

### **AN ANALYSIS OF DIRECTING STYLES IN THE PRODUCTION ENTERPRISE FROM THE AUTOMOTIVE BRANCH**

**Abstract:** The chapter presents innovative research findings on identification managerial styles in the context of the leadership based on the Toyota leadership model that was collected in the chosen company from automotive branch. There were used basic statistical parameters and graphical method (box-plot diagrams) to analyze data related to the assessment by the staff of human affairs and production issues in the analysed company. Conceptions of managerial grids in the scope of directing styles in research object was applied. The results in the scope of classification the importance of human matters and production issues were compared with the so-called Toyota's optimum. The purpose of the research was defining whether the examined enterprise is realizing (and in what degree) attempt to leaders improvement (management, managers).

**Key words:** BOST research, Toyota leadership model, managerial styles, managerial grid, automotive branch

#### **12.1. Type of managerial grids and management styles based on Toyota approach**

General idea of managers' features that concerning Toyota leadership was concluded in the ninth management principle of Toyota. It says that, a world manufacturing leaders are like 'grow leaders who thoroughly understand the work, live the philosophy, and teach it others'. According to this principle, fundamental task of Toyota leader is to build a learning organization, thus strengthening of particularly strong element of culture

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in this company. The main aim for each manager in modern enterprises is employees development in the direction of joint goals achieving and thinking like the Toyota's way. Enterprises like these one are 'building learning organization' acting for real long-term successes (LIKER J.K. 2005, JELACIC D., STASIAK-BETLEJEWSKA R. 2010).

The attempt to transform 14 principles of Toyota management into questions was reflected in BOST questionnaire (BORKOWSKI S. 2012a, BORKOWSKI S. 2012b, BORKOWSKI S. 2012c). The research problem was presented in this questionnaire in relation to the ninth Toyota principle:

**E9b. Assess using scale 1 to 8, the importance, in your enterprise, of:**

**SL** - human matters, **ZP** - production issues.

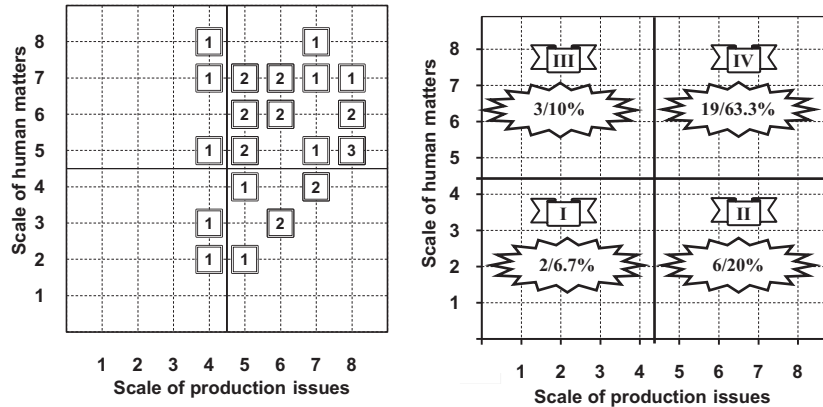
**1 – disinterest, 8 – high interest.**

In this question, the staff could express their views on importance and interest by the management of human affairs, and manufacturing issues (BORKOWSKI S., ULEWICZ R., BARTNIK T. 2009).

Managerial grid can be divided into four parts (see Fig. 12.1):

1. Part I – low level of importance of human and production issues.
2. Part II – low level of human problems importance, high level of production issues importance.
3. Part III – high level of human problems importance, low level of production issues importance.
4. Part IV – high level of importance of human and production issues.

The diagram on Fig. 12.1 illustrates example relation between answers on production and human issues and managerial grid based on four parts, built on a basis of this structure (KNOP K., BORKOWSKI S. 2009, JELACIC D., STASIAK-BETLEJEWSKA R. 2010).



**Fig. 12.1. Example of answer structure on human and production issues (a) and managerial grid based on four parts (b).**

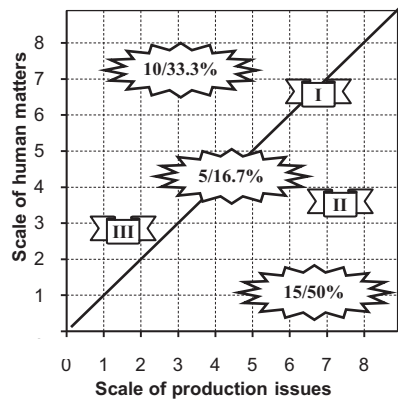
Source: own study

Managerial grid can be divided also into three parts:

1. Part I – contains answers with similar importance for human and production issues in the analysed company.
2. Part II – answers point at more importance of production issues than human problems.
3. Part III – answers point at more importance of human issues than production problems (KNOP K., BORKOWSKI S. 2009, JELACIC D., STASIAK-BETLEJEWSKA R. 2010).

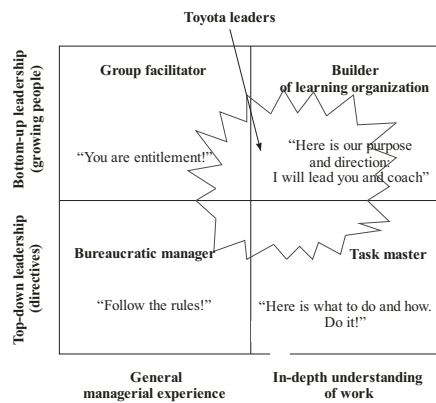
Example results of this analysis are presented in Fig. 12.2.

Main premise of the ninth principle of Toyota is to grow leaders instead of buying them (LIKER J.K. 2005). Growing, in each situation, is implemented according to particular principles and models. In the case of Toyota, leaders are grown with consideration of the elements presented in Figure 12.3.



**Fig. 12.2. Example of managerial grid based on three parts.**

Source: own study



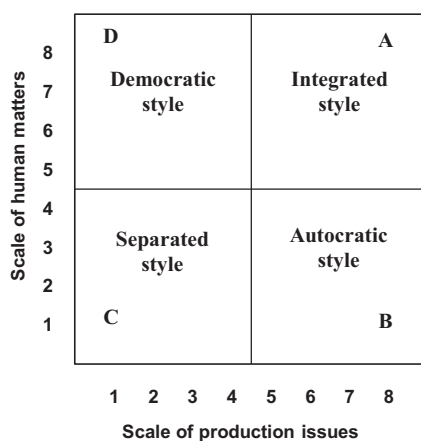
**Fig. 12.3. Toyota leadership map.**

Source: LIKER J.K. 2005

Leadership map is divided into 'quarters' marked A, B, C, D (Fig. 12.4):

1. Quarter A – relates to „builder of learning organization”, is based on the thesis „Here is our purpose and direction: I will lead you and coach”.
2. Quarter B – relates to „task master” works on the basis of the principle: „Here is what to do and how. Do it!”.
3. Quarter C – relates to „bureaucratic manager” whose activities are based on the thesis: „Follow the rules!”. „Group facilitator”,

4. Quarter D – its motto is „You are entitlement” (BORKOWSKI S., PIESZCZOCH D., BARTNIK T. 2009, JELACIC D., STASIAK-BETLEJEWSKA R. 2010).



**Fig. 12.4. Directing styles.**  
**Spacing the directing styles on**  
**the map. Overall characteristics.**

Source: own study

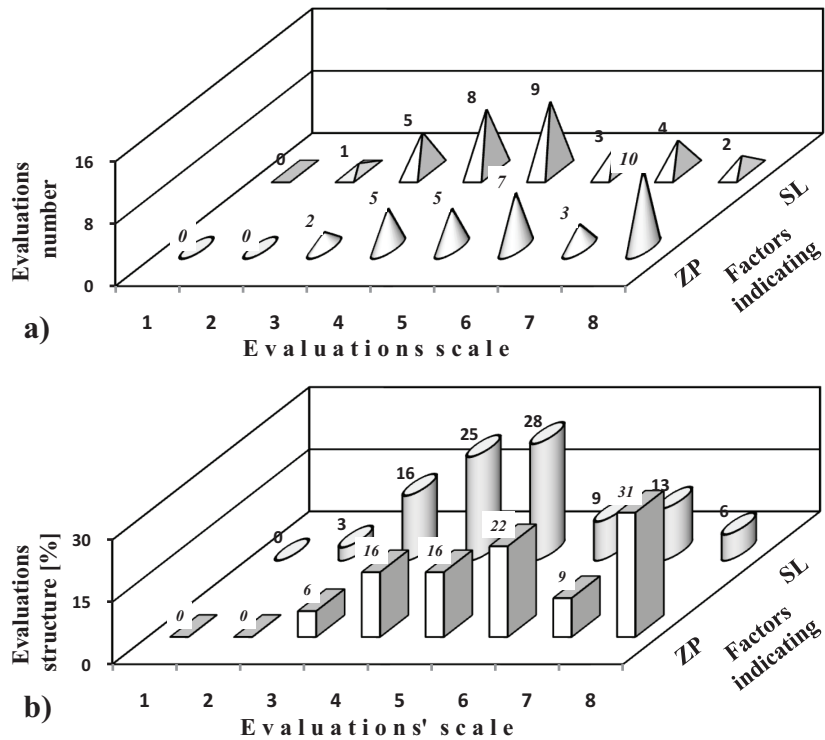
Style of management can be divided in 4 types:

1. *Team (integrated)* - is that kind of style, where the results achieved at work are a resultant of involvement of the whole team. Interdependence through treating organization goals as ‘common goals’ is conducive to creation of the relationships characterized by trust and respect. These styles have with relatively strong orientation towards both people and task.
2. *Authoritarian (autocratic)* - performance due to the conditions of such an organization, in which the role of the human factor is minimal.
3. *Separated* - related to minimum efforts necessary to do work is enough to maintain membership in the organization.
4. *Club (democratic)* - well-thought care for human needs and maintenance of ‘proper relationships’ leads to nice, friendly atmosphere and work at a convenient pace.

## 12.2. Results analysis

The survey on the managerial styles in the production was conducted in the chosen company from automotive branch, where 32 workers expressed their opinion on the managerial decision.

Research results for BOST survey on managerial style concerning managers attitude with regard to the importance of the human matters and the production issues were presented in Figure 12.5.

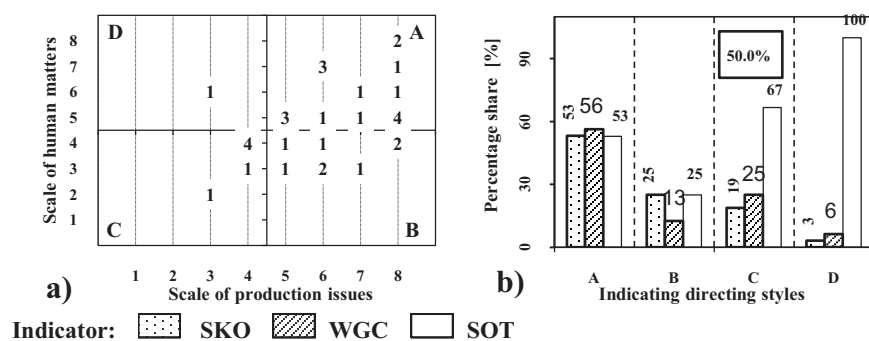


**Fig. 12.5. E9b. Directing styles. Spatial presentation of the research results: a) evaluation number, b) evaluation structure.**

Source: own study

Analysis of data presented in Figure 12.5 shows, that in the workers' opinion, the highest managers' interest is noted in the production issues (the most often appearing evaluation "8" what presents 31% answers). Summary participation of evaluations from „6" to „8" amounted to 62%. In case of human matters dominated evaluations is in the range from „3" to „5". Their summary share amounted to 69%, the highest evaluation „8" presents only 6% answers.

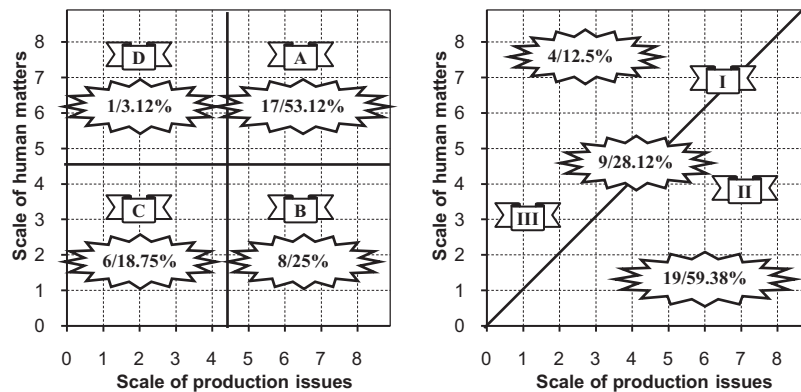
Workers opinions on the managerial styles in accordance to Toyota leadership model was presented in the form of data in Figure 12.6.



**Fig. 12.6. E9b. Directing styles. Characteristics: a) distribution of evaluations on the directing map, b) division (%) of evaluations on directing map zones with consideration the Toyota's optimum.**

Source: own study

It was made summary data included in Fig. 12.6a in the form of directing grid with the division, firstly, on four fields (12.7a), next, on three fields (12.7b).



**Fig. 12.7. E9b. Directing styles. Characteristics: a) numerical summary and percentage evaluations – division on 4 parts, b) numerical summary and percentage evaluations – division on 3 parts.**

Source: own study

From numeric data it appears that the real directing style is a combination of everyone four, at the majority of the integrated style (53.12%). Autocratic style (25%) is in second place in the series. Generally both styles embraced 78.12% of all evaluations. Such an image of results proves the great attention of production problems, at simultaneous being interested about people and their problems.

From analysis Fig. 12.7b it results that in 59.38% the workers pointed, that their company (its management) is expected on production matters, only in 12.5% is interested in human matters. 28.12% respondents stated on simultaneous interest in human matters and production issues.

Received results, in the graphic form were subjected to further analysis with consideration requirements of the Toyota. An analysis was supposed to give an answer to questions:

1. What division of voices is from the Toyota's optimum on individual quarters of the grid (maps) managements (leaderships)?



2. In what degree, in individual quarter results were included at the leadership of the Toyota's optimum? (BORKOWSKI S., JAGUSIAK M., ŻELICHOWSKI J. 2009).

Quantitative (percentage) answer on the first and second question is introduced in Table 12.1.

**Table 12.1. Division of voices [%] from Toyota's optimum on quarters of the managerial grid and the membership percentage [%] of voices to Toyota's optimum in individual quarters of the managerial grid**

Quarter	Question 1	Question 2
A	56.25%	52.9%
B	12.5%	25%
C	25%	66.7%
D	6.25%	100%

*Source: own study*

For the researched enterprise the most points from the Toyota's optimum in the quarter A. It means that the analysed object has in the 56.25% features of the learning organization. At the same time the company is in a quarter B of map expressed by the password „Here is what to do and how do it”. This opinion concerns to this part of the crew which is in the state only to execute activities, determined in instructions. The distribution of results on the leadership map for three quarters of the map agrees with the Toyota's optimum. For the quarter D 100% covering is visible. Also the high covering is for quarter C and next for quarter A.

Fig. 12.8a shows a structure of evaluations on production issues and human matters with the help of summed histograms. We can see the majority of the evaluation „8” for the evaluation of the production issues importance and „5” for humane matters in the researched company.

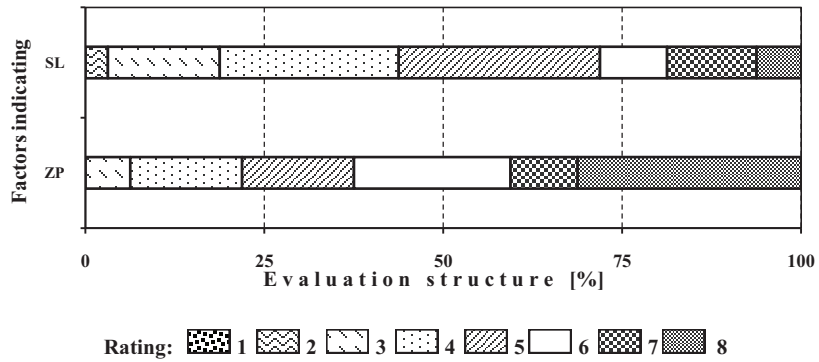
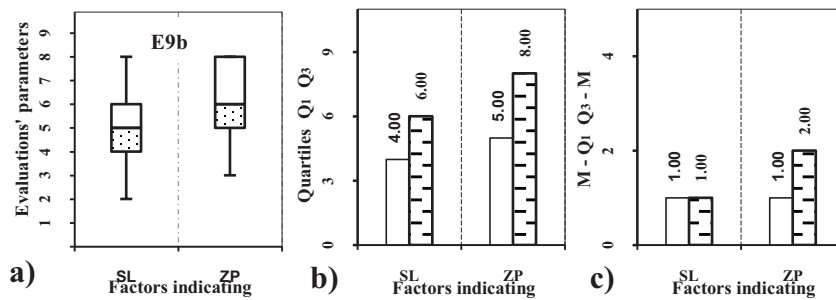
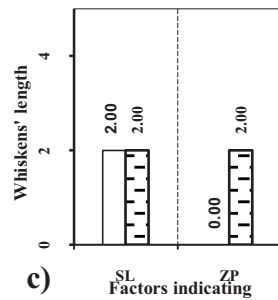


Fig. 12.8. E9b. Directing styles. Summed histograms. Comparison factor's estimations structure.

Source: own study

A box plot was used (Fig. 12.9) for the graphical presentation of the relation between chosen statistical parameters (OSTASIEWICZ S., RUSNAK Z., SIEDLECKA U. 1999, BORKOWSKI S., KNOP K. 2009). The box plot shows value of parameters as: the median, quartiles ( $Q_1$  and  $Q_3$ ) and range (the biggest and smallest value) for the set of evaluations on SL and ZP.





**Fig. 12.9. E9b. Management style. Box-and-whisker plots and its elements: a) basic graphs, b)  $Q_1$ ,  $Q_3$  quartiles, c)  $M-Q_1$ ,  $Q_3-M$  suitably, d) length of whiskers: upper (without filling), lower (with filling) for factors in E9b area.**

Source: own study

How results from Fig. 12.9 diversifying of results for the SL set is bigger than for the ZP set (box-and-whisker plots is bigger for SL than for ZP). The whiskers for the SL set are equal length what is providing about the symmetricalness of the entire distribution. The median is situated in the middle of the box what additionally is providing about the symmetricalness of the distribution for 50% of evaluations. The median equal 5.0 is informing that the half of evaluations had greater value than 5 and half lower value than 5. A lack of right whisker in box-and-whisker plots for ZP is pointing on strong left-sided skewness (asymmetry) for this set of evaluations. Displacement of median close to the first quartile ( $Q_1$ ) proves about right-sided skewness with reference to 50% evaluations on SL. The median equal 6.0 is informing that the half of evaluations had greater value than 6 and half lower value than 6. Quartile range from bottom (4.0) to upper (6.0) quartile shows the a half of evaluations given by respondents for ZP. For SP this range was from 5.0 to 8.0.

### 12.3. Summary

In the chapter the results of BOST survey for importance evaluation of thought of the 9<sup>th</sup> principle of Toyota management, requiring grow leaders instead of buying them, were presented.

In the chapter was made an attempt of interpretation the results in the range of importance the production issues and human matters. It was base for building the managerial grid and leadership map. For analysis of

results two attempts to the topic were applied: the classic approach and the Toyota's approach. Results from the enterprise from automotive branch allow determining dominating directing styles in the examined company. It is the integrated and autocratic style. It testifies about devoting of the great attention by the management to production issues and not disregarding the human matters. Comparing results of the workers response with the standard determined by the Toyota, with the Toyota's optimum allow concluding that the researched production enterprise is on the right way to the success. It possesses the features of the learning organization that is turned for improving both important areas, i.e. people and production.

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