

Eleven lessons: managing design in eleven global brands

Design at Whirlpool

Whirlpool Corporation is a leading manufacturer of major home appliances. The Global Consumer Design unit at Whirlpool has a staff of over 150 people and has developed expertise and processes that help the company respond to the demand for increasingly sophisticated and complex appliances and develop individual products under different brand umbrellas worldwide.

Overview

Whirlpool established a programme to transform its global design process over a 12 month period beginning in 1998. The aim of the process was to equip the company's design function to support its emerging platform approach.



Since then, Whirlpool has used design and innovation as a central part of its strategy to grow in a mature and highly competitive market. Core elements of this strategy include:

- A formal innovation process with widespread employee participation
- The use of a common platform design approach to allow cost effective brand differentiation
- A centralised Global Consumer Design function to control costs and exploit emerging trends across the whole organisation
- Extensive use of ethnographic and consumer research
- Robust metrics linking design and manufacturing quality to sales and support costs.

Meet the team

Whirlpool's Global Consumer Design unit has a staff of over 150 people. This function has quadrupled in size over the last four years and expanded its capabilities to include interaction design and an enhanced usability function that includes staff with expertise in ethnography and anthropology. These functions were added in response to the design demands placed by increasingly sophisticated and complex appliances, together

with the desire to engineer core product platforms to suit the widest possible range of brands and markets.

In more depth

Read how [multi-disciplinary teams](#) are a key feature of the design processes observed in other companies that took part in this study

The Global Consumer Design function is represented in the US Mexico, Europe, India and China. Most of the organisation's designers operate in brand studios, with 14 major brands and 30 sub-brands supported in this way.

Brand studios are responsible for taking the company's core product platforms, which contain the majority of the product engineering and functionality, and modifying them to suit the language of each individual brand and the specific requirements of its customers.

Whirlpool's Platform Studio, established three years ago, is staffed by designers, engineers, manufacturing and materials specialists. Platform development work typically begins five years before a product reaches the market.

This provides an environment where the integrated team can set global standards for colour, materials and finish. They create initial design concepts based on market data, research and information, as well as trends analysis.



In more depth

See how design can [make products more competitive](#)

It is acknowledged that the design outcomes from the Platform Studio find a better fit with some Whirlpool brands over others. The Platform Studio's role is to reach across to the brand platforms with their design outcomes and work with them to implement and test the concepts. This allows for cost effective modifications to suit diverse brand requirements.

Designers

Part of the programme to unify Whirlpool's design capabilities has involved a drive to standardise the capabilities available in different design offices. Today the company has industrial designers, usability specialists, human factors engineers and interaction designers in all its major design facilities. It supports these with graphic design and model making capabilities.

In more depth

Find out how other companies in our study hire designers who demonstrate a [wider skill set](#) including: multi-disciplinary working, business acumen and strategic thinking

According to Chuck Jones, Vice President of Whirlpool's Global Consumer Design unit, great care has been taken to ensure that the designers can work in an environment that maximises both their creativity and the effectiveness of their work in business terms. In practice, he says, this means ensuring that designers are 'shielded from the noise of the organisation,' while still ensuring that their work is recognised.



Designers are also required to have a good understanding of the business goals they are attempting to fulfil, and the fact that they are producing 'art for commerce.' Jones says, 'My job is to make sure that every designer inside Global Consumer Design understands how their efforts are being translated into business results for the corporation.'

Whirlpool also makes selective use of external design consultants where appropriate. It uses five external agencies worldwide, choosing them when it identifies a requirement to bring in 'fresh approaches in terms of process and methodology.' External agency staff members are treated as an extension to the Whirlpool design team, and are even given performance reviews. Normally, the agencies represent different areas of expertise.

Most recently, Whirlpool has increased the recruitment of people with design planning skills in order to support its efforts to build a logical, differentiated brand architecture. 'We are employing street smarts in equal proportion to book smarts to make sure that we're getting the desired outcome,' says Jones.

History

Whirlpool Corporation is a leading manufacturer of major home appliances. The company was founded as the Upton Machine Company by brothers Louis, Frederick and Emory Upton in St. Joseph, Michigan US in 1911.

Originally manufacturing washing machines, the company quickly expanded, briefly diversifying into the production of metal toys. Expansion continued during the 20th century, and through a combination of organic growth and acquisition the organisation became the largest washing machine manufacturer in the US. Renamed Whirlpool Corporation in the 1950s, the company's activities included the production of automatic dryers, refrigerators, cookers and air conditioners.

By the 1960s Whirlpool was active in overseas markets, through export and investment in local appliance manufacturers. This expansion continued for the next three decades, as Whirlpool established a market presence in Europe, South and Central America and Asia.

The evolution of design at Whirlpool

Whirlpool prides itself in having an innovative ethos. The company attributes US\$ 1.6 billion of its 2006 revenues to innovative products. Its policy of encouraging all employees to take part in innovation processes led to its inclusion in Business Week magazine's top 100 innovative companies list. The company values its current innovation pipeline at US\$ 3.6 billion.

To shake up part of this pipeline, its design strategy, Whirlpool appointed Chuck Jones in 1995 to head up a central Global Consumer Design group as its Vice President. Under Jones's leadership the company linked all its global design functions into a single structure, rather than running design functions for individual brands as had been done before. It also merged its usability and human factors groups into the design department.

In more depth

Find out more about how successful design processes require good [leadership](#)

Jones essentially challenged the previous configuration of design in the company and pioneered new processes throughout Whirlpool and successfully demonstrated to the company that design input could add significant additional value to both the profitability of individual products and the nascent product platform strategy.

The Duet washing machine, launched five years ago, was the first big win for the common platform approach.

By redesigning an existing product, using the same underlying technology but with modifications to the appearance and user interface, the design team created a product that could be sold at three times the price of its predecessor and competitor products.



More recently, with the launch of its Garage Works range of storage furniture, the design team was able to take a totally new product line from early concept to launch in only 12 months.

The design process within Whirlpool, says Jones, is effectively inextricable from the company's innovation process.

Organisational position and influence

Whirlpool has been working to achieve a more strategic role for its design department. Jones has, he says, been 'chipping away at this since 1999.' He has also worked at breaking down traditional functional silos and improving the links between design and other corporate departments. Whirlpool's Platform Studio is an example of success in this area. The design-led Platform Studio is central in developing brand engineering for Whirlpool at a strategic level.

Market

The company sells Whirlpool, Maytag, Kitchen Aid, Jenn-Air, Amana, Brastemp, Bauknecht and other major brand names in hundreds of countries worldwide.

Traditionally, the domestic appliance market has been extremely price sensitive, with major manufacturers competing to deliver acceptable levels of performance and reliability at ever lower price levels. This situation is changing in many mature markets, however, as consumers are beginning to differentiate products on the grounds of energy consumption, environmental performance, design and ease of use.

The Whirlpool design process

Whirlpool has its own innovation process model which links research activities with idea generation techniques to drive the creation of new ideas. All Whirlpool employees are encouraged to participate in its innovation programme and many receive training in innovation techniques.

New ideas generated during an initial Discovery phase are formally evaluated, and the most promising are taken forward to the subsequent Synthesis stage by the creation of a business plan and the commencement of a development programme. The company attributes much of its commercial success since 1999 to the use of the innovation model, which, it says, has encouraged its employees to spend less time looking at competitors and more time trying to understand customer needs. This innovation model is what Chuck Jones, Vice President of Whirlpool's Global Consumer Design unit, says is inextricable from the design process, which, through various tools and processes, links into and delivers design expertise from cradle to grave in the product development process.

In more depth

Read about how some companies use a double-diamond model to manage their [design process](#) through Discover, Define, Develop and Deliver stages

Research

Whirlpool makes extensive use of a range of research methodologies. Ethnographic and anthropological research is used during the early phases of product development. Researchers observe activities such as food preparation or laundering among target consumer groups in diverse social and cultural settings.



Whirlpool uses a broad range of different research environments, including observation of users in their home environments, contextual research labs (which are home-like environments artificially recreated with extensive video monitoring and observation facilities) and full lab testing environments (used for research into

specific product characteristics such as acceptable door operating force). Ethnographic research results in the development of products aimed at specific regional habits, such as the Tapa Lava-Lava scrubber lid, a clothes scrubbing and drying attachment to manual washing machines used by customers in Mexico.

In more depth

Find out how [market research](#) can help the development of new products and services and can predict and help your business respond to new trends.

Whirlpool's research is also conceptual, such as the 'What to eat' initiative, which investigated different food stream processes across the world, including transportation, storage, treatment, preparation and clean-up. 'We did this study probably two years ago and I would say that we've got so many learnings from it that we're probably going to be living off the research for the next five years,' says Jones.



On some occasions, new product innovations can be generated from what were originally intended as purely conceptual studies. In 2003, for example, Whirlpool conducted a major study called Macrowave on consumer trends in the microwave oven market. Working together with an external design team, Whirlpool Global Consumer Design developed eight different scenarios for possible future architectures for microwave ovens. The final concepts were shown to the public and even exhibited in the Louvre in Paris.

In more depth

Read about the benefits of [user research](#) (and designer involvement in user research)

'One of the concepts that came out of the exercise was a completely round microwave,' recalls Jones. 'And no matter where we took it, people said "that's a great idea". So we actually partnered up with our microwave engineering group in Sweden and we ended up bringing it to market. It was a hugely popular product in Europe.'

Other major conceptual projects have included:

- **InKitchen** - which investigated kitchen and food preparation spaces for the future family unit
- **InHome** - explored the way a home can change and adapt according to a family's changing patterns of behaviour and moods throughout the day
- **Project F** - which explored the future of fabric care for the next ten years and how this would affect the manufacture of major domestic appliances.

The outcomes of Whirlpool's research are studied as much for their similarities as for their differences. However, research data such as diagrams of food preparation habits

often have common elements that can be used to identify which current or proposed product platforms might be suitable for the market in question, and to help focus the fundamental requirements of those platforms. The brand studios can then accommodate market differences when products are designed for their final markets.

Status

Today, Whirlpool has annual sales of more than US\$ 18 billion, more than 73,000 employees, and more than 70 manufacturing and technology research centres around the world. Revenues increased by 26 per cent in 2006.

Whirlpool has its worldwide headquarters in Benton Harbor, Michigan, US The company has manufacturing and administrative facilities in more than 20 cities in the US and worldwide.

Whirlpool's key principles for designers

On the basis of information acquired from its different types of research and initial ideas, a concept is developed through an ideation phase which involves a variety of design methods, as well as interaction between the Platform Studio and brand platforms.

In terms of design methods, Chuck Jones, Vice President of Whirlpool's Global Consumer Design unit, points to the need for 'sandbox time' and 'designer think time,' where designers are free to spend time exploring initial ideas and solutions to the opportunity or user need identified.

Jones notes, 'I would say that the thing that we do inside of Global Consumer Design is to ensure that we've got smart people working on an innovation initiative.'

'We're giving them the time and space to think and reflect and nose around and try some things and probably fail, and you know, give them that time to do that.'



In more depth

Find out more about what happens at the [Develop](#) stage of the design process

Another key feature of the way in which designers contribute to product development at Whirlpool is to work in multi-disciplinary teams throughout the development process. In both its Brand Studios and Platform Studios, Whirlpool operates a phase gate process to ensure that each stage of the design is signed off by all the relevant stakeholders. In the Platform Studios, the development process is best described as a 'creative scrum' says Jones. While design, engineering, manufacturing and materials specialists all work

on platform development, the leadership role shifts back and forth between them as the project progresses. 'Sometimes design has the ball, sometimes it's engineering.'

In more depth

Read how [multi-disciplinary teams](#) are a key feature of the [Develop](#) stage of the design processes observed in other companies that took part in our study

All roads for the outcomes of the development of the concepts are leading towards the Opportunity Brief Development, which is the point at which Regional Innovation Boards, led by the regional business owners, review concepts for sign-off. This multi-disciplinary group interrogate the concept, and seek the answers to questions around brand fit, whether the concept links to an existing product or a potential new business area, what the revenue stream may be, and what investment is required.

Evaluation

Whirlpool operates an extremely thorough evaluation process once a design has entered production. Evaluation starts on the factory floor with end-of-the-line craftsmanship audits. These are used to ensure that production quality is running at the appropriate level and to feedback manufacturability insights to the design teams.

After products have been with users for six to eight months, the design group conducts a post-launch usability audit with selected customers. The results of these audits can be linked closely to the costs of supporting a product in the field. 'We know that for a certain usability score, we will receive x number of service calls,' says Jones. Metrics like this help the design team to prove its cost effectiveness in future product launches, he says.

All design metrics are fed back to the design team using a standard one page template. The metrics for a project, circulated at product team level, allows them to compare performance on different projects, evaluate the effect of process changes and ensure that all worldwide design groups are continuing to improve their overall performance.

In more depth

Find out more about [final testing and approval](#) in the Deliver stage of the design process

Tools, techniques and tips

Even with a formalised innovation process in place, which has a clear role for Global Consumer Design throughout, the team's Vice President Chuck Jones argues that 'the magic is never in the process.' Rather, he emphasises the importance of change management, and being able to constantly iterate the design and innovation process to adapt to changing conditions and contexts.

However, Jones does trumpet the impact of the current process, which has delivered clear benefits, both in financial and time-saving terms. 'As we sit here in 2007, the design process, which was implemented in around 2000, has delivered an innovation pipeline with a value of slightly over US\$ 5 billion and so clearly, just from a pure shareholder value perspective, this initiative has done tremendously good things for the organisation,' says Jones. Global Consumer Design is consequently being looked at to drive Whirlpool's overall brand architecture.

Capability building

Jones says that one of his key responsibilities is to ensure that his designers have 'the tools to do battle' in discussions with the wider organisation. In practice, these tools include effective metrics linking aesthetics, perceived quality and usability to sales and service costs.

In more depth

Find out how other companies in our study hire designers who demonstrate a [wider skill set](#) including: multi-disciplinary working, business acumen and strategic thinking

Every designer also undergoes continuous professional development during their career at Whirlpool. This development programme is divided into two parts. The first concentrates on aligning the designer's development with the current and future needs of the company. The second is about ensuring their growth meets their personal objectives. Jones says that ensuring his designers have a 'robust part B' is a key to ensuring their ongoing satisfaction.



Periodic 'town hall meetings' involving the entire design function worldwide, linked by video conference, are used to ensure that the whole design organisation retains a good understanding of its overall performance and focus. Members of Whirlpool's senior management staff are encouraged to speak at these town hall meetings, reinforcing the link between design and top line business drivers.

At the project level, a range of activities are used to help designers gain a strong understanding of the customer needs their products must fulfil. Examples of such activities are spending time with service engineers carrying out on-site repairs and responding to service calls, or spending two weeks working in Ikea stores (which sell a lot of Whirlpool products) to understand the retail environment.

Resources

Whirlpool's design teams can draw on the experience of the company's extensive central R&D capabilities. For example, says Jones, Global Consumer Design works with two other departments on the development, selection and application of new materials:

'The Advanced Materials group does basic research on new materials that might have great properties for our products.'

'In GCD, we look three to five years out at the types of colour schemes and finishes the market is going to require to create a consistent palette that gives all the brands what they need without requiring too many different material combinations.'

'Then the Materials Engineering group takes our requirements and the cool new materials coming from Advanced Materials and works out how we can get them to work reliably in real conditions and how you can get them through all our factories with their different production processes and capabilities.'

In more depth

Find out more about [planning and managing](#) the design process

With thanks to Whirlpool

For the purposes of the design process study, we spoke to Chuck Jones, Vice President of Whirlpool's Global Consumer Design unit. Based in the Benton Harbour headquarters, Jones leads a team of designers, usability and human factors experts and guides their input into Whirlpool's overall innovation and product development process.



To find out more about Whirlpool, visit www.whirlpoolcorp.com

Please note

Except where expressly stated to the contrary, all copyright and rights in this content is owned by or provided with permission from the copyright holder to the Design Council. All rights are hereby reserved by the Design Council and by other copyright holders where appropriate.
