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SUSTAINABLE OPERATIVE HOUSING BY DYNAMIC RENTING

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ABSTRACT
This study demonstrates utilization of Sense and Respond method for developing operations within housing markets by Critical Factor Index (CFI) having influence even on the strategic business performance. CFIs of knowledge intensive businesses can be measured and dynamically developed by Sense & Respond philosophy [1]. The purpose is to evaluate operative business performance in two quite different cases within quite big real estate businesses in Finland. For example, relationships with the customers, processes and possibilities for growth internally by different groups of respondents, 'hosting', 'management' and 'rent', were compared between the cases. One case company has a lot of more social housing compared to another.

The work aims at finding out and understanding similarities and differences in business processes by Balanced Score Card (BSC) and by much more operations oriented OP questionnaires, and by deeper interviews in the case companies as well. BSC questionnaire has been supported by an important part of trust related factors as well. We could find similarities like: openness, customer, communication between different departments and hierarchy levels, utilizing different types of organizing systems; adaptation to knowledge and technology, utilizing different types of organizing systems.

A new method for dynamic resource allocations in the operative processes in housing, especially in renting, where the customers move from one apartment to another one, has been proposed, it was validated and verified by weak and semi strong market tests in two quite big but different case companies. The preliminary but promising findings can be applicable for the whole market.

KEYWORDS
Critical Factor Index, multicriteria decision making, process measurement, process management, business performance, housing, real estate.

Introduction

The critical factors of knowledge intensive business in a globally competitive case company can be measured and dynamically developed by "Sense & Respond" methodology [1]. Critical Factor Index (CFI) [2], as well as its developed and stabilized form Balanced Critical Factor Index (BCFI) [3] refers directly to the concept of "Sense & Respond" philosophy and represents easy in use tool for supporting the strategic decision-making which applicability has wide potential on various markets and types of organizations.

Knowledge intensive business aims at constant modernization, development and innovation, therefore the whole market segment is quite unstable and barely predictable. The bright representatives of the knowledge intensive business are housing (retailing) companies, as they depend a lot on customers' opinion, experience, and satisfaction; face various and unique requirements from the customers' side. Customer satisfaction has crucial impact on the business,

hence valuable. The loyalty of the customers increases with the satisfaction level what is beneficial for the company. [4]

The current article is the comparative study based on two significant actors of housing business in Finland: on quite big areal (over ten thousand of apartments) renting businesses of Company A (having a good part of social housing) and on Company B operating in same branch widely in other parts of the country and also with construction development businesses.

The work tries to find a new method for dynamic resource allocations in the operative renting processes in housing, especially in the process where the customers move from one apartment to another one (exchange). The purpose is to evaluate business performance in the case companies through utilization of (B)CFI methodology and find possible similarities, like relationships with customers, processes and possibilities for growth internally and externally.

The research method is survey represented by two different forms of questionnaire: Balanced Score Cards (BSC) demonstrating mainly the general performance of the company and Operations (OP) having closer reference to the company's resources. The investigation is arranged in three different groups of respondents (in each of the case companies): 'Hosting', 'Management' and 'Rent'. The fact that the questionnaires were arranged in different groups of employees provides better reliability of the results. At the same time it compares the responses of different groups and clarify what is more critical and important exactly for them.

The results of analysis for Company A are at the semi-strong market test [5] stage as the decisions

made on the results' basis have been already applied. The results of Company B have gone through weak market test [6] as were supported only by the experts' opinion. The main limitation of the research is the small sample – little number of cases to be tested. The additional problem is difficulty in finding case companies to be compared, as none of them will to share the strategic, therefore confidential information.

Building the method

"The CFI method is a measurement tool to indicate which attribute of a business process is critical and which is not, based on the experience and expectations of the company's employees, customers or business partners"[2].

Balanced Critical Factor Index (BCFI) is the stabilized and developed from of CFI index with higher reliably in detection of the critical factors. Nevertheless, both methods are utilized in the study for getting more data to operate with. (B)CFI spreads the measured attributes (different in BSC and OP questionnaires) among three categories: critical (red color), potentially critical (yellow color) and non-critical (green color). Due to the gray scale of printing, the colors are following: critical (black), potentially critical (dark grey) and non-critical (light grey). In principle, the lighter the color is the less critical attribute it represents. The listed colors are utilized in the graphical representation of the results in a way to improve the visual perception of the categories.

Table 1 demonstrates what kind calculation took place for BCFI to get the complete results which are presented in the following chapter (Results).

Table 1
The list of formulas for BCFI [3] calculation.

Gap Index (GI)	$\left\| \dfrac{(\text{av. of expr} - \text{av. of expc}) * 1,3}{10} \right\| - 1$
Deirection of Development Index (DDI)	$\left\| \dfrac{(\text{better\,\%} - \text{worse\,\%}) * 0,9}{100} \right\| - 1$
Importance Index (II)	$\dfrac{\text{average of expectation}}{10}$
Performance Index (PI)	$\dfrac{\text{average of experience}}{10}$
Standard Deviation Expectation Index (SD expc I)	$\left(\dfrac{\text{SD of expectation}}{10} \right) + 1$
Standard Deviation Experience Index (SD expr I)	$\left(\dfrac{\text{SD of experience}}{10} \right) + 1$
BCFI Final Formula	$\dfrac{\text{SD expc I} * \text{SD expr I} * \text{PI}}{\text{II} * \text{GI} * \text{DDI}}$

(B)CFI is a supporting tool for the strategic decision-making. In the knowledge intensive business environment the correct allocation of resources, their fast adoption and development can become the key competitive advantage. In this sense it is crucial to take the right decisions upon the areas of business interest and concentration and provide the made decisions with right amount of needs. To have it done, the company should be able to predict future changes on the market.

The study proposes to compare the results of the case companies with each other in a way to find similarities in critical areas, therefore to detect a possible trend of the housing market development. Through gaining such kind of knowledge, a company is well prepared for the future changes/moves and becomes a winner in any situation.

Results

The results were gained by utilization of two types of questionnaire BSC and OP used for (B)CFI calculation. BSC (Balanced Score Cards) questionnaire is targeted on strategic holistic resources, and OP (Operations) questionnaire is enquiring holistic operational resources to be measured in different manners. BSC questionnaire has 18 attributes to be measured; 21 attributes stand for OP questionnaire.

There are two case companies representing the study's sample. Due to confidentiality issues the real names of the companies will not appear in the article; they were replaced by 'Company A' and 'Company B'.

The questionnaires were applied for three different groups of respondents for better reliability of the results ('the voice of organization'): 'Hosting', Management' and 'Rent'. Nevertheless, due to the limited length, the article represents only the results of the combined calculation - from all the three groups of respondents together.

In case of Company A, 10 respondents took place in research and 8 respondents participated from the side of Company B. The number of participants may be considered as sufficient for making strong judgments and suggestions. But the number of participating companies could be bigger.

BALANCED SCORE CARDS (BSC)

It is reasonable to begin with tracing similarities in what the case companies expect to achieve in the future, therefore consider more important for the future competitiveness.

Fig. 1 demonstrates the comparison between the experiences and expectations of the companies (up-

per picture – Company A; lower one –Company B). The attributes with the biggest gap between experience (past/present) and expectation (future) are the strongest ones.

The matches between the expected positive changes for the companies are marked by rectangles over the attributes.
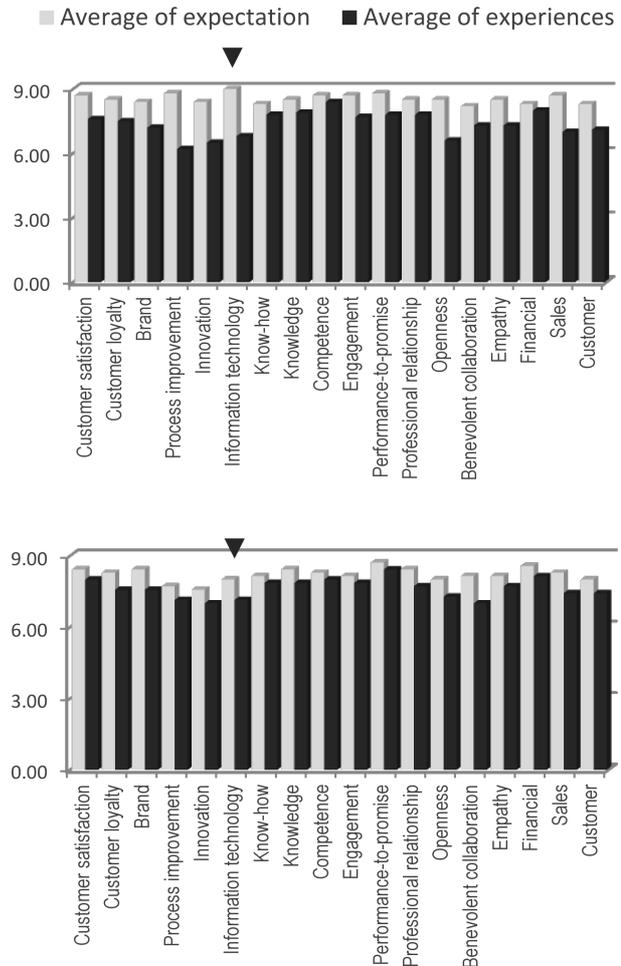

Fig. 1. PERFORMANCE (BSC): Expectations vs. Experiences among Companies A and B.

The above listed graphic implies that among the attributes with the biggest gap only one is expected to improve in both companies – 'Information technology'. Therefore, both companies feel that they are lacking in the mentioned attribute and expect it to be better in the future.

Figure 2 demonstrates the results of CFI (BSC) calculation for both companies. The article aims at finding similarities among the critical areas affecting the business performance of the companies; both critical (black) and potentially critical (dark grey) attributes belong to the extremes and should be considered as critical/potentially critical. As for the pre-

vious figure (1) the matches are marked by rectangles over the attributes. The graphic shows that three attributes may become critical in the nearest future: 'Brand', 'Information technology' and 'Benevolent collaboration'; that is why the companies need to pay attention to them.
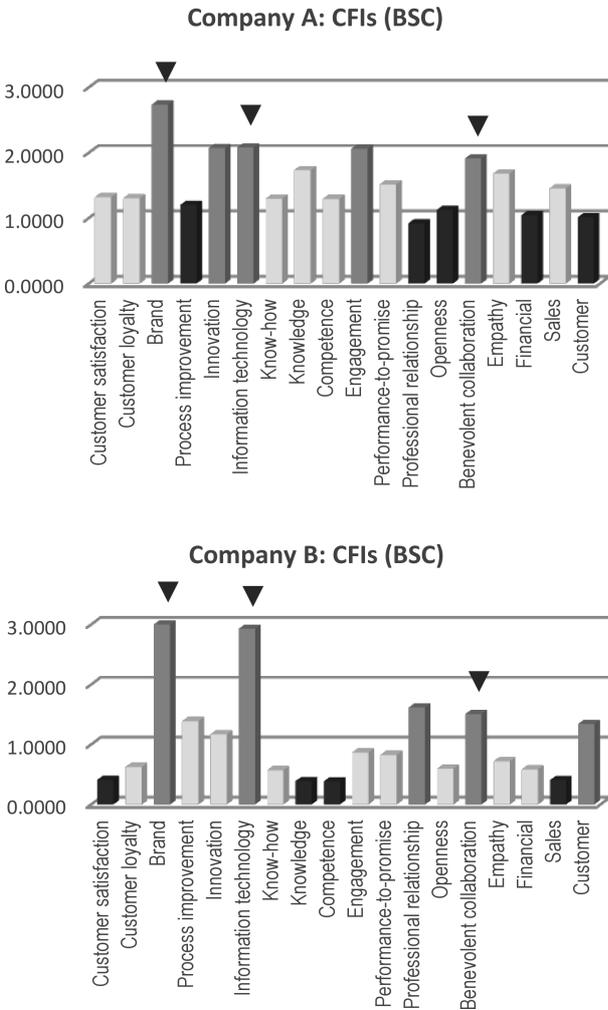
Company A: CFIs (BSC)

Company B: CFIs (BSC)

Fig. 2. CFI: Matches of the extreme attributes among Companies A and B (PERFORMANCE – BSC).

The following Fig. 3 uses the same logic with the only difference – it refers to BCFI (BSC) calculation. Now matches were traced in both extreme groups: (critical (black) and potentially critical (dark grey). It is clearly seen that the following attributes have potential to become critical for the companies' business performance: 'Brand', 'Information technology' (as in case of CFI (BSC) calculation).

At the same time, the following attributes are critical already for both case companies: 'Openness' and 'Customer'.
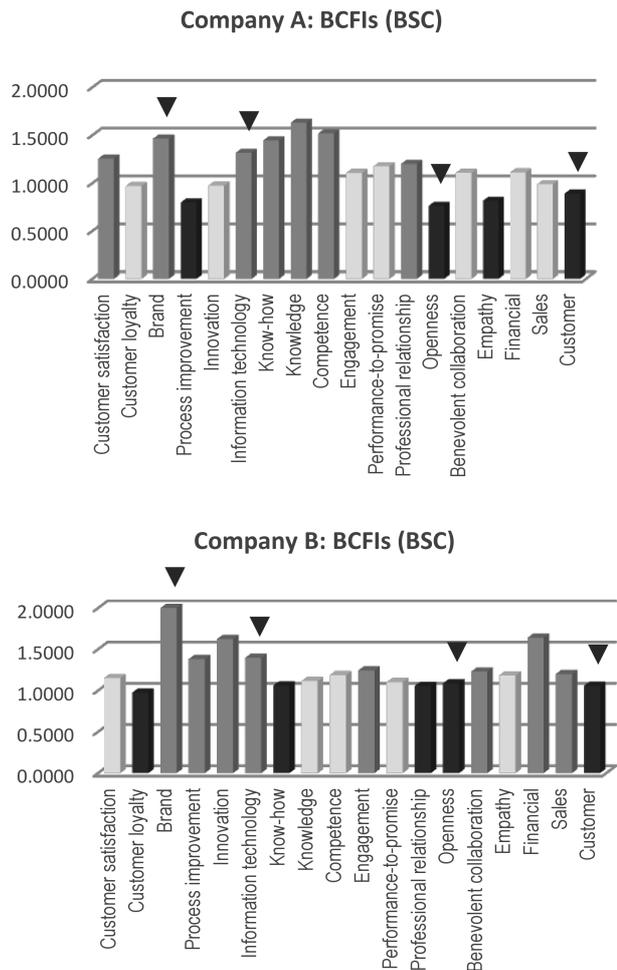
Company A: BCFIs (BSC)

Company B: BCFIs (BSC)

Fig. 3. BCFI: Matches of the extreme attributes among Companies A and B (PERFORMANCE – BSC).

OPERATIONS (OP)

As in the previous sub-chapter, we begin with the investigation of experiences, expectations and gaps between them inside the two case companies. The target is to understand, which of the attributes (from resource point of view) are taken by the companies more seriously and wanted to improve.

Figure 4 demonstrates the comparison between the experiences and expectations of the companies (upper picture – Company A; lower one – Company B). The most interesting for us are the attributes with the biggest gap between experience (past/present) and expectation (future).

Figure 5 demonstrates the results of CFI (OP) calculation for both companies. The similarities among the critical areas of the companies are marked by rectangles over the attributes.

The graphic shows that two attributes are critical for both companies: 'Adaptation to knowledge and technology' and 'Utilizing different types of organizing systems (projects, teams, processes...)'. The com-

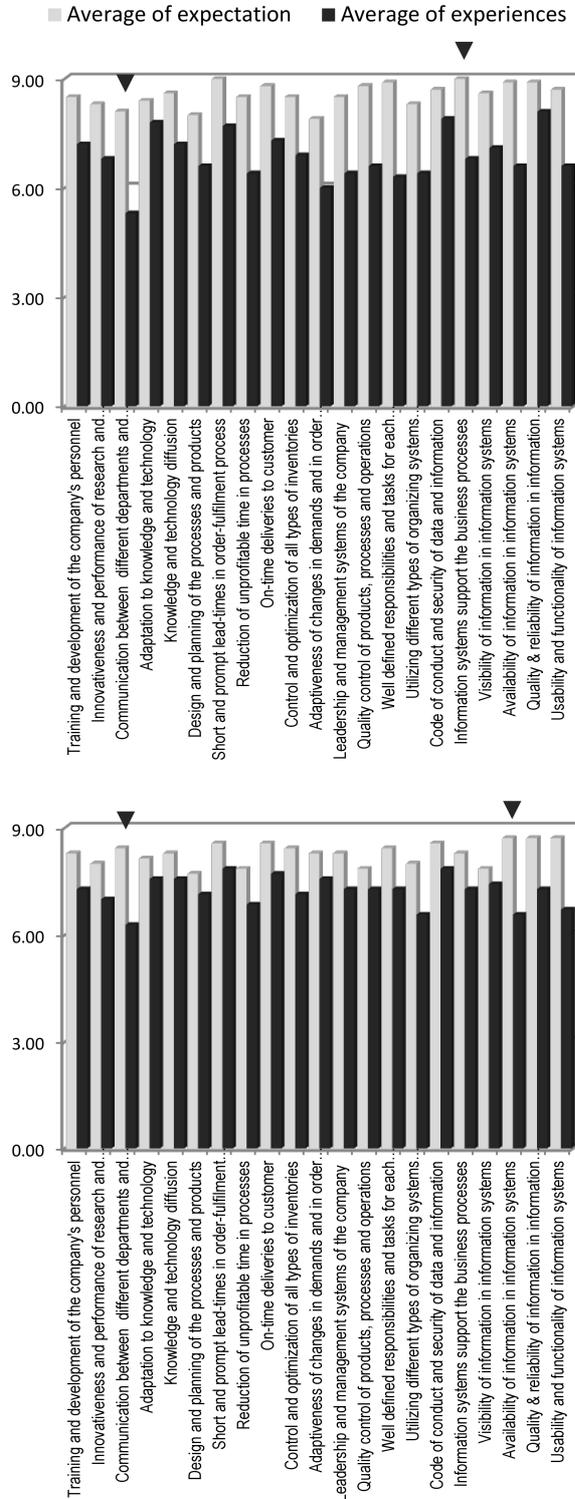panies need to improve the attitude to the listed attributes in a way to harmonize the flow of internal processes.

Company A: CFIs (OP)

Company B: CFIs (OP)

Fig. 5. CFI: Matches of the extreme attributes among Companies A and B (RESOURCES - OP).

Fig. 4. RESOURCES (OP): Expectations vs. Experiences among Companies A and B.

The following Fig. 6 uses the same logic with the only difference – it refers to BCFI (OP) calculation. Now matches were traced in both extreme groups: critical (black) and potentially critical (dark grey).

Company A: BCFIs (OP)
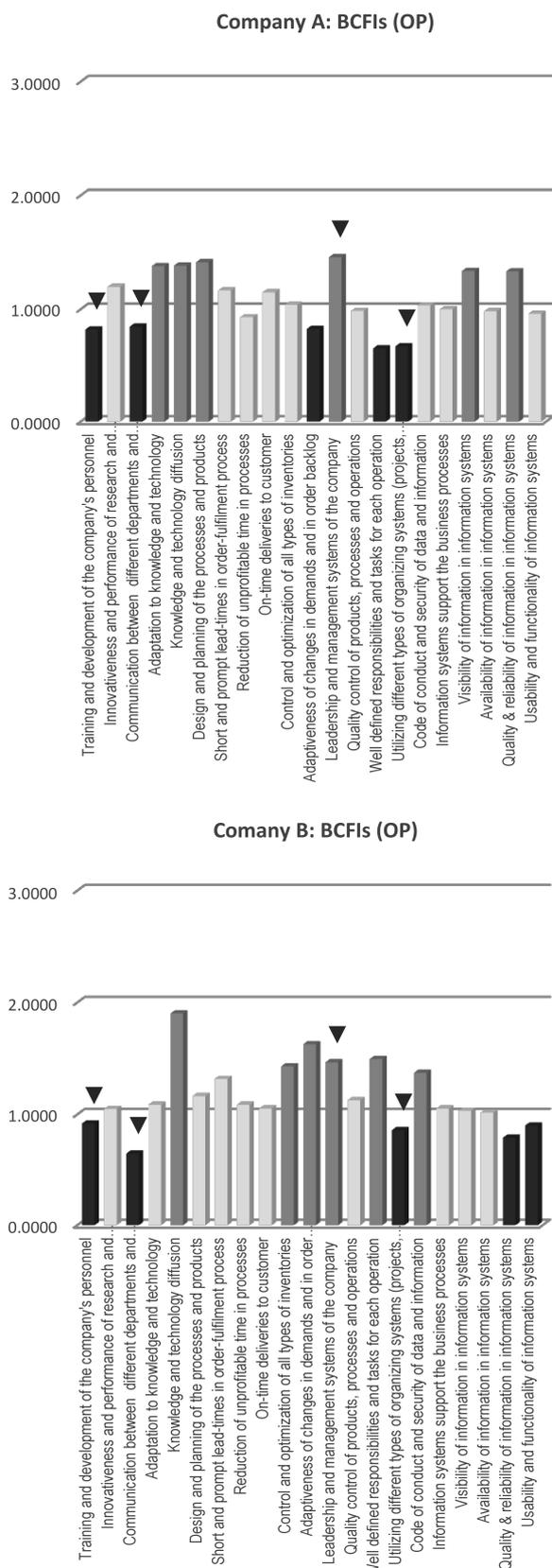

Comany B: BCFIs (OP)
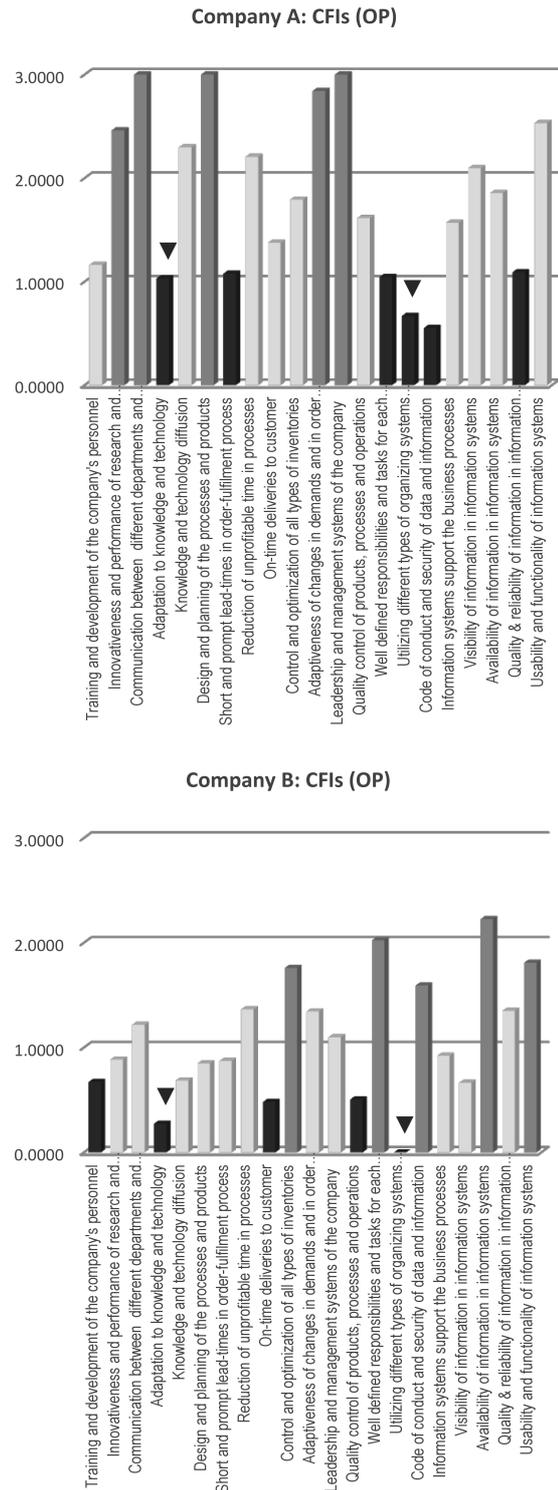
Fig. 6. CFI: Matches of the extreme attributes among Companies A and B (RESOURCES – OP).

The following attribute has potential to become critical for the companies' business performance: 'Leadership and management systems of the company'. At the same time, the following attributes are critical already for both case companies: 'Training and development of the company's personnel', 'Communication between different departments and hierarchy levels' and 'Utilizing different types of organizing systems (projects, teams, processes...)' (as in case of CFI (OP) calculation).

Through the simple analysis of BSC and OP cases by (B)CFI methodology application we found out which areas of the companies' business performance and resources (internal process flow) are critical and may become critical. Hence, it became possible to trace tendency which takes place internally and externally of, at least, two companies operating on the housing market of Finland.

Having more participating companies gives the ability to predict the behaviour of the whole Finnish housing market, what might be considered as the very strong tool of strategic planning and decision-making.

Validation

The significance of results' validation is hard to underestimate in any research, as it says for reliability and correctness of the study made. In additions it takes the duty for detection of the study's drawbacks and judgment upon the further research in the area.

The results of analysis for Company A are at the semi-strong market test [5] stage as the decisions made on the results' basis have been already applied. For example, the following ways to reduce costs of house exchange have been utilized:

- Modify the process to be less expensive;
- Use less expensive resources - use more expensive and skilled employees only when needed; otherwise use less expensive employees;
- Contracts – make it beneficial to terminate housing contract well before the move.
- Reduce the amount of house exchanges: for example by repairs while the residents live in the apartment – they don't need to move when they want an updated home; repairs are less expensive for the company then house exchange.
- Choose customer groups, who do not move often: for example residents, whom competitors do not want as customers – a poor living history, bad behavior, payment difficulties etc.

At the same time, some ways of the company's development have been proposed based on the received results of the analysis:

- New business models: pricing; operation costs;
- Development of estates;
- They could choose to their customer group people, who have difficulties to find housing: this customer group has little variety of apartments; other companies do not want them as customers.

The results of Company B have gone through weak market test [6]. It was carried out, by asking the commitment of the management (one manager of expert is enough for weak market test) to propose an improvement (efficiency and effectiveness) of the attributes found critical, for example: 'Communication between different departments and hierarchy levels' and 'Utilizing different types of organizing systems (projects, teams, processes...)'.

It is worth to mention that the main limitation of the research is the small sample – little number of participating case companies. In addition, typically companies do not want to share their internal confidential information; therefore another problem appears on the stage of the study's sample selection.

Conclusions

A new method for dynamic resource allocations in the operative processes in housing, especially in the renting, where the customers move from one apartment to another one, has been proposed, and in preliminarily validated and verified by weak and semi-strong market tests.

Through the applied methodology we found out which areas of the companies' business performance and resources (internal process flow) are critical and may become critical. Hence, it became possible to trace tendency which takes place internally and externally of, at least, two companies operating on the housing market of Finland. With more participants the method has a huge potential to predict the behaviour of the whole Finnish housing market, what might be considered as the very strong tool of strategic planning and decision-making. Another benefit is comparatively simple applicability of the method to other market segments and industries.

The investigation has shown high level of expertise for the answers obtained and sufficient level of the overall reliability. The case study is at the semi-strong and weak market test stages (Companies A and B). Nevertheless, the method is at the very early stage of development, therefore has been tested only with two participating company. It can be called as the main limitation at the moment. Further development and validation is required for getting stronger data about trends and correlations existing in the proposed method.

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