

PERCEIVED VALUE IN SOCIAL HOUSING PROJECTS

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ABSTRACT

In recent years, concerns with value generation in construction have increased, as a result of the introduction of novel marketing and operations management ideas, strongly related to the Lean Production paradigm. Among other improvements, several organizations have developed strategies targeting client attraction and retention. In the Brazilian construction industry, investments in social housing projects have greatly increased in the past decade. Considering the heavy investments in this sector, the success of a project depends strongly on final client retention and main clients' perception on satisfaction and value. The goal of this paper is contribute to the consolidation of these concepts in the social housing context. This research is based on a set of multiple case studies carried out in two different forms of housing provision implemented in Southern Brazil. The main contributions of the paper are concerned with the understanding of the relationship among satisfaction, human needs and perceived value according to the perception of the main clients involved in construction projects, especially the dwellers.

KEY WORDS

Perceived value, satisfaction, housing needs, human needs, low-income housing projects.

INTRODUCTION

Low-income housing provision plays a very important role in Brazil, both economically and socially. According to the Brazilian Federal Government's Cities Ministry (Ministério das Cidades, 2008), the Brazilian social debt related to the housing deficit is very large, especially for the families who earn up to three minimum wages per month. It is estimated that more than 7 million families need new homes and over 10 million homes suffer from the lack of urban infrastructure. Such deficit includes both the housing deficit and the inadequacy of existing dwellings.

The role of the government in the provision of services and facilities has suffered major changes worldwide. Similarly to what has happened in other countries (Barlow and Ozaki, 2003), there is a trend in Brazil of reducing the participation of the state as a direct developer or client in the construction industry. In fact, many existing social housing programs in Brazil have private developers, such as construction companies, cooperatives, and non-profit organizations. This has led to growing financial, regulatory, environmental, social and technical complexity, mostly due to the fact that the promotion of social housing projects

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highly decentralized in Brazil (Keivani and Werna 2001). Thus, there is a challenge to improve the product development process (PDP) in order to provide value even in market segments in which the focus of project management used to be cost reduction. This means improving the relationship between the benefits and costs derived from the acquisition and use of housing products.

Value generation has been investigated in several fields of knowledge, such as quality, marketing, business management, strategy, design and microeconomics (Koskela 2000). Griffin and Hauser (1996) pointed out marketing, as a fertile field of research due to its role in the product development by supplying information about the client needs, essential for product specifications. This paper is concerned with adapting core ideas related to value generation from the field of marketing to the context of low-income housing. Some marketing concepts, models, and approaches have been investigated for their potential in terms of introducing innovations in value generation in low-income housing. Such theoretical framework was used to analyze the results of the evaluation of 14 low-income housing projects.

THEORETICAL FRAMEWORK

Perceptions of value are directly related to buyers' preferences or choices (Monroe 1990). The construct of perceived value has been defined in many ways. It is a rich and complex construct configured by customer judgments and desires (Khalifa 2004). According to Zeithaml (1988) perceived value is the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given. This definition is similar to those proposed by Monroe (1990): buyers' perception of value represents a cognitive trade-off between the benefits they perceive in the product and the sacrifice they perceive by paying the price. Benefit is what is received and sacrifice is what is given.

Customers do not purchase a product per se but they seek to acquire a set of benefits. The total benefits consist of utility value and psychic value (Khalifa 2004). According to Monroe (1990) the perceived benefits are related to the buyers' judgement about the product's quality. Moreover, this author points out that to provide benefits, a product or service must be able to perform certain tasks or functions, solve identified problems, or provide specific pleasures. Therefore, a product is not purchased for its particular components, materials, or expertise, but rather for what it does and how well (Saliba and Fisher 2000). Otherwise, the perceived sacrifice includes all the costs the buyer faces when making a purchase: purchase price, acquisition costs, exchange costs, and post purchase costs (Ravald and Grönroos 1996; Saliba and Fisher 2000). Moreover, in order to obtain products and services, consumers' sacrifices also include the domains of time, energy, effort, utility and risk (Zeithaml 1988, Hume and Mort 2008). Thus, the sacrifices comprise everything the client has to abdicate in order to obtain the offer benefits.

However, there is a complexity around the value concept because customers use to group their values into sets or classes (Gutman 1982). When customers talk about their product experiences, attributes are frequently mentioned, but these attributes are associated to use situations, benefits sought from those situations, and purposes for using the product (Woodruff et al. 1993). Thus, according to Woodruff (1997) "customer value is a customer's perceived preference for and evaluation of those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the customer's goals and purposes in user situations".

Thus, after purchasing and using a product, customers form desires or preferences for certain attributes based on their ability to facilitate achieving desired consequence experiences (Woodruff 1997). Gutman (1982) defines consequences as any result, physiological or psychological, desirable or undesirable, providing directly or indirectly to the

consumer (sooner or later) from his/her behaviour. The level of consequences involves value in use and possession value. Value in use concerns the utilitarian benefits of using a product in a situation for which it was designed while possession value concerns the sense of self-worth or pleasure a consumer feels from just having or owning a product (Woodruff et al. 1993).

According to Woodruff (1997) customers also learn to desire certain consequences according to their ability to help them achieve their goals and purposes. For this reason, as a whole customer value is a consumers' perception that a product attributes provide a benefit (s) needed to accomplish some desired purpose(s) in a particular use situation (Woodruff et al. 1993). So, if the use situation changes, the linkages between product attributes, consequences, and goals and purposes change as well (Woodruff 1997).

Additionally, the concept of customer value suggests a strong relationship to customer satisfaction due to both concepts describe evaluative judgments about product in the use situation (Woodruff 1997). According to Kotler and Levy (1969), the satisfaction depends on the value because the relationships between client and supplier should seek to cultivate a long-term relationship in order to develop loyal customers. Thus, a satisfied customer is supposed not to defect but to stay loyal to the company for a long period of time (Ravald and Grönroos 1996).

Moreover, according to Woodruff et al. (1993) value and satisfaction tend to be interwoven in consumers' thoughts about product experiences. Satisfaction is an immediate reaction to how much value was received from using a product in specific use situations (Woodruff et al. 1993). Thus, the satisfaction judgments are influenced by customer perceived value in both pre acquisition (desired value) and post acquisition (received value) situations. According to this relationship, the value and satisfaction concepts seem less complex: the perceived value is obtained by the benefits and sacrifices comparison, while overall satisfaction is given by psychological outcome of the buying and consumption process.

Need is also an important concept for its influence on customers satisfaction and product value. Needs refer to any attribute of a potential product, which is wanted or desired by the customer (Ulrich and Eppinger 2000, Shi et al. 2004). According to Ulrich and Eppinger (2000), a necessary condition for product success is that a product offer perceived benefits to the customer, and products only offer benefits when they satisfy needs. Thus, whether customers are not able to fully articulate their latent needs, interaction with them in the target market will help the development team build a personal understanding of the user's environment and point of view (Ulrich and Eppinger 2000).

Maslow (1943) proposed a hierarchy of human needs as the first theory of behaviour motivation, which is divided in five sets of needs or goals: physiological, safety, love, esteem, and self-actualization. These basic needs are organized in a pyramid form with the physiological needs as the base and self-actualization at the top. As the basic needs are met, higher needs emerge as primary motivators of behaviour. However, these needs should not be considered singular or exclusive because when a prepotent need dominates behaviour other needs may continue to influence the person, but certain needs emerge as primary motivating factors that underlie human behaviour.

Based on human needs theory and economic value Benedikt (2006) describes how architecture addresses human needs. In this model, the pyramid is composed by six needs: survival, security, legitimacy, approval, confidence, and freedom. According to Benedikt (2006) the need for survival has significant trumping power over all other needs. The first obligation of all habitable buildings is protecting the human being from the survival-related things such as sun and heat, rain, wind and cold, animals, insects, and projectiles. The second need represents having buildings for protection which means protection from trespass or seizure of person or property by others, and to want privacy.

Legitimacy is another need presented by Benedikt (2006). It expresses for instance social identity, authority, claim to property, and it distinguishes people's membership of different institutions. In order to be regarded as a person with social standing, it is necessary to have a physical address. The "better" the address the better, and the more permanent the address the better. The need for legitimacy shades into the need for approval just as soon as issues of official validation fall away. A building requires local citizen approval of its aesthetic, social, and economic impact on them. Buildings that are accepted and liked are more likely to be cared for and preserved, and they are apt to maintain their real-estate value.

Feeling enough approbation, confidence becomes the next most critical need. Architecture that is confident asserts its right to be where it is in the fullness of its presence, significance, materiality, and emptiness, along with nature and other buildings. Moreover, Benedikt (2006) points out that the feelings of confidence are influenced by designed environment and, for this reason these are issues which architects can address. Finally, freedom need is well founded on satisfaction of all the lower needs. Benedikt (2006) mentions that freedom requires space, real or abstract. He also stands out to architectural openness, pointing out its benefits of flexibility-of-use. Thus, the discussion about freedom and openness shows how important exclusion and privacy are to the realization of the freedoms offered by architecture (Benedikt 2006).

Therefore, there is a correspondence between the needs of Maslow (1943) and Benedikt (2006) models (Figure 1). The former is related to human beings (left side), representing the needs of each person. The latter is concerned with the environment where they are (right side).

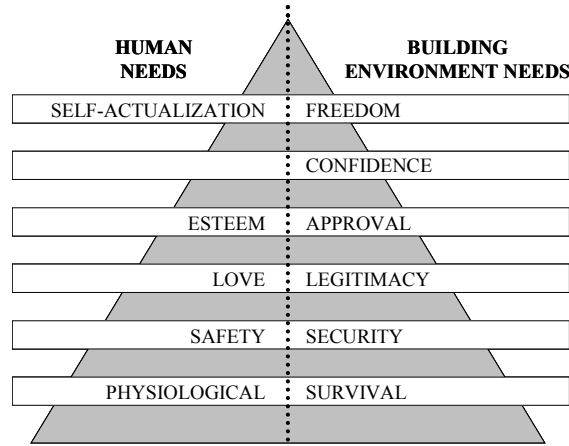


Figure 1: Relationship Between Maslow (1943) and Benedikt (2006) Models

RESEARCH METHOD

OVERVIEW

This paper is based on the analysis of secondary data from 14 low-income housing projects, which were evaluated in a previous research study in the State of Rio Grande do Sul. Multiple sources of evidence were used in those studies such as document analysis, profile of the dwellers, semi-structured interviews, and surveys with the dwellers. Nine of those projects were from the Residential Leasing Program (PAR) and were evaluated in five different towns in 2004 and 2005, and the other five from the City Entrance Integrated Program (PIEC), evaluated between 2006 and 2008 in the same town.

For each program a conceptual framework for evaluation was devised (Figures 2 and 3), which was used for planning data collection as well as connecting data from different sources of evidences. For instance, in the PIEC Program (Figure 3), satisfaction, retention rate, and importance were the constructs used to evaluate the PIEC product, which included not only

the dwelling units, but also communal areas, urban infrastructure, social work and participatory process.

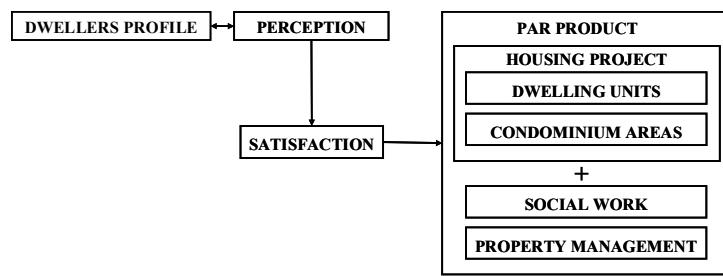


Figure 2: The PAR Program Conceptual Framework

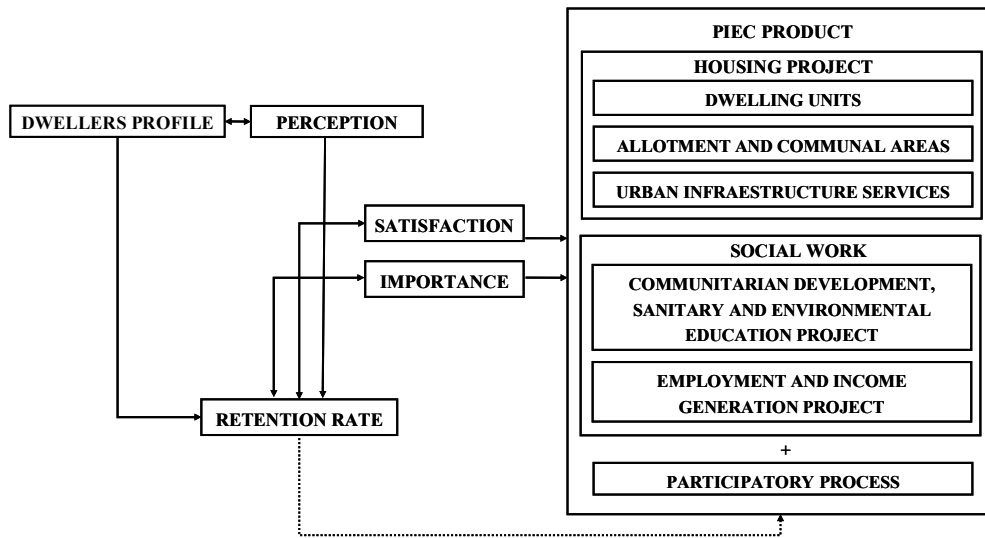


Figure 3: The PIEC Program Conceptual Framework

BRIEF DESCRIPTION OF TWO HOUSING PROGRAMS IN BRAZIL

PAR Program exists in Brazil since 2001 and is targeted to families with a total monthly income of two to six minimum wages. The program provides resources for the development of construction or refurbishment housing projects in metropolitan areas, state capitals and urban centres, with a population of, at least, 100,000 inhabitants. After the project conclusion, the dwelling units are delivered to leasers and only after 15 years leasing period they own the dwellings. During this period a property management company is responsible for the operation and maintenance management of the buildings. After the building occupation a social work is contracted to prepare the dwellers for the future life in condominium.

The PIEC Program started in 2002 in Porto Alegre and it is targeted to families with a total monthly income of zero to three minimum wages who lived precariously in 20 informal settlements. The PIEC is integrated by five projects: road infrastructure, environmental recovery, housing, social work and planning. It aims to benefit 3,775 families by improving the condition of inhabitation and moving these people away from risky environment such as near highways, overflowed areas and under high-voltage net. Besides, actions that support dwellers for employment alternatives, income improvement and community integration are taken into consideration by this program.

In PIEC program there are two typologies of houses: one floor (including special houses for handicapped people) and two floor houses. In PAR apartment buildings (4 to 14 floors) are predominant. Although the number of rooms in both programs is similar (two bedrooms,

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living room, kitchen, bathroom, and laundry) the number and area of dwelling units vary among them. The communal areas also vary among the projects and may include community lounge (CL), 24-hour security guards (SG), elevator (EL), playground (PG), parking spaces (PS), and sports court (SC). Urban equipment is offered only in PIEC, due to its broader scope: square (SQ), nursery (NU), community centre (CC), and commercial spaces (CS). Moreover, PIEC program provided paving of roads and sidewalks, and basic infrastructure such as water, electricity, sewage, and public lighting in all allotments.

RESULTS

DWELLERS PROFILE

Table 2 presents profiles of the dwellers of both housing programs, based on three categories of variables: schooling level and income generation by the heads of household, and household arrangements (number of household members and their relationships).

Table 2: Profile of the Dwellers

		PAR 1	PAR 2	PAR 3	PAR 4	PAR 5	PAR 6	PAR 7	PAR 8	PAR 9	PIEC 1	PIEC 2	PIEC 3	PIEC 4	PIEC 5
COLLECTION DATA		2004					2005					2006		2008	
VARIABLE		(%)													
SCHOOLING LEVEL	Illiterate person	-	-	-	-	-	-	-	-	-	-	1.79	4.41	6.90	6.10
	Incomplete primary school	-	4.35	9.52	-	4.00	-	2.78	6.06	-	71.42	55.36	55.88	62.1	80.30
	Complete primary school	6.25	-	14.29	9.52	16.00	13.04	12.50	9.09	14.29	5.71	26.79	20.58	6.90	4.50
	(In)Complete secondary school	50.00	65.22	47.62	52.38	60.00	65.25	70.84	66.67	42.85	22.85	14.29	19.11	24.10	9.10
	Incomplete higher education	31.25	17.39	14.29	14.29	12.00	8.70	11.11	9.09	35.71	-	-	-	-	-
	Complete higher education	12.50	13.04	14.29	23.81	8.00	13.04	2.77	9.09	7.14	-	-	-	-	-
INCOME GENERATION	Worker	81.25	91.30	95.24	95.24	92.31	86.96	94.59	96.97	85.71	71.42	57.13	63.24	63.80	75.00
	Unemployed person	6.25	-	-	-	-	4.35	-	-	-	11.43	7.14	14.71	12.10	1.50
	Person who does not work	6.25	8.13	4.76	-	3.85	4.35	5.41	3.03	-	11.43	21.42	10.24	19.00	17.60
	Retired person	6.25	-	-	4.76	3.85	4.35	-	-	14.29	2.86	14.28	7.35	5.20	5.90
HOUSEHOLD ARRANGEMENTS	Couple without children	19.25	18.75	25.00	23.08	24.00	21.74	37.84	21.21	7.14	8.57	12.50	7.35	13.10	11.80
	Couple with children	38.50	34.38	40.63	15.38	44.00	46.83	35.14	48.49	7.14	48.57	57.14	57.35	52.50	54.40
	Adult(s) with children	3.85	18.75	9.38	28.21	24.00	26.08	12.16	18.18	14.29	22.85	19.64	14.7	29.50	27.90
	Others	38.50	28.13	25.01	33.33	8.00	4.35	14.92	12.12	50.00	19.99	10.70	20.58	4.90	5.90
	Number of household members (average)	2.38	2.66	2.88	2.36	2.80	2.78	1.14	2.58	2.07	3.94	3.62	4.08	4.36	4.44

The profiles of the dwellers of PAR and PIEC programs allowed the understanding about the dwellers way of life. The schooling level of people from PAR projects was higher than the schooling level of those who live in PIEC projects. In PAR program, besides the most heads of household have concluded or not the secondary school level, there was a percentage of people interested to go to university while in PIEC program the most of them had not finished the primary school and were composed by a percentage of illiterate person. Related to income generation in both programs the heads of households were working at the interviews period. Those who were not working had another occupation as student or as housewife, or corresponded to retired and unemployed person. Moreover, the percentage of the unemployed was low or sometimes it was not presented in PAR program while in PIEC program most projects were around 10%. Finally, regarding the household arrangements, although “couple with children” was presented in a great number in both programs, it was not predominant because other arrangements were also presented in the buildings. For instance in PAR program, the “couple without children” was an arrangement with a considerable percentage. Moreover, the number of dwellers who were living in the dwelling units was higher in PIEC program with an average around 4 dwellers, the double of PAR program.

CLIENTS PERCEPTION

The table below presents a summary of the data collected in all projects regarding critical incident technique and level of satisfaction.

Table 3: Outcomes of Critical Incident Technique and Level of Satisfaction

	CRITICAL INCIDENT TECHNIQUE (qualitative data)		LEVEL OF SATISFACTION (quantitative data)	
	Best characteristics	Worst characteristics	High satisfaction level	Low satisfaction level
PAR PROJECTS (9)	1 ^o PROJECT (9) - location, good neighbors, security	PROJETC (9) - location, neighbors (condominium rules not fulfilled)	DWELLING UNITS (9) water and electric light systems, doors and windows installation, living room, bedrooms, bathroom, comfort condition (natural lighting)	DWELLING UNITS (7) - laundry rooms, quality of finishing materials, comfort condition (noise)
	2 ^o PAR PROGRAM (9) - easiness of own dwelling acquisition	SERVICE OF PROPERTY MANAGEMENT COMPANY (7)	PROJECT (7) - security	SERVICE OF PROPERTY MANAGEMENT COMPANY (5) - high cost of maintenance fee, bad service
	3 ^o DWELLING UNITS (9) - good design, CONDOMINIUM (8) - infrastructure	CONSTRUCTION PROBLEMS (9); DWELLING UNITS (7) - small laundry room; CONDOMINIUM (6) - open parking	CONDOMINIUM (7) - external appearance of condominium and stairway and corridors	CONDOMINIUM (4) - infrastructure
PIEC PROJECTS (5)	1 ^o ALLOTMENT (5) - neighbours, location, equipments	ALLOTMENT (5) - security, neighbours, equipments	INFRASTRUCTURE (5)	ALLOTMENT (5) - parking, security
	2 ^o INFRASTRUCTURE (5) - garbage collection/cleanliness, electricity/lighting, pavement	INFRASTRUCTURE (5) - garbage collection/cleanliness	SOCIAL WORK (5)	DWELLING UNITS (5) - kitchen, stairs, laundry room
	3 ^o DWELLING UNITS (5) - quality	DWELLING UNITS (5) - space, quality, taxes	PARTICIPATORY PROCESS (5) - meetings ALLOTMENT (5) - parking, security, and urban equipments DWELLING UNITS (5) - bedroom, bathroom	PARTICIPATORY PROCESS (3) - dwellers association, community center

PAR and PIEC programs were mentioned as good projects mainly due to their location, neighbours, infrastructure (of allotment and condominium) and also because the quality and good design of dwelling units. In the satisfaction evaluation, security was mentioned as satisfactory attribute in both programs. The location was mentioned because of the easy access to public transport, welfare services and shops. Regarding the dwelling units, bedroom and bathroom were the environments, which caused higher satisfaction in both programs. Specifically in PAR projects, the program was also mentioned as one of the best characteristics because it allowed the easy acquisition of own dwelling. Moreover, in PIEC projects, besides infrastructure, allotment, and dwelling units, the social work and the participatory process were also mentioned as satisfactory attributes. Infrastructure was the attribute that caused the higher satisfaction level due to the basic infrastructure presented in buildings such as garbage collection, electricity and public lighting, and paving of roads and sidewalks. However, some attributes mentioned as positive and satisfactory, were also pointed out as negative and unsatisfactory by dwellers, such as allotment and infrastructure in PIEC program and project and condominium in PAR Program, besides dwelling units pointed out in both of them. In both programs the laundry room was mentioned as an attribute of low satisfaction because its space, and allotment and condominium included complaints regarding parking. Furthermore, the bad service of the property management company, and construction problems were mentioned as negative characteristics of PAR projects. This company was remembered mainly due to the high cost of maintenance fee, which was seen in PIEC regarding taxes. Security was also mentioned as a negative attribute in PIEC program.

PERCEIVED VALUE

In order to understand the perceived value in low-income housing projects, a framework, which relates key concepts, such as human needs and housing needs, is proposed. The framework summarizes the main outcomes of PAR and PIEC programs.

In PIEC program the community beneficiated represented the lowest social class (base of pyramid) with the greatest housing needs in Brazil (90.7% of housing deficit). Before the PIEC implementation, the dwellings where people used to live had the only function of

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sheltering them from the bad weather. However, due to their poor quality and the absence of infrastructure the main need to be satisfied was survival. For this reason, in order to decrease the housing deficit and to offer adequate dwellings, PIEC program satisfied the survival need and allowed the access to security, legitimacy, and approval needs. In a different way, PAR program aimed to decrease the housing deficit of a small percent of population (5.5%) with a little better monthly income. The most of this people used to live in rented or parents' houses, where the survival and security needs were satisfied. However, the main purpose of them was to acquire their own house. Thus, after PAR implementation, these families satisfied the security need and had access to legitimacy and approval needs.

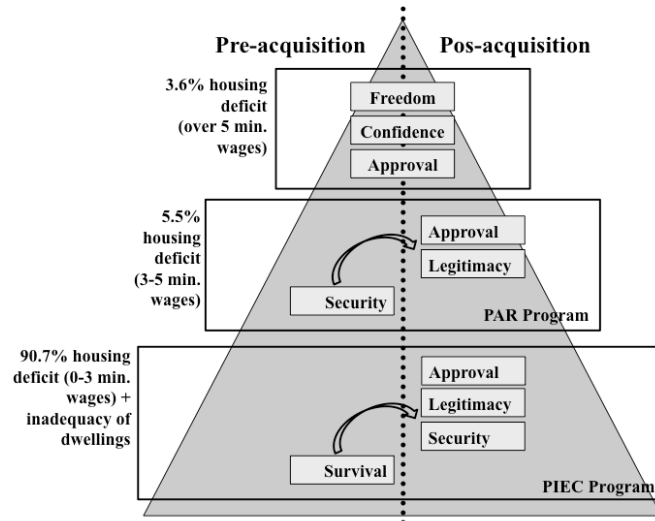


Figure 4: The Pyramid of Housing Needs and Human Needs

Therefore, dwellers of PIEC program had the survival need satisfied since they were benefited with more adequate buildings, and basic infrastructure services, which gave them the real sense of protection from bad weather. Moreover, the security need was fulfilled mainly due to the privacy gained with the design of new buildings while the legitimacy need was satisfied especially because the physical address, which according to Benedikt (2006) is a way to achieve social standing. For this people, a physical address was a great acquisition, because before the PIEC implementation, they did not have access to credit sales. However, though the PIEC Program intended to provide security for people, the design of two projects collaborates to enhance the allotment insecurity. Thus, the security need was not satisfied as a whole in these projects. Moreover, these people were benefited with other benefits, such as means of work and income generation, which satisfy the physiological need. According to Maslow (1943), this need is the most preponderant of all needs, and, if all needs are unsatisfied, and the organism is dominated by the physiological ones, all other needs become simply non-existent or are pushed into the background.

Regarding PAR buildings, the dwellers satisfied the security and legitimacy needs. The security need was supplied mainly by fenced condominium, 24-hour security guards and also because of the privacy obtained with the new house acquisition. People were free of renting and living with parents. Moreover, after PAR implementation people have access to their own property and a new social identity, feelings related to legitimacy need. However, the approval need was not specifically identified in this study because the neighbours' perception about their projects' approval was not evaluated and, for this reason, there are not sufficient evidences to support this analysis. But it was included in the framework because both PAR and PIEC programs had the intention to afford a building integrated to surroundings. The designers were worried with aesthetic, social, and economic impact on them. Moreover, in the top of pyramid there are families who earn over 5 minimum wages. For this people, other

needs proposed by Benedikt (2006) were inserted. Thus, maybe as income increases, new needs must be met.

In order to understand the perceived value regarding the programs, another framework that relates perceived benefits and sacrifices concepts, is proposed.

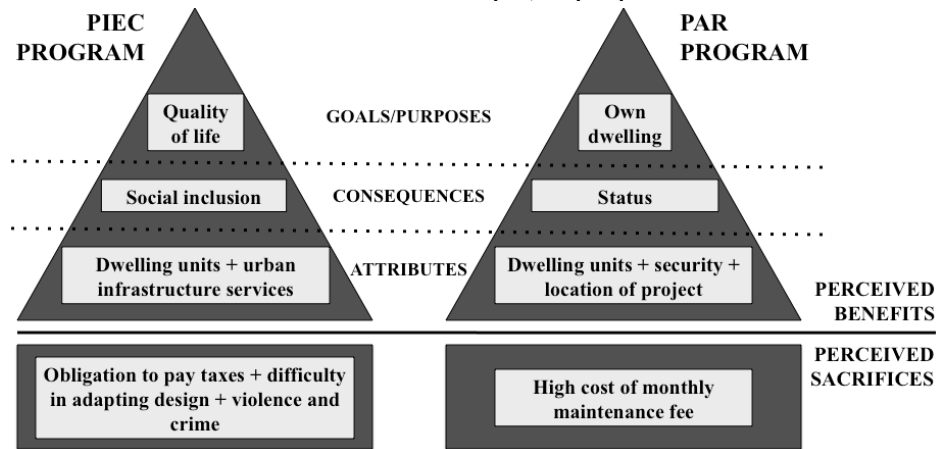


Figure 5: Perceived Value In Both Programs

The framework above presents the perceived benefits and sacrifices of PAR and PIEC dwellers. Regarding sacrifices in the PAR program the high cost of monthly maintenance fee was pointed out. However, in the PIEC program, besides the obligation to pay taxes, the difficulty in adapting design and violence and crime were also mentioned by the dwellers. The dwellers had to change their habits in PIEC dwelling units influenced by smaller space and different layout than previous housing, since in informal settlements most of them used to live in larger terraced houses with yard. Moreover, the new houses do not have an adequate space to let the horses they use to pull the carts, the way of income generation of several of them. For this reason, some dwellers have left the PIEC projects. Moreover, in some PIEC projects the accessibility planned by architects allowed the drugs traffic inside the project. For this reason, dwellers complain about the constant presence of police and trafficker, which causes insecurity in their daily life. According to them, the number of crime and violence has increased in some new housing.

The benefits were divided in three levels according to value hierarchy proposed by Woodruff (1997). At the base of the hierarchy, customers learn to think about product as bundles or specific attributes and attribute performances (Woodruff 1997). In the second level of the hierarchy, the product consequences represent a customer desire broader than customer attributes based on value in use and value possession. Gutman (1982) describes desirable consequences as benefits, which differ from attributes in that people receive benefits whereas products have attributes. Finally the highest level is related to goals and purposes. According to Woodruff (1997) customers also learn to desire certain consequences according to their ability to help them achieve their goals and purposes.

The main attributes represent the physical characteristics of the housing product. The main attributes of PAR program are dwelling units and condominium areas, while in PIEC program the attributes are dwelling units, allotment, and urban infrastructure services.

Considering the delivery and the use of the housing products, it is possible to identify the consequences desired by the dwellers involving the value in use and the possession value. Both consequences can be found in this study. In PAR Program, the level of consequence involves possession value because it is related to the status gained by the property acquisition. According to Saliba and Fisher (2000), possession value represents a meaning of status, image, prestige, exclusiveness, and respect brought by the product acquiring. However, in

PIEC program the consequence level is related to value in use. In this case, the social inclusion is a consequence of basic infrastructure services and adequate dwellings proposed by the program. Before the PIEC implementation, people did not have access to this kind of infrastructure nor a physical address.

Moreover, PIEC and PAR programs have different goals and purposes. In PIEC program, the main goal is improving the quality of life while in PAR program is to allow acquisition of own property. So, customer value can be described as a consumers' perception that a product attributes provide a benefit (s) needed to accomplish some desired purpose (s) in a particular use situation (Woodruff et al. 1993). Thus, if the use situation changes, the linkages between product attributes, consequences, and goals and purposes change as well (Woodruff 1997).

Therefore, the dwellers perceived value of PIEC Program is represented by the trade-off between the benefits of the dwelling units and the urban infrastructure services in comparison to the perceived sacrifices. The result of this trade-off is the social inclusion and the improvement of quality of life. Complementarily, the dwellers perceived value of PAR Program is represented by the trade-off between the benefits of the dwelling units, security and location of project against the perceived sacrifices. The result of this trade-off is the social status and the possibility of acquisition of own property.

CONCLUSIONS

The study for both forms of housing provision indicated that there is much potential for the understanding about perceived value and other related concepts in this context based on the evaluation of dwellers profile and their perception regarding projects. Both programs were designed for different demands, based on different goals and purposes, which influences the way the programs are planned. Thus, in order to add value, firstly it is important to collect data on dwellers profile (e.g. instance schooling level, income generation, and household arrangements). This information provides an understanding on their basic needs and may support the ways their needs will be attempted. For instance, currently, although the classic household arrangement "couple with children" is changing (as shown in Table 2), the housing units are still being designed considering this group type. So, there is a need to develop more adequate social housing according to different kinds of demand.

Moreover, considering the relationship between value and satisfaction, the satisfaction judgments are influenced by the perceived value of final clients before the housing acquisition (desired value) and after that (received value). Therefore, the goals, consequences and attributes are constructs which influencing the perceived value gained by the comparison between the perceived benefits and sacrifices, while the global satisfaction is a psychological outcome of the process of housing use and occupancy.

Thus, in housing provision there are concepts that need to be considered jointly. Besides the **housing needs** of the country, it is necessary to collect information about the **human needs** of the people in order to support the conception of housing program. Based on this information insights about the **desired value** of dwellers may arise, and the **goals and purposes** of programs can be planned. Thus, for instance, in the PIEC program, people needed improve their quality of life through better housing condition, and satisfying their basic human need of survival. Moreover, to access the **received value** through the **satisfaction** evaluation is important to understand the real **perceived value** of the dwellers. In this stage of housing use, the **perceived benefits** and **sacrifices** can be easily met. For instance, in PAR program, the goal of acquiring the own dwelling and the consequence of status are inferred from this analysis. Furthermore, the evaluation along the housing use is important to gain information that can support the development in forthcoming projects. For instance the security in PIEC program was negatively affected in some projects because some decisions took in design.

REFERENCES

- Barlow, J. and Ozaki, R. (2003) "Achieving 'customer focus' in private house building: current practice and lessons from other industries". *Housing Studies*, 18 (1), 87-101.
- Benedikt, M. (2006) "Notes in supplement to 'Human Needs and Economic Value in Architecture', a lecture delivered at the UNICAMP Workshop on Social Housing, Campinas, Brazil, August 8, 2008; excerpted with footnotes omitted from Revaluing Architecture, being the Coda of A General Theory of Value (2006, unpublished)."
- Griffin, A., Hauser, J.R. (1996) "Integrating R&D and marketing: a review and analysis of the literature." *Journal of Production Innovation Management*, 13 (3), p.191-215.
- Gutman, J. (1982) "A means-end chain model based on consumer categorization processes." *Journal of Marketing*, 46 (2), 60-72.
- Hume, M. and Mort, G.S. (2008) "Satisfaction in performing arts: the role of value?" *European Journal of Marketing*, 42 (3/4), 311-326.
- Khalifa, A.S. (2004) "Customer value: a review of recent literature and an integrative configuration." *Management Decision*, 42 (5), 645-666.
- Keivani, R. and Werna, E. (2001). "Refocusing the housing debate in developing countries from a pluralist perspective." *Habitat International*, 25, 191-208.
- Koskela, L. (2000) "*An exploration towards a production theory and its application to construction.*" 296 f. Thesis. (Doctor of Technology). Technical Research Centre of Finland - VTT. Helsinki.
- Kotler, P. and Levy, S.J. (1969) "A new form of marketing myopia: rejoinder to Professor Luck." *Journal of Marketing*, 33, 55-57.
- Maslow, A.H. (1943) "A Theory of human motivation." *Psychological Review*, 50, 370-396.
- Ministério das Cidades. (2008). "*Déficit habitacional no Brasil 2006 (Housing deficit in Brazil 2006).*" Ministério das Cidades. Brasília, Brazil, 2008, 98 pp. (in Portuguese)
- Monroe, K.B. (1990) "*Pricing: making profitable decisions.*" N. York: McGraw-Hill, 502 p.
- Ravald, A., Grönroos, C. (1996) "The Value Concept and Relationship Marketing." *European Journal of Marketing*, 30 (2), 19-32.
- Saliba, M., Fisher, C. (2000) "Managing Customer Value: a framework allows organisations to achieve and sustain competitive advantage." *Quality Progress*, 33 (6), 63-69.
- Shi, X., Holahan, P.J., and Jurkat, M.P. (2004) "Satisfaction formation processes in library users: understanding multisource effects." *The Journal of Academic Librarianship*, 30 (2), 122-131.
- Ulrich, K.T., Eppinger, S.D. (2000) "*Product Design and Development.*" 2nd ed. New York: McGraw-Hill, 289p.
- Woodruff, R.B., Schumann, D.W., and Gardial, S.F. (1993) "Understanding value and satisfaction from the customer's point of view." *Survey of Business*, 29 (1), 33-40.
- Woodruff, R.B. (1997) "Customer value: the next source of competitive advantage." *Journal of the Academy of Marketing Science*, 25 (2), 139-153.
- Zeithaml, V.A. (1988) "Consumer Perceptions of Price, Quality, and Value: a means-end model and synthesis of evidence." *Journal of Marketing*, 52, 2-22.

