SOCIAL HOUSING PROJECTS IN CHILE: THE IMPORTANCE OF UNDERSTANDING VALUE AS A DYNAMIC CONCEPT

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ABSTRACT
As a developing country, Chile provides a fresh platform for designing a built environment that can deliver a measurable contribution to society. At present, Chilean policies concern about the insertion of low income people in the society give the opportunity to conceptualise value from a wider perspective. Thus, value is delivered from the construction industry to society and provides a legacy to future generation. However, initial observation and literature review demonstrated that Chilean policies lack in the consideration of value as a dynamic concept. In this way, measurement of final customer satisfaction has been identified as an isolated initiative of some organisations working on social housing projects (SHPs), whose experience could be summarised as the use of the "Residential Satisfaction Matrix"— RSM (Instituto de la Vivienda, FAU-UCH, Haramoto, 2002), which considers three different levels:
1. Micro-System: Based on the relationship between the family and the house;
2. Middle-System: Based on the relationship between neighbours and the direct social environment (short scale neighbourhood); and
3. Macro-System: Based on the relationship between the community and housing complex (social housing project – long scale neighbourhood)

Aimed to emphasise the importance of considering the dynamic nature of value and the close relationship between customer value and customer satisfaction, this paper firstly explores the concept of value, its dynamic feature and theoretical conception of the RSM. Secondly, this conceptual tool is discussed in order to highlight its attributes to be applied by other organisations working in SHPs or if improvements are needed. Finally, recommendations emphasise the need of obligatory processes to measure end users satisfaction in order to improve construction sector's performance.

Keywords: Customer satisfaction, social housing projects, Value.

INTRODUCTION
Aimed at increasing living standards of the whole population, current Chilean policies not only intend to reduce the number of people living in precarious conditions, but they are also concerned about those people's dignity. Since the promulgation of the Home Policy for Quality Improvement and Social Integration (Política Habitacional de Mejoramiento de la Calidad e Integración Social - January 2007), governmental strategies have been focused on three key activities: reduction of housing deficit, improvement of housing quality, and insertion of families into social networks. To achieve the last objective, it is included a Social Insertion Plan (Proyecto de Integración Social) that encourages families to actively participate throughout the decision-making process. Accordingly, the Government pays to external entities such

as EGIS[1] to carry out activities before and after the approval of new projects. Consequently, participation of end users from an early stage of projects has been considered a key activity to achieve final objectives, which cover more than the provision of the housing solution (as physical output of the construction industry). According to Cannobbio et al. (2011: 12), customer's needs are linked to diverse product attributes, such as *"affordable or 'payable'; safe use or possession, whether in property, on gratuitous loan 'bailment' or any other figure; physical quality and concordance with family requirements; right of the house to either be modified, sold or leased, as well as a location with accessibility to resources and social, cultural and economic opportunities"*. Therefore, focusing on the physical output, there is a broad set of project's features that should be addressed in order to deliver value to the customer (e.g. end users, clients, etc.) and even society as a whole. However, delivering value is considered a difficult goal for the construction sector, especially in the area of social housing projects, which usually confront critical problems such as absence and high cost of urban land, dissimilar interests, and so on.

In Chile, initial observation and literature demonstrated that measurement of customer satisfaction is not a common activity for organisations for social housing management such as EGIS. As a result, opportunities to evaluate their performance, understand the dynamic feature of value and improve future results are usually missed. Despite this situation, from literature isolate initiatives have been identified; most of them based on the implementation of a customer satisfaction survey based on the Residential Satisfaction Matrix (RSM) developed by Haramoto (2002) (Instituto de la Vivienda, FAU-UCH). This conceptual tool considers three different levels to be evaluated: Micro-System, Middle-System and Macro-System, which basically include the relationship among the family, the house and the surrounding. Aimed to emphasise the importance of considering the dynamic nature of value and the close relationship between customer value and customer satisfaction, this paper looks at:

- To investigate the dynamic feature of Value and the understanding of customer satisfaction;
- To explore the RSM as a common tool to measure customer satisfaction; and
- To analyse whether current initiatives to measure customer satisfaction could be equally extrapolated to other organisations, or opportunities to improve are needed.

Finally, it is hope that a better understanding of the concept of value and its dynamisms could contribute to the future performance of SHP in Chile. In this way, measurement of customer satisfaction gives an important feedback to current organisation about how they are performing activities to increase customer value. SHP have restricted opportunities to use urban land, therefore, opportunities to satisfy critical needs are even more significant.

VALUE AS A DYNAMIC CONCEPT
Regarding the satisfaction of customer requirements, the concept of value varies according to different situations where judgements of products are expressed (e.g.

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[1] Organisation whose principal task consists of directing people in technical and social aspects of building a house and also formally represent families requirement concerning other stakeholders. Those organisations could be private, public or non-profit.

product in use). Consequently, it is argued that customer value assessments arise from particular contexts, which are widely influenced by particular circumstances (Thomson et al. 2003). Therefore, time provides an important 'spatial' dimension whose consideration becomes value a dynamic concept. In this way, value changes according to individual 'value systems'[2] which represent the most subjective dimension of value. Additionally, two routes to visualise value variations are differentiated: construction project (physical outputs) and the building process (according to Wandahl (2005) this is about the management of human values and they are not part of this investigation).Thus, if the potential of the construction sector is to be fulfilled, variation of individual value assessments should be considered through the life cycle of projects (e.g. from pre-briefing to building occupancy). Accordingly, measurement of customer satisfaction has been deemed as an important dimension of 'customer value'. The importance of considering the multidimensional attribute of value has also been documented by other authors, whose ideas are underlined below:

- *"Depending on the owner(s)'/buyer(s)' value system, the subjective part of the value of a product can change, and accordingly, the value of the product will change."* (Neap and Celik 1999:184)
- *"...value is a matter of personal opinion, which can and does change over time."* (Bertelsen and Emmitt, 2005:74)
- *"Value is dynamic, it changes over time. Partly in relation to the building and its use and partly in relation to the building process."* (Wandahl, 2005:65)

Additionally, value delivery has been understood as a main goal of the construction sector. It has been underlined that value should be delivered through the project and the process to all project participants (Wandahl, 2005). Figure 1 illustrates how value judgements vary over time. Thu, the red line represents an ideal situation, where the construction industry learns from previous experience contributing to reduce the variation of value judgements from different stakeholders over the time. Accordingly, measurement of customer satisfaction and post-sale service could contribute to improve results of future projects.
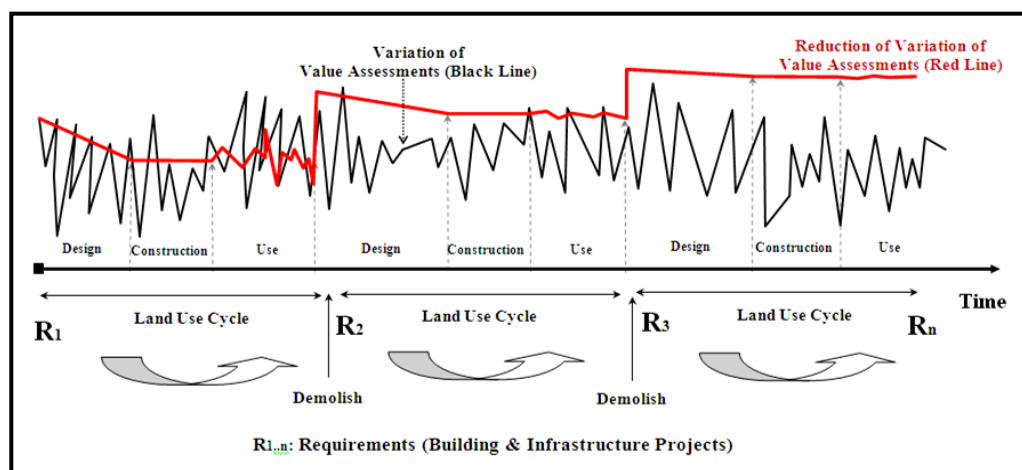
Figure 1. Variation of value assessments over time

CUSTOMER SATISFACTION AS DIMENSION OF CUSTOMER VALUE

In an attempt to promote the continuous improvement of the construction industry, measurement of customer satisfaction has been regarded as an important dimension of customer value. In this way, customers usually evaluate products based on their own experience (Woodruff, 1997). From a philosophical view, human values evidence individual assessments that arise from the interaction between the product and the person. Thus, they have been assumed as a base of a decision-making process. According to Anderson (1993), *"to value something is to have a complex of positive attitudes toward it, governed by distinct standards for perception, emotion, deliberation, desire, and conduct."* (pg.2). Therefore, customers evaluate products with regard to their own wishes, expectations, experiences, etc., which represents more subjective aspects. Consequently, there is a close relationship between customer satisfaction and value delivery, situation previously underlined by authors such as Kotler and Levy (1969); they argued that exchange as a base of marketing is about the interaction among two or more parties, where each one aims at increasing value in order to achieve mutual satisfaction. Accordingly, it is argued *The logical and basic rule, which applies to each individual in the role of a customer is that his basic motive of an exchange is satisfied by a product's reasonable or expected value"* (Snoj et al. 2004:156). As a result, since 1990´s marketing field has introduced customer value as an strategy to attract and maintain customer attention (Woodruff and Gardial, 1996; Woodruff, 1997; Kotler, 2002). In this way, it has been accepted an expanded understanding of value, which goes far from a narrow relationship between quality and price. Currently, customers link value with other aspects such as convenience, after-sale service, reliability, and the like (Treacy and Wiersema, 1993). Consequently, subjective aspects such as benefits and sacrifices have been used to address value and increase customer satisfaction through enhanced product or service (or both).

According to Sanchez-Fernandez and Iniesta-Bonillo (2006), recent literature has broadly focused on the conceptual relationship between customer value and customer satisfaction. Thus, they underlined the need to differentiate both concepts; on the one hand, perceived value happens across different phases of the acquisition process; but on the other, satisfaction is about later stages such as after-sale and post use evaluation. Consequently, it is argued that *"value perceptions can be generated without the product or service being bought or used, while satisfaction depends on the experience of having used the product or service."* (Sanchez-Fernandez and Iniesta-Bonillo, 2006:45). According to Woodruff and Gardial (1996), these concepts are describes as follows:

- *"Customer value describes the nature of the relationship between user and product, while customer satisfaction is a representation of the customer´s reaction to the value received from a particular product offering."* (pg. 86).
- *"Customer satisfaction is a customer's positive or negative feeling about the value that was received as a result of using a particular organization's offering in specific use situation or an overall reaction to a series of use situation experiences (Woodruff et al. 1993)".* (pg. 95).

Additionally, Woodruff and Gardial (1996) also emphasised the need to differentiate the concept of customer value from that of customer satisfaction, which are related but

they are not synonymous with each other. To complement this idea, Table 1 contrasts both concepts.

Table 1. A Comparison of Customer Value and Satisfaction
(Source: Woodruff and Gardial, 1996: 98)

Customer Value is…	Customer Satisfaction is…
1. What the customer desires from the product or service	1. The customer´s *reaction to or feeling about* what he or she received – a comparison between the actual performance of the product and a performance standard
2. Exhibits a future orientation; is independent of the timing of the product use/consumption	2. Tends to exhibit a historical orientation; is a judgement formed during or after product/service use or consumption
3. Exist independent of any particular product/service offering or supplier organization	3. Is an evaluation directed at a particular product/service offering or supplier organization
4. Provides *directions* for the organization: *what they should do* to create value	4. Provides a *report card* for the organization: *how they are doing (or how they have done)* with their value creation efforts

Additionally, Table 2 underlines differences of information from customer value and customer satisfaction. In this way, Woodruff and Gardial (1996) argued that *"satisfaction judgements (and satisfaction measures) complement the information of a value hierarchy in a very important capacity: they provide feedback on customers' reactions to value received"* (pg. 95).

Table 2. A Comparison of the types of information which result from customer value versus traditional customer satisfaction measurements (Source: Woodruff and Gardial, 1996: 102)

Customer Value Orientation	Traditional Customer Satisfaction Orientation
Focuses on the user/product interaction – emphasizes fundamental needs of consumer	Focuses on the product – emphasizes the firm's offering or tactical solution
Considers all levels of the user/product interaction – attributes, consequences, and values	Emphasizes attributes
Higher level focus is inherently more long term and stable, provides greater opportunity for creativity and radical change, and has a future orientation	Attributes level focus is inherently more short term and unstable, leads to incremental or marginal product/service change and improvement, and has a historical orientation
Measures the trade-offs which determine value	Typically fails to measure trade-offs which determine value
Provides information that helps to interpret attribute level information in a way that is actionable	Often difficult to interpret in the absence of additional consequence level information

In spite of the differences previously underlined (Table 2), both customer value and customer satisfaction are closely related concepts. Accordingly, Woodruff (1997) defined overall satisfaction as *"the customer´s feelings in response to evaluations of one or more use experiences with a product."* (pg. 143). As it was previously underlined by Lima et al. (2009), human needs also influence customer satisfaction and product value. In this way, Maslow (1943) and Benedikt (2006) have contributed with the understanding of customer behaviour. As part of his theory of human motivation, Maslow (1943) identified five sets of goals, which are the following: physiological, safety, love, esteem and self-actualization. These goals are represented through a pyramidal model, where needs are related to each other and hierarchically distributed. Thus, individuals move forward the highest levels once the lowest ones have been satisfied. It is important to mention that these needs are not mutually exclusive because all of them influence human behaviour even if one level predominates. Moreover, Lima et al. (2009) argued that Benedikt (2006) describes the way how architecture addresses human needs. This author also proposed a pyramidal model, which includes six needs: survival, security, legitimacy, approval, confidence and freedom.

SHPs IN CHILE: MEASUREMENT OF CUSTOMER SATISFACTION

At present, opportunities to satisfy client requirements have been considered as very important regarding common problems such as scarcity of urban land, reduced budgets, broad expectations of end users, social risk, and so on. Accordingly, governmental guidelines have encouraged activities focused on the improvement of housing attributes such as quality and location. However, important opportunities to add value have been missed; thus, organisations such as EGIS do not include measurement of customer satisfaction as usual activity. Additionally, social housing policies do not state any formal processes as a compulsory management tool for these organisations.

Customer satisfaction is a very important activity to monitor the variation of customer value assessments across time. It reflects the opinion of end users based on their own experience (product in use). Thus, consideration of individual judgements could impact several factors such as future projects development, quality of life of the population, continuous improvement of the construction sector, and the like. This situation has been visualised by some organisations such as UTpCh[3] (<u>add Reference</u>), which have implemented a customer satisfaction survey based on the RSM (Haramoto, 2002). Aimed to explore if this conceptual tool can be used by other organisations or if improvements are need, the following section explore its theoretical foundation.

The "Residential Satisfaction Matrix"

In the 2000s, the Instituto de la Vivienda de la Facultad de Arquitectura de la Universidad de Chile – INVI[4] developed an investigation aimed to support the management of social housing programs and to contribute with the development and consolidation of new housing policies. In this way, measurement of customer

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[3] No profit organisation working as a EGIS

[4] The INVI was created on 1994 as a dependent academic unit of the Faculty of Architecture and Planning of the University of Chile. Its goal is to create and enhance theoretical and practical knowledge from an integral perspective. (www.invi.uchile.cl)

satisfaction as the main objective of this investigation was understood as the *"Fulfilment or unfulfilment level that people perceive regarding the environment where they live, considering the house and the surrounding environment."* (see on Instituto de la Vivienda, FAU-UCH, Haramoto et al, 2002) . Additionally, the following ideas were considered:

- Features of the house, its surrounding environment and surrounding group should consider objective and subjective projects attributes. Thus, they can be qualified or evaluated to be estimated as indicators of quality;
- Objective or subjective attributes should consider their mutual relation inside a structured and hierarchical group. This structure of relations is neither universal nor constant; it depends on a specific situation in a given context;
- Quality does not exclusively depend on the objective housing features. On the contrary, quality depends on the way an individual or human group perceive those features regarding their individual needs and aspirations, which represent their specific ways to perceive quality of life; and
- Subjective assessments from end users' perspectives could be insufficient because they may perhaps be influenced firstly by contingent situations that may suddenly change, or secondly by the end users' inability to assess aspects that they do not know very well. This restriction could be overcome insofar as it is certain that end users' assessments are complemented with experts' judgements.

Based on the previous ideas, Haramoto et al. (2002) proposed the RSM (Instituto de la Vivienda, FAU-UCH) (Figure 2). This conceptual model aims at characterising a residential housing project from a systematic perspective and ordering its different components through three different concepts: place, scale, and degree of objectivity and subjectivity of the tools used for its study and recognition.
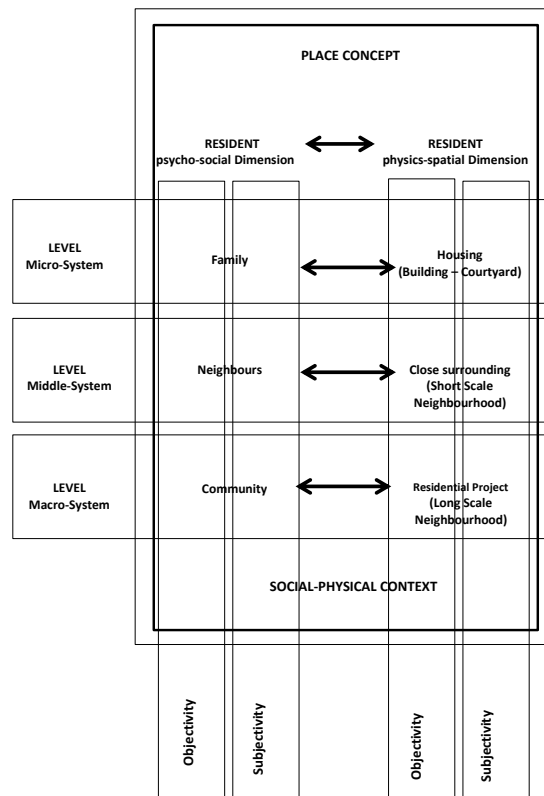
Figure 2. The "Residential Satisfaction Matrix" (Adapted from Haramoto, 2002)

According to the RSM, place is regarded as the inseparable relationship between the resident and the habitat; in other words, between the psycho-social and physical-spatial dimensions. Additionally, the RSM establishes three levels or territorial scales, which are included in a residential housing project. Those levels are placed into a wider social- physical context where the other systems interact, and they are described as follows:

1. Micro-System: Based on the relationship between the family and the house. In this level, satisfaction is measured according to:
   - Housing attributes, such as illumination, courtyard, ventilation, living room, housing layout, bedroom, housing size, doors, windows, walls, partition walls, kitchen, bathroom fixtures, bathroom size, loggia or washing space, housing finishing, construction materials, plumbing.
   - Housing use, such as acoustic isolation, ceiling leaks, size of housing spaces, thermal isolation, natural lighting, privacy.
   - Dissatisfaction relative to housing design: space, future extension, layout, acoustic conditioning.
   - Dissatisfaction relative to housing construction: materials and project execution, plumbing and facilities, housing finishing.

2. Middle-System: It is based on the relationship between neighbours and the direct social environment (short scale neighbourhood). IMMEDIATE ENVIRONMENT is understood as the housing or building adjacent space shared by a group of inhabitants. This space has a semi-private or semi-public feature, and it facilitates or inhibits the interaction among neighbours. Therefore, satisfaction is measured according to objective attributes related to the physical-spatial dimension such as accesses, building typology, etc. Additionally, other subjective attributes are considered, which are based on the relationship between those housing spaces and the users.

3. Macro-System: It considers the relationship between the housing project (or housing state) and the long scale neighbourhood. Therefore, satisfaction is measured in terms of highway network infrastructure, equipment such as green areas, communal activity centres, insertion of the housing project in the urban context (e.g. project location close to city centre, schools, hospitals, churches, public transport, etc.). Additionally, five project estate attributes are considered: tranquillity, safety, privacy, beauty and cleanliness.

DISCUSSION ABOUT CHILEAN EXPERIECE

The RSM by Haramoto (2002) (Instituto de la Vivienda, FAU-UCH) has been commonly identified as a conceptual tool to measure customer satisfaction of SHPs in Chile. In order to discuss if this model could be used by different organisation working in current projects, the following idea is underlined:

- The RSM as a conceptual tool to measure customer satisfaction: The RSM assists in evaluating products (housing solution) from three different levels (micro, middle and macro). Therefore, this conceptual tool includes a wider visualisation of customers' needs, which according to Maslow (1943) should be considered from the physiological to the self-actualization levels. Consequently, architects address customer needs with regards to survival and freedom (Benedict, 2006). This is the reason why evaluation tools to measure customer satisfaction must consider objective and subjective aspects of value.

In this way, the RSM allows to identify customer experience based on individual value assessments and understand how they are evolving from early stages to use circumstances. The RSM measures important aspects such as housing performance based on the privacy; thus, attributes such as material and acoustic conditioning are evaluated. Additionally, wider project features such as insertion on social networks and its contribution to facilitate the interaction among neighbours are appraised. Therefore, it can be considered a useful tool to visualise important project aspects, which in the case to be poorly evaluated could be improved to increase customer satisfaction and value.

Additionally, it is important to discuss about the consideration of value as a dynamic concept. In this way, the following idea is described:

- The consideration of Value as a dynamic concept: When product assessments arise from the interaction of products and people (product in use), time as a temporal dimension of value is clearly associated. Thus, particular circumstances influence the opinions of end users along the life cycle of projects. Additionally, satisfaction measures aid to visualise how customer evaluate product and services. In this way, satisfaction judgements are considered as a complement of the information of a value hierarchy and allow to evidence how customers respond to the value received (Woodruff and Gardial, 1996). At present, Chilean efforts to address value assessments have been commonly endeavoured on early stages of projects (briefing & early design), and construction stage. Consequently, literature identified that important organisations such as EGIS do not consider formal processes to measure customer satisfaction as a strategy to improve future results. As a consequence, these organisations commonly miss the opportunity to understand how human values as a base of the decision making process vary from the early stages of the process (project definition) to use experiences. This is a very important phenomenon to be considered in the management of SHPs where opportunities to satisfy social needs are restricted by critical factors such as the use of urban land. As it was explored through this paper, customers associated customer value with other aspects such as after-sale service. Therefore, later stages should be used as an opportunity to observe product attributes that are really appreciated by customers.

FINAL COMMENTS
The following paper emphasises the importance of consider value as a dynamic concept in Chilean processes to deliver SHPs. At present, it has been noticed a lack of governmental initiatives to promote measurement of customer satisfaction as a key activity to improve current results. Thus, important organisations such as EGIS commonly miss the opportunity to visualise the evolution of value through the life cycle of projects. As it was explored, measurement of customer satisfaction as an important dimension of customer value could contribute to improve the performance of the construction sector and improve the quality of life of the whole population. Therefore, Chilean government and other organisations working in social projects should be concern about the impact caused to future projects without a clear and full understanding of value.

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