

Implementing Customer Delight in Decision Support System with Performance Indicators: Comparative Study of Finnish Housing Market

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Abstract Our comparative study in Finnish housing market targets the application of Customer Delight model by Sense and Respond methodology and Analytical hierarchical process analysis. The goal is to enlarge property values through active day-to-day management that focuses on maintaining high levels of occupancy and residents satisfaction and at the same time stay cost efficient. We aim to pilot the construction of intelligent knowledge-driven Decision Support System that provides specialized problem-solving expertise stored as facts, rules, procedures, or similar structures.

Keywords Decision support system; Customer delight; Sense and respond; Analytical hierarchical process; Housing market

1 Introduction

There are compelling reasons for setting up an enabling framework to providing good customer service. Customer satisfaction is valuable because of the impact it have on the business bottom line. Satisfied customers are most likely to be loyal and to make repeat orders and to use a wide range of services offered by firms. In the current economic environment, companies can not afford to alienate its customers.

It's critical that the company can form a close working relationship with its client, customer service play decisive importance. There are in existence variety of steps that one can take for enhancing client's experience. To list few of them here follows a choice of techniques eligible for implementation in Finnish real estate market conditions:

- (1) Respond to Messages Promptly & Keep Your inform clients regularly
- (2) Ensure approachable and friendly communications work line
- (3) Define and apply clear Customer Service Policy
- (4) Encourage Face-to-Face or front desk dealings
- (5) Teaching the personnel Attention to Detail
- (6) Anticipate Client's Needs and be able to change fast enough your company's resources to be able to help them out
- (7) Be reliable partner and keep Promises

Making a sensible choose for resources allocation in particular system of activities to enhanced customer experience is amendable task, still often management have to make decisions for the company based on information dispatched from the expectation for the level of service needed. That creates information gaps and which are often distances efficient decision making from day to day operations. To fill these breaches we looked into the company's systems and processes, which support customer deliverables. They are great places for searching up to much needed relevant information about whether or not the organization is satisfying the customer. It is often quite revealing to separate real estate business processes flow between the departments and interest groups within the satisfaction delivery chain to find out how their experience and perception may differ from one another. It would be incompetent to disregard free and easily accessible customer information accumulated inside the company. This requires flexible strategy orientation combined with proactive identification and assessment of service concepts. Contemporary approaches to services identify the power of customer delight. It brings customers coming back for more, creates interest in new customers and distinguishes your company from the competition. At the same time to be able to sustain such effect one needs deep expertise in sensing customer behaviour as well as implementation of value added processes that are hard to copy. Our comparative study in Finnish housing market is targeting the application of Customer Delight model in construction of decision support system in making reasoned judgement in this selection and taking actual actions in re-allocation of resources. We implement additionally Analytical Hierarchical Process criteria weights. Only providing good customer service by itself is not enough cost

effective. The goal is to enhance property values through active day-to-day management that focuses on maintaining high levels of occupancy and clients satisfaction, while lowering facility costs.

1.1 Property management in Finland

In Finland the property management as a term means basically managing real estates economically and organise effective maintenance and the focus is in property owner point of view. Other relative term is facility management which consists includes different kind of supporting services for users and therefore the focus is more from user’s point of view. The inbuilt aim in both terms is to ensure real estate ability to provide services to customers make profit to its owner and support the development of value of real estates. The property management in this particular case is a mix of present two terms and could be divided into 3 main function groups:

- 1) administration functions,
- 2) financial administration functions,
- 3) technical functions and housing functions.

The administration function includes mainly corporation legislation, its requirements, connection to authorities and agreement monitoring. The financial administration functions are focused on planning, budgeting, incomes, outcomes and calculations. It takes care of payment transactions. These functions produce financial outcomes and balance sheet as well. Technical functions look after the real estate technical condition. The planning perspective is usually from daily functions to long-term functions. The aim is to keep real estates value and quality in defined level. Technical functions monitors and controls the energy and water flows. The housing functions main aim is to keep on the incomes running. This includes sales and marketing functions as well agreement process with customers.

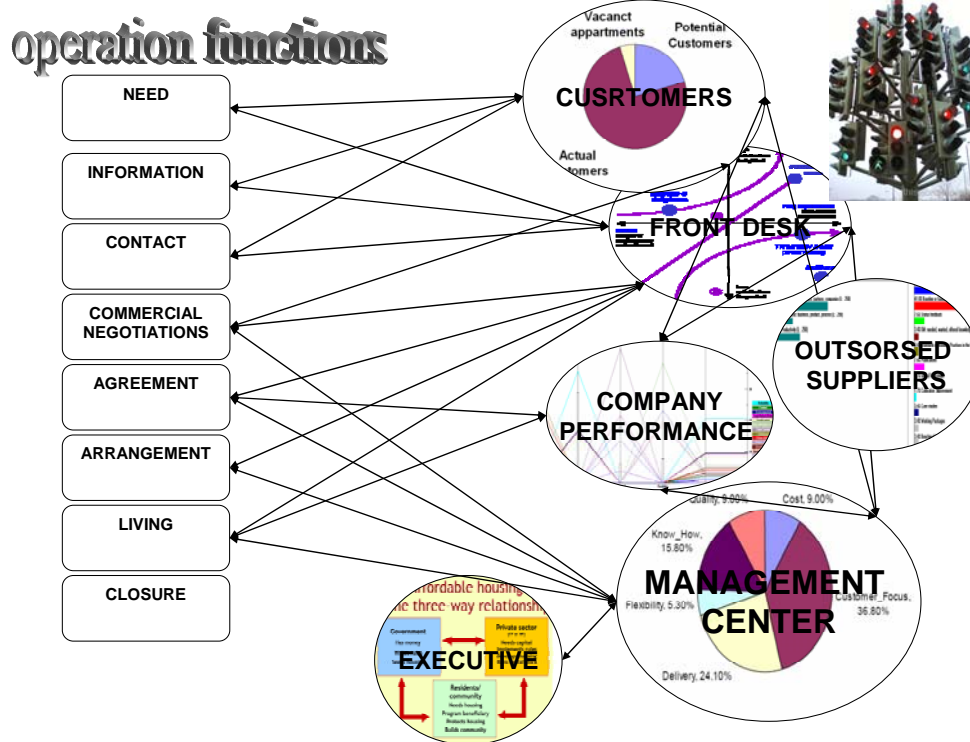


Figure 1 Operational Functions

Business process in property management is usually very standardized. The Finnish real estate federation maintains a base model for the property management agreement and its recommended content. The agreement partners differs it vary rarely and very little.

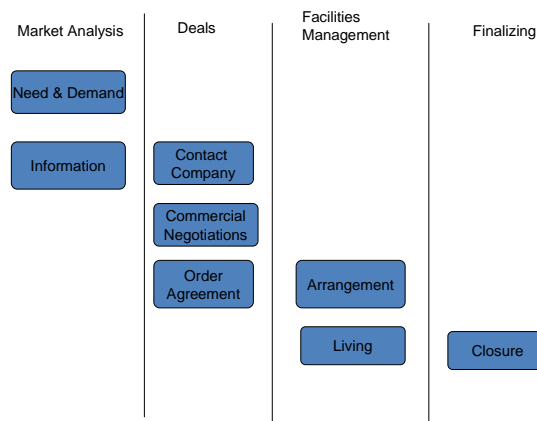


Figure 2 Real Estate Business Flow

This causes that the competition is driven mainly with price. Actually this is not whole truth, because the companies have developed many other ways to extra charge customer from different ways like papers, phones, mail etc after they have got the agreement. This is usually almost one third of whole costs and misrepresents the competition in the offer phase.

During the agreement is valid the real estate owner states the standards for quality and cost levels. Owner can put profit demand as well but in Finland those are still quite unusual. Quality includes as technical quality for real estate as well quality of customer service for ensure the incomes. The service provider produces the services as the agreement involves. The buyer monitors the agreement mostly from reports and changes in those values. The owner can do the spot check if there is reason for that f ex from customers' feedback. The success of agreement in short-term is easy to evaluate, the incomes are more than outcomes and at the same time the real estate seems to be in order. But long-term evaluation of success of agreement is more difficult to make. The real estate needs planned maintenance, service and reparation. This function requires investments and causes challenges to keep cost level under incomes level and therefore real estate profitable. That is why the service provider neglects this necessary and expensive maintenance, service and reparation to keep on agreement valid. To neglect this necessary maintenance, service and reparation does not appear in short period even medium long period, but those must be done in every case in sometimes.

1.2 Information collection

The information about the companies was collected from interviews, organized workshop for research method introduction and tutoring, almost 40 questionnaires forms in the companies to choose major critical factors, pair-wise comparison questionnaire conducted by the managers and firms financial statements to see how it reflects possible Business group orientation. After building up the empirical knowledge about corporate strategy the competitive priorities model was constructed.

2 Theoretical Framework

2.1 Customer delight

The model of Dr. Noriaki Kano is aimed at capturing the voice of the customer for requirements for products and service. Originally conceived in the 1970s as a quality tool for obtaining a good match of customer need and product feature and function, project managers can apply this tool not only for grading requirements but also for evaluating budget allocations and priorities, and for assessing qualitative risks. In this regard, Kano models are quite useful for project managers who must make dollar decisions about where discretionary funds can be best leveraged for business value.

Kano really only addresses two of the focus areas already described: customer perspective and product excellence. The Kano model pretty much ignores operational effectiveness, except as operational effectiveness is reflected in product or service quality that influences customer satisfaction, so and we add AHP for measuring the operational effectiveness.

2.2 Analytical hierarchical process

Results got analysed by Analytical Hierarchy Process (AHP) and Sense and Response methodology to reflect the multi-focused decision making and evaluates each particular factor. The AHP goal is to integrate different measures into single overall score for ranking decision alternatives with pair wise

comparison of chosen attributes. AHP allows also considering quantitative and qualitative measures and making trade-offs. The process initiates by structuring the decision problems in a hierarchy of criteria and then connecting the comparisons to get the weights of each criterion with respect to the goal.

2.3 Sense and respond methodology

An adaptive management model is the missing link in the efforts to transform businesses into adaptive organizations. S&R systems consist of information collection sensors, communication links, processors and responders. Given budgets, overall goals (objective functions) and constraints our research investigates optimum designs and optimum operations. Optimal designs consist of proposing operation structure capable of implementing focused decisions during reasonable time and developing algorithms for optimally sensing and responding to the environment. Adaptive people, technologies and infrastructures are necessary but insufficient, because the redundancy to change systematically discourages the exploitation of adaptive capabilities. Sense and Respond fills the adaptive management gap. It is a framework for customer-back businesses; one that systematically enhance adaptive organizational behaviour.

3 Proposed Approach

The Critical Factor Index method that we are using is a measurement tool that indicate which attribute of a business process is critical and which is not, based on the experience and expectations of the company's employees or customers. The CFI was developed on the basis of the Gab analysis and the implementation index (IMPL). These indexation was developed and tested in the industrial management unit of department of technologies at the university of Vaasa. The idea, behind these measurement tools, was to develop a fast and reliable method for management purposes to sense and respond to customer satisfaction. The method reveals which attributes are critical within the business process and therefore supports the management to make decisions concerning which attributes should be improved. Facilitator of this task is proposed customized knowledge-driven Decision Support System. It provides specialized problem-solving expertise stored as facts, rules, procedures, or in similar structures.

4 Research Framework

DSS systems require a structured approach. We utilize model of a business as a hierarchy consisting of four modelling layers:

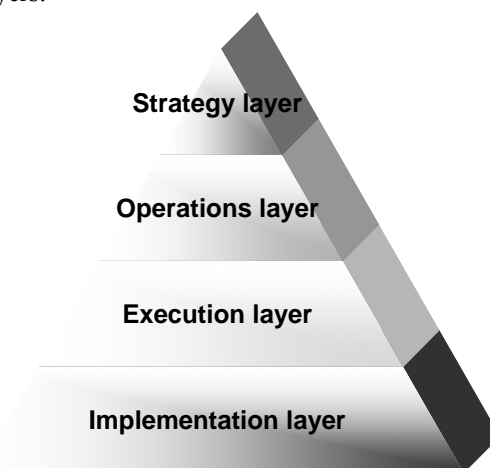


Figure 3 Business Modelling Layers

(1) Strategy layer— Analytical Hierarchy Process AHP model specifies what the business plans to achieve (“strategy execution model,” to distinguish it from strategy formulation). AHP optimize and adapt operations and infrastructures based on dynamic performance targets Using analytical hierarchy process we try to find answer how should the resource allocation be developed.

(2) Operations layer—The operations model describes what the business is doing to achieve, (different alternatives energy sources and technologies are evaluated with respect to the AHP strategic objectives) and how it measures its progress toward this achievement. Run-time monitoring of the business processes makes Critical factors (CFI) visible to operation managers.

(3) Execution layer - it rearranged resources and what describes what would be “the price” to implement SaR design in the operations network, on the “expense” of the already existing capabilities, and improves on baseline forecasts.

(4) Implementation layer—implementation model defines the actual information for realization of the execution. It consists of data acquisition tools and benchmarking interface that describes the operations and services offered by the housing companies and the data needed to execute them. Data is gathered through interviews and questionnaires, with additional information about demand forecasts, product life cycle times, costs, inventory, contractual buffers, customer service targets and product prices.

5 Results

Main criteria values showed that on company level YH case the cost became more important criteria for operation management. In TVT case we see the same rice of cost as major criteria, but Quality till remains main operational criteria. Priorities order changed more in TVT case than in YH one.

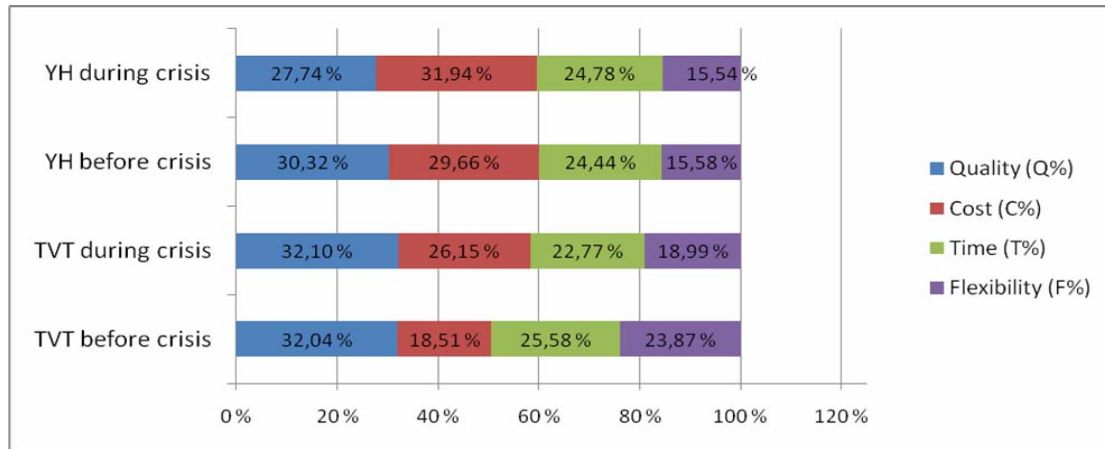


Figure 4 AHP Main Criteria Weights

Then we calculate a numeric value for a competitive index (Figure 5) in different types of business groups such as prospectors, analyzers and defenders according to Miles and Snow organization types. The indexes have been calculated using normalised values of the main priorities Quality, Delivery, Cost and Flexibility respectively. . The indexes have been calculated as follows:

Prospectors:

$$\phi \sim 1 - \{ (1 - Q\%^{\frac{1}{3}}) (1 - T\%) (1 - C\%) \times F\%^{\frac{1}{3}} \}$$

Analysers:

$$\lambda \sim 1 - \{ (1 - F\%) \times (ABS(\Delta Q * \Delta T * \Delta C))^{\frac{1}{3}} \}$$

Defender:

$$\varphi \sim 1 - \{ (1 - C\%^{\frac{1}{3}}) (1 - T\%) (1 - Q\%) \times F\%^{\frac{1}{3}} \}$$

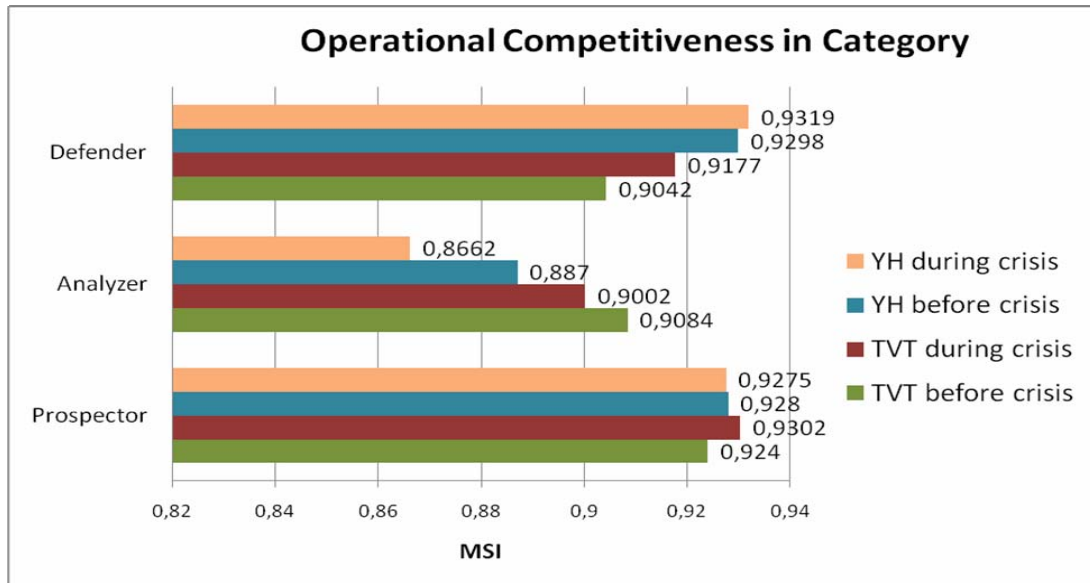


Figure 5 Competitive Index Results

From the results it is clear that in YH case the competitiveness level diminished significantly in Analyzer and little in Prospector group. The defender competitiveness category rose up and remains the highest position in operative competitiveness. For TVT the biggest increase is also in Defender, but it rose in Prospector category, and we strongly believe that TVT orientation is matching this group.

Customer Delight may be the difference between success and failure during turbulent times. It creates the additional clients attractiveness that one can't place a momentary value to. It allows to make more return on your investment and to reward employees. A lot can be done within the confines of existing property management. This exploratory study provides traffic light system for identifying critical factors that have to be taken care of immediately. After calculating series of indices, the results are generalized in the Critical Factor Index presented in figure 6. It is also a basis for benchmarking of prioritization of factors in the business.

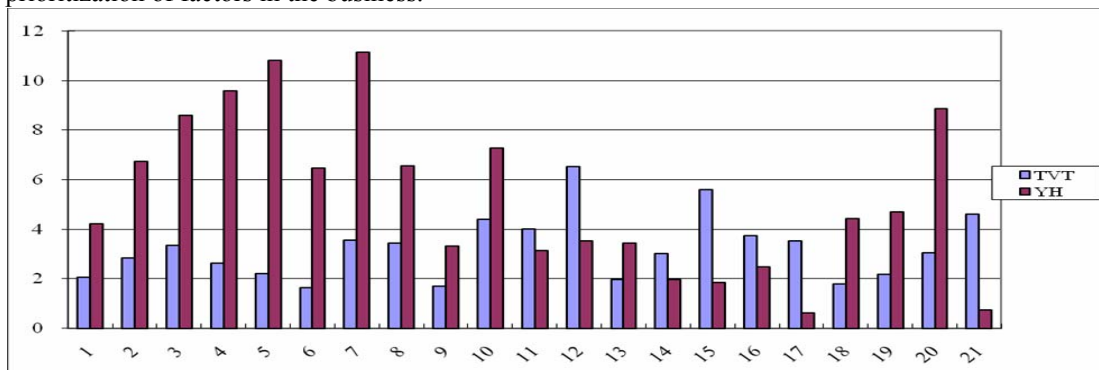


Figure 6 Sense and Respond CFI Results

Bars in red indicate attributes that are to be seen as attributes that are in critical. Bars in yellow illustrate attributes that are possess uncertain judgement in overall evaluation.

Table 1 CFI Values: High Uncertainty in That Area, Low Valued Factors Needed to Be Stressed Urgently

ATTRIBUTES	CFI-YH	CFI-TVT
Knowledge & Technology Management		
Training and development of the company's personnel	4,22	2,05
Innovativeness and performance of research and development	6,73	2,85
Communication between different departments and hierarchy levels	8,61	3,36
Adaptation to knowledge and technology	9,58	2,64
Knowledge and technology diffusion	10,80	2,21
Design and planning of the processes and products	6,48	1,64
Processes & Work flows		
Short and prompt lead-times in order-fulfilment process	11,14	3,54
Reduction of unprofitable time in processes	6,54	3,45
On-time deliveries to customer	3,32	1,69
Control and optimization of all types of inventories	7,27	4,40
Adaptiveness of changes in demands and in order backlog	3,13	4,01
Organizational systems		
Leadership and management systems of the company	3,53	6,54
Quality control of products, processes and operations	3,43	1,98
Well defined responsibilities and tasks for each operation	1,96	3,01
Utilizing different types of organizing systems (projects, teams, processes...)	1,85	5,60
Code of conduct and security of data and information	2,46	3,73
Information systems		
Information systems support the business processes	0,61	3,53
Visibility of information in information systems	4,43	1,78
Availability of information in information systems	4,69	2,19
Quality & reliability of information in information systems	8,87	3,05
Usability and functionality of information systems	0,73	4,61

The benefits of a fast and comprehensive method to gather important information in order to make resource allocation decisions at operational level are self-evident. However there is still the need of further development and therefore should be tested in future case studies. CFI can be utilized to test internal as well as external processes, based either on expectations and experiences of employees, customers or business partners.

6 Conclusions

Property fund managers should be active - 'doing well by doing good' and as technology costs fall and energy costs rise, more and actions are economic driven. So improvement in the customer satisfaction can be seen as "low cost-high impact" action to combat lower rental growth, faster depreciation, higher risk premium, leading to higher yields and lower values over time.

The benefits of our proposed DSS can be summarised as lower maintenance cost with efficient work order and preventative maintenance execution Reduce administrative costs by harmonizing lease execution and optimizing space utilization. Businesses that can effectively manage utilization and costs associated with real estate assets stand to reap substantial benefits. A complete, integrated strategy of all critical business functions is the foundation for effective real estate management.

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