THE ALMERE MONITOR, AN EVALUATION OF 19 CONSUMER ORIENTED HOUSING PROJECTS IN THE NETHERLANDS

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ABSTRACT

In The Netherlands, housing changes from a supply towards a demand market. This will have serious implications on the building industry. This is analyzed in a multiple case study, conducted at 19 mass- customized projects in the Dutch town of Almere.

It is a thirty-year-old new town, built on reclaimed ground and is still under construction. Since all land was initially state owned and municipality controlled, it offered the opportunity for many experiments in urban planning, social housing and management. In 2001 the 'Eilandenwijk' scheme was completed, consisting of 450 units, subdivided over 15 developers/ builders. The main constraint was that no two units should be the same and that all units should be customer- determined.

The OBOM Research Group was commissioned by SBR (Foundation for Building Research) to evaluate the potential conflicts and gains between highly efficient building processes, influenced by consumer demands. The evaluation aims to visualize the lead times of separate, yet connected decisions with regard to building parts and building part groups of the 15 projects mentioned. The evaluation should result in a benchmark for future mass customized housing projects.

The preliminary results are due to be published in October 2002.

KEY WORDS

Consumer oriented housing, mass-customization, lead-time.

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INTRODUCTION

In The Netherlands, the customer becomes an influential party within the building process. Developers/ builders, who see their role changing, do not always appreciate this. The housing shortage has come to an end and the supply market is gradually changing into a demand market. In Almere, a Dutch town, still under development, an experiment took place named 'Gewild Wonen'. This translates as 'desired living' and, playing with words, it also refers to 'wild living', dwelling as an act of mild anarchy at most and at least subject of free choice. 'Wonen' refers to the aim of the building process, being 'living'.

Profitable industries, such as the building industry, are static by nature. Every change disrupts the daily routine and therefore raises costs, reducing profit. If business is profitable, there is no need for innovation and in the case of a recession, there is no budget for innovation.

In comparison with manufacturing industries, the building industry is fragmented and by hiring more or less subcontractors and /or equipment, it can easily expand and contract. The contractor's horizon is limited to the next job.

Nevertheless, the changing market forces will have their impact on the building industry. Generous supply of houses and a consumer with spending power are likely to change the balance of powers.

This paper reports on a study about the customer as a new guiding force in the building industry.

This study is based on the hypothesis that a builder who serves the client, can compete best, thus improving his prospect. The development of the Almere suburb offered the opportunity to compare and evaluate nineteen housing projects that were built within the same time frame and conditions. The study aims at identifying pros and cons of consumer oriented building and at developing guidelines for builders who want to survive in a demand market. The study proposes to draw lead-time graphs to visualize the degree of customer influence on, and interference with the building process. This is done by mapping different lead times for different decisions.

The growing consumer influence will direct the building process. How can professional building partners, including the contractors and developers, determine the level of consumer influence? If this can be achieved, there is a means to anticipate on, and improving consumer influence, satisfying the consumer, thus improving their own position in the building process.

CONSUMER ORIENTED HOUSING IN ALMERE

Almere is one of the Dutch towns built on reclaimed land, within commuting distance of Amsterdam.

Since all reclaimed land is municipality owned, Almere has the potential for consistent town planning, contrary to old towns with a high degree of private land ownership. In most of the cities in the Netherlands, developers have assured themselves of political influence, by selectively buying property. Almere prides itself in by being a experimental environment in housing and planning. In 2001 a new lay out of 450 dwellings was completed. It consists of nineteen projects, varying in size from seven to seventy units. As part of the experiment, it was demanded that all units had to be different. In addition, there was complete freedom in where to position the dwelling on

the individual block of land. This is quite uncommon in the Netherlands, where town planning usually prescribes strict building lines.

The results were presented in a two-week building exposition, with commercial exhibitions and a generous amount of Almere promotion. All projects had at least two units open for inspection as exhibition homes.

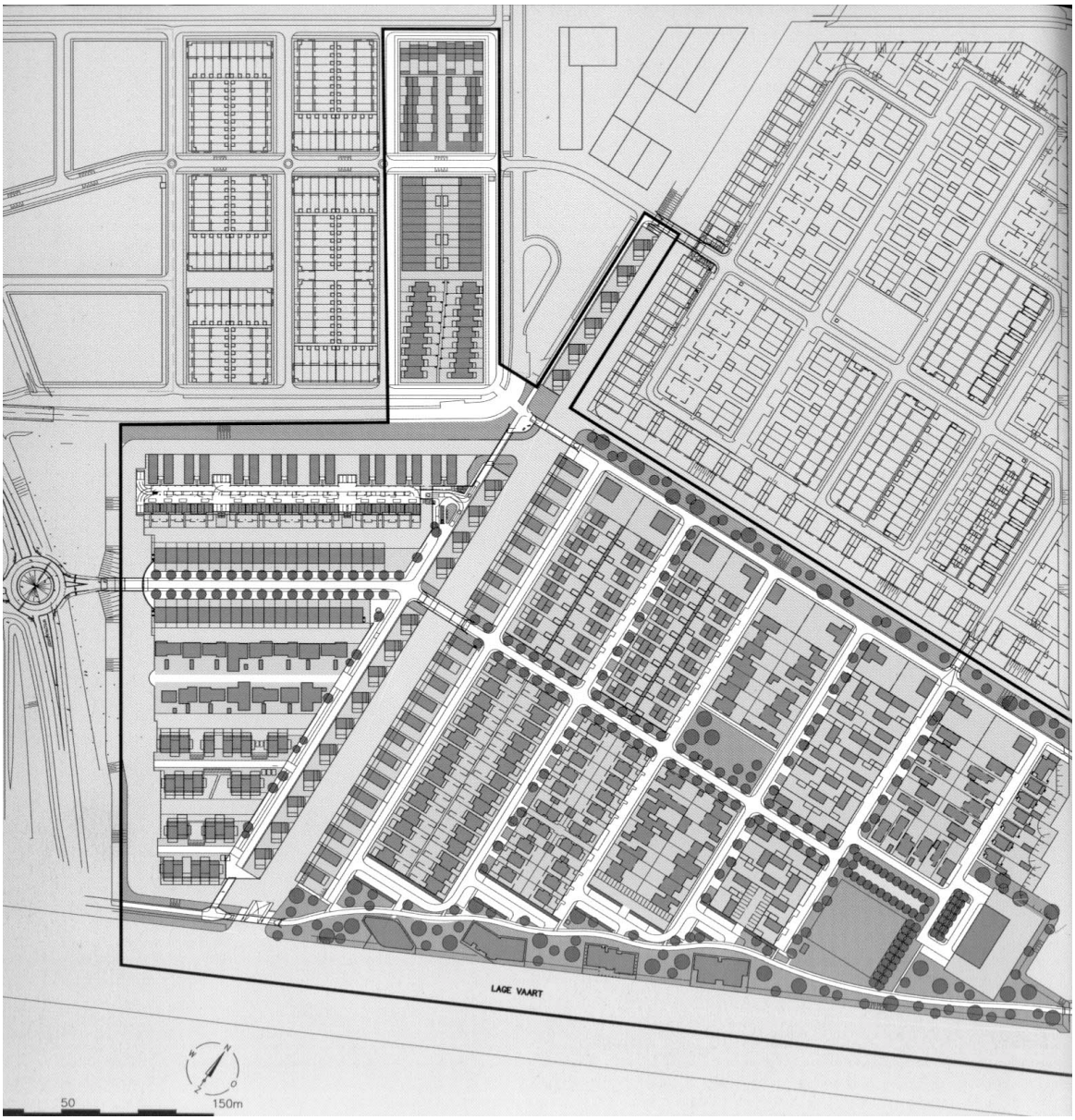

Figure 1: Town fabric of the Eilandenwijk suburb in Almere, including nineteen mass customized housing projects.

SBR COMMISSION

The SBR, (Foundation for Building Research) is funded by annual fees of their members, being building contractors and developers/ builders. SBR initiates and contracts research that benefits the building industry from the viewpoint of their members.

The results of the research projects should always be practical by nature and adaptable by building contractors. Consumer oriented building is slightly controversial: builders prefer to build for an institutional client rather than a future dweller, who is not a contract partner. In addition builders can apply high margins on work that overruns the contract, such as special customer demands, after the building is finished according to the contract. Traditionally, there has never been an incentive for the builder to communicate with the dweller. In that respect, guidelines for consumer oriented building may be regarded as threatening the traditional position of the builder: they might miss the lucrative contract overruns.

Observations of demographical developments and of consumer behavior give reasons to anticipate on a changing relationship between customer and supplier. This is a scenario that has to be taken seriously and it is the SBR's task to prepare their members for this possible future.

SBR has commissioned the OBOM Research Group of the Delft University of Technology, to investigate the nineteen projects in Almere on the builder – customer interaction aiming at guidelines to make a customer communication plan and to organize the building process accordingly.

The Almere investigation soon made clear that customer related problems are not limited to the building process itself. Planning constraints and building codes can jeopardize the quality of process and result.

CUSTOMER SERVICE

All Almere projects were commissioned by institutional clients, some of them housing corporations, others project developers, who had to offer the buyer the possibility to customize his house. Every project had its own way of communicating with the buyer. The number of options to choose from also differed. Having an new house built is a major event and it is understandable that the progress is closely monitored by the whole family. The future dweller visits the building site after working hours, eager to see the progress of the new house and reports at the site office the next morning, with complaints, worries and questions, that have to be dealt with instantly. Many builders see the customer as a nuisance, disrupting the building process.

Implementation can be cumbersome, if measures to deal with the client on a personal level are not in place.

In order to determine the dependencies between customer decisions and building operations, both have to be investigated per project. Therefore, the first step was to collect all the available material for desk research, such as brochures, drawings (interactive) CD-ROM's and website links, that was used to communicate with the customer. The second step was, to get the workshop drawings in order to get an insight in the applied building materials, building process and dependencies within the process. Then a meeting was arranged with the client/ developer for an interview, using a standard set of questions. By combining this information, the consumer choices were then linked to building activities.

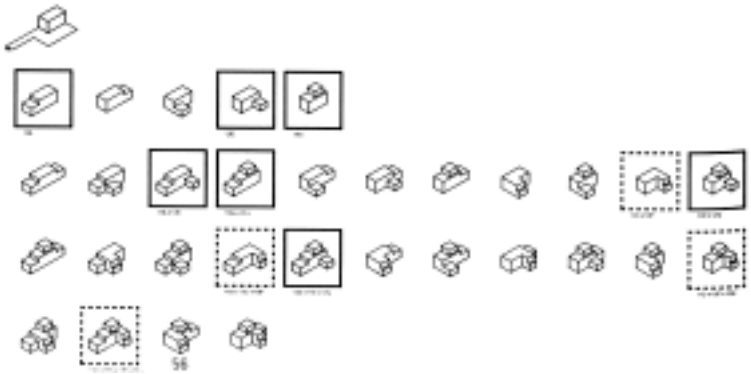

Figure 2: Customer options differed per project.

Figure 3: Artist impression of roof options.

LEAD TIME GRAPHS

If the customer influences the building process, it is best to be prepared for it. The next part of the research aims to visualize the consequences of user participation in the building process. In the final analysis, every operation, whether it is on or off site, is base on a decision of some sort.

The building process can be characterized as a multitude of decisions, made by many different parties. Every decision has its own decision making party, or a group of parties. The decision's lead-time is determined by the decision making party, the process of communicating the decision as well as the result, being (a part of) the building.

In order to exclude waste, the process should proceed smoothly, without interruption, to be completed in the shortest possible time. Short lead times help to shorten the process. However, only one critical long lead-time can obstruct the process. Therefore, reducing lead times is less important than synchronizing them. Long lead times, however of the same length and in sync is more effective than mostly short lead times and one or two being out of sync.

In order to gain insight in the (in) congruencies in customer decisions and building operations, all customer decisions were identified and represented with an icon and arranged chronologically, from top to bottom, on the left. In the right hand column, the building operations are given, using the same representations. By connecting customer decisions to their related operations, a graph appears, from which conclusions can be drawn. Icons in the left hand column can be clustered in a frame, if certain customer decisions are dependant of each other. Clusters in the right hand column refer to dependencies between building operations.

A graph with parallel, flat angled lines represents a smooth building process, with short lead times.

A graph with crossing and or steep angled lines indicate a building process with irregular lead times, thus waste by interruption and waiting times.

These lead-time graphs can be taken from completed projects, thus being used as a post construction evaluation.

In the pre-planning stage they can also be drawn by relating the planned customer interactions and construction order of the project under development.

Once we are familiar with these graphs, they can be applied to specify the wanted lead-time characteristics of a project.

The lead-time graph focuses on variables within the control of the client/ developer/ builder. While the Almere research project has not been completed yet, two external influences, beyond the control of the building partners were identified.

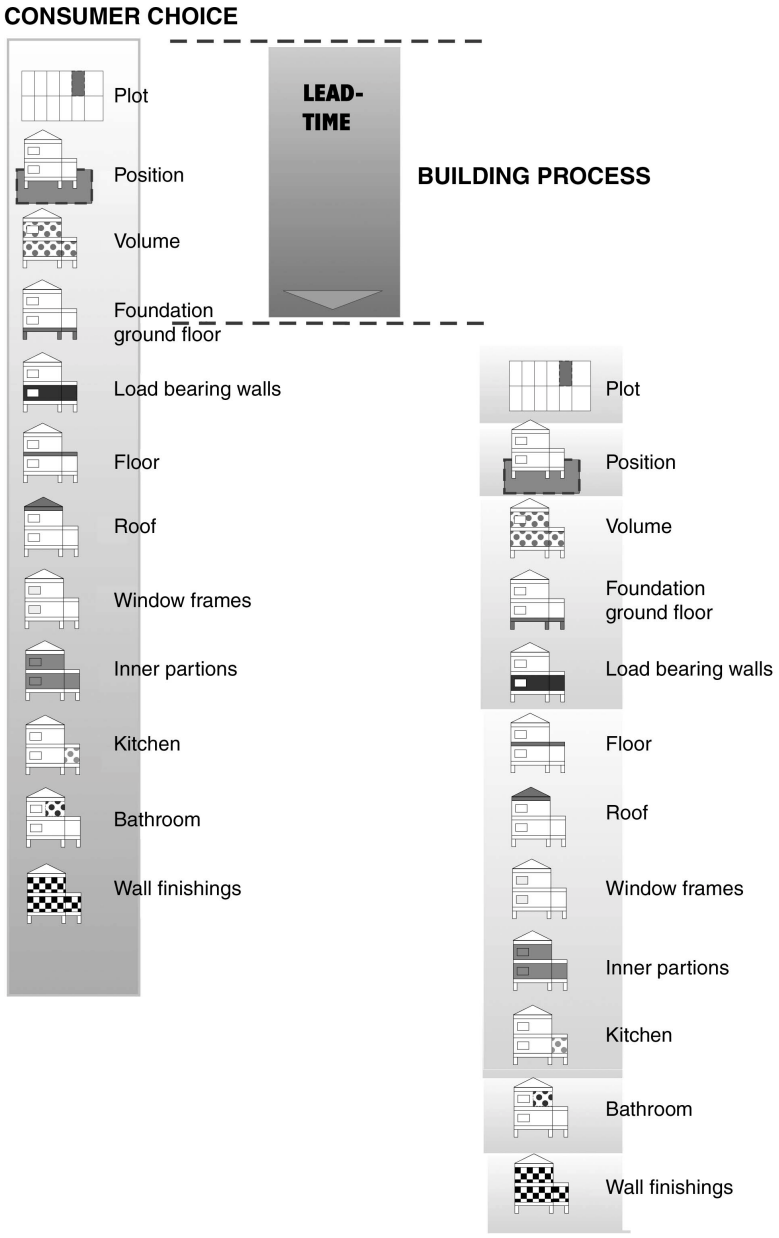

Figure 4: Customer decisions and operations, represented by icons.

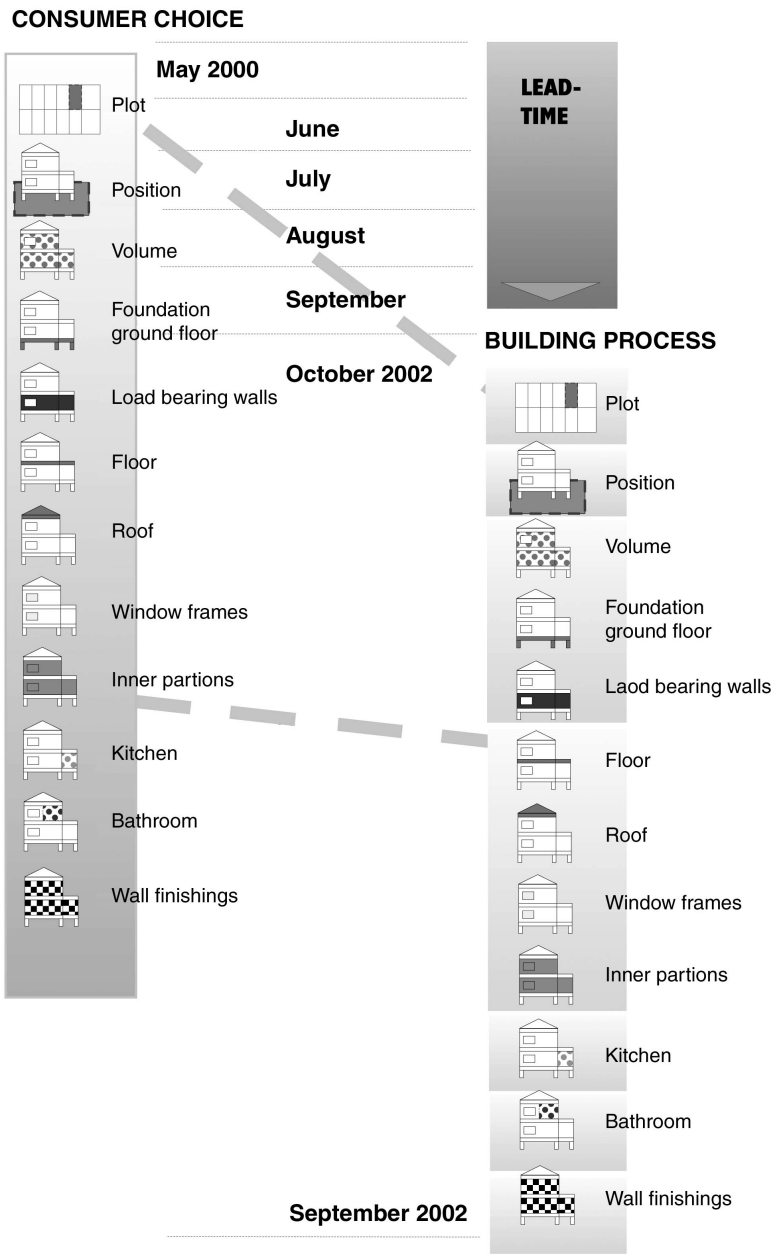

Figure 5: Lead-time graph

TOWN PLANNING

The Almere case shows a town planning with, even for Dutch standards, small plots. In order to stimulate diversity, customer buyers could determine the position of the dwelling on their plot. In order to make the best decision, it is important to know the position of the adjacent houses. In retrospect, some more guidance of the town planner could have prevented less optimal plot layouts.

BUILDING REGULATIONS

The Dutch building code for dwellings requires storage with a given minimum, opening up to the outdoors space. In order to simplify customer decisions, many projects included the option of a freestanding architect designed shed, built according to the standards of the building regulations. Dwellers want as much volume for their money. The costs of a separate shed were traded in against more volume in the main building. Pro forma, the compulsory storage was planned inside the main building. After completion the inner partition, making the storage was knocked out, thus enlarging the adjacent space. The customer then rushed to a DIY store to buy a prefabricated shed, of disputable design quality. The Dutch building regulations have recently been renewed, giving a lot of freedom for the individual dweller. Some of its rules, as illustrated by the storage example, seem to be patronizing, conflicting with customer freedom and generate waste.

CASE 1

The floors in this project are made of pre cast concrete, with inserted plastic conduits for electrical wiring. The positions of the inserts are determined by the positions of the light fixtures, light switches and power points. Therefore, the customer must have made up his mind about the layout of the ground floor, including positions and swing directions of inner doors, before the floor elements can be cast. This results in a long lead-time. Customization is done off site and well in advance. The long lines of communication turned out to be sensitive to many misunderstandings, resulting in wrongly positioned electrical points and a lot of correction and reparation work.

CASE 2

The floors in this project were poured in situ, the structural engineering consultant had clearly indicated areas for drilling holes. The conduits were not inserted, but run on top of the floor and later to be covered by a cement floor finish. By choosing this construction, the lead-time of the floor was in sync with the lead times of other decisions.

CONCLUSIONS

In the Netherlands, except in the big cities, the housing shortage problem has been solved. The demand for quantity has been replaced by a demand for quality of different kinds. In towns within commuting distance of the urban triangle of Amsterdam - Rotterdam – Utrecht there is an oversupply of dwellings. Many families have generated some capital over the years and can move up market, where there is even more choice. Until recently, mass housing has always been government controlled, by subsidies and attractive loans for housing corporations. These have been privatized and the government has rejected

from housing. With an increased choice of houses and dwellers (rental as well as ownership) with spending power, the customer influence will grow.

The building industry has never been short of work and many still see the customer as the problem of their trade rather than the solution for their future turn over.

This research was commissioned and still under way, convinced that we are only at the start of consumer influence in the building industry, rather than being it a fad that will soon pass. The consumer spends large portions of his money on his car, holiday, personal audio and housing. A building industry that can cater for these demands could serve a highly profitable market. They have to change from a supplier to a service industry, who looks at the customer a party to please instead of a party to be obstructed by.

A better understanding of the lead-time implications of the customer decisions will help the developer/ builder to be more competitive.