

USE OF THE TOYOTA MANAGEMENT PRINCIPLES FOR EVALUATION OF THE COMPANY'S MISSION

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Resume

In the paper there were described the elements of the Toyota roof. Electroacoustic products were characterized. Immaterial resources of the company were analyzed. To do so, the BOST survey, whose questionnaires were filled in by employees of the chosen enterprise, was used. Particular attention was paid to the following factors: quality, costs, lead time, work safety and personnel morale.

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1. Introduction

The research was conducted in a company which produces electroacoustic goods. Electroacoustic products called the electric appliances band whose purpose is to process acoustic signals into electrical signals and vice versa (SEREDA J. 1981). The main groups of electroacoustic products are microphones, sound recorders, audio players, audio amplifiers, speakers and speaker units that significantly affect the subjectively perceived sound quality. With the current level of digital audio recording and high-quality players, there are not many problems with the poor quality of the source audio as it was in the case of magnetic or analog media. So the quality of the speakers and the speaker teams significantly affect the quality of the reproduction of their sound. The main element of the speaker system is the same speaker, the electroacoustic transducer, whose task is to change the electricity supplied to the amplifier into an acoustic wave. It uses a coil placed in the magnetic field of the permanent magnet pole piece through which alternating current flows via the amplifier, causing the speaker cone excursion in both directions from the equilibrium position. Cone excursion causes air thickening before the membrane and

retraction causes dilution resulting in a wave of sound that reaches the ear of the recipient (KRAJEWSKI J. 2003).

2. Research methodology

Information on the importance of quality and its control has been obtained on the basis of surveys conducted in the area of E1 among employees. A set of factors for E1 area for the principle one of Toyota management (BORKOWSKI S., KRYNKE M. 2011, BORKOWSKI S., KNOP K. 2010). Respondents in the E1 answered the following question in the survey BOST (BORKOWSKI S. 2012a, BORKOWSKI S. 2012b, BORKOWSKI S. 2012c):

What is most important in your company? In the box, type 1, 2, 3, 4, 5 (5 the most important factor).

JA		Quality
KO		Costs
CR		Lead time
BP		Work safety
MZ		Personnel morale

Tables 1 and 2 show the numbers and percentages of factors statement in validity assessment area of the roof of the Toyota house in the enterprise engaged in the production of sound equipment (BORKOWSKI S. 2012a, BORKOWSKI S. 2012c, LIKER J.K. 2005).

Table 1. Numerical combination of the factors importance evaluation for area of the Toyota roof elements

Evaluation	Indicating the factors				
	JA	KO	CR	BP	MZ
1	0	0	0	0	23
2	0	0	0	23	0
3	5	3	15	0	0
4	4	16	3	0	0
5	14	4	5	0	0

Source: own study

Table 2. Evaluation structure [%] of the factors importance for area of the Toyota roof elements

Evaluation	Indicating the factors				
	JA	KO	CR	BP	MZ
1	0.0	0.0	0.0	0.0	100.0
2	0.0	0.0	0.0	100.0	0.0
3	21.7	13.0	65.2	0.0	0.0
4	17.4	69.6	13.0	0.0	0.0
5	60.9	17.4	21.7	0.0	0.0

Source: own study

3. Validity of ranks

In Figure 1 there is presented the importance of each factor using Pareto - Lorenz diagrams (BORKOWSKI S. 2004, SELEJDAK J., BORKOWSKI S. 2004).

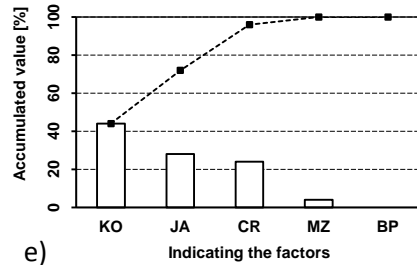
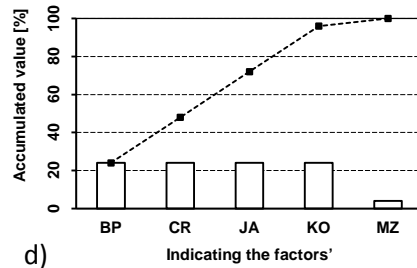
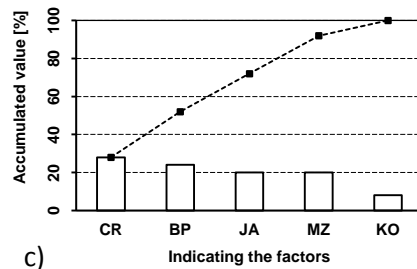
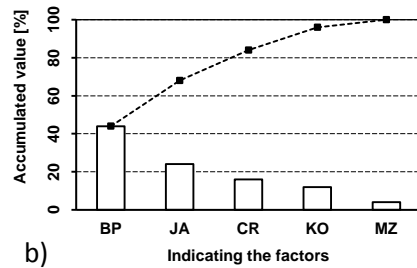
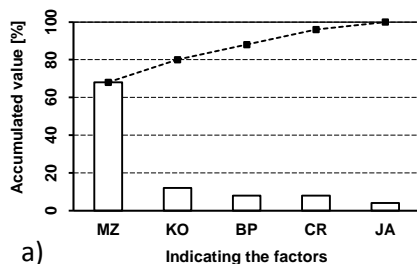


Fig. 1. Pareto-Lorenz diagrams of the factors importance area of the Toyota roof elements for evaluations: a) „1”, b) „2”, c) „3”, d) „4”, e) „5”. Applies to company manufacturing electroacoustic equipment

Source: own study

The least important factor for the staff was *personnel morale* (MZ). 68% of the lowest ratings coincided precisely for this factor. The rest of the factors shared values between 4% and 12%.

In the case of evaluation 2, the dominance is not as clear. *Work safety factor* (BP) was 44%, *quality* (I) 24%, *lead time* (CR) 16%, *costs* (KO) 12%, *personnel morale* (MZ) 4%.

For the assessment of “3”, the values are more aligned, most of the factors received around 20% of the vote. Only factor *costs* (KO) was 8%.

All the factors except *personnel morale* (MZ) received 24% of ratings “4”, *personnel morale factor* (MZ) got 4% of all rated “4”.

For the assessment of “5” factor *costs* (KO) has a big advantage over the other factors. Quality factor (I) received 28% of votes, while the execution *time factor* (CR) 24%. *Personnel morale factor* (MZ) received only 4% of the highest ratings, and *the work safety factor* (BP) showed no assessment of the fifth

Analysis of Pareto - Lorenzo diagrams has revealed that the most important factors in the company are *quality* (JA) and *costs* (KO). Execution *time factor* (CR) is also often chosen as important, but smaller number of people considered it to be the most important.

The data presented in Figure 1 was used to build the ranks of the validity factors for the area of elements of the Toyota roof:

- **rating “1”**
 $MZ > KO > (BP, CR) > JA$ (1)
- **rating “2”**
 $BP > JA > CR > KO > MZ$ (2)
- **rating “3”**
 $CR > BP > (JA, MZ) > KO$ (3)
- **rating “4”**
 $(BP, CR, JA, KO) > MZ$ (4)
- **rating “5”**
 $KO > JA > CR > MZ > BP$ (5)
- **average**
 $JA > KO > CR > BP > MZ$ (6)

4. Summary

The object of the research was a company producing electroacoustic products. BOST testing confirmed a high awareness among employees regarding quality as an important parameter.

A large number of employees also acknowledge the importance of costs. These are quite optimistic conclusions as the crew seems to be aware of the new developments, changes and shows a greater desire for training. However, it may be disturbing they ignore the fact of safety. After all, in the company there are used quite dangerous tools that can easily lead to accidents, and consequently, ruin the health of workers. It would be worthwhile to draw employees' attention to work safety and take steps to reduce the risk of accidents.

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