to postpone the execution of tasks. Time pressure affected up to 17% of respondents. A company that wishes to adapt to the changing expectations of the market must also take the trouble to improve the organization of working time. Employees who cannot cope with the implementation of the tasks should assist in work day layout. This means that the management should consider the possibility of accounting for activity times by department managers, look at the issues and coordinate the work.

Research shows that having too little power sometimes makes it difficult for respondents to properly fulfill their obligations (44%). Therefore, where such a feeling does not exist (6%) and those who feel it is often useful (after a thorough analysis), the scope of autonomy may be increased, which can undoubtedly have a positive influence on quality and production efficiency. It must be noted that the idea of the quality management process is based on delegating powers and responsibilities. It is worth considering the model of other companies, if it pays to give employees the right to suspend production in a situation when serious irregularities are detected. This is a characteristic of the Toyota production system described in detail in the book by M. Imai Kajzen. (Imai 2007, pp. 115 - 117). Inability to decide what to do or how to really fulfill obligations sometimes destroys the creativity of the employee. As demonstrated by several studies: the bitter and "internally burned out" are those who feel a sense of lack of control and permanent incapacitation, and not those who have worked hard. Stressful positions are those that develop in man a sense of lack of influence on their own fate, rather than those that are associated with frequent decision-making; in positions entitling the employee

to take important decisions sick leave is generally very low (Blikle 2012, p. 112).

The study shows that respondents have a sense of uncertainty in making autonomous decisions. They are not sure whether their superiors give them a "free hand" and if they can demonstrate independence. Managers should clearly communicate information to staff employed as to their possession of decision-making powers. Given that the increase in autonomy in decision-making positively affects the sense of responsibility for the work, is also a form of promotion for employees. The opportunity to participate in decisions concerning quality or the path of development of organizations can provide additional reasons to be proud. Lack of knowledge about the extent to which participation can be made in decision-making is an important stress determinant.

Respondents acknowledged that sometimes there are days in which they fail to break away from their job for even a moment (39%). This problem also rarely affects a large group of people - 28% and 33% of respondents considered this issue as often occurring. Work overload, resulting from the intensity of the tasks to be performed is a very negative phenomenon in the psycho-social work environment. It can cause a decrease in labour productivity and can be a source of frustration. Management should carefully approach this issue and find a favourable solution to the problem. It is worth to listening to staff proposals. It seems that there is a possibility of uneven distribution of professional responsibilities.

In some instances the respondents did not have reasonable assurances regarding their powers, as the vast majority of the respondents - 44% - answered. These responses indicate a problem with the ambiguity of the role. Management should strictly deal with this situation.

Subsequent analysis of respondents concerns the conflict of moral principles, their own rules against those in force in the company. Most never or rarely had problems with the choice between their own principles and the behaviour required by superiors. In total, this group represents 50%, while 33% sometimes come up against such dilemmas. It should be considered whether a person who must suppress their professed system of values can be a good employee. This can, in fact, sabotage the management's aspirations. Management should reach out to such people and try to understand where the problem lies. An employee may not be compelled to carry out the tasks which he considers immoral and unethical because it irreversibly destroys the sense of the value of work. Nor can we expect from him strong commitment and motivation.

A group of respondents consisting of 22% are satisfied with the information concerning the final effect to which their work is used. Many of the respondents - as high as 39% - occasionally suffer from a lack of such information. However, we note that other employees participating in the study did not have this knowledge. Poor awareness does not serve either quality or productivity. It can only be a source of stress for employers.

Another issue concerned the sense of justice in the allocation of tasks between the employees responsible for them. Respondents are sometimes given more responsibilities than their colleagues and sometimes not. This response was indicated in the vast majority of responses. All answers provided in Table 1 show that this element is not a problem for most respondents. Tasks performed by workers should be neither too easy nor too responsible. It is the extremes, both on the one or the other side that can be a stress factor.

The company lacks information on opportunities for promotion. 22% of respondents strongly stated this; for a further 22% it was often the case. Sometimes such information was communicated to employees and sometimes it was not distributed - according to 17% of respondents. The others had access to such knowledge. It seems more answers once again suggest that the company has a problem with the flow of information. On the other hand, encouraging excessive desire to climb the career ladder is also not favorable. Possible career paths should be presented to employees in a clear and transparent manner, with no promises, nothing hidden. Inappropriate practices are known among employers who want to increase the productivity of workers, and encourage them to "fight among themselves for the stool." In effect, this causes a rat race, destroying the team spirit that is needed so much in pro-quality companies.

The last question which respondents answered concerned the conviction of taking upon himself the responsibility for over-work of others. Half of the respondents are not convinced whether this is or is not the case and responded sometimes. The results of the response to this point do not raise any particular concerns.

The next stage of analysis consisted of summing up all the points of a single respondent. It is assumed that the answer 1 and 2 is responsible for the low intensity of stress, 3 medium, while 4 and 5 are high. Therefore, the cumulative value of responses translates as: from 28 to 42 - no stress, from 43 to 70 - the low level of stress, from 71 to 98 - moderate levels of stress, from 99 to 126 - high levels of stress, from 127 to 140 - a very high levels of stress. Attempts were made to quantify the answers.

The analysis showed that the largest group among the respondents are moderately exposed to stress. They accounted for about 50% of respondents. As many as 33% of the respondents ranged 43-70, which is representative of less stressed employees. Among those surveyed, those who were stressed accounted for 17% of all respondents.

The next stage of analysis consisted of summing up the responses in the three groups of determinants as follows: Group I - role conflict, group II - role overload and group III - role ambiguity.

The corresponding stress factors correspond to the role conflict questions 3, 5, 7, 10, 12, 16, 18, 21, 25. In contrast, responses to questions 4, 8, 11, 14, 15, 20, 23, 27, 29 should be connected with role overload. Determinants indicating the ambiguity of the role are 2, 6, 9, 13, 17, 19, 22, 24, 26, 28.

Obtaining more than 32 points in the answers to the questions of the first two groups (role conflict and role overload) for each respondent separately, was found to be disturbing phenomenon. Reaching the threshold above 35 points per respondent, in the third group, indicates a problem in the area of role ambiguity.

Among the respondents 11% face the problem of role conflict, while 22% of those surveyed feel stressed because of the ambiguity of the role. A source of stress for 6% of respondents was being in a charge of the role.

Stress in the workplace can be a serious problem not only for the employee but also for the employer. Stressed workers have reduced productivity and efficiency, take sick leave more often than others, are more interested in the use of unpaid leave, often make mistakes, suffer accidents at work, and are less engaged and less disciplined. It is estimated that the cost in the United States each year due to stressed employees seems to be 9.5 per one thousand dollars. The financial cost borne by Polish employers has not been estimated. It would be reasonable, however, to suspect that it is equally high. Typically, employers see only the tip of the iceberg (eg, payment of compensation), not recognizing the cost of living under a waterfall (including the performance penalty, the cost of absenteeism and employee turnover, and cost of treatment).

Analysis of the determinants points to the need for remedial action. It is necessary to provide induction training and ongoing training for newly recruited staff, clearly specifying the scope of activities within his position. An important issue is the systematic transfer of knowledge about the tactical, operational and strategic goals. It also seems necessary to provide the whole workforce with information about company performance and the results achieved in the individual teams, to strengthen the departments in the company. Information

should be conveyed to each employee about the individual results of the work. All employees should be treated fairly in view of their system value.

The duties and requirements of staff of other departments of the organization should also be explained, to ensure mutual contact between employees of individual departments. It also involves determining the issue of responsibility and decisiveness of individuals. Company management should look carefully at the assigned duties and, if necessary, equitably distribute them to several people. Wide-position implementation in the company may be considered as a means of solving the problem of routine and monotony of work and the problem of excessive absenteeism. A key aspect is training in interpersonal communication, which should be proposed to management. Still better may be to offer postgraduate studies in communication to superiors in the organization.

To sum up, preventive measures for the organization should include optimization of tasks and setting time standards, as well as improving the competence of superiors. Preventive measures aimed at the staff should include the promotion of healthy lifestyles, relaxation skills, and above all, improvement of interpersonal competence in communication.

4. Summary

Stress in the workplace can affect every employee, both superior and subordinate. Such a situation always affects the organization as a whole; only its effect may be more or less visible. The result of an organization choosing to pursue a policy of pro-quality is condemning it to continuous and permanent improvement in all areas of its activities. Perfect quality does not exist, however quality can always be improved and refined. The above considerations clearly indicate that there are many causes of stress brought about by the introduction of continuous changes and improvements. Fortunately, there are techniques and countermeasures. It is important to know how to use them, otherwise the organization will be forced to deal with its consequences. Effects of stress may be: increased absenteeism, lower productivity, increased accident rates, higher staff turnover, increased costs associated with increased morbidity, premature retirement, and even suicide. It seems that no one needs convincing as to how costly negligence in this matter may be for the company.

Summary

Determinants of stress in the enterprise which improves its quality

Continuous development and changes in the areas of technology, organization, management and marketing may bring a number of benefits to enterprises. This can, however, also contribute significantly to employee anxiety. This article is an attempt to answer the question: What are the sources of tension and conflict, and to what degree are they being experienced? The study among employees of a quality-oriented company is intended to identify issues of stress in such organizations with particular emphasis on the determinants of this phenomenon. The paper also proposes remedial action to address such issues.

Streszczenie

Determinanty stresu w przedsiębiorstwie doskonalących jakość

Ciągły rozwój i nieustanne zmiany w sferze technologii, organizacji, zarządzania, marketingu, mogą przynosić szereg korzyści przedsiębiorstwom. W istotny sposób mogą też przyczynić się do wzrostu niepokoju wśród pracowników. Artykuł jest próbą odpowiedzi na pytanie: Jakie są źródła napięć i konfliktu oraz jaka jest ich intensywność doznawania? Przeprowadzone badania wśród pracowników jednego z przedsiębiorstw doskonalących jakość mają na celu rozpoznanie problematyki stresu w organizacji doskonalącej jakość ze szczególnym uwzględnieniem determinantów tego zjawiska. W opracowaniu zaproponowano również działania zaradcze.

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