UNIVERSITY OF VAASA

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Anne-Mari Vatunen

EVALUATION OF OPERATIONAL PERFORMANCE OF AFFORDABLE HOUSING IN FINLAND AND IN CHINA

Master's Thesis in

Science of Economics and Business Administration

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ABREVIATIONS

AH = Affordable housing

AHP = Analytic Hierarchy Process

BSC = balanced score card

CFI = Critical Factor Index

C = Cost

D = Defender

F = Flexibility

ICR = Inconsistency Ratio

OP = operational performance

P = Prospector

S&R = Sense and Respond

SCA = Sustainable Competitive Advantage

SCFI = Scaled Critical Factor Index

T = Time

Q = Quality

VAASAN YLIOPISTO
Teknillinen tiedekunta
Tekijä: Anne-Mari Vatunen
Tutkielman nimi: Kohtuuhintaisen asumisen operatiivisen suorituskyvyn arviointia Suomessa ja Kiinassa
Ohjaaja: Prof. Josu Takala
Tutkinto: Kauppatieteiden maisteri
Koulutusohjelma: Tuotantotalous
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TIIVISTELMÄ:

Tutkimuksen tavoitteena on analysoida ja määritelellä kohtuuhintaisen asumisen operatiivisia strategioita ja riskitasoja sekä Suomessa että Kiinassa. Se pyrkii myös tarkastelemaan ja vertailemaan kohtuuhintaisen asumisen menettelytapoja näiden kahden maan välillä.

Tutkimuksessa käytetyt teoriat ja menetelmät ovat Analyyttinen Hierarkiaprosessi (AHP), Sense and Respond (S&R), Critical Factor Index(CFI) ja Balanced Critical Factor Index(BCFI). Tutkimusaineisto kerättiin kyselynä pääasiassa sähköpostitse ja analysoitiin Excel- ja Expert Choise -ohjelmilla.

Tutkimuksessa todetaan että Suomen ja Kiinan välillä on huomattavia eroja, mutta voidaan myös päätellä että tässä käytettäviä tutkimusmenetelmiä voidaan hyödyntää tehokkaasti analysoitaessa kohtuuhintaisen asumisen menettelytapoja eri maissa. Tutkimusmenetelmät antoivat tutkimukselle arvokasta tietoa sekä makro- että mikrotasolla ja menetelmiä voidaan edelleen kehittää.

AVAINSANAT: Kohtuuhintainen asuminen, Sense & Respond metodologia (S&R), Analyyttinen hierarkiaprosessi (AHP), Kestävä kilpailuetu (SCA).

UNIVERSITY OF VAASA
Faculty of Technology
Author: Anne-Mari Vatunen
Topic of the Master's Thesis: Evaluation of operational performance of affordable housing in Finland and in China
Instructor: Prof. Josu Takala
Degree: Master of Science in Economics and Business Administration
Major Subject: Industrial Management
Year of Entering the University: 2015
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ABSTRACT:

This research is focusing on analyzing and defining operational strategies and risk levels of case companies related to affordable housing in Finland and China. It also strives to examine and compare the affordable housing policies between those two countries.

Theories and methods used in the study are Analytical Hierarchy Process (AHP), Sense and Respond (S&R), Critical Factor Index(CFI) and Balanced Critical Factor Index(BCFI). The research material was gathered as survey mostly via e-mail and were analyzed with Excel and Expert Choise –programme.

There is considerable differences between Finland and China, but it can be concluded that these research methods used in this theses can effectively utilized when studying affordable housing in different countries. They give valuable information and results to researches both in macro- and micro-level and can even be further developed.

KEYWORDS: Affordable Housing, Sense and Respond methodology (S&R), Analytic Hierarchy Process (AHP), Sustainable Competitive Advantage (SCA). The research material was gathered as survey and were analyzed with Excel and Expert Choise – programme.

1. INTRODUCTION

1.1 Background

Housing is one of the most important factors in everyone's everyday lives. Home is the place where you spend most of your spare time and it is a base of you everyday functions. Housing is indispensable. Everybody needs to live somewhere. Housing is also expensive and it mostly takes biggest share of everybody's revenue. (Laakso 2001: 20-21).

In economic terms, housing is target consumption such as food or clothes. Consumers of it are households and the persons that belong to the households. On the other hand housing and apartments are the most important objects of household wealth. However, to housing is related lot of different kind of features which make it rather special kind of commodity. A house or an apartment is more or less necessary to households, it is solid and it is generally undivided. The apartment is a multi-dimensional combination of commodities consisting of various properties. When making a choice of an apartment the attention is also paid to the environment, as well as to the services provided around that area and other possible factors. There is also big importance factor on the environment where the housing is, as well as the services provided there. An apartment is exceptionally expensive commodity as well. Managing the apartment is possible to choose between owning and renting it, or any of various forms of intermediate like right of occupancy, depending on the country. (Laakso 1999: 8-9.)

1.2 Study area

Around the world populations are increasing and the cities are more and more overcrowded. This causes rise in price of the land and consequently increase the cost of living. How to provide affordable housing for all individuals and families despite of

their earnings? What is a good standards for living conditions? Are affordable housing's factors comparable between different countries?

This research is focusing on analyzing and defining operational strategies and risk levels of case companies related to affordable housing in Finland and China. It also strives to examine and compare the affordable housing policies between those two countries.

Theories and methods used in the study are Analytical Hierarchy Process (AHP), Sense and Respond (S&R), Critical Factor Index and Balanced Critical Factor Index. The research material was gathered as survey and were analyzed with Excel and Expert Choise –programme.

1.3 Structure of the thesis

This thesis comprises five chapters with each having their own agenda. The list of chapters and their contents are:

Chapter 1 consists the background of the topic and overall goal of the thesis.

Chapter 2 is presenting the theoretical framework of the thesis. In this paragraph is also presenting the background and history of housing business in Finland and in China.

The third chapter describes the methodology of the thesis. It is illustrating the tools that are used in the thesis as well as the analytical models.

The *fourth* chapter goes through the empirical research itself, the analysis process and the target countries results as well as the data processing and the analysis.

Chapter 5 is going through the central conclusions of this research. The chapter attempts to explain the results of the study, goes through validation and the reliability of the work and gives recommendations for future research.

2. THEORETICAL FRAMEWORK

2.1 Housing business in Finland

Finland has a long history in providing affordable public housing, in fact it is one of the first countries in the world to do so. Already in 1909 city workers were provided wooden houses as shelters by the city in the Helsinki area. Second World War and 400 000 immigrants from Karelia, who had lost their homes during the war, caused major challenges to affordable housing policy in Finland. (ARA 2011: 5-6) State had to take a big role in financing housing overall, because there was not enough private capital in the markets. Temporary organization, The Housing Production Committee (Asuntorahoitusvaltuuskunta) was named to process state lending for housing 1949. Later on committee was known as ARAVA.(Ijäs, 1998) Another important milestone in Finnish affordable housing policy is rapid urbanization which has started 60 years ago and is still continuing strongly (ARA 2011: 5).

Finnish Constitution Act explicates in chapter 19 of Finnish citizen right's to social security, that every individual has a right to necessary subsistence and care. Every individual does not have subjective right to housing under ordinary law, but in some special laws the municipalities has an obligation to organize housing for special groups like severely disabled people. In addition the public authorities shall promote everyone's right to housing and they shall also support individual's self-directed initiative to arrange their own housing.

The Finnish Government, the Ministry of Environment (Ympäristöministeriö), the Ministry of Finance (Valtiovarainministeriö) and Municipalities are responsible for the Finnish housing policy. Their duty is to take care of the housing policy strategies, housing legislation, housing subsidy systems and budget planning. The Ministry of Environment's practical implementation is carried out by The Housing Fund of Finland (ARA). ARA's main functions are to grant state housing loans, approve interest supported commercial loans and execute the quality and cost control connected to

support system. It also grants various aids. (Tähtinen, 1998). State subsidies are for example loans, like rental ARAVA-loans and long-term interest subsidies (Mäki-Fränti 2010: 13).

There are some specification about housing policy in Finland. For example, Finnish housing system is built on this assumption that household satisfy their need mainly by relying on other than of public housing. Also in Finland, AH is considered as a branch of social policy. Another characteristic of Finnish housing system is that it's a dualist system. In fact, in Finnish housing market both free market and regulated market works at the same time. In Finland, there is nonprofit social rental housing mainly owned by municipality rental housing companies and nonprofit developers. This housing sector offers 'welfare housing' for people suffering from different social problems (Forss 2013: 18-20).

Different forms of housing supports are directed in various ways to different kind of households. The aim is to reduce the cost of living and housing for households and that way improve the standard of living (Laakso 1999: 30). Housing benefit is a form of support that is specifically intended for low income people and it is usually targeted for renting. This kind of subsidies are public housing benefit and housing allowance for students and pensioners. The benefit of interest-rate deductions on mortgages, housing savings premium(Asuntosäästöpalkkio, ASP) and credit guarantees are mainly channeled to homeowners (Laakso 2001: 66-67).

2.2 Housing business in China

China has the largest population in the world and it has one of the most challenging Affordable Housing policy's. In most of western countries social welfare systems have been running for years and experience and knowledge from public housing system is strong. However in most of Asian countries the social welfare systems is still developing and they are seen as inadequate compared to the large amount of low-income population in those countries.

Over the years China has gone through a change from a centrally planned public housing system to a market-oriented housing production industry (Deng, Lan & Shen, Qingyun & Wang, Lin, 2009: 1). Chinese government is monitoring the environment of provinces and cities centralized from Bejing. Objective is to ensure the development with urbanization, modernization of the infrastructure and economic growth. That is done by Chinese governments control over land, regulations and capital (Forss, 2013: 24).

Under the old system Chines government institutions and state-owned enterprises provided housing to residents as part of social welfare system. The provision of housing was dealt like obligation. The old system caused housing shortage and the Chinese government launched the first economic reform 1979. In the agenda there was also a housing reform which aimed to adjust rents and to privatize the existing housing stock. The second wave of the housing reform was launched in 1994 when programs called Economical and Comfortable Housing (ECH) and Housing Provident Fund (HPF) was initiated. Aim of the program was to alleviate the progress of both supply-side and demand-side programs of a housing markets so that the gap between housing supply and demand would decrease. Short after the third wave of the reform was launched in 1998 where the housing production were strongly guided from government's institutions to private sectors (Deng et al ,2009: 2-5)[1].

As the ECH and HPF are homeownership programs, the Cheap Rental Housing Program (CRH) was focusing on expanding the affordable housing supply. The program was launched in 2004 by Chinese central government and it was supplemented with Cheap Rental Housing Guarantee Plan in 2009. The CRH program was created to target groups like seniors, people with disabilities and extremely low-income households and households that cannot afford to buy ECH unit or to rent a house form market. Urban poverty is seen as China's main housing problem (Deng et al, 2009: 4-5)

Both private and public capital are financing housing in China. The government controls housing markets development by controlling the guarantee needed for the bank loans. Government is able to control the housing markets development with the bank loan guarantee. Also by supporting housing supply the rents are being decreased. China's housing supply system is comprised into two parts, commercial housing supply system and security housing system. The Government security housing supply system is targeted for the low-income group and the commercial housing supply system is targeted for the medium-income and high-income groups (Forss,2013: 24-25).

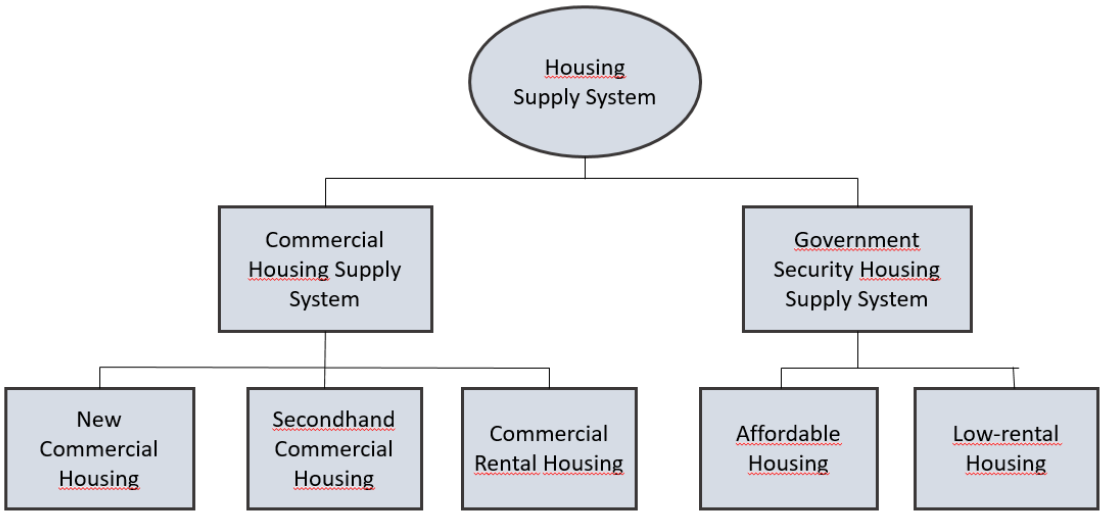

Figure 1. The framework of China's Housing Policy (Forss, 2013: 25).

Overall the housing policy inside China differs a lot between different regions, between rural and urban areas, inland and coastal areas.

3. METHODOLOGY

3.1 Sustainable Competitive Advantage

Since 1980s the Competitive Advantage has been examined a lot. Peteraf and Barney wrote in 2003:" The company has a competitive advantage when it is able to create more economic value than the marginal (break-even) competitor in its product market". Competitive advantage is examined from two angles; from provisional and from prolonged period of time.

Operation competitiveness during chosen timeline is aimed to maintain by measuring the risk level of the operation strategy. That is called Sustainable Competitive Advantage (SCA). Indexes like MAPE (Absolute Percentage Error), RMSE (Root Means Squared Error) and MAD(Maximum Deviation) are used to evaluate and measure the risk levels. SCA value is between 0 and 1. When the SCA value is closer to 1, the better. (Takala, Muhos, Tilabi, Mehmet, Yan, 2013: 57-58)

Table 1. Three SCA methods.

MAPE (absolute percentage error): $\mathrm{SCA} = 1 - \sum_{\alpha,\beta,\gamma} \left\lvert \frac{BS-BR}{BS} \right\rvert$
RMSE (root means squared error): $\mathrm{SCA} = 1 - \sqrt{\sum_{\alpha,\beta,\gamma} \left(\frac{BS-BR}{BS}\right)^2}$
MAD (maximum deviation): $\mathrm{SCA} = 1 - max_{\alpha,\beta,\gamma} \left\lvert \frac{BS-BR}{BS} \right\rvert$

3.2 Sense & Respond methodology

Bradley and Nolan developed Sense and Respond (S&R) method during 90's (1998) and Markides developed it further to dissect dynamic business strategies (2000). What Sense&Respond philosophy does is that it executes the best action in an unstable environment by observing modifications and reacting to them, sense and respond. The aim of the method is to change the threats and drawbacks into possibilities and options.

S&R is developed into a tool that can be used by companies to detect, predict, adopt and respond to different kind of situations and conditions that exists in ever changing environment. It is kind of an instrument that with companies can evaluate their business operations, how they react to changes and how should they react in the future.

Questionnaire for S&R was developed 2003 by Rautiainen and Takala and then refined 2007 by Ranta and Takala. The questionnaire developed further to assess internal and external areas of the company through experience and expectations. Firstly the different kind of attributes are ranked numerically with the scale from 1 to 10, both experience and expectation. (Ranta et al.2007). This can be seen in table 2.

Table 2. The structure of the questionnaire (Ranta and Takala, 2007)

Performance attribute	Scale: 1=low, 10=high		Compared with competitors			Direction of development		
	Expectation (1-1)	Experience (1-10)	worse	same	better	worse	same	better
Performance 1								
Performance 2								

The questionnaire has 21 different kind of attributes and they are divide into four sections. The main sections are knowledge & technology management, processes & work flows, organizational systems and information systems. There is also two types of formats in the questionnaire: operational performance (OP) and Balanced Score Card (BSC). The operational performance is estimator where the aim is to evaluate operations

in day-to-day bases and the BSC are comparison-questions which are meant to evaluate company's functions generally. The attributes of the S&R questionnaire are:

I. Knowledge & Technology Management:

1. Training and development of the company's personnel
2. Innovativeness and performance of research and development
3. Communication between different departments and hierarchy levels
4. Adaptation to knowledge and technology
5. Knowledge and technology diffusion
6. Design and planning of the processes and products

II. Processes & Work flows:

7. Short and prompt lead-times in order-fulfillment process
8. Reduction of unprofitable time in processes
9. On-time deliveries to customer
10. Control and optimization of all types of inventories
11. Adaptiveness of changes in demands and in order backlog

III. Organizational systems:

12. Leadership and management systems of the company
13. Quality control of products, processes and operations
14. Well defined responsibilities and tasks for each operation
15. Utilizing different types of organizing systems (projects, teams, processes etc.)
16. Code of conduct and security of data and information

IV. Information systems:

17. Information systems support the business processes
18. Visibility of information in information systems
19. Availability of information in information systems
20. Quality & reliability of information in information systems
21. Usability and functionality of information systems

3.3 Critical Factor Index/Balanced Critical Factor Index/Scaled Critical Factor Index

Ranta and Takala (2007) used Sense & Respond thinking as a base to create operative management system. “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” (Ranta and Takala, 2007). It was built to be supporting tool for decision makers to the strategic decision-making. Evolving has happened since; first step was Critical Factor Index (CFI) model, balanced scaled critical factor index (BCFI) model and scaled critical factor index (SCFI) model (Liu, 2012). Later on 2011 was developed normalized scaled critical factor index (NSCFI) by Liu, Takala, Siltamäki, Wu, Heikkilä & Gauriloff (2011).

Table 3. CFI, BCFI and SCFI formulas (Liu, 2012: 1011)

Name	Model
CFI	$CFI = \frac{Std\{experience\} \cdot Std\{expectation\}}{\text{Imprtance index} \cdot \text{Gap index} \cdot \text{Development index}}$
BCFI	$\text{SD Expectation index} = \frac{Std\{expectation\}}{10} + 1$ $\text{SD Experience index} = \frac{Std\{experience\}}{10} + 1$ $BCFI = \frac{\text{SD Expectation index} \cdot \text{SD Experience index} \cdot \text{Performance index}}{\text{Imprtance index} \cdot \text{Gap index} \cdot \text{Development index}}$
SCFI	$SCFI = \frac{\sqrt{\frac{1}{n} \cdot \sum_{1}^{n} [experience(i) - 1]^2} \cdot \sqrt{\frac{1}{n} \cdot \sum_{1}^{n} [expectation(i) - 10]^2} \cdot \text{Performance index}}{\text{Imprtance index} \cdot \text{Gap index} \cdot \text{Development index}}$

These different models helps to visualize the questionnaires results as traffic lights. If some attribute is shown as red that indicates that the attribute is critical and it needs attention and resources. If the attributes results are shown as green, it means that they are in order. Yellow attribute in the other hand means that the results are straggly. That usually means that the respondent’s view of the situation in the company is dissimilar with others. All this information will help the management to make decisions about the future and that into which attribute they should invest into.

Also the S&R model contains main indexes. They are used to calculate gap index, average of expectations, average of experience, importance index, performance index, direction of development past and future and the CFI, BCFI, SCFI and NSCI.

Table 4. Common parameters (Liu, 2012).

$$\text{Importance index} = \frac{\text{Average of expectation}}{10}$$

$$\text{Performance index} = \frac{\text{Average of experience}}{10}$$

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

$$\text{Development index} = |(\text{better} - \text{worse}) * 0.9 - 1|$$

The criticality of the business processes features are measured with Critical Factor Index (CFI). Based on the experience and expectations of the employees the valuations and measurements are made. CFI gives company management information to make decisions on what business process features are to be invested into. It is intended to help the decision making on the company's management level. The analysis is made based on the information which is gathered with questionnaires. (Takala, Uusitalo, 2012: 53-54)

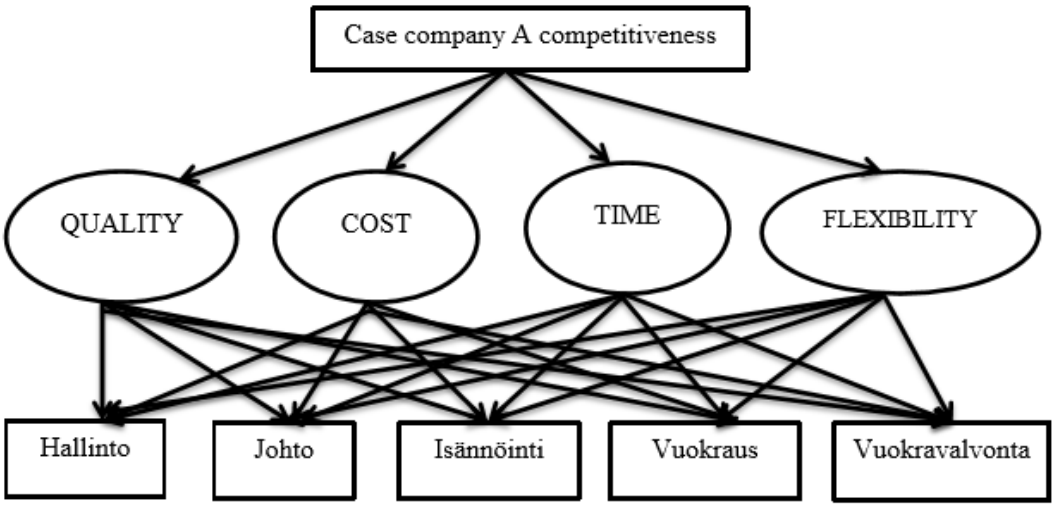

Figure 2. A hierarchy structure S&R (Shylina,2013: 47).

The questionnaire is filled in by the company representatives. Firstly they value expectations and experiences from 1 to 10. Interviewee has to also evaluate the future expectations as improved, stayed the same or has gone worse. For results to be valid, every question should be answered. After the data is collected and calculated, the trends of the change of the critical factors and their development directions will be demonstrated. All results will be calculated by using three different models; CFI, SCFI and NSCFI/ / BCFI. To see are the received attributes average resource levels as balanced, they must be analyzed. Analysis also shows are they lower or higher of average resource level. (Liu, 2012: 1012)

3.4 Analytical Hierarchy Process

In the early 70's Analytical Hierarchy Process (AHP) was introduced by Saaty. The ground to the development was practical need to resolve and analyze decisions. Intricate reality can be effectively handle using hierarchical structures according to Saaty(1980). Handling the intricate reality and resolving problems does't require complex thinking, says Saaty. On a contrary, the problems should be arranged into such a complicated structures that the interaction between the factors is allowed, because usually most

people find it difficult to think concurrently more than one thing. Aim is to be enable to think at the same time one or two factors. The AH Process is easy to use and aims to be conceptually simple and it is also very efficient considering the decision-making. Diverse problem are presentable with Analytical Hierarchy Process. The decision makers can base their decisions and policy-making on facts and figures, by identifying substantial factors with AHP. (Niskanen, 1986: 3).

Analytical hierarchy process goes on three stages. First the problem is divide into sections, then comparative evaluations are made and as third comes combination of priorities. The problem is divided into parts and then it is worked from the top to bottom, from general to detailed factors. In hierarchy tree the elements in upper level form the criteria's to the elements of lower-level. The goal is to marshal priorities to the elements in low level that will exemplify as well as possible their relative impact to the hierarchy's top level. (Niskanen, 1986: 5-6.)

AHP is initiated by decomposing a complex problem to a hierarchy. In that hierarchy each level consists of easily understandable elements, which in turn consists of the next group of lower-level elements. Process is to be continued down to the lowest level of all elements (Niskanen, 1986: 5). Recognizing the problem and selecting a goal to work towards to, is the first step in the process. From that step the most important part is identifying the criteria that affects the problem. The problem will be next analyzed and organized into hierarchy of the assessment problem. In hierarchy three there are main elements and sub-criterions. (Saaty, 1980: 11-13.)

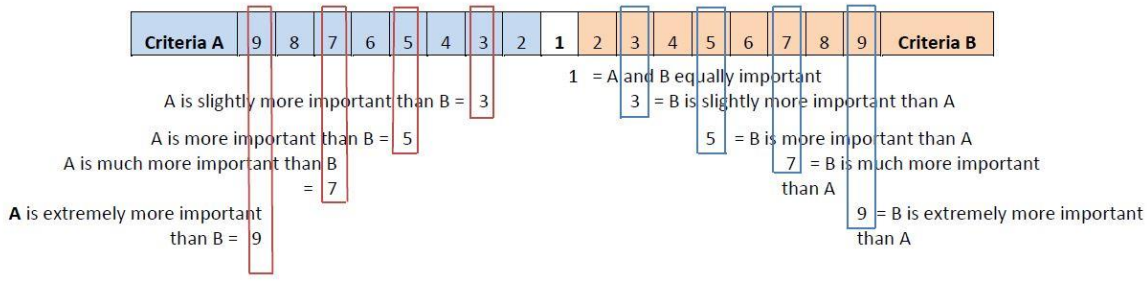

Figure 3. The form of the questionnaire.

All factors are placed as pairs and comparison is made between them. The given factors are gone through row by row comparing two given factors and the interviewee selects more important one from them. The weight is given to the answers by the interviewee on scale 1-9 to show which factor in each pair is more important and how much important it is. Example in figure 3. To ensure the logical inconsistency with ratio ICR the inconsistency of the answers are measured. The ICR figure should be small as possible, the better it is. Ideal figure is 0. Recommended inconsistency ratio should be less than 0,1.

Figure 4. The AHP problem in a hierarchy for government and regional policy.

4 EMPIRICAL RECEARCH

4.1. Analysis process

4.1.1 Regional Policy with AHP

In Finland answers were gathered from 23 respondents with online questionnaires from a company that provides affordable housing in the city of Turku. Company is non-profit organization that works within the limits set by the government. The questionnaire was targeted to five different groups of decision makers:

- Mangers
- Turku city authorities
- Architects
- ARA representatives
- TVT company

In China the study was conducted in two companies in central China in the city of Wuhan, in Hubei province. Company A is housing system reform leading office in the city of Wuhan and the number of respondents was 3. Their industry is to provide cheap housing to its employees. Company B is Wuhan accumulation fund management center and the number of respondents was 13. Their industry is not to provide houses, but to provide funding for residents to buy their home or to renovate them.

In every group and company the quantity of the respondents was different. In the questionnaire the participants had to choose the importance of major critical factors. The comparison was made pairwise through each stakeholder.

4.1.2 Company Strategy with S&R and AHP

The questionnaire of company strategy survey is based on S&R method containing 21 attributes. The list of the attributes and their weighting can be seen in table 5.
In Finland the questionnaire was sent to eight different departments. Each group had different number of respondents, from 1 to 9. In Finnish study the departments were:

- Management 9
- Property Management 9
- Renting 4
- Rent Control 6
- Property Inspector 3
- Builder Control 3
- Customer Service 8
- Housing Adviser 1

In China the research was made in a company that is not working directly in housing scope, but to their services include the sale and installation of equipment's to the housing apartments. Company is new and seeking markets. The number of respondents was 13.

Table 5. Attributes of the S&R questionnaire with weightings.

	KNOWLEDGE & TECHNOLOGY MANAGEMENT	
1	Training and development of the company's personnel	← Flexibility
2	Innovativeness and performance of research and development	← Cost
3	Communication between different departments and hierarchy levels	← Time
4	Adaptation to knowledge and technology	← Flexibility
5	Knowledge and technology diffusion	← Cost
6	Design and planning of the processes and products	← Time
	PROCESSES & WORK FLOWS	
7	Short and prompt lead-times in order-fulfilment process	← Flexibility
8	Reduction of unprofitable time in processes	← Cost
9	On-time deliveries to customer	← Quality
10	Control and optimization of all types of inventories	← Quality
11	Adaptiveness of changes in demands and in order backlog	← Flexibility
	ORGANIZATIONAL SYSTEMS	
12	Leadership and management systems of the company	← Cost
13	Quality control of products, processes and operations	← Quality
14	Well defined responsibilities and tasks for each operation	← Flexibility
15	Utilizing different types of organizing systems (projects, teams, processes...)	← Flexibility
16	Code of conduct and security of data and information	← Cost
	INFORMATION SYSTEMS	
17	Information systems support the business processes	← Time
18	Visibility of information in information systems	← Time
19	Availability of information in information systems	← Time
20	Quality & reliability of information in information systems	← Quality
21	Usability and functionality of information systems	← Quality

4.2. General housing policy indicators

As countries in different continents, Finland and China differs a lot between each other. Their pace of economic growth and the development of population growth and their history have big differences. During the past century the gross domestic product has grown in very different pace in these two countries. The unifying factor could be that both countries acknowledge the importance of social support of citizens and the importance of affordable housing. Finland has established stable support system to affordable housing and they have a lot of detailed statistical data from that history.

4.2.1 General housing policy indicators in Finland

Table 6. Living conditions of the population in Finland (Tilastokeskus 2017).

Average number:	2008	2010	2012	2014
of dwellings	2499332	2537197	2579781	2617780
of persons in one dwelling	2,09	2,07	2,06	2,04
of rooms in one dwelling	2,96	2,97	2,98	2,98

In Finland there is little over two persons in one dwelling. Over the years that number has been decreasing as well as the number of the rooms has been slightly increasing in one dwelling. That goes hand in hand with the economic growth and welfare rates of the country. The houses and the apartments go bigger and bigger and the number of residents will be reduced.

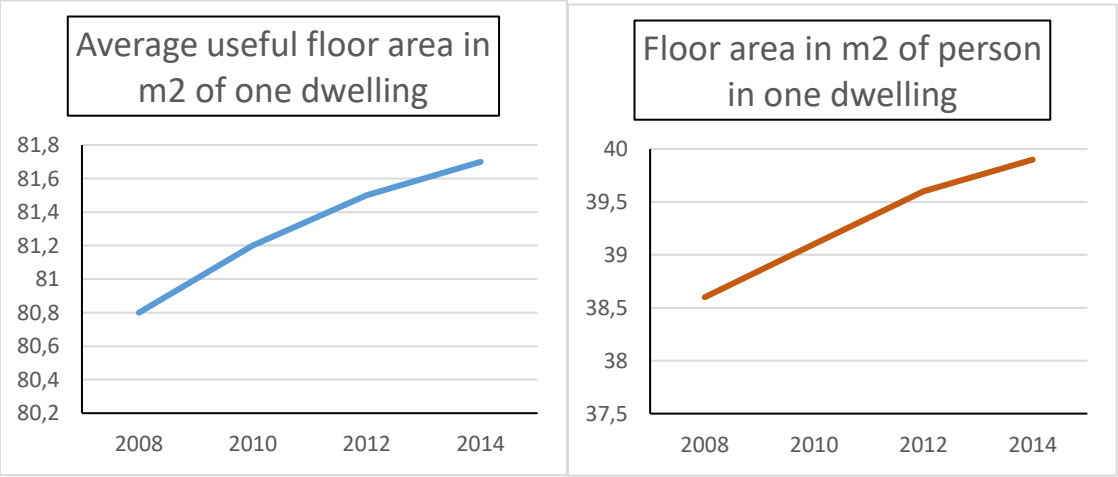

Figure 5. Floor area m2 data in Finnish dwellings (Tilastokeskus 2017).

Both figures, the Average useful floor area in m2 of one dwelling and the Floor area in m2 of person in one dwelling have been increasing steadily. That information back's up

the figures seen in Figure table 2; Finnish houses and apartments are getting bigger and more spacious. Although there has been a lot of boom in the market for more energy-efficient construction and that includes smaller apartments and houses. Energy efficiency and reasonable use of natural resources are getting more and more important factor in Finland and that will inevitably affect to housing as well. Also energy efficient building and structural engineering is developing more and more enabling construction of large premises without the loss of energy efficiency. This kind of development is important to countries like Finland with harsh natural conditions, cold and dark winters.

Table 7. The structure of dwellings by forms of ownership (Tilastokeskus 2017).

	2008	2010	2012	2014
Total	100,0 %	100 %	100 %	100 %
Owner occupancy	72,12 %	72,05 %	71,90 %	71,53 %
Rental occupancy	24,33 %	24,28 %	24,30 %	25,10 %
Right of occupancy	1,30 %	1,38 %	1,40 %	1,48 %
Others/unknown	2,20 %	2,30 %	2,40 %	1,89 %

Most of the dwellings in Finland are in the base of owner occupancy. Although that number has been decreasing slightly in a time period of 2008-2014, at the same time the rental occupancy has been increasing. The proportions against each others have stayed the same.

Table 8. Housing benefits payed by Social Insurance Institution of Finland (KELA) (Tilastokeskus 2017).

	2008	2010	2012	2014
Public housing benefit payed total	428,3	530,1	606,0	742,3
The number of beneficiary's	139386	164154	180665	206092
Average housing benefit €/month	245,39	258,91	278,6	295,43
Pensioners housing benefit payed total	349,3	393,3	441,5	497,9
The number of beneficiary's	175499	179319	184186	191401
Average housing benefit €/month	162,2	179,60	196,1	214,39
Student allowance housing addition payed total	241,9	274,4	259,7	266,0
The number of beneficiary's	149649	157045	149968	151851
Average housing benefit €/month				193,83

Finnish social housing insurance institution's (KELA) payed housing benefits have been increasing heavily during the years 2008-2014. The average housing benefit payed to customer per month has increased 20% and the number of beneficiary's has increased 47,8%. The public housing benefit payed overall total has increased in six years little over 73%. Same trend goes with housing benefits payed to pensioners and students. That means that nearly in ten years the housing benefits payed have almost doubled. These numbers are alarming and have already caused reaction from various parties. Public opinion is that such increases in numbers will also affect to rental rates. Pressure to change the policies of public housing benefit payments is big and some reforms have already been made.

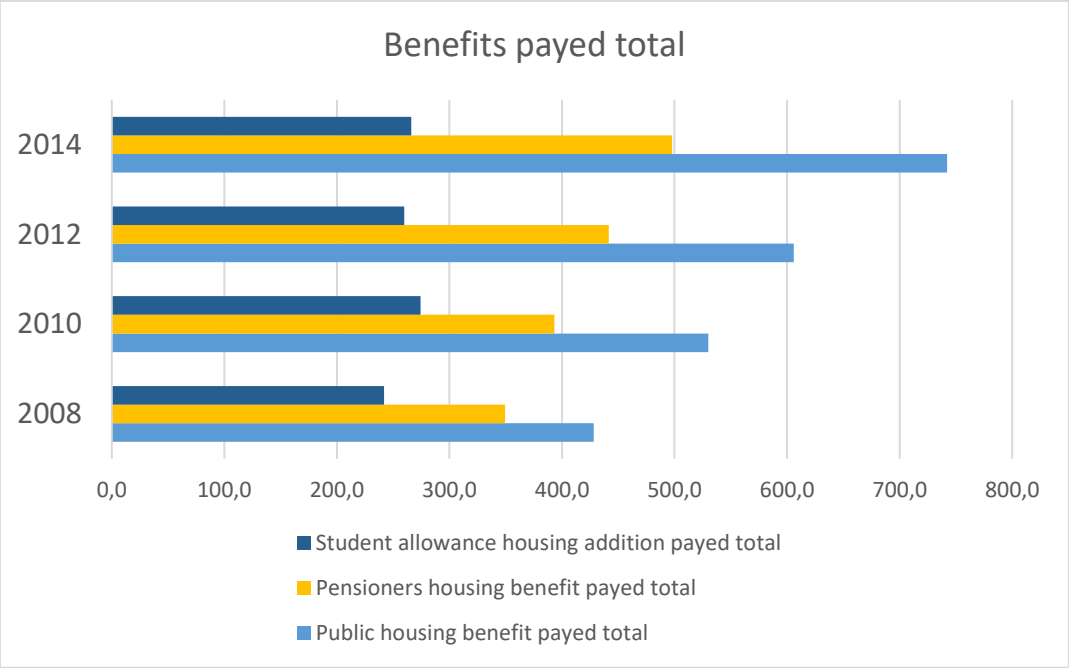

Figure 6. Housing benefits payed total in Finland (Tilastokeskus 2017).

The growth difference between those three sections, student's allowance, pensioners housing benefits and public housing benefits, differs a bit. The students allowance has been the most even and has increased least as seen in figure 6 shows. Pensioners housing benefit and public housing benefit has increased more steadily.

4.2.2 General housing policy indicators in China

Table 9. Living conditions of the population in China (National Bureau of Statistics of China).

Average number:	2008	2010	2012
of persons in one dwelling in urban areas	2,9	2,9	2,9
of persons in one dwelling in rural areas	4,00	4,00	3,90
Floor area in m2 of person in one dwelling in rural areas	32,4	34,1	37,1

In China the number of persons in one dwelling differs depending on whether the residence is located in urban or rural areas. The amount of inhabitants in one dwelling is almost double in rural areas in China compared to Finland's figures. The urban areas in China have one less inhabitant in one residence compared to rural areas, meaning 34% difference. The trend of the amount of persons in one dwelling is similar as in Finland, the amount of inhabitants in one dwelling is declining.

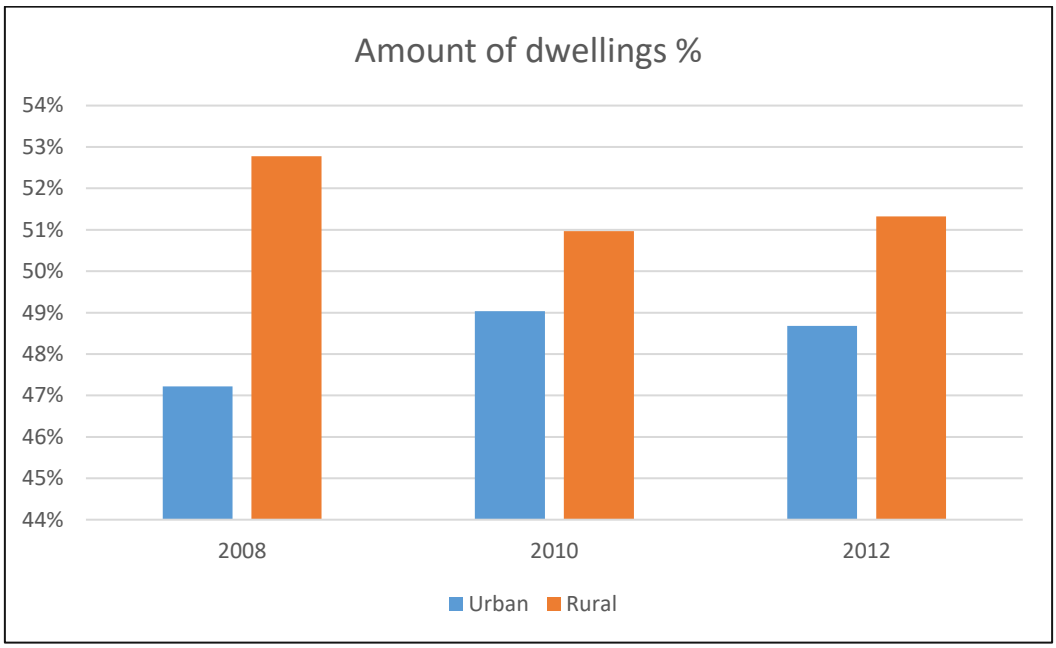

Figure 7. Amount of dwellings % in China (National Bureau of Statistics of China).

Overall the amount of dwellings in China in total is growing up. When looking up the ratio of these two different kind of attributes in percentage terms one can see the development of urbanization. The number of dwellings in rural areas is still larger, but the dwellings amount difference between urban and rural areas is getting smaller.

Table 10. Housing benefits payed in China (National Bureau of Statistics of China).

Amount of:	2008	2010	2012	2014
urban residents receiving minimum living allowance(%)	35 %	31 %	29 %	26 %
rural residents receiving minimum living allowance(%)	65 %	69 %	71 %	74 %
TOTAL	100 %	100 %	100 %	100 %

The ratio of housing benefits payed in China between rural and urban areas has changed a lot. In the period of time from 2008 to 2014 in urban areas the minimum received living allowance has decreased 9 percentage. That means the same minimum living allowance in urban areas has increased 9 percentage. That indicates the growth in the welfare of the urban areas.

4.3 Regional Policy

After the survey was done, the information gathered was analyzed and calculated. Relative importance values are presented in table 11 and figure 8. Both countries three main policy factors summon to 100%.

Table 11. Main policy factors weightings among Finland and China.

	Finland	China
Property Development	30,30 %	11,60 %
Government Interventions	37,30 %	37,70 %
Housing Diversification	32,40 %	50,70 %

From the figure can be detected that Chinas most important factor is housing diversification with 50,7% importance. That figure in somewhat strange in a country where decision structure is very concentrated. Government intervention comes only the second most important factor with 37,7% importance. The importance of that factor is almost identical with Finland's result 37,3% importance with only 0,4% difference

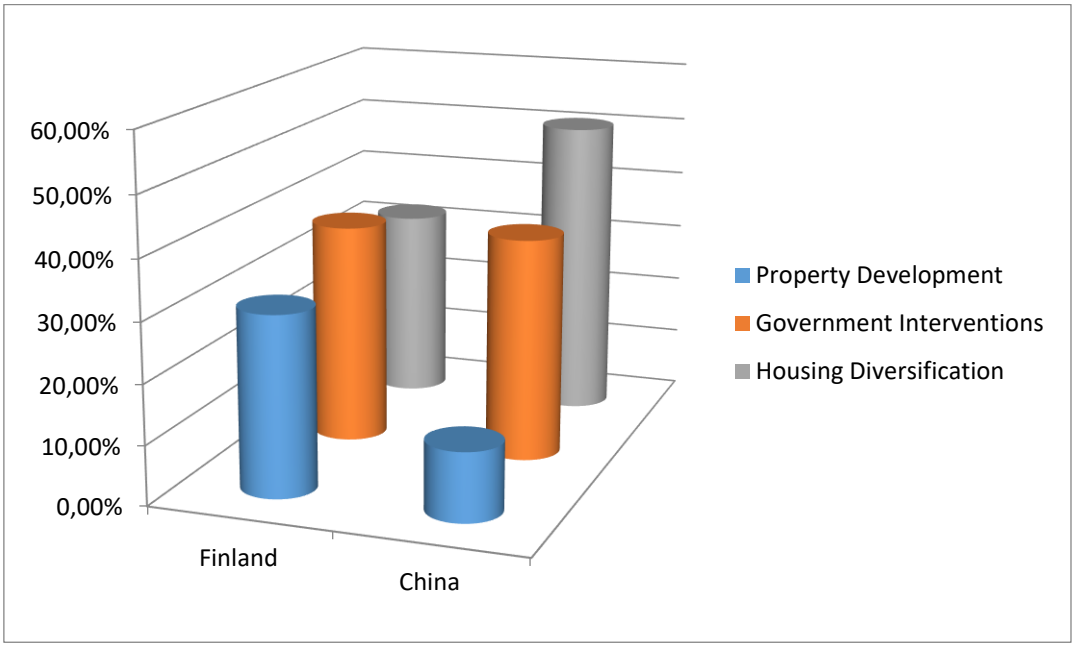

Figure 8. Main policy factors weightings among Finland and China.

When comparing the main factors variances of Finland and China, the housing diversification and government intervention has the highest figure 0,314. Number reveals dissent between the countries. Geometric average value between the factors is 1,99. When looking at the comparison of government intervention and property development, the average is 1,28 and when looking the comparison of housing diversification and property development, the average is 2,67. The comparing head to head government intervention and housing diversification the government intervention is more important even thou Chinas percent value for housing diversification is bigger.

4.3.1 Regional policy in China

In China the study was conducted in two companies in central China, company A and company B. No other grouping was made.

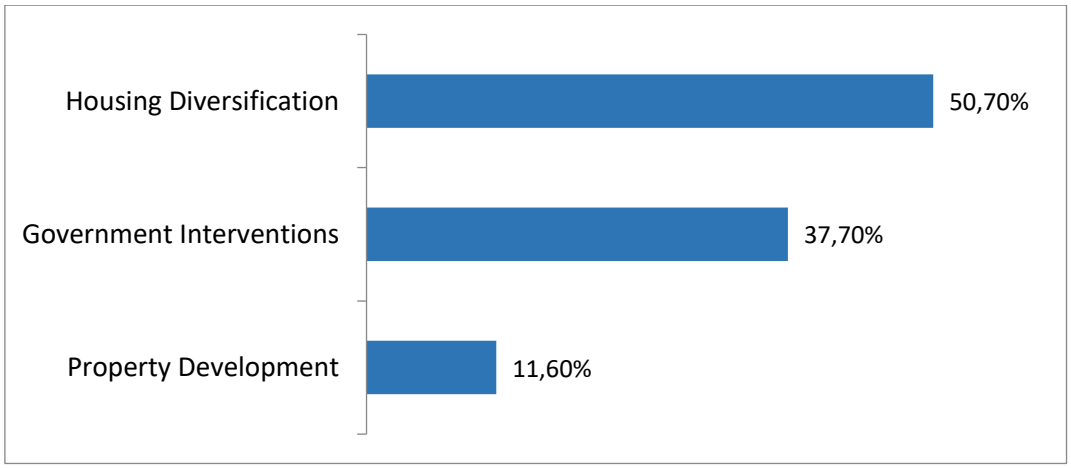

Figure 9. Values from the main priorities from the whole sample in China.

The biggest importance from Chines factors is the housing diversification, the government intervention comes only the second. The Chinese figures might be affected the fact that the number of the respondents were only three and that the company does not work directly in housing industry. Being as a large employer in Wuhan, it is obligated to provide housing to its employees and that is why the company influences in affordable housing strategies in Wuhan.

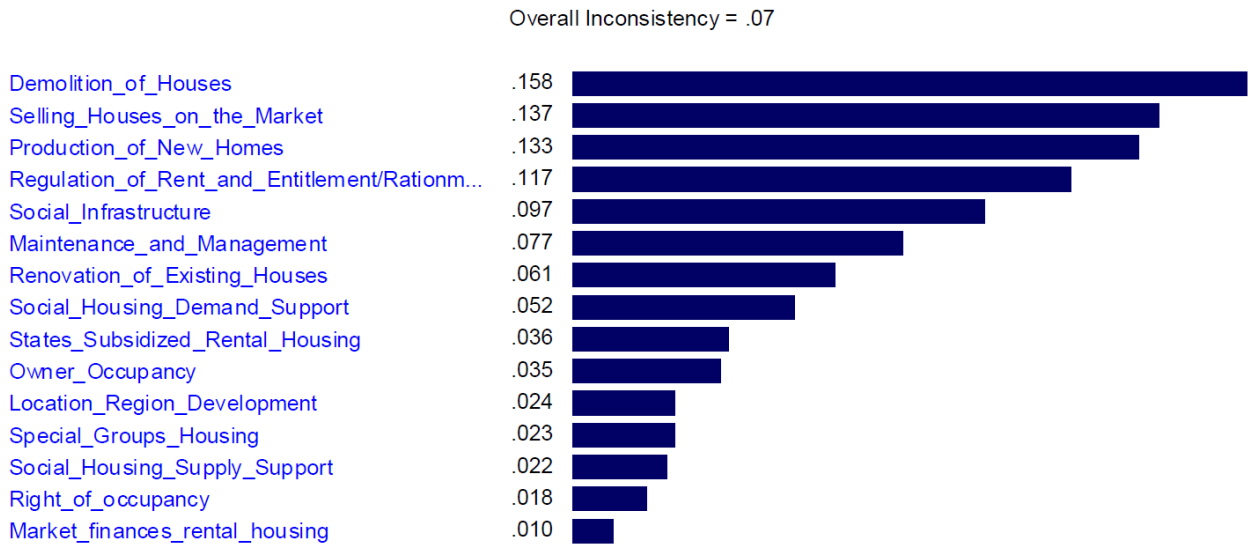

Figure 10. Regional policy sub-criteria priorities in Company A in China (Number of respondent 3).

In the figure 10 of company A results all the sub-criteria's are arranged by the values of affordable housing policy in China. First three biggest factors, Demolition of houses, Selling houses on the market and Production of new homes, reflect the strong urbanization of the area. Also the dwelling stock under company A is old and needs renewal. Overall the gap between the factors is small and it demonstrates that the company has balanced strategy and their focus in on producing new dwellings. Overall inconsistency of the answers is 0,07 which is good and the information is reliable.

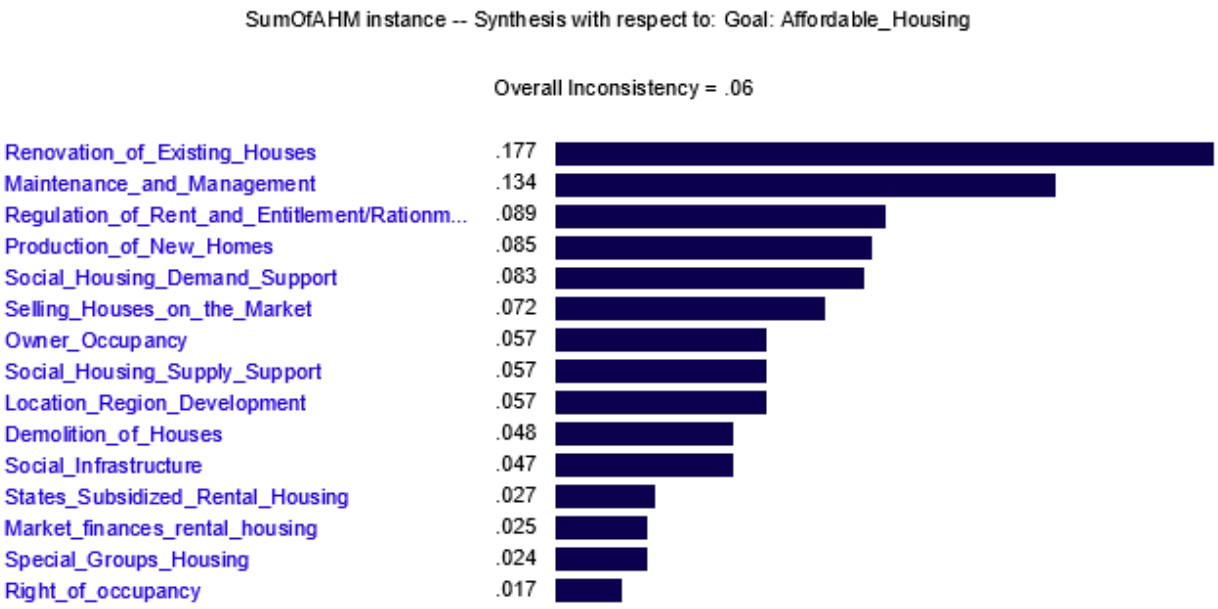

Figure 11. Regional policy sub-criteria priorities in Company B in China (number of respondents 10).

The company B in the other hand is focusing heavily on Renovation of existing houses and the Maintenance and management, which confirms their primary targets in their services as they offer funding to renovations. That also imply that the dwelling stock is old and needs the renovations. The inconsistency of the answers is 0,6 which shows that the information is again reliable.

Both companies ranked the priorities ‘Production of new homes’ and ‘Regulation of rent and entitlement’ to the top four category. This speaks of again behalf of the areas strong urbanization and the lack of affordable housing.

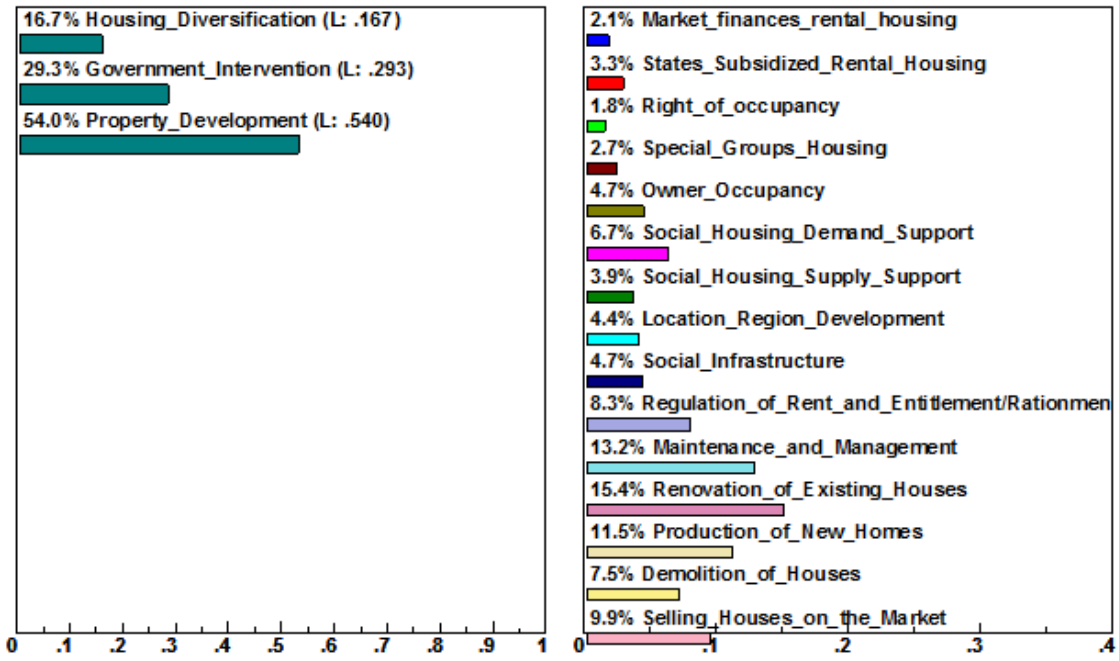

Figure 12. Main criteria's and sub-criteria's from company B in China.

4.3.2 Regional policy in Finland

In Finland data was collected from five different decision maker's responses:

- Managers
- Turku city authorities
- Architects
- ARA representatives (the Housing Finance and Development Center in Finland)
- TVT company.

In group Turku city authorities consists also some architects, in addition their responses are collected into their own group. The Ideal group consists all the answers from all the groups.

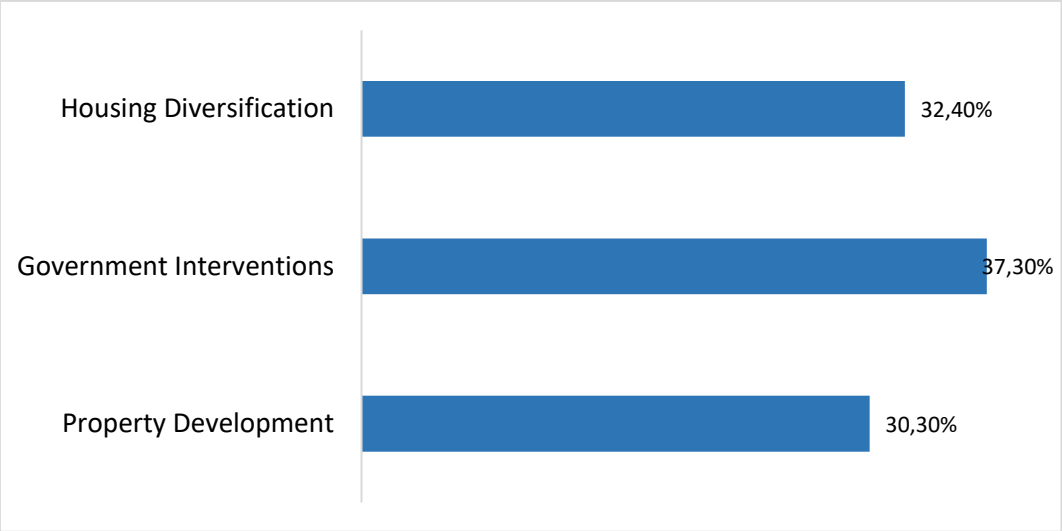

Figure 13. Values for the main priorities from the Ideal group in Finland.

Finland's main priorities are seen in figure 13 and they are fairly balanced with each other, although government intervention with 37,3% importance is number one in major. The change is quite significant from the previous study 2012 (Forss 2013) to the same company, when the most important factor was property development. Now that factor is least important with 30,3% importance from all the main factors.

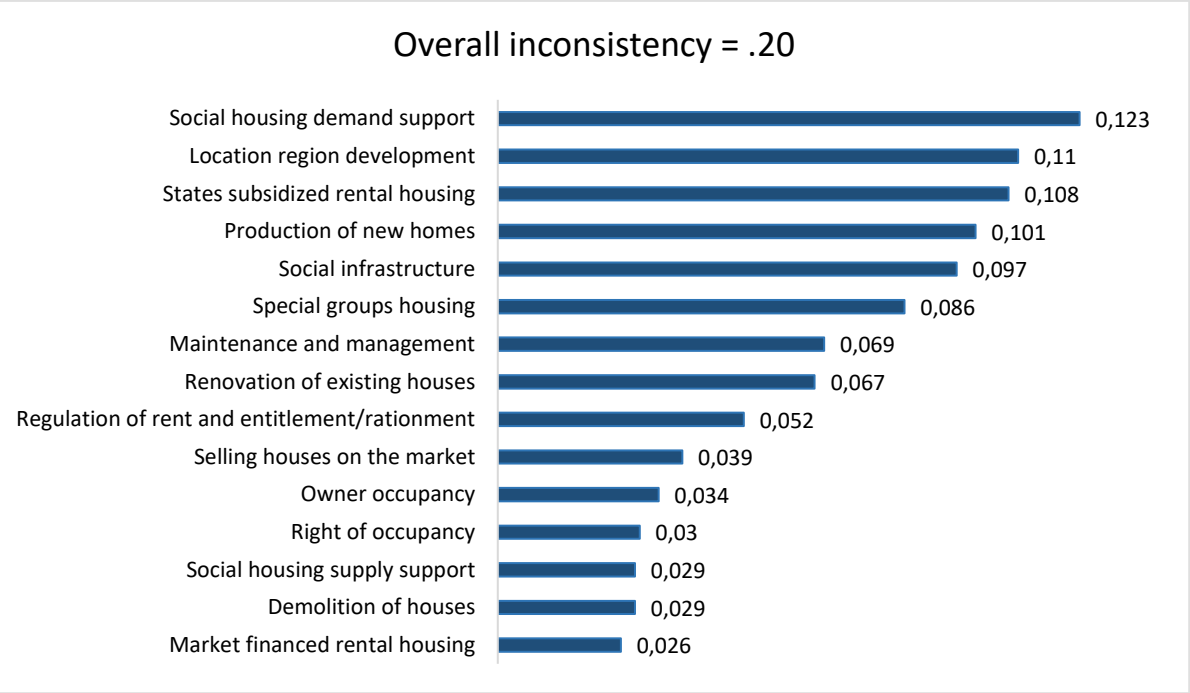

Figure 14. Combined sub-criteria priorities from the whole sample Finland.

Finland's sub-criteria's are seen in figure 14. Finnish results indicates that the strategy of the company is balanced because of the small spacing between the factors. Here you can see directly the influence of the increase of the Finnish housing benefits payed (table 8). Social housing demand support is seen as the most important factor. Also in top five factors are state subsidized rental housing and social infrastructure which both also are big influential in Finnish social infrastructure. Also location region development and production of new homes are seen as important. The demand of affordable housing can be seen in these importance ratings. The number of housing benefits beneficiary's has been steadily increasing over the last ten years and will most likely continue to do so. The inconsistency level of the answers was 0,2 which is not seen as quite reliable.

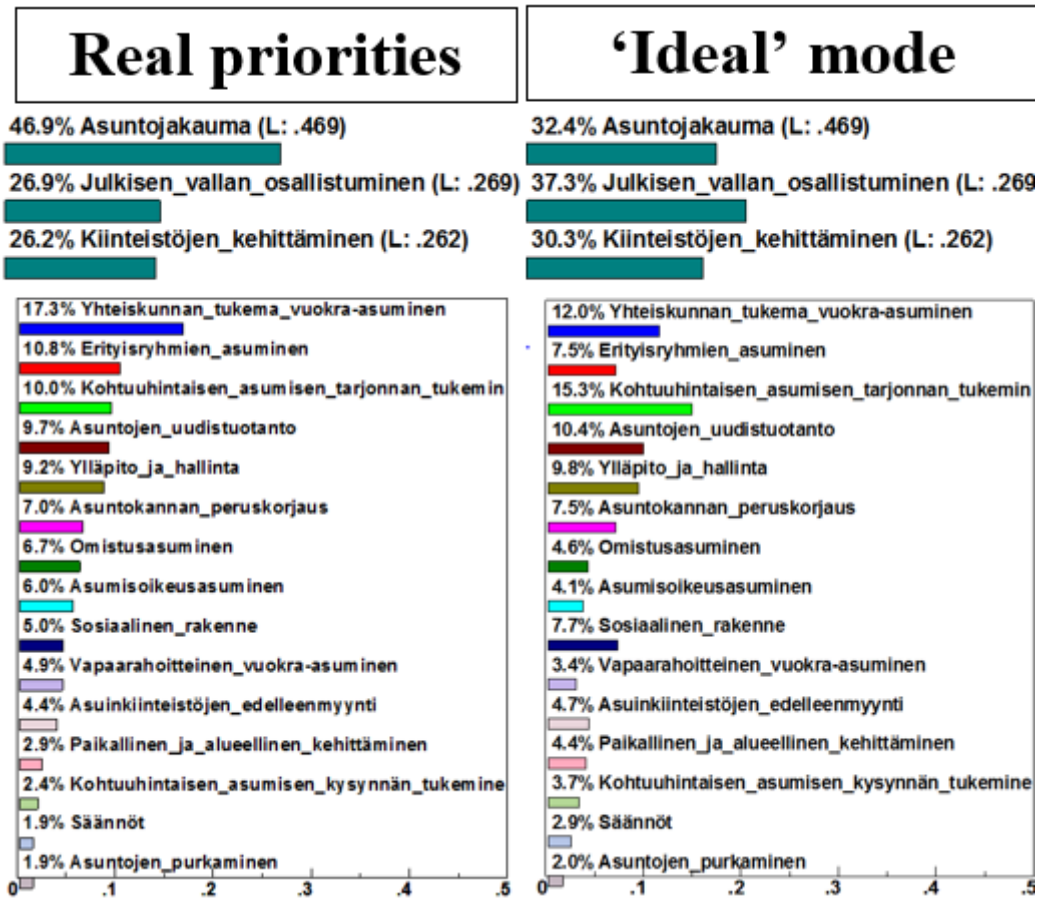

Figure 15. Group Managers result compared with Ideal group, Finland.

Manager Group opinions differs a bit from the Ideal Group's opinion. They prefer Housing Diversification to be the most important factor over Government Intervention.

4.4 Company strategy

The answers were analyzed with AHP and Sense & Respond method which contained 21 attributes. The companies and the different groups will be divided into prospectors, analyzers and defenders.

4.4.1 Company strategy in Finland

In Finnish study the combined data were gathered from eight different decision maker's responses:

- Managers (9 respondents)
- Property management (9 respondents)
- Renting (4 respondents)
- Rent control (6 respondents)
- Builder control (3 respondents)
- Property inspector (3 respondents)
- Housing adviser (1 respondents)
- Customer service (8 respondents)

Total number of respondents was 43 from all the groups combined.

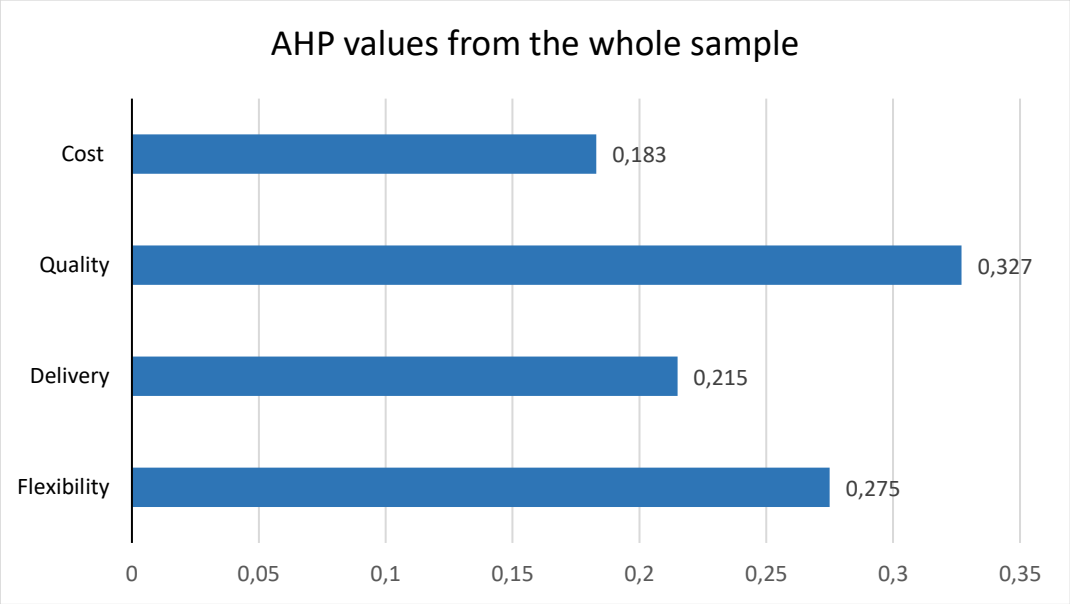

Figure 16. Company level AHP values, company strategy in Finland.

From the whole sample, all groups combined, the quality stands out as the most important factor in Finland with level of 32,7%. In figure 16 flexibility is seen as the second important factor with percentage of 27,5. With cost being the least important

factor with percentage of 18,3, it indicates that the situation in the company is balanced and increasing the market share is not their focus point.

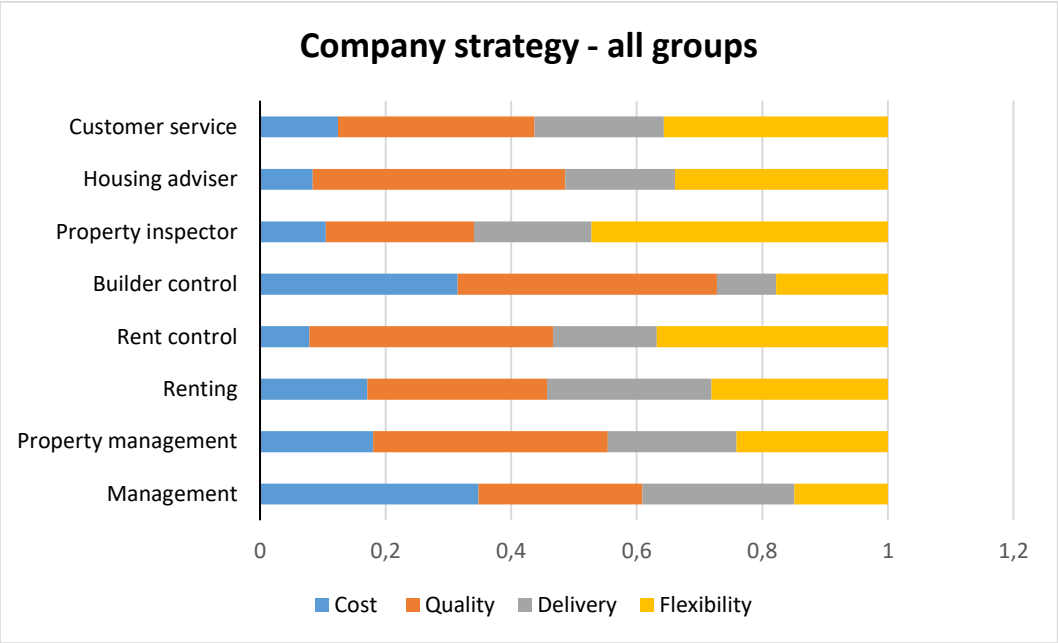

Figure 17. Company level AHP values, all groups individually, company strategy in Finland.

Figure 17 shows the differences between the results of AHP of all the groups in Finland. Comparing the results of the management group and the property management group, it can be seen that the biggest difference is in cost and quality. Management level valuates cost as the most important factor as it directly affects to the company's result. Property management group's main priority function is to keep the practical things smooth and dwellings in good condition. It is only natural that their priority is quality. This picture demonstrates clearly that in any company there can be big differences in opinions between groups inside the company when their focus point and ambition differs.

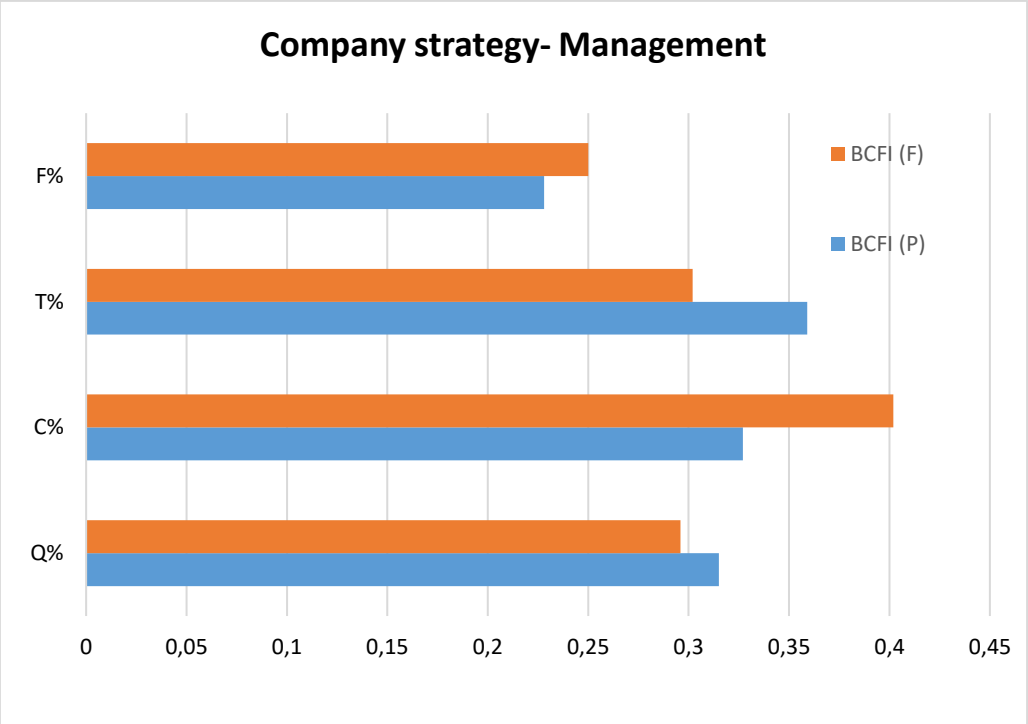

Figure 18. BCFI Past and Future, main criteria's – Management Group, company strategy in Finland.

How the managements BCFI main criteria figures have changed can be seen in the figure 18. The cost and time have changed places. Time used to be the most important factor and now in future the most important factor will be cost. an Flexibility was the least important factor to managers in the past and it continues to be that way, even though there can be seen slight increase in that figure. Management group's vision seems to be to gain the cost goals with time oriented way.

Figure 19. BCFI Past and Future, main criteria's – Property Management Group, company strategy in Finland.

To the property management group the quality has been important in the past and it keeps strengthening being the most important factor. That indicates that the Property Management group ranks the company as a prospector in the future. Flexibility overtakes the second important factors status from cost –factor. The figures implies that the property management group thinks that the company needs to reach its quality targets with flexibility. They work more in customer level than management and flexibility is one of the best ways to add value to customer, which means in this case to the dwellers.

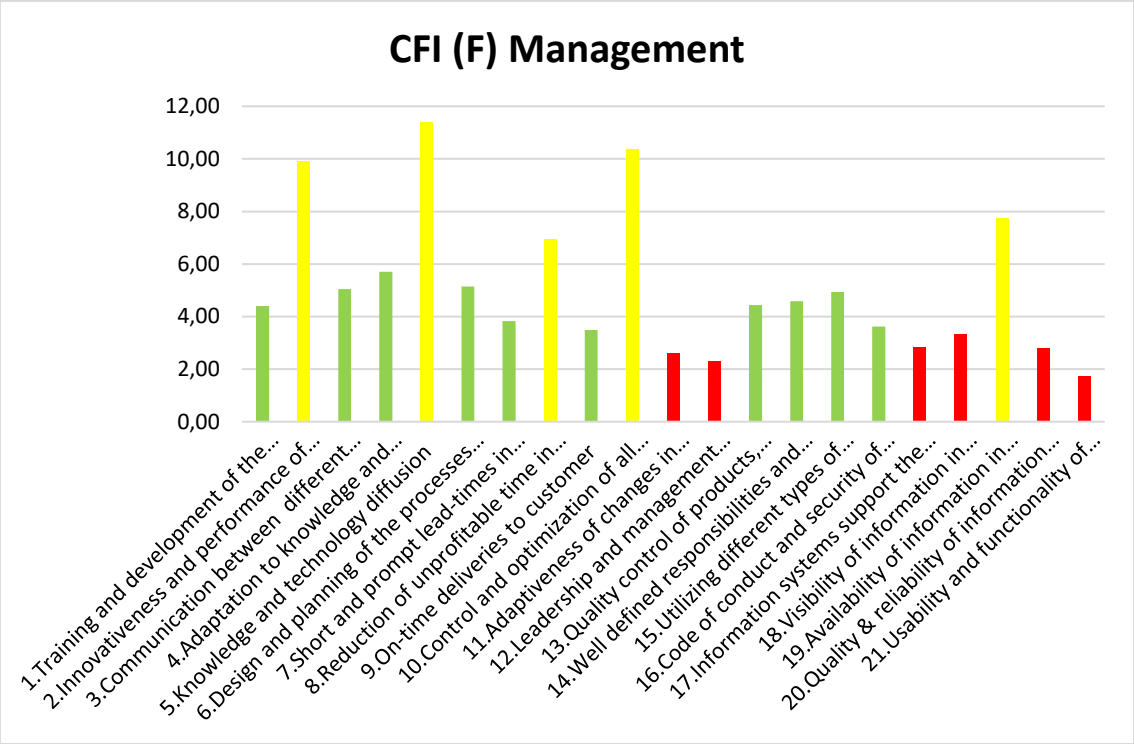

Figure 20. CFI Future - Management group, company strategy in Finland.

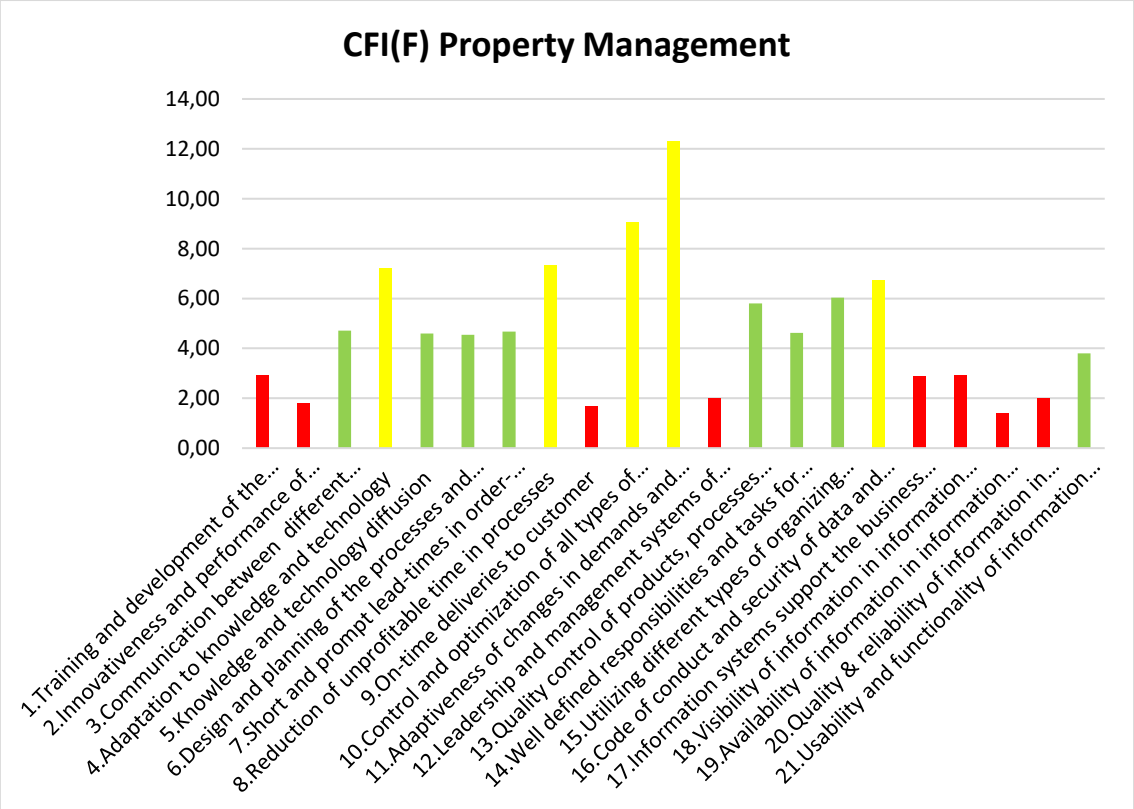

Figure 21. CFI Future – Property Management group, company strategy in Finland.

In figure 20 and 21 can be seen the results of CFI calculation for managers and property managers. Both groups thinks attributes “12. Leadership and management system of the company”, “17. Information systems support the business processes”, “18. Visibility of information in information systems”, “19. Availability of information in information systems” and “20. Quality & reliability of information in information systems” are critical. Three of these critical factors are related to time, one into cost and one to quality. By focusing on improving these critical factors the company has the potential to improve its performance in the future.

Attributes “8. Reduction of unprofitable time in processes” and “10. Control and optimization of all types of inventories” are considered from managers and property mangers as potentially critical in the future. One is related to cost and the other is related to quality.

Meanwhile attributes like “2. Innovativeness and performance of research and development” has huge differences. Management group estimates it to be potentially critical and property management group estimates it as critical factor. That attribute is related to cost.

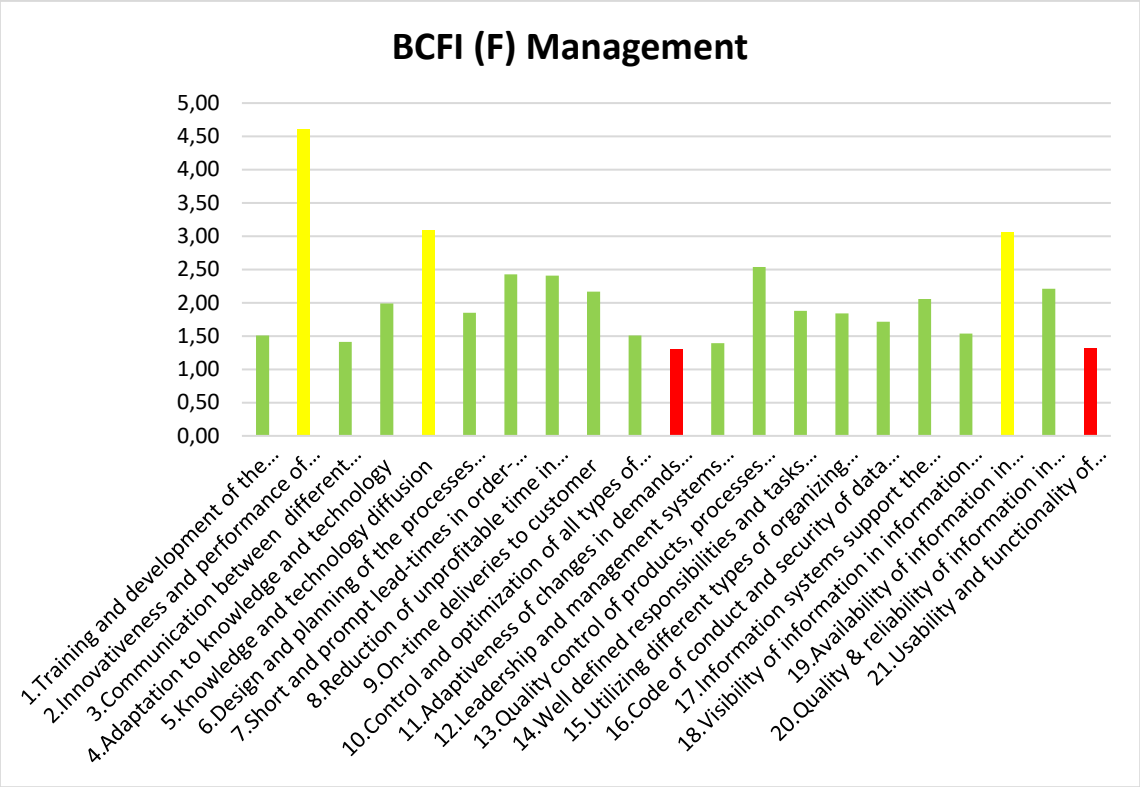

Figure 22. BCFI Future - Management group, company strategy in Finland.

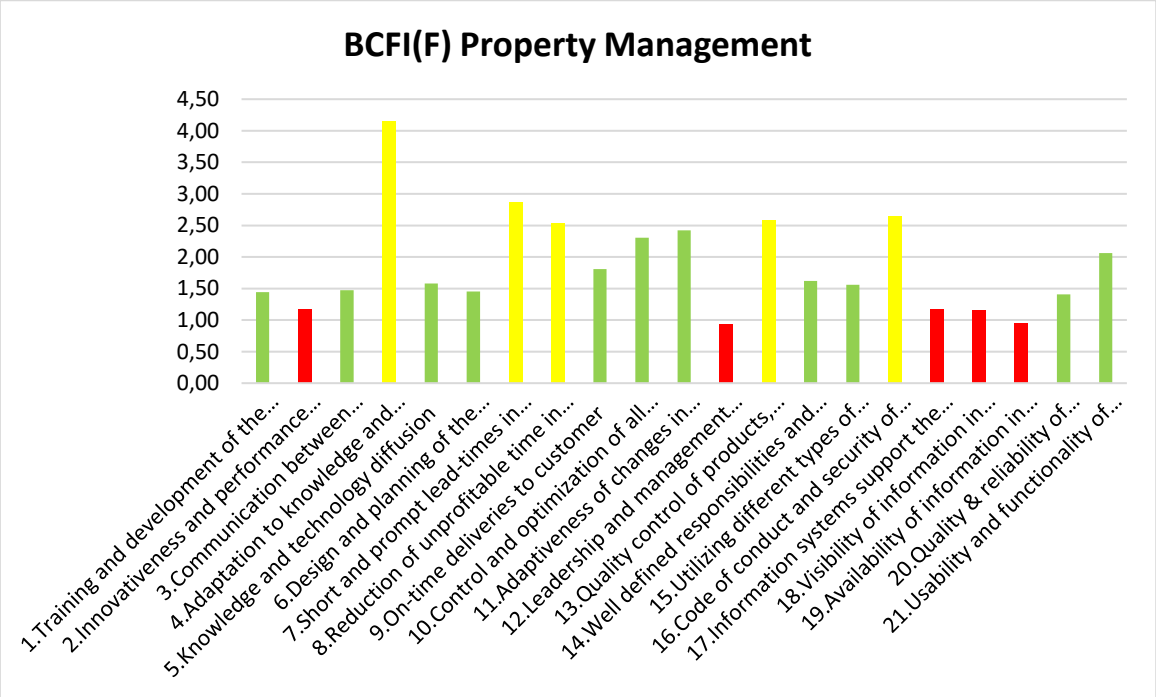

Figure 23. BCFI Future - Property Management group, company strategy in Finland.

With BCFI calculation the results differ slightly. None of the attributes are ranked as critical or potentially critical simultaneously. Management group ranks atrribute “19. Availability of information in information systems” as potentially critical while property management ranks it allready critical. Overall the calculations follow the same line in CFI and BCFI whit in the groups.

Table 12. SCA of Management on the basis of Past-BCFI, company strategy in Finland.

Q	C	T	F
7,78	8,08	8,87	7,3
Prospector	Analyzer	Defender	Reactor
0,91	0,98	0,91	0,91

Table 13. SCA of Management on the basis of Future-BCFI, company strategy in Finland.

Q	C	T	F
9,74	13,21	9,92	10,95
Prospector	Analyzer	Defender	Reactor
0,90	0,99	0,91	0,91

SCA values are between 0 and 1. Values that are bigger than 0,97 are weighted as high, values that are in between 0,93 and 0,97 are considered as medium high and values under 0,93 are low values. Finland's management groups SCA performance in the past is weighted high as analyzer. From the tables 12 and 13 can be seen the past and the future readings of management groups SCA values. In both tables the company is ranked highly as analyzer. All the other attributes are considered as low values. Although there can be seen slight decrease in strategy type status Prospector from past to future, which is equally increasing the status Analyzer. Based on the results obtained, it is possible to conclude that there is a common view in the company regarding the company's situation and the future.

Figure 24. Performance of SCA Past and future, company strategy in Finland.

4.4.2 Company strategy in China

When studying the company strategy in China, the number of respondents was 13 and they were not divided into any groups but was analyzed as one group.

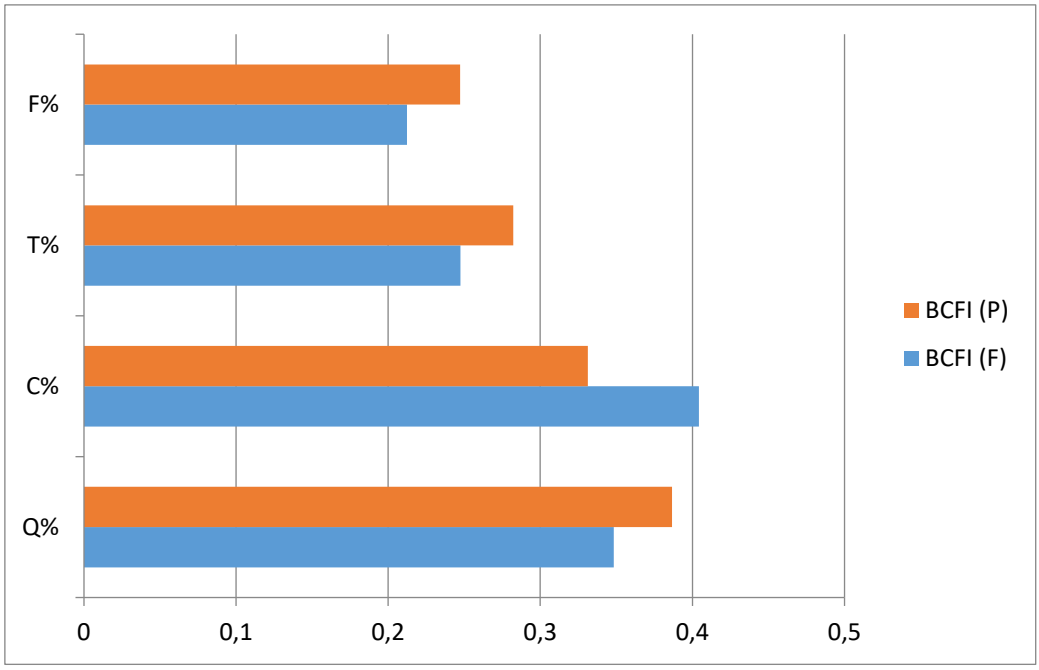

Figure 25. Company level AHP values, company strategy in China.

In China the decision criteria weights are shown in figure 25. The most important factor has changed from quality to cost. Before the quality was the most important attribute, but now cost is leading. Because quality is prospectors attribute and the cost is defenders attribute, the company was leaning more towards the prospector in the past and want to change their focus more to defender. This is quite natural change to a company that is relatively new and up till now they have tried to gain their market space and want to stabilize their achieved markets. All together BCFI shows in figure 26. that company's status is still heavily analyzer even thou it is slightly moving towards the defender.

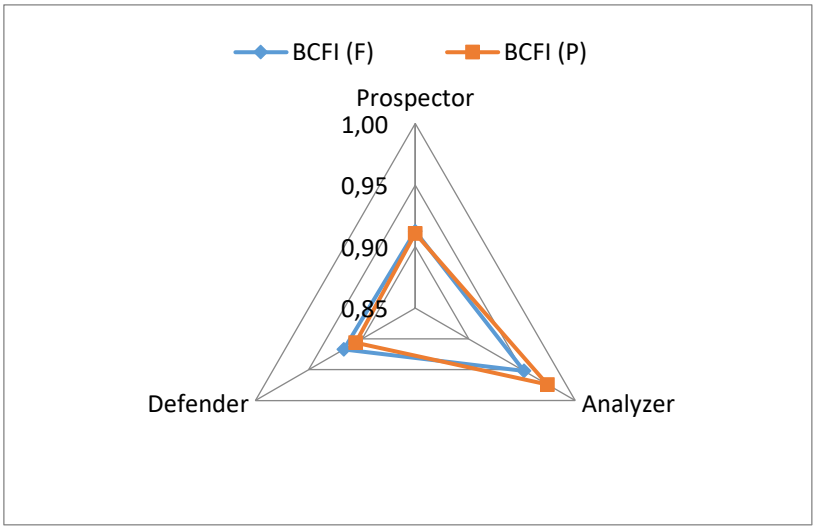

Figure 26. Performance of SCA, company strategy in China.

Chinas BCFI calculation from company strategy's sub-criterias are presented in figure 27. Most of it's values are at the potentially critical area and only one in the normal limits, sub-criteria "21. Usability and functionality of information system".

In low critical area are sub-criterias like:

2. Innovativeness and performance of research and development (cost)

4. Adaptation to knowledge and technology (flexibility)

6. Design and planning of the processes and products (time)

7. Short and prompt lead-times in order-fulfilment process (flexibility)

8. Reduction of unprofitable time in processes (cost)

9. On-time deliveries to customer (quality)

11. Adaptiveness of changes in demands and in order backlog (flexibility) and

13. Quality control of products, processes and operations (quality).

Flexibility seems to bee the biggest issue that the company should focus on and the flexibility is analyst's feature. On this basis the analyzer strategy suits the company the best. Althow the business they are in is very cost-based they should also keep that in mind.

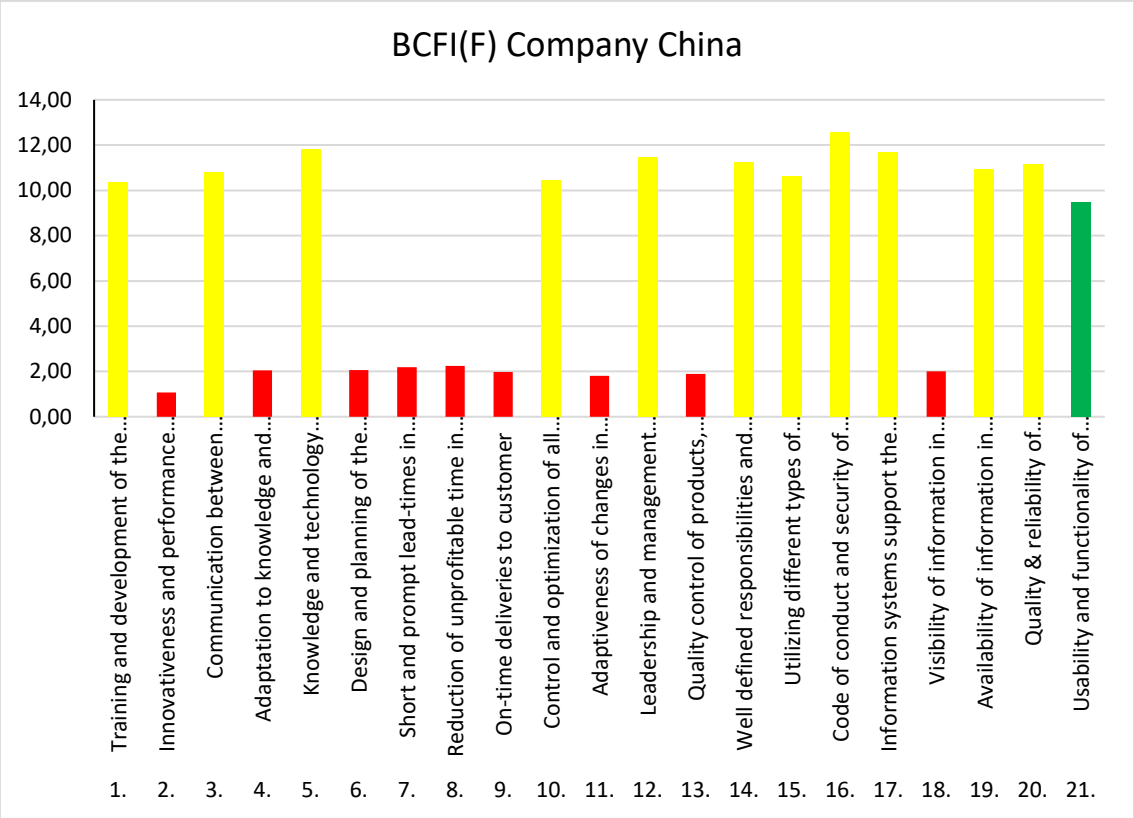

Figure 27. BCFI Future, company strategy in China.

5 CONCLUSIONS

The aim of this master thesis was to define and study the differences of affordable housing in Finland and in China in regional policy level and in company level. In company level their critical objectives were also examined with both Critical factor index and Balanced critical factor index. Questionnaires that were used in the study can be find as appendices 1 and 2. Analytic hierarchy process, Sense and respond, Balanced critical factor index as well as Critical factor index research methods were used when the results were analyzed.

5.1 General findings

- General housing policy indicators:
    - The amount of housing benefits payed is increasing in both countries.
    - Urbanization in increasing in both countries.
    - The number of persons in one dwelling is decreasing in both countries. Although in China the total figure differs a lot between urban and rural areas.

- Regional policy Finland:
    - Main priorities are fairly balanced with each other, Government intervention leading with 37,3%. Leading main priority is referring to increasing number of public housing benefits payed in Finland.
    - From sub-criteria's the leading priority is also referring to the development of housing benefits payed. The most important factor is Social housing demand support.
    - Location region development and Production of new homes are also ranked high. That refers to urbanization of the country.
    - Small spacing between the factors indicates that the strategy of the company is balanced.

- Regional policy in China:
    - The main priorities are not equally balanced. The Housing diversification is Chinas top priority with percentage of 50,7 and the Government intervention as second important with percentage of 37,7.
    - Both companies A and B ranked Production of new homes and Regulations of rent and entitlement high in importance. That speaks behalf of areas strong urbanization and the lack of affordable housing.

- Company strategy in Finland
    - From the whole sample, from 8 different groups, the AHP values were ranking quality as the most important factor with level of 32,7%. Flexibility was seen as second important factor. Rankings indicate that the situation in the company is balanced and increasing the market share is not their focus point. But when comparing the results of the Management group and the Property Management group, the biggest difference is in cost and quality. Management level valuates cost as the most important factor as it directly affects to the company's result.
    - The same ranking is seen in BCFI results with the main criteria figures; Management level is ranking the Cost as the most important factor and the Property Management ranks the Quality as most important factor.
    - The CFI ranking shows that both groups estimates that the critical targets in the company are "Leadership and management system of the company", "Information systems support the business processes", "Visibility of information in information systems", "Availability of information in information systems" and "Quality & reliability of information in information systems. Three of these critical factors are related to time. By focusing on improving these critical factors the company has the potential to improve its performance in the future.
    - With BCFI calculation the results differ little. None of the attributes are ranked by these two groups, Management and Property Management, as critical or potentially critical simultaneously. Management group ranks atrribute "Availability of information in information systems" as

potentially critical while property management ranks it allready critical. That attribute is related to time. Overall the calculations follow the same line in CFI and BCFI whit in the groups.

- SCA values perform the company in the past and in the future as an analyzer.

- Company strategy in China
  - In the AHP value the company's most important factor has changed from quality to cost
  - In the BCFI results the low critical area are sub-criterias like "Innovativeness and performance of research and development", "Adaptation to knowledge and technology", "Design and planning of the processes and products", "Short and prompt lead-times in order-fulfilment process", "Reduction of unprofitable time in processes", "On-time deliveries to customer", "Adaptiveness of changes in demands and in order backlog" and "Quality control of products, processes and operations". Eight of the attributes are critcal which means nearly 40% of them all. Flexibility seems to bee the biggest issue that the company should focus on and the flexibility is analyst's feature. On this basis the analyzer strategy suits the company the best.
  - Company's status is still heavily analyzer even thou it is slightly moving towards the defender.

5.2 Discussion

Just as far as these countries are located on the other side of the globe from each other, they also differ from one another. The rate of their economic growth and the development of population as well as the cultural history differs considerably. In the other hand both countries recognizes the importance of social support and the importance of affordable housing and they are reacting to it. Although Finland has

gained a head start in producing affordable housing by starting social reforms on that subject nearly hundred years ago.

Compared to China, Finnish housing stock seems to be in good condition and their focus is not as much in renovation as in China. Finland is struggling with increasing social housing benefits payed and China with the aging housing stock and the lack of efficient housing supply. Production of new houses seems to be equally important, which is the result of fast urbanization in both countries.

When comparing to the Finnish Managers groups values and Chinese companys values in Company strategies, can similarities be found. Both countries has valued "Adaptiveness of changes in demands and in order backlog" and "Visibility of information in information systems" estimated as critical. The first attribute is referring to flexibility and the second to time. Attribute "Knowledge and technology diffusion" are both countries seen as possibly critical value and that is referring to cost. Also attribute "Leadership and management systems of the company" was ranked bu China as possible critical factor and by Finland as critical factor, and that too is referring to cost.

When validating the methods, they were established in several companies and in one company in several different departments. In each company and department the number of respondents varied. Mostly the number of responses was sufficient, but in some cases the secure estimation could not be carried out. Also when providing both AHP and S&R questionnaires to the respondents, instructions how to fill in the survey were attached to maximize the success rate. In AHP method the answers reliability was confirmed with inconsistency ratio. All the inconsistency ratios were less than 0,2 which show the answers reliable and valid.

There were also limitations in the study. In some cases presented in this thesis the received number of responses was maybe too low to make reliable conclusions. Also one challenge has been that the questionnaires have been filled in different ways. The respondent haven't necessarily understood the method or the right way to answer the

questions. These issues are emphasized when the interviewer and the analyst are not the same person. It would add value and reliability to the results and would reduce the number of errors, when the research chain would be unified.

These two case countries are very different from each other in so many ways, but that doesn't mean that there cannot be found similarities. One can say that the research methods used in this master thesis are very pliable and offers great tools to evaluate the state of affordable housing also in other countries. Despite of the differences between these two case-countries one can conclude that these research methods used in this theses can effectively utilized when studying affordable housing in different countries. They give valuable information and results to researches when studying both macro- and micro-level affordable housing and can be even used with developing housing further all over the world.

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APPENDICES

APPENDIX 1. S&R questionnaire.

SENSE AND RESPOND KYSELYTUTKIMUS

Yrityksen nimi:
Toimiala:
Vastaajan työtehtävä:
Toiminta-alue yrityksessä:

Tällä lomakkeella mitataan organisaation mielipidettä yrityksen liiketoiminnan suorituskyvystä.

Odotukset = Arvioi odotusten tasoa asteikolla 1-10
Kokemukset = Arvioi kokemusten tasoa asteikolla 1-10
Odotusten kehityssuunta = Miten arvioit odotusten kehittyvän noin vuosi kyselytutkimuksen jälkeen
Kokemusten kehityssuunta = Kehityksen suunta verrattuna tilanteeseen 2 vuotta ennen kyselytutkimusta
Verrattuna kilpailijoihin = Arvioi kokemuksia verrattuna kilpailijoihin

TÄYTÄ KAIKKI KENTÄT!

	OMINAISUUDET	Odotukset (1-10)	Kokemukset (1-10)	Odotusten kehityssuunta (tulevaisuus)			Kokemusten kehityssuunta (menneisyys)			Verrattuna kilpailijoihin			Tieto/teknologia vaatimukset (100%)
	Tieto- ja teknologiajohtaminen			Huonontee	Ennallaan	Paranee	Huonontee	Ennallaan	Paranee	Huonompi	Sama	Parempi	Perus työn kehään kärki
1	Henkilökunnan kouluttaminen ja kehittyminen												
2	Kehitystyön suuntuskykyä ja innovatiivisuus												
3	Kommunikaation eri osastojen, jahtierarkiatasojen välillä												
4	Uuden tiedon ja teknologian omaksuminen												
5	Tiedon ja teknologian mahdollistamat edellytykset												
6	**Prosessit ja työnkulut**												
7	Nopeat ja täsmälliset toimitusajat												
8	Tuottamattoman ajan vähentäminen												
9	Oikea-aikaiset toimitukset asiakkaalle												
10	Varasto-omaisuuden hallinta ja optimointi												
11	Muuntautumiskykytilauskannan ja kysynnän vaihteluihin												
	Organisaatiorakenteet												
12	Yrityksen johtamisjärjestelmät												
13	Tuotteiden, toimintojen sekä prosessien laadunhallinta												
14	Selkeät tehtävä- ja vastuujaot prosessin eri vaiheissa												
15	Erilaisten organisointitapojen hyödyntäminen (tiimit, yms.)												
16	Vastuulliset toimintaketjut ja tietoturva												
	Tietojärjestelmät												
17	Tietojärjestelmät tukevat liiketoimintaprosesseja												
18	Tiedon läpinäkyvyys tietojärjestelmässä												
19	Tiedon saatavuus tietojärjestelmistä												
20	Tiedon laatu ja luotettavuus tietojärjestelmissä												
21	Tietojärjestelmien käytettävyys ja toiminnallisuus												

APPENDIX 2. AHP questionnaire.

Vaasan yliopisto
UNIVERSITY OF VAASA

Hyvä vastaanottaja,

Pyydämme Teitä osallistumaan tutkimukseen, jossa kartoitetaan Sosiaalisen asumisen tekijöitä. Kyselyn täyttämiseen kuluu aikaa noin kymmenen minuuttia. Alla olevasta taulukosta näet asumiseen vaikuttavia tekijöitä. Valitse kahdesta vastakkain asetetusta tekijästä sinulle sopivin.

Alla olevassa kyselyssä on parivertailussa erilaisia asumiseen vaikuttavia tekijöitä. Valitkaa mielestänne tärkeämpi tekijä kussakin parissa sekä lähinnä tärkeyttä kuvaava vaihtoehto.
Parivertailussa on 2 erilaista tekijää vastakkain ja vastaajaa pyydetään ilmaisemaan mielestään näiden tekijöiden keskinäinen tärkeys asteikolla. Esimerkiksi jos tekijä A on tekijää B tärkeämpi niin vastaaja voi asettaa vastauksensa sen tärkeämmän puolelle. Lisäksi vastaus pyydetään laittamaan tärkeyttä kuvaavasti oikeaa kohtaan vaihtoehdoista. Esimerkiksi tekijä A on hyvin tärkeä verrattuna tekijään B. Jos tekijät ovat yhtä tärkeitä voi vastaaja asettaa vastauksensa kohtaan yhtäläiset.

A								B
Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
(A on tärkeä)			(A ja B ovat yhtä tärkeitä)					(B on tärkeä)

Vastauksenne ovat täysin luottamuksellisia ja tämän tutkimuksen tuloksia raportoidaan ainoastaan vastausten kokonaissummilla. Mikäli sinulla on jotain epäselvää kyselystä tai sen käytännöistä voit olla yhteydessä **Teppo Forssiin, teppo.forss@tvt.fi tel +358505221974.**

Alla lyhyet määritelmät tekijöiden merkityksistä.

ASUNTOJAKAUMA
- Erilaisia asuntoja hallintamuodon mukaan.

JULKISEN VALLAN OSALLISTUMINEN
- Osallistuminen sääntöjen, tuen, tukien, yms. muodossa.

KIINTEISTÖJEN KEHITTÄMINEN
- Toimia ja tekoja asuntojen ja talojen tarjontaan.

SOSIAALISEN ASUMISEN KYSYNNÄN TUKEMINEN
- Yksilöiden ja talouksien tukeminen asumisessa ja asumiskustannuksissa.

SOSIAALISEN ASUMISEN TARJONNAN TUKEMINEN
- Valtionapu ja tuki tuotantoon ja omistamiseen.

PAIKALLINEN JA ALUEELLINEN KEHITTÄMINEN
- Projektikohtainen tuki taloille tai alueille.

SOSIAALINEN RAKENNE
- Sosiaalinen väestörakenne ja tasapainoisuus.

SÄÄNNÖT
-Oikeuksia ja velvollisuuksia yhteiskunnan tuen edellytykseksi.
YLLÄPITO JA HALLINTA
- Olemassa olevien asuinkiinteistöjen hallinta, huolto ja ylläpito. Käyttöarvon ylläpito ja kehittäminen.
KIINTEISTÖKANNAN KORJAUS
- Ikääntyvän kiinteistö- ja asuntokannan korjaaminen.
ASUNTOJEN UUDISTUOTANTO
- Uusien asuntojen ja ja alueiden rakentaminen.
ASUNTOJEN PURKAMINEN
- Tarkoituksenmukaisettomasta asuntokannasta luopuminen purkamalla
ASUINKIINTEISTÖJEN EDELLEENMYYNTI
Asunnoista ja kiinteistöistä luopuminen myymällä.

Vastaajan tiedot

* Nimi:	
* Organisaatio:	
* Ammattinimike:	
* Sähköpostiosoite:	

ASUNTOJAKAUMA

JULKISEN VALLAN OSALLISTUMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

ASUNTOJAKAUMA

KIINTEISTÖJEN KEHITTÄMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

JULKISEN VALLAN OSALLISTUMINEN

KIINTEISTÖJEN KEHITTÄMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

VAPAARAHOITTEINEN VUOKRA-ASUMINEN

YHTEISKUNNAN TUKEMA VUOKRA-ASUMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

VAPAARAHOITTEINEN VUOKRA-ASUMINEN

ASUMISOIKEUSASUMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

VAPAARAHOITTEINEN VUOKRA-ASUMINEN

ERITYISRYHMIEN ASUMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

VAPAARAHOITTEINEN VUOKRA-ASUMINEN

OMISTUSASUMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

YHTEISKUNNAN TUKEMA VUOKRA-ASUMINEN

ASUMISOIKEUSASUMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

YHTEISKUNNAN TUKEMA VUOKRA-ASUMINEN

ERITYISRYHMIEN ASUMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

YHTEISKUNNAN TUKEMA VUOKRA-ASUMINEN

OMISTUSASUMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

ASUMISOIKEUSASUMINEN

ERITYISRYHMIEN ASUMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

ASUMISOIKEUSASUMINEN

OMISTUSASUMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

ERITYISRYHMIEN ASUMINEN

OMISTUSASUMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

SOSIAALISEN ASUMISEN

KYSYNNÄN TUKEMINEN

SOSIAALISEN ASUMISEN TARJONNAN TUKEMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

SOSIAALISEN ASUMISEN

KYSYNNÄN TUKEMINEN

PAIKALLINEN JA ALUEELLINEN

KEHITTÄMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

SOSIAALISEN ASUMISEN

KYSYNNÄN TUKEMINEN

SOSIAALISEEN RAKENNE

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

SOSIAALISEN ASUMISEN TARJONNAN TUKEMINEN

PAIKALLINEN JA ALUEELLINEN KEHITTÄMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

SOSIAALISEN ASUMISEN TARJONNAN TUKEMINEN

SOSIAALINEN RAKENNE

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

PAIKALLINEN JA ALUEELLINEN KEHITTÄMINEN

SOSIAALINEN RAKENNE

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	◉	○	○

YLLÄPITO JA HALLINTA

ASUNTOKANNAN PERUSKORJAUS

Äärimmäisen	Hyvin	Tärkeää	Kohtalaisen	Saman-	Kohtalaisen	Tärkeää	Hyvin	Äärimmäisen

tärkeää	tärkeää		tärkeää	arvoinen	tärkeää		tärkeää	tärkeää
○	○	○	○	○	○	○	○	○

YLLÄPITO JA HALLINTA

ASUNTOJEN UUDISTUOTANTO

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

YLLÄPITO JA HALLINTA

ASUNTOJEN PURKAMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

ASUNTOKANNAN PERUSKORJAUS

ASUNTOJEN UUDISTUOTANTO

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

ASUNTOKANNAN PERUSKORJAUS

ASUNTOJEN PURKAMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

ASUNTOJEN UUDISTUOTANTO

ASUNTOJEN PURKAMINEN

Äärimmäisen tärkeää	Hyvin tärkeää	Tärkeää	Kohtalaisen tärkeää	Saman-arvoinen	Kohtalaisen tärkeää	Tärkeää	Hyvin tärkeää	Äärimmäisen tärkeää
○	○	○	○	○	○	○	○	○

Kiitos osallistumisestanne kyselyyn!

Vastaustenne avulla pystymme paremmin suunnittelemaan ja toteuttamaan tulevaisuuden toimintatapoja vastaamaan kaikkien asukkaiden tarpeita.