

Residential choice in different countries: Maslow, evolution of human brain and culture

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Abstract— Construction industry has some unique features (fragmentation, for instance) that make applying marketing difficult. However, increasing competition in construction industry compels companies to change their views toward customers' expectations and to adopt new customer friendly marketing strategies. Effective marketing is beneficial for construction companies. Customer centered strategy becomes even more important in multicultural environment. Because of migration, it is difficult to find a place without migrants in the world, and all big cities became multicultural metropolises. So, almost every company should consider itself acting on multicultural market. Multiculturalism leads to the new segment of housing market. Every company interested in capitalizing on this new lucrative market should recognize customers' cultural needs and develop the new marketing strategy accordingly. Moreover, the fact, that ignoring humanistic factors in build environment has psychopathological consequence called "uprootedness", carries this problem up to the level of government. Maslow's hierarchy of needs is useful for customers' segments definition and segmental marketing strategy development. Layers of the Hierarchy correspondent to the parts of Maclean's Triune Brain and represent human evolution periods. Based on Author's previous research, this work attempts to investigate the effects of Maslow's hierarchy of needs on housing preferences and on intercultural marketing strategy. The current work would be interesting for professionals and academics in the field of construction management and building studies.

Keywords—Construction, Culture, Housing preferences, Intercultural Marketing, Maslow.

I. BACKGROUND

PEOPLE always shaped environment around since the time of early civilization when the first simple buildings were erected from mud. Building structures became the setting for conducting everyday routines and chores, places where people spent their entire lives. Every civilization had its own way of building structures to meet all needs of the group, including cultural, ritual and other needs. Building structures allow scientists to learn a lot about traditions, culture and life of inhabitants.

The official authority to shape the environment nowadays is given to the professional architects. They have the license to organize the form and structure of buildings that enable the carrying out certain functions according to needs of the occupants. So, the performance of built environment depends

on the ability of the architects to make appropriate decisions regarding the needs of the end users. Architectural scientists in 80th made the first attempts of research on relation of human motivation factors to housing design but their several studies remained clearly insufficient. For example, Norberg-Schulz (1985) stressed inability of current houses to fully satisfy the needs of residents particularly in terms of figural quality and spatial images [9]. Bachelard (1994) mentioned a lack of meaningful forms in modern houses [1]. According to Rapoport (2000), culture is determinant of a user's housing preferences and choices [13]. Oliver (2006) either highlighted necessity of vernacular architecture that implicates local culture on housing design [9]. Slight increase in number of studies in this area in last few years shows growing awareness in architectural community of importance of implication humans motivation factors in housing design. Jusan (2010) considered person-environment congruence (PEC) central in creating a sense of home [5]. Zavei & Jusan investigated consequences of ignoring human motivational factors in housing provision and advised using Maslow's hierarchy of needs in housing design process. The authors blamed modern life styles and related social facts for critical psychopathological consequence called "uprootedness" in result of the lack of attention to human motivations in the housing provision process. According to Zavei & Jusan (2012), house has become an economic product, and consideration of humanistic aspects of a living environment has gradually decreased [14]. The reasons and consequences of ignoring these factors in build environment design are shown below (Fig.1).

As behavior and motivation are inter-related concepts, famous Maslow's hierarchy of needs is very helpful in interpreting people's and, particularly, homebuyers' behavior.

Maslow (1970) considered culture as a reflection of a person's motivations in response to the effects of external agents imposed from natural and built environment [8] (Fig. 2). According to Maslow (1970), there are five levels of cognitive needs, including physiological, safety, belongingness - love, esteem needs, and the need for self-actualization. Gratifying these basic needs in equal measure leads to formation a perfect and healthy man, thwarting the response to these needs leads to psychopathological results. Maslow (1970) considered these basic needs as the origins of every humanistic issue [8]. As soon as a certain needs are gratified people will aspire to go up to upper level of cognitive needs. Zavei & Jusan (2012) argued

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that understanding these basic needs is also vital in the context of providing housing [14]. Several studies investigated link between Maslow's hierarchy of needs and built environment. Israel (2003) used "Sociogram exercise" technique based on Maslow's hierarchy of needs for drawing a map of a user's childhood living spaces for identification of the character of a place from the users' environmental roots and imagination [4]. However, the technique hardly may be applicable if the end users are not known such as in mass housing projects. McCray and Day (1977) suggested that user's satisfaction in a house depends on economic or social status, which are higher psychological expectations but urban public housing units can only provide for the physiological needs of the residents [6].

Banham (2007) and Oliver (2006a) suggested classification of residential spaces into three levels namely shelter, house, and home; and a home is much more than a physical structure, it represents deep social structures [2] [11]. Bachelord (1994) argued that personal factors such as intimacy, daydreams, imagination, and memories affect the establishment of a home [1].

Indeed, while shelter provides just place for sleep and eat, house, as a place for life spending additionally has to provide safety and functionality for routine chores. Home, as a symbol of owner's success, represents owner's ID and social status. So, these levels of residential space correspond to levels of Maslow's pyramid structure which can be simplified to three levels as physiological needs, safety and belonging needs and esteem and self-actualization needs. Shelter-House-Home line and levels of needs recall line of human evolutionary development. Cultural genesis and human brain evolution have clearly visible critical points. In these points of evolution human brain gained extra volume allowing humans to develop critical characteristics like ability for childcare or for analytical thinking. Though, three levels of human brain's evolutionary development were suggested by neuroscientist McLean in his Triune Brain Theory. Triune Brain concept represents brain's hierarchical organization from the evolutionary point of view. According to the Theory, there are Protoreptilian, paleomammalian, neomammalian formations in our brain, so, our brain consists of three parts, oldest is R-complex, second is Emotional brain and the youngest is Neo-cortex. "The human psych encephalon has evolved and expanded to its great size while retaining the features of three basic evolutionary formations that reflect an ancestral relationship to reptiles, early mammals, and recent mammals. Radically different in structure and chemistry, and in evolutionary sense countless generations apart, the three formations constitute a hierarchy of three brains in one – a triune brain" [7].

Reptilian brain or R-complex is made up mostly of the upper brain stem; and involved in instinctive and reflexive behaviors. Wrapped around this core Emotional brain consist of Limbic system structures and is responsible for emotion and motivation. It is involved mostly in parent-child emotional bond and prolonged care of youth. Neo-cortex, the outer part of the brain, is responsible for mental functions such as

rational thinking, analysis, language, learning and consciousness.

It would be interesting to relate three biological formations in human's brain, which are evolutionary periods representatives according to McLean's Triune Brain Theory, to layers of needs in Maslow's pyramid and types of residential space. Indeed, humans had different needs at different periods of evolution. For example, Homo Habilis hardly had a need for a big safe cave, basic shelter was everything he needed; similarly, Homo Erectus didn't need a creative decorated home but a safe big cave was all he needed for accommodation of all members of the tribe (family). Just Homo Sapience has a need for home decoration and self-expression, Homo Erectus and Homo Habilis didn't have a brain part evolved enough to be able to do it. Table 1 shows correspondence of Maslow's pyramid structure to biological formations in human's brain, which are evolutionary periods representatives, and to levels of residential space.

II. PROBLEM FORMULATION

The question raised is: if culture is the main determinant of people's housing preferences is it possible to identify a different housing preferences structure based on Maslow's pyramid for different cultural groups, for example, Czech, Turkish and Russian? It will be helpful in identifying operable definitions in architectural design and marketing strategy. Ozdemir (2013) used technique similar to one used by Israel (2003) for identifying housing preferences in Czech Republic, Turkey and Russia. Similarly she used homeowners' childhood memories picked up during in-depth interviews for identification of preferred characteristics of residential space for certain groups of respondents. As a result, she found core category with three subcategories of preferred characteristics for each group; these were Nature (Wood, Garden, Yellow) for Czech group, Cleanliness (Big House, Light-Well/White, Simple Furniture) for Turkish and Heat (Small House, Oven, Warm Colors) for Russian groups [12]. The author of this research is attempting to expand upon previous studies based on user-values - housing attribute relationship, into investigating the effects of Maslow's hierarchy of needs on customers' residential space attribute preferences and on intercultural marketing strategy for housing market.

III. PROBLEM SOLUTION

Table 2 shows levels of residential space with examples for three countries, related to market segments.

Three levels of residential space are useful for product segmentation strategy on housing market; moreover, it is already widely used by marketing specialists. Usually housing products are divided to standard and luxury categories that allow identifying consumer segments with different income levels and thus, preferences. The categories may differ across

countries; for example, in Russia because of large stock of Soviet era poor quality block mass housing most of which may be considered as Shelter, there are different renovation styles for converting it into various categories of housing. Elite renovation housing is included to luxury category that may be considered as Home, Western-style and cosmetic renovation housing may be referred to House level, and rest of standard old mass housing with poor quality and functionality may be attributed to Shelter.

Czech housing stock also includes Panelaks block mass housing as Soviet era heritage, small housing consisting of just one room without any bathroom and/or kitchen is quite common and clearly may be classified as Shelter.

Shelter level of housing may be hardly found in Turkey, with exception of social housing such as homeless shelters and dormitories. The reason lays in historical Government policy and Housing Law. Historically, there was insufficiency of large-scale housing projects in Turkey. A key element in mass housing development, Mass Housing Law with Housing Development Fund, was effective just about a decade since its first adaptation in 1981 and till major economic and political challenges in 1993. Small constructors were more customers oriented with individual small-scale projects that allowed maintaining of traditional housing style. So, housing in Turkey may be divided into two categories, Standard and Luxury.

Relating Maslow's statement to housing market, as soon as needs for Shelter are gratified home users will aspire to go up to House level of cognitive needs and after it to the highest level of needs, that is Home. Thus, every level of residential space includes all lower levels as well. So, rich Russian customer beside of under floor heating system will still look for small rooms and well-insulated plastic windows in opposite to Czech who will still prefer wooden windows with plenty of fresh air and Turkish who will still look for white tiles and spacious rooms.

As it was mentioned above, Maslow's hierarchy of needs is useful for customers' segments definition and segmental marketing strategy development. Marketing strategy includes whole marketing mix or 4P: Product, Price, Place, and Promotion. Housing market has some unique features like average price for square meter of housing, which is among main economic indicators of certain region with exception for luxury housing. In Turkey, luxury housing differs from standard by location, size and materials used. Also prices are relatively low, Turkish housing is relatively big, the smallest one consists at least of two rooms. Luxury housing in Prague differs also mainly by location as the cheapest Panelaks are situated in certain areas, mainly in outskirts of the city, like Prague 21. In Russia average prices for new housing are about 13% lower than for secondary, it is because of new housing is being sold without any or with minimum finishing, so it means, the buyer will also pay for design and reconstruction.

Place/Distribution strategies tend to be exclusive through one

real estate agency or even directly from owner to customer. Customers look for housing at the certain area, often quite small, so they prefer to contact local agents or direct owners who are able to give all specific details and have an access to the housing. It is common for Russian real estate agencies to have selling contracts, signed by house owners, with a requirement of exclusivity.

Promotion of housing product by itself in most cases consists of advertising as it is being distributed through exclusive real estate agent that is already well known in target area; other elements of Promotion Mix refer to the agent, not to the housing product. Advertisements in most cases are placed in Internet; new developments are often advertised at the street banners and on TV. Dwelling (Shelter) level housing product already has an advantage of lower price, so advertising is not as important as for House and Home level products. Working creative promotion advertising strategy must have well memorable short point; it may be a logo or catchy, snappy short tagline that grabs the customer's attention and makes her or him to read or listen more in order to get the joke. It should appeal to exact target audience considering its needs and expectations. Here, there is a wide space for application of Maslow's pyramid and cultural categories found in previous studies and related to it. Core categories are useful for short catchy taglines and logos. Categories may be useful for further scene development. It is important to appeal to right customers segment, for example, while Dwelling level customers segment consists mostly of young singles, that like humor and trendiness, House and Home segment customers value more sophisticated humor and quality and they will hardly be impressed by simple advertisements for youths. While House level product advertisement should either point practice and convenience in use of rooms and appliances, Home advertisements emphasizing high quality should show an image created by product in others' minds. The main images created by advertisement in customers' minds should be Freedom and Adventure for Shelter, Family and Friends for House and Symbol of Luxury and Success for Home levels.

IV. CONCLUSION

As it is seen from the examples above, Maslow's hierarchy of needs with culture in its basis may be useful for improving marketing strategy and thus sales for different segments of market. Examples for housing market clearly show differences in perception of ideal housing and expectations of different segments of customers in different cultures. Also upper level of needs includes lower levels; segments of customers with different needs within one culture differ significantly by price and place of distribution. Product and promotion for different segments have common attributes but different expectations within one culture, applying this knowledge, however, will result in optimal product and advertisement development with lower costs and possibility to sell with the highest possible for the segment price. Knowledge of cultural categories and needs of different segments in different cultures is beneficial for international companies that are common in multicultural EU.

Often constructors spend money for unnecessary from cultural needs and expectations point of view elements in the house, that increases costs and decreases profits. For example, one Turkish luxury-housing constructor used expensive solid wood floor in their luxury apartments in Istanbul. However, wooden floor is an attribute, important for Czech customers, and is not a decisive factor for Turkish. Cheaper tile floor was going to have even more positive effect on Turkish customers as it shows the place more spacious and clean (Pic 1).



Picture 1: Different floors embedded in the same design (www.sahibinden.com, 2014)

The constructor could save about 1000 Euros if the floor in this single room was tiled. Total saving for each 4 rooms apartment was going to be at least 2500 Euros and 120.000 Euros for a building of 50 apartments.

Decreasing costs and increasing profits is one of the main purposes of company management and marketing. Using Maslow's hierarchy of needs and related cultural categories in Marketing Mix allows developing successful and competitive advantage gaining marketing strategy for company in intercultural market.

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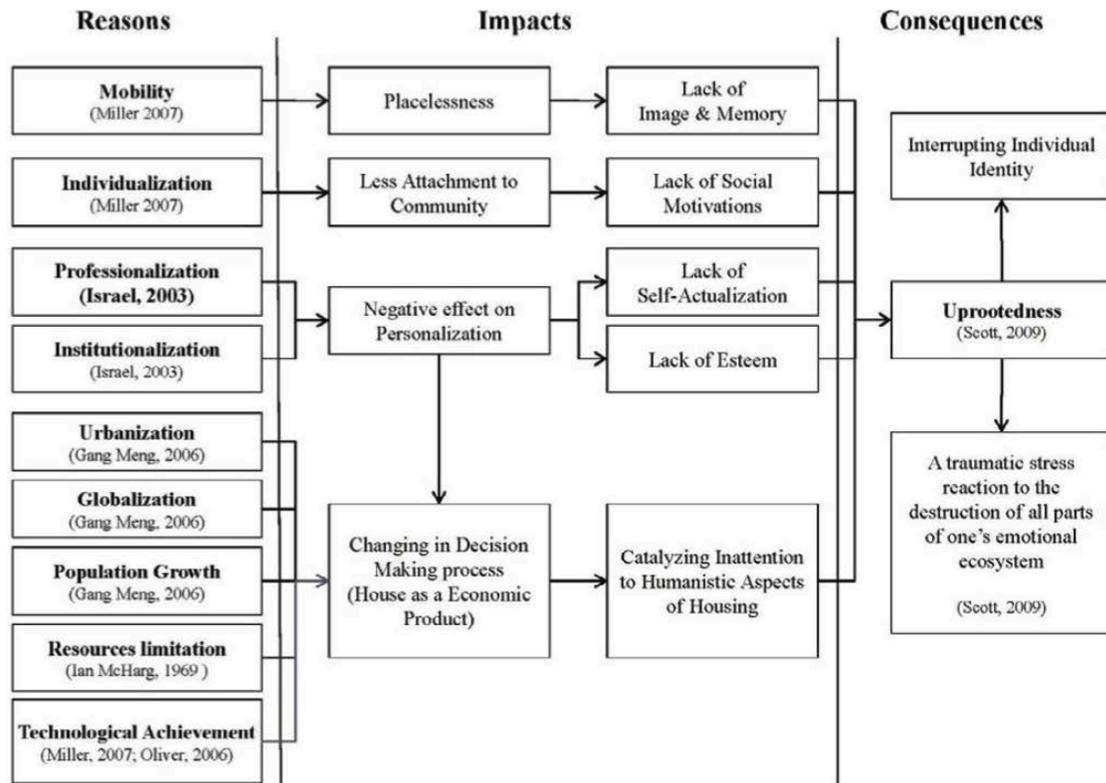


Fig. 1. Origins of inattention to human motivational factors and its consequences (ZAVEI & JUSAN, 2012)

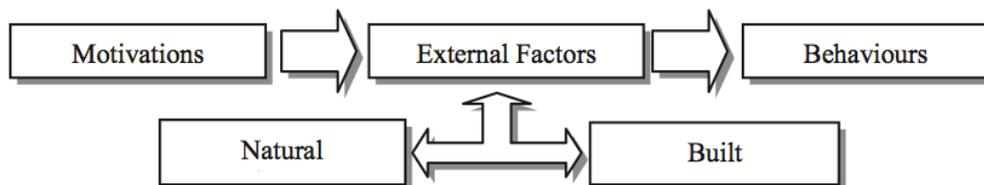
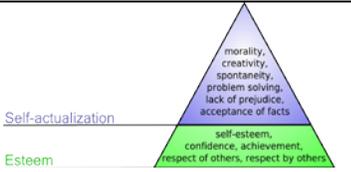


Fig. 2. Motivation-behavior transition (MASLOW, 1970)

Table 1: Model Maslow-McLean in housing

Levels of cognitive needs	Parts of Brain with period of evolving	Levels of residential space	Market segment
 <p>Self-actualization</p> <p>Esteem</p>	<p>Neo-cortex</p> <p>Thinking, analysis, learning</p> <p>400.000 years ago</p> <p>Homo Sapience</p>	<p>Home:</p> <p>Symbol of success</p> <p>Abstract ID (Luxury, Elite renovation)</p>	<p>High income families and singles</p> <p>(~20% of population)</p>
 <p>Love/Belonging</p> <p>Safety</p>	<p>Emotional Brain (Limbic system)</p> <p>Emotion and motivation; child care</p> <p>1.9 million years ago</p> <p>Homo Erectus</p>	<p>House:</p> <p>Comfort, practice</p> <p>Family wellbeing (Western-style, Cosmetic renovation)</p>	<p>Low and middle income families</p> <p>(~60% of population)</p>
 <p>Physiological</p>	<p>R-complex (upper brain stern)</p> <p>Reflects and instincts; survival</p> <p>2.4 million years ago</p> <p>Homo Habilis</p>	<p>Dwelling (Shelter):</p> <p>Survival necessity (Studio, Standard)</p>	<p>Homeless, lowest income families and singles</p> <p>(~20% of population)</p>

Source: Author's elaboration (2013)

Table 2: Levels of residential space (Author elaboration, 2014).

	Levels of cognitive needs	Levels of residential space	Czech Republic (Nature)	Turkey (Cleanliness)	Russia (Heat)	Market segment
1	<p>Self-actualization</p> <p>Esteem</p>	<p>Home:</p> <p>Symbol of success</p> <p>Abstract ID (Luxury, Elite renovation)</p>	<p>“Forest house”, full natural view, glass walls</p>	<p>Creative abstract image of cleanliness, special lighting system, huge house with plenty of spacious rooms</p>	<p>Under floor heating system, sauna, fireplace, feather carpets</p>	<p>High income families and singles (~20% of population)</p>
2	<p>Love/Belonging</p> <p>Safety</p>	<p>House:</p> <p>Comfort, practice</p> <p>Family wellbeing (Western-style, Cosmetic renovation)</p>	<p>Private house, garden, big windows, fireplace</p>	<p>Spacious rooms, easy cleaning, few furniture, light-well, big windows, convenient plumbing</p>	<p>Hot water system, carpets, plastic windows</p>	<p>Low and middle income families (~60% of population)</p>
3	<p>Physiological</p>	<p>Dwelling (Shelter):</p> <p>Survival necessity (Studio, Standard)</p>	<p>Fresh air, wood, trees</p>	<p>Tiles, white, running water, sewage</p>	<p>Heat insulation, small room, source of heat</p>	<p>Homeless, lowest income families and singles (~20% of population)</p>

Source: Author's elaboration (2013)