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A holistic method for finding out critical features of industry maintenance services

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INTRODUCTION

- It is important to have the right methods to reliably measure the customer satisfaction
- The paper introduces a way to identify the critical factors of customer satisfaction



SOME KEY REFERENCES:

- Rautiainen M & Takala J (2003). Measuring customer satisfaction and increasing it by choosing the right development subjects, LOADO 2003
- Takala Josu (2002). Analysing and synthesising multifocused manufacturing strategies by Analytic Hierarchy Process, IJMTM



BACKGROUND

- Quality is one of keys to success
 - The competitive advantage depends on the quality of the goods and services provided
- The challenge of customer satisfaction is identifying the critical factors
- Knowing what customer expects is the key to quality service

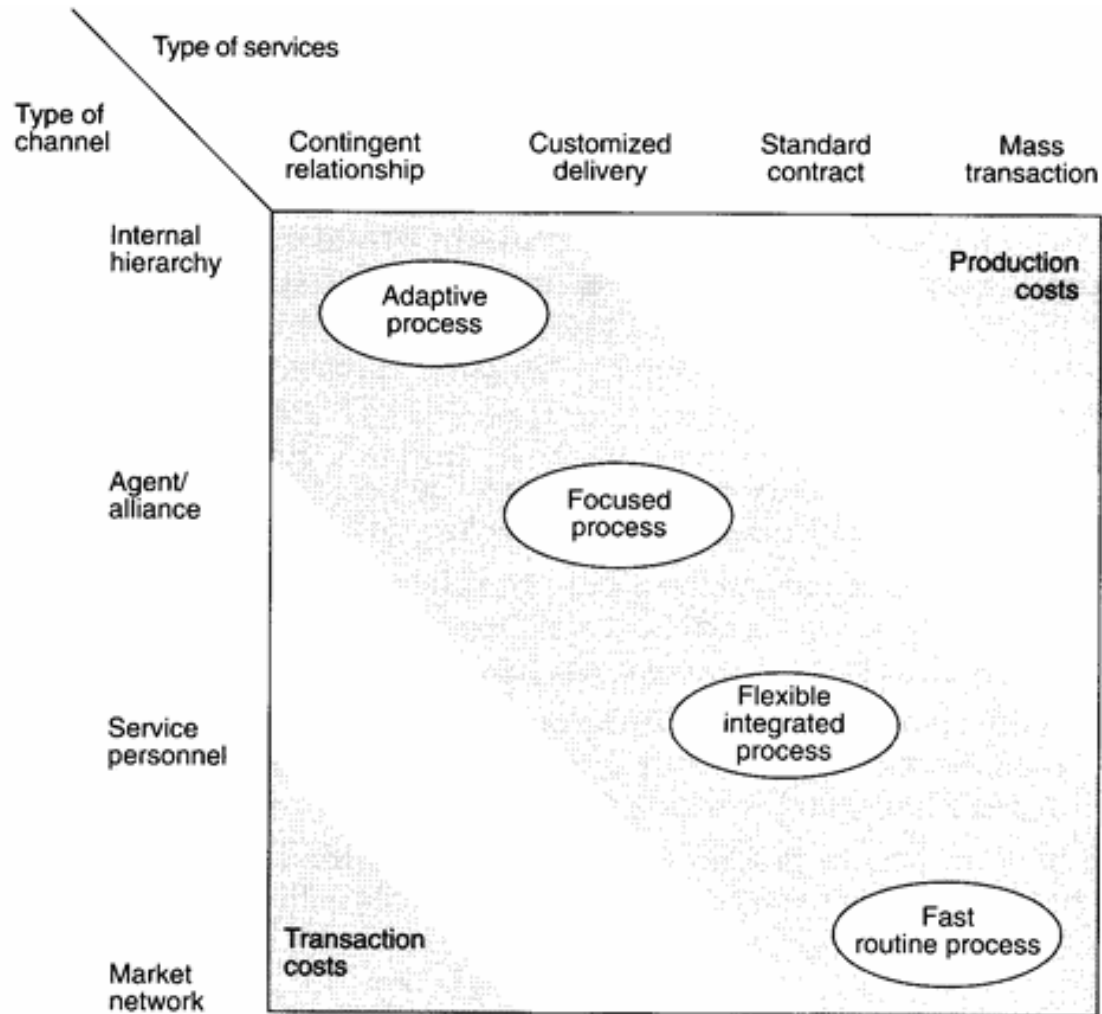


BACKGROUND

- Rather than forecasting customer needs, companies need to rely on real-time sensors
- In addition, competitors as well as the direction of development have a great influence on customer satisfaction



BACKGROUND



Service Process Analysis matrix. (Tinnilä & Vepsäläinen 1995)



BACKGROUND

- To get best possible advantage in the market, the right choices of both service type and channel type has to be made
 - How is the company positioned?
 - What is the desired direction of the company?
 - How fast the desired target will be reached?



CASE STUDY

- Purpose is to create an operative management system for *efficiency* and *quality* performance
- Case company: *Stora Enso Saimaa Services*
 - Maintenance service provider for Forest industry production



CASE STUDY

- Identifying the factors that can cause problems in the near future of the service process
- Creating and implementing "eWorld suitable sense and response" methods
- Methods to measure, follow and improve performance of the service production



CASE STUDY

- Developed customer questionnaire process is a 3-phase process:
 - 1. Current State Analysis
 - Tools: Personnel and In-depth Interviews and observing
 - 2. Identifying factors of Quality and Success of Services
 - Tools: Business process descriptions, service descriptions, vision, mission, values, strategy
 - 3. Analysis of questionnaire
 - Analysis of questionnaire, observations, conclusions



Preliminary analysis:

	AVG	STDEV	AVG	STDEV	COMPARED WITH			DIRECTION OF		
	expectation	expectation	Experience	Experience	Worse %	Same %	Better %	Worse %	Same %	Better %

ATTRIBUTE 1	8,43	1,36	8,75	0,9	3,1	59,4	37,5	6,5	77,4	16,1
ATTRIBUTE 2	8,55	1,15	8,63	1,4	16,1	58,1	25,8	10	73,3	16,7
ATTRIBUTE 3	8,93	1,16	8,70	1,34	18,8	46,9	34,3	6,7	73,3	20,0
ATTRIBUTE 4	8,88	1,22	8,94	1,21	9,4	65,6	25,0	6,7	76,7	16,7



Equations:

(1.) **Gap index** = $\left| (\text{AVG of experience} - \text{AVG of expectation}) / 10 - 1 \right|$

Average of expectation	Average of experience	Compared with competitors			Direction of development		
		Worse	Same	Better	Worse	Same	Better
9,45	8,75	34%	43%	23%	34%	43%	23%

(2.) **Competitor index** = $\left| (w \% - b \%) / 100 - 1 \right|$

(3.) **Direction of Development Index** = $\left| (b \% - w \%) / 100 - 1 \right|$

(4.) **Importance Index** = $\text{AVG of expectation} / 10$

(5.) **Emphasised IMPL** =
$$\frac{\text{STDEV of experience}}{\text{Importance Index} * \text{Competitor Index} * \text{Direction of development Index}}$$

(6.) **Critical Factors Index** =
$$\frac{\text{STDEV of expectation} * \text{STDEV of experience}}{\text{Importance Index} * \text{Gap Index} * \text{Direction of development Index}}$$

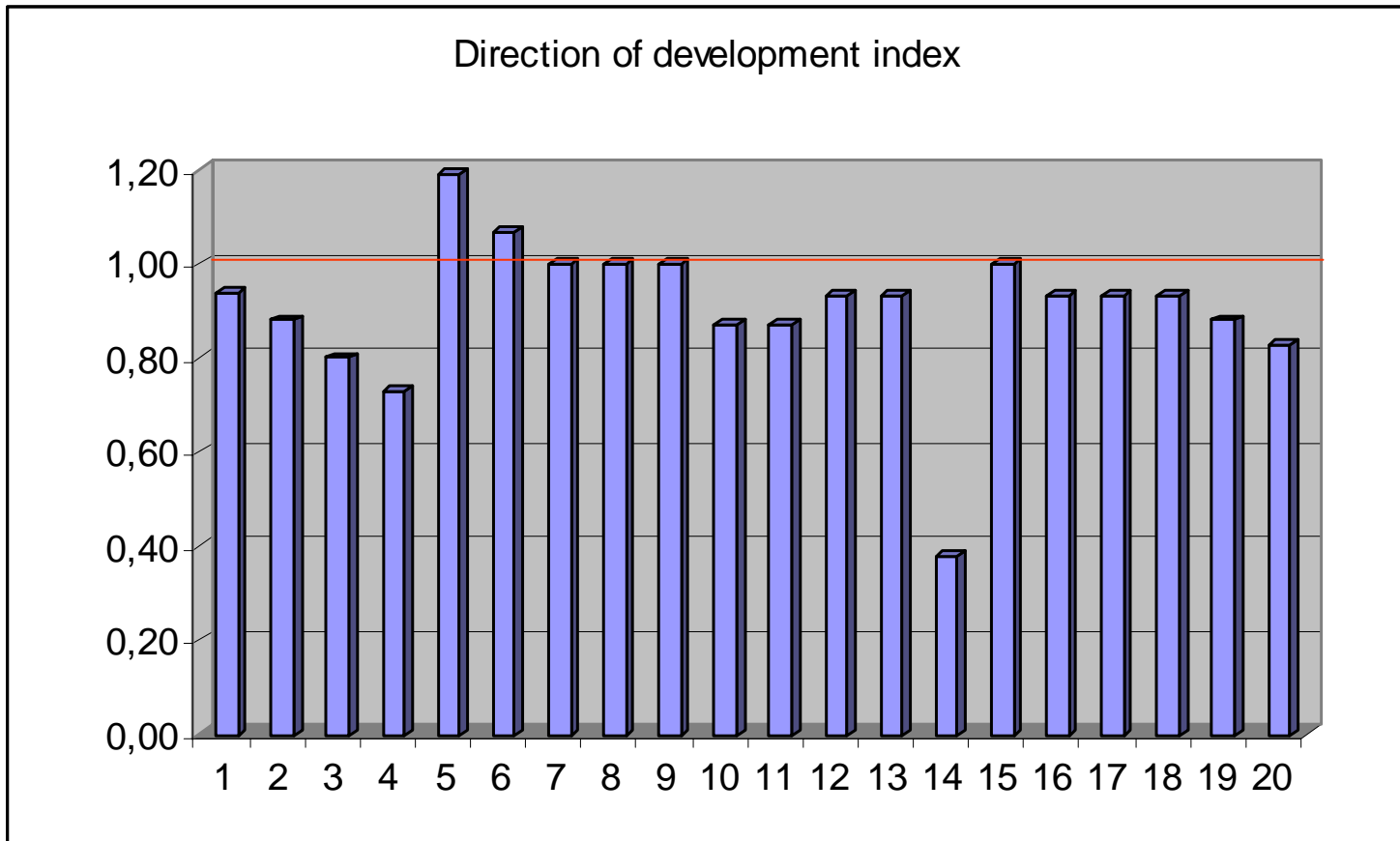


CASE STUDY

- 20 attributes were measured
- Taking into account
 - Customers' expectations
 - Customers' experiences
 - Impressions on competitors
 - Direction of development (last 2 years)
- 17 customers answered

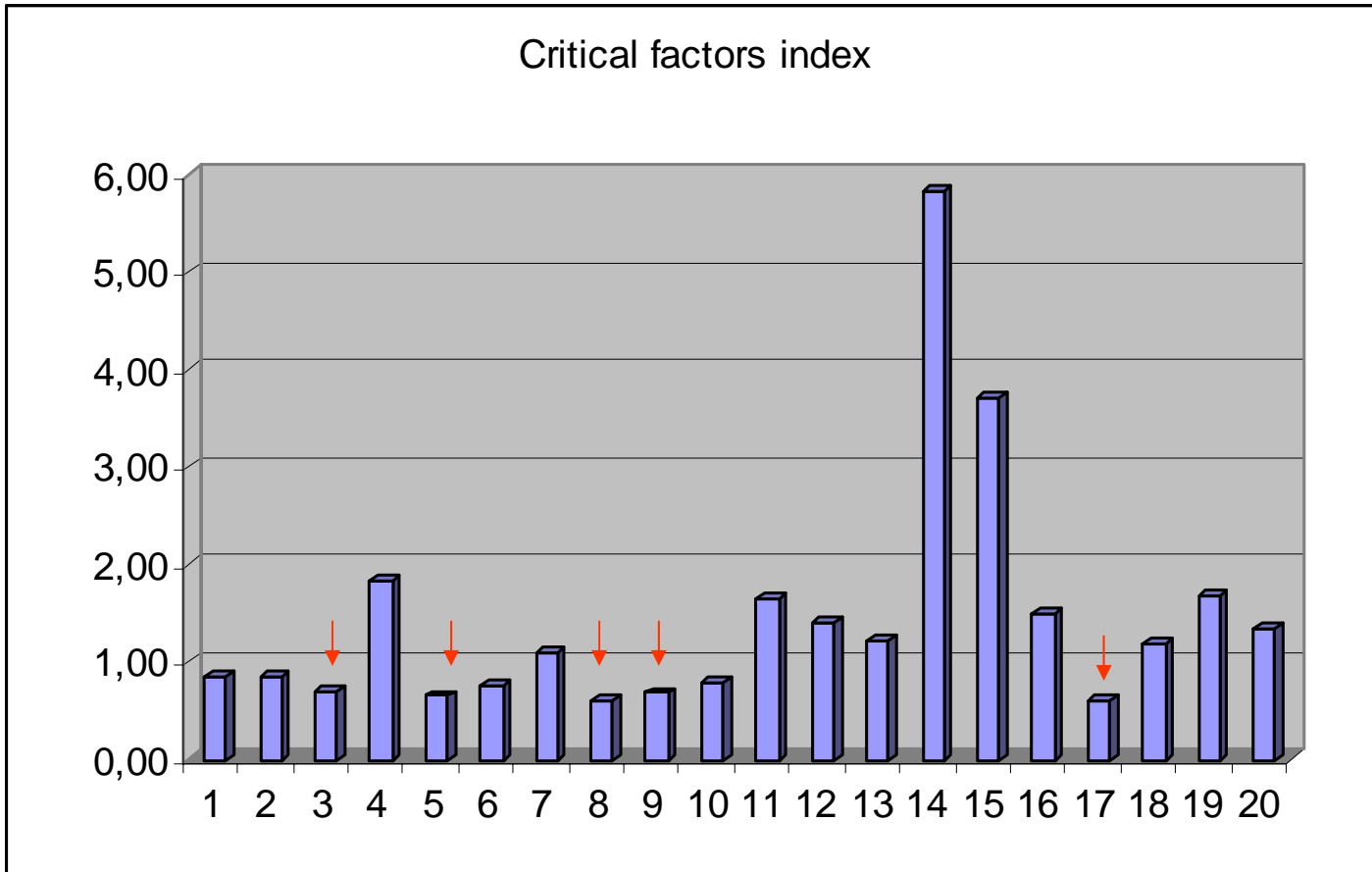


Results of Direction of Development Index





Results of Critical Factors Index





RESULTS

- The most critical factors in this study seemed to be, e.g.
 - Professional skills of service makers
 - Efficiency of service's completion
 - How well service providers take care of safety



CONCLUSIONS

- The method helps companies to identify the strengths, weaknesses and critical factors of the service
- The method was tested by Weak Market Test



THANK YOU FOR YOUR ATTENTION!!!

QUESTIONS?

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