Root Cause Analysis of Suppliers' Performance Problems: Case of Harvesting and Timber Transportation Service Providers

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Introduction

- JSC "Latvia's state forests" (LVM) process of production and transportation of wood products is outsourced
- LVM's annual demand for harvesting and timber transportation service is 5,4 million m³ (≈50% of total roundwood product production in Latvia)
- Performance of service suppliers is unbalanced
- 21% of harvesting service suppliers receive both efficiency and quality objectives set by LVM
- **Objective**: to define the root causes of supplier performance problems, prior choosing the right set of incentives for supplier's performance improvement



Performance of harvesting service suppliers

Methods

Analysis of supplier's performance data

Definition of supplier's performance problems and search for root causes (Group of experts, Ishikava's diagram, 5Why)

Development of supplier's employees and executives questionnaire (Likert's 5-point scale)

Analysis of supplier's employees questionnaire data (Pearson's chisquared test) Interviews of supplier's employees n=594 (PAPI)

Analysis of supplier's executives questionnaire data (Mann–Whitney U test) Interviews of supplier's executives n=59 (CATI)

Respondents

Employees involved in harvesting, timber transportation and chipping service providing for JSC "Latvia's state forests"

- n=594 (397 harvesting, 172 timber transportation, 25 chipping)
- ≈66% of total number of employees

Executives of harvesting, timber transportation and chipping service suppliers

- n=59
- Produce 91% of total LVM roundwood production volume



RC: low motivation

Results

Supplier's employees interviews

How much do you want to continue working in the current job?

1 group – Will continue to work in an existing job (4-5 in Likert scale): 75.5%, n=449

2 group – Employees who doubts for work continuing (3 in Likert scale): 21.9%, n=130

3 group – Employees who will not continue to work (1-2 in Likert scale): 2.6%, n=15



RC: not corresponding salary

Results

How much the salary corresponds with your work responsibilities?



X² = 97.6; **p** = .000

RC: too complicated requirements

How complicated are requirements of the existing work?



*X*² = 26.1; *p* = .004

How satisfied are you with the existing shift work?



X² = 88.1; **p** = .000

RC: insufficient training for employees

Results

How sufficient the company provide a training for you?



X² = 25.9; **p** = .004

RC: insufficient skills for direct manager

How good knowledge about the skills you need for your profession has your direct manager?



X² = 19.9; **p** = .030



RC: non-evaluation of employee's skills

How often do the company you work for is evaluating your professional skills?

■ At least once in half-year ■ At least once a year ■ Less than once a year ■ Only when I got into work ■ Never done ■ No answer

Will continue to work in an existing job

Employees who doubts for work continuing

Employees who will not continue to work



X² = 39.9; **p** = .000

How easy for you would be to find another job?



X² =15.2; **p** = .126

Results Supplier's executives interviews

Groups of suppliers:

1. group suppliers – the best suppliers (n=11) who achieves both quality and labour productivity objectives set by buyer

2. group suppliers – the rest suppliers (n=48) who do not achieve the objectives completely



RC: low supplier's profitability

Results Supplier's executives interviews

How satisfied are you with the company's financial position?



RC: obsolete machine fleet

Mdn age of forest machines:

1 group suppliers – 7 y 2 group suppliers – 10 y

Please evaluate the condition of the fleet in your company!



RC: lack of management knowledge

Results

Please evaluate your knowledge in following management aspects:



RC: limited contract duration

Results

If a service contract would not be limited by five years term, how much it would affect such aspects of cooperation:



Conclusions

- Factors that can lead to leakage of employees from supplier, causing supplier's performance decline, are:
 - Employees' dissatisfaction with shift work and remuneration
 - Suppliers' disinterest in the evaluation of employees' skills
 - \circ Complicated work requirements
 - \odot Lack of training for employees
 - Lack of direct manager's knowledge about the skills needed for employees
- The lack of investment in new machinery does not arise from limited financial recourses, but from executives' satisfaction with their obsolete machine fleet
- Executive's self-appraisal of management knowledge is similar to both groups, but their capability to achieve performance objectives in the same supply chain is different
- Five year contract duration limiting suppliers' to invest more effort in developing proposals for cooperation improvement, enhancing efficiency and quality, as well as invest in technology and workforce training

Thank you!

