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UNIVERSITY OF ART AND DESIGN HELSINKI

Survey of Industrial Design in Finland

TEKES
DESIGNIUM

Designium, the New Centre of Innovation in Design, is built on close cooperation between the University of Art and Design Helsinki, University of Lapland, Helsinki University of Technology and the Helsinki School of Economics and Business Administration, as well as other universities, polytechnics, businesses and public bodies.

The mission of Designium is to promote the development of national design policy, the internationalisation of the sector, and enhance the competitiveness of Finnish industry through multi-disciplinary research and innovation.

Tekes, the **National Technology Agency** provides funding and expert services for the development of internationally competitive products and production techniques. The agency annually spends over 390 million euros in grants and loans to technology development projects.

Technology programmes create new technological expertise in Finland in cooperation with businesses, research institutions and universities. The purpose of the programmes is to raise the technological competitiveness of Finnish industry in the key industrial sectors of the future. Currently, the agency has about 50 ongoing technology programmes.

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Introduction

Design has been part of the product development processes of Finnish companies for several decades. However, the role of design in product development has largely been to provide an aesthetic polish towards the end of the process. Many industries have not managed to utilise design at all. Moreover, design services have not reached those who need them. Nevertheless, design has become an increasingly important competitive factor, even in fields that have not used it previously.

Interest in the design sector and the utilisation of design has increased as a result of the *Design 2005* technology programme of the National Technology Agency of Finland. Design is a factor that increases both competitiveness and value added. However, no systematic data exists on the investment by industry in design in product development and marketing communication, on the effects of design on business operations, or the ways in which design services are procured. Neither has any quantitative data existed on the supply of design services by design firms, their operations, or impact on the business of their customers.

The present survey was commissioned by the National Technology Agency and supported by the Confederation of Finnish Industry and Employers. The aim was to provide a view on the current status of design in Finnish industry and gather comprehensive quantitative data on the design sector and the utilisation of design in industry, as well as to create questionnaires that would allow monitoring and further work on the development in the design sector. Earlier studies generally had to rely on only approximate figures, which decreased the usefulness of the results. The current survey is the first effort to create a sustained monitoring survey on the utilisation of design. The survey was made using questionnaires mailed to industrial design firms. The address list was compiled with the help of the Confederation of Finnish Industry and Employers. A total of 560 questionnaires were mailed to industrial corporations. Questionnaire data was supplemented with interviews. The participating companies were divided into three groups according to the number of their personnel, that is, companies with over 500 employees, those with 100-499, and those with 20-99 employees. The questionnaire was mailed to all companies in the over 500 category, to every third company in the 100-499 category, and to about 150 companies in the 20-99 category. A total of 165 responses were returned, giving a response rate of 29.5%.

The addresses of design firms were gathered from the membership register of TKO, the Finnish Association of Industrial Designers, telephone directories, and the companies register. 30 responses were received from these firms.

The responses spotlight new opportunities and challenges for industry and design firms. These include:

The earning logic of design firms must be developed. The firms often perform work classifiable as strategic work, yet they are paid according to operative work (as for product design or graphic design, for example).

The firms themselves do not have multidisciplinary resources, and their networking consists of subcontracting. This does not support the development of the earning logic or credibility of design firms to the level of consultancies.

Most design firms are small. Fledgling and one-man offices should form **larger operative units** to generate better business opportunities for themselves.

Operative use of design in industry should be increased in companies where such use is scant. Moreover, corporate understanding of the utilisation of design on the strategic level should be improved. Long-term systematic utilisation of design in product development should be increased. This also calls for increasing resources budgeted to R&D.

Cooperation between design firms and their industrial clients should be closer. It is important that their processes be compatible.

* * *

The survey was conducted by Designium, the New Centre of Innovation in Design at the University of Art and Design Helsinki.

The authors wish to extend their warmest thanks to all those who participated in the planning, executing and funding of the survey, as well as other work, and especially to the respondents.

Helsinki, 19 September 2002

Sampsa Piira
Researcher

Juha Järvinen
Project manager

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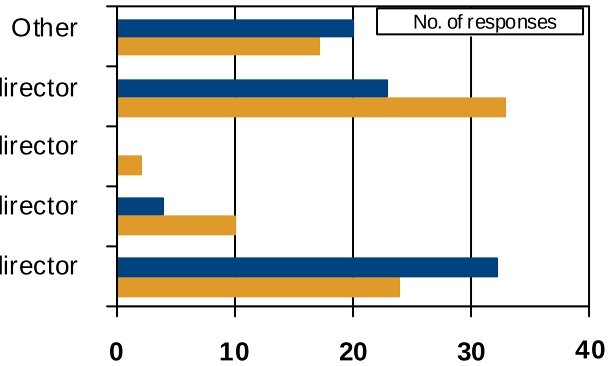
Utilisation of Design in Industry

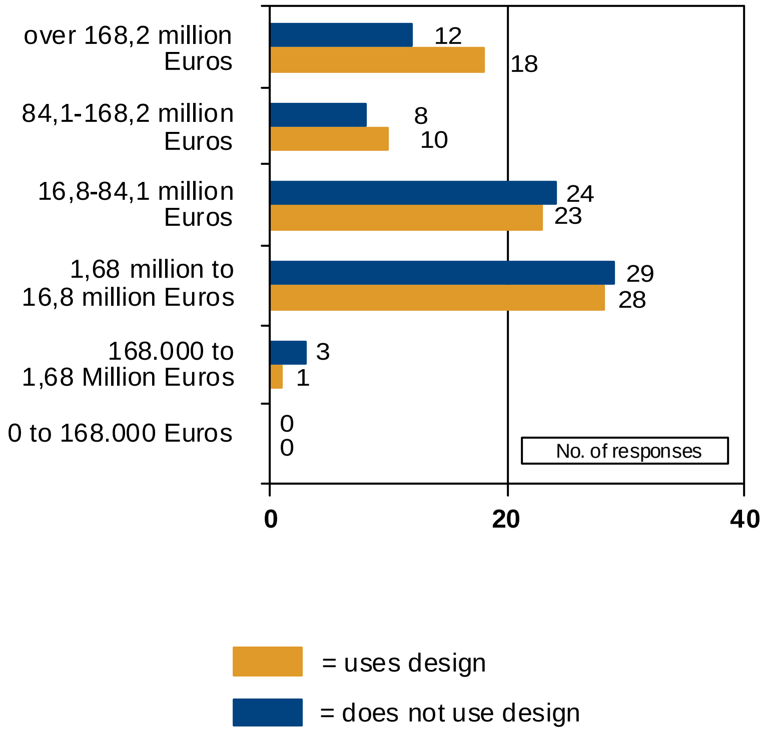
Industry

Respondents by position



With the help of the Confederation of Finnish Industry and Employers, questionnaires were mailed to a total of 560 businesses. The participating companies were grouped according to the number of their personnel, The questionnaire was mailed to all companies with over 500 employees, to every third company with 100-499 employees, and to about 150 companies with 20-99 employees. In the big companies, the questionnaire was mailed to the person in charge of product development/design, and in companies with less than 100 employees to the managing director.

Respondents by turnover



The larger the company, the more often it uses design in its operations. Of companies with a turnover of less than EUR 1.68 million (appr. FIM 10 million), only 25% used design services, whereas with companies with a turnover exceeding EUR 168 million (appr. FIM 1 billion) the corresponding figure was 60%.

Industry

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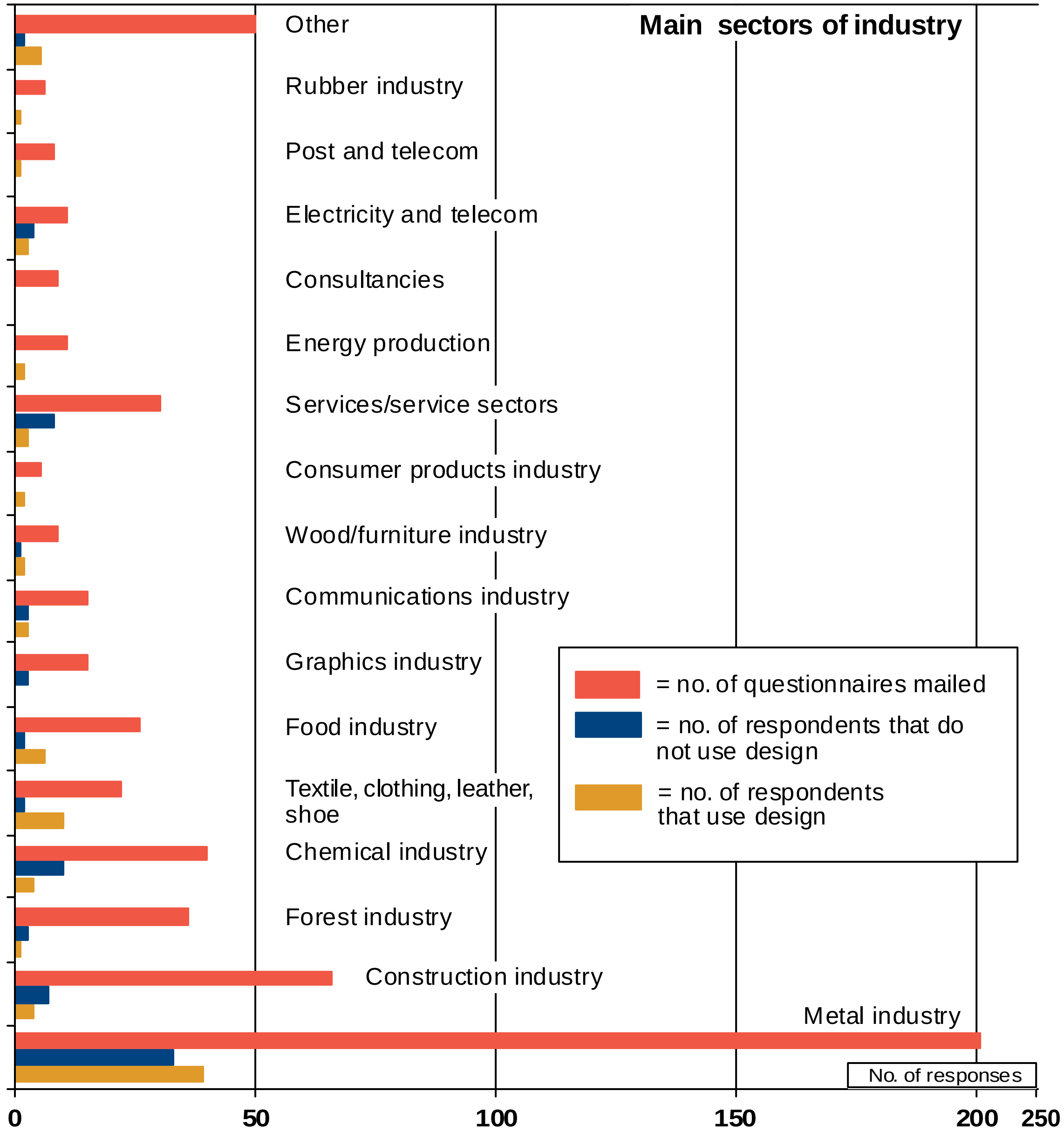
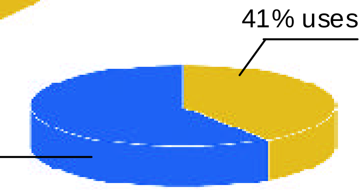


The largest sector involved in the survey was the metal industry. It was also the largest user of design. Textiles, clothing, leather and shoe industries used proportionally the largest number of designers. The food industry uses designers for the design of packaging in particular.

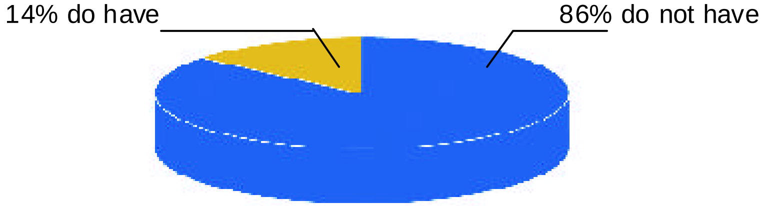
Industry

Percentage of respondents that had used design

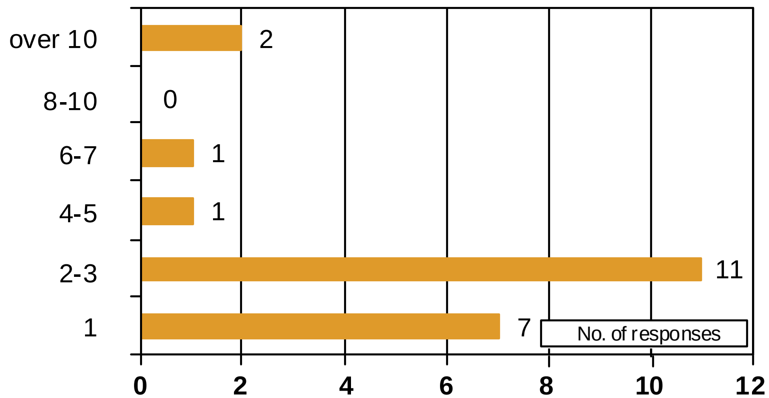
Percentage of respondents that use industrial design



In-house - designers on payroll (percentage of all respondents)



Number of designers working in the company



52% of the respondents used design (industrial design, graphic design, interior architecture, textile and clothing design, etc.). 41% reported using industrial design, the focus field of the survey. Not all respondents use design services constantly, there are also those who use them occasionally. We can assume that design is utilised less in companies that did not respond. The questionnaire was mailed to a total of 560 companies. The number of responses was 165, of whom 86 reported utilising design. In a study conducted in 1998 and included in a report of the Finnish National Fund for Research and Development (SITRA) *Muotoiltu etu: Muotoilu, teollisuus ja kansainvälinen kilpailukyky,* edited by Pekka Korvenmaa, it was estimated that about half of the companies in the piece goods industry utilised design in the operations. The current survey supports the estimate. Assuming that, of all the companies that were mailed the questionnaire, only 86 do utilise design, the percentage drops to 15%.

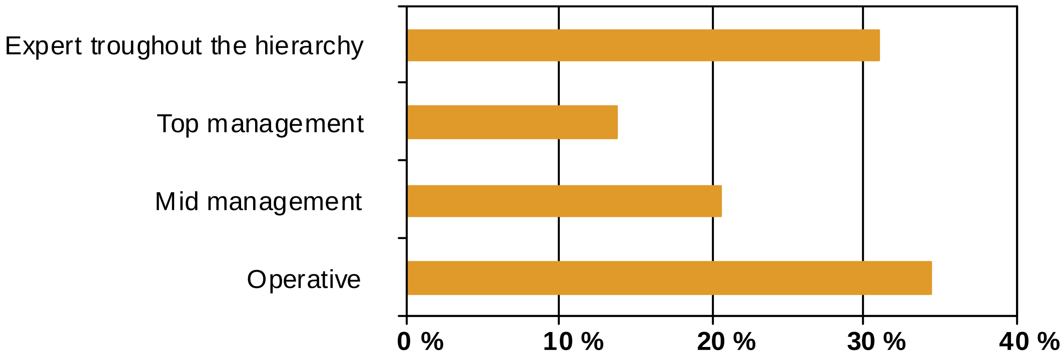
14% of respondents had designers on their payroll. The term designer was not defined in the questionnaire; the definition was left to the respondent. Design seems to be that part of product development which is typically outsourced. Moreover, customers have scant knowledge of design expertise and the profession. The proportion of in-house designers may well increase when understanding of the utilisation of design increases.

Utilisation of design by Nokia and also their number of in-house designers stands out from the statistic. Compared with the rest of the industry, Nokia clearly has more designers on their payroll. The textile, clothing, leather and shoe industry and manufacturers of design-intensive consumer goods traditionally use more in-house designers than other branches. The

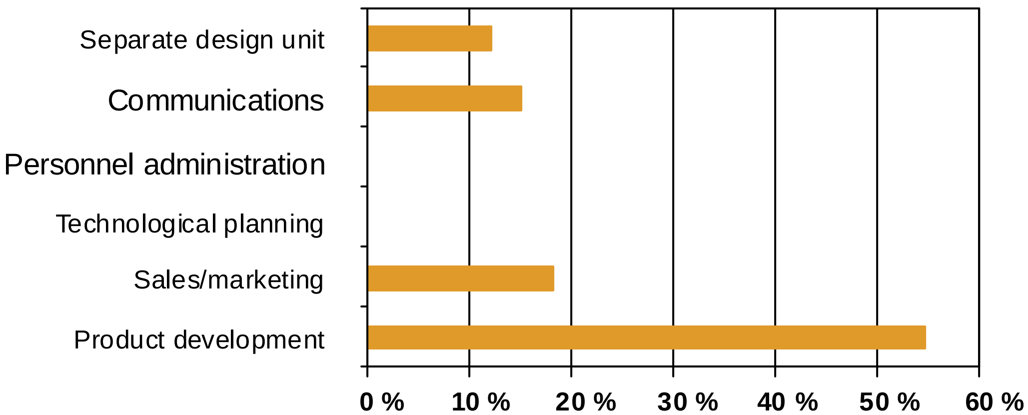
Continued on p. 10

Industry

Position of designers in corporate hierarchy



Position of designers in corporate operations



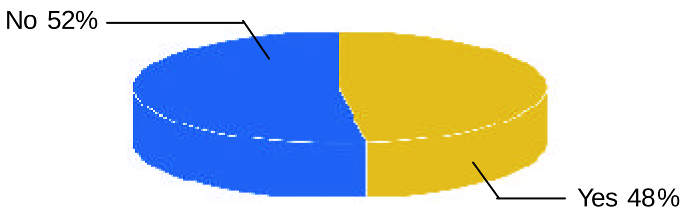
(from p. 9)
number of designers in other sectors of the industry is small, 1-3 people. They can also function as design directors and purchasers and coordinators of design services.

Most designers worked on the operative level of the company, in product development.
The designer is one member in the process of product development. Design is also used in marketing and communication, in which case the designer may be used as an expert throughout the entire organisation. Most design experts are probably in mid-management. Few companies have a separate design unit, because it would require several designers and correspondingly greater investment. The designer was part of top management only in designer-led small agencies, or in large organisations utilising design, in which case there were designers at all levels of the hierarchy.

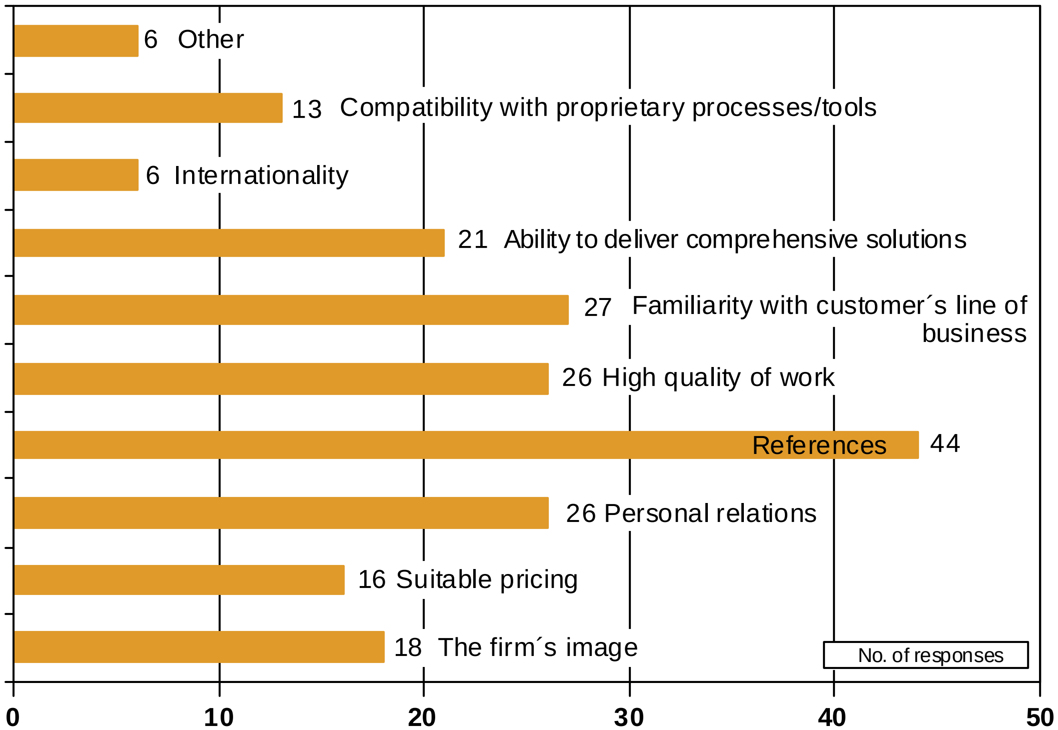
Responses to the question about the percentage of designers in product development staff varied drastically. Discarding the largest and smallest figure (100%, 0.5%), the average was 22%. The number of designers depends above all on the size and field of the company. The percentage of designers was great in some small companies in the textile, clothing, leather and shoe industry and the arts and crafts sector. Many companies known for their design have outsourced their design services – in-house designers are not always needed. However, such companies often have a long tradition in the use of design and are experienced in purchasing design services.

Industry

Companies that had purchased design services
(percentage of all responses)



Your reason for choosing the current supplier

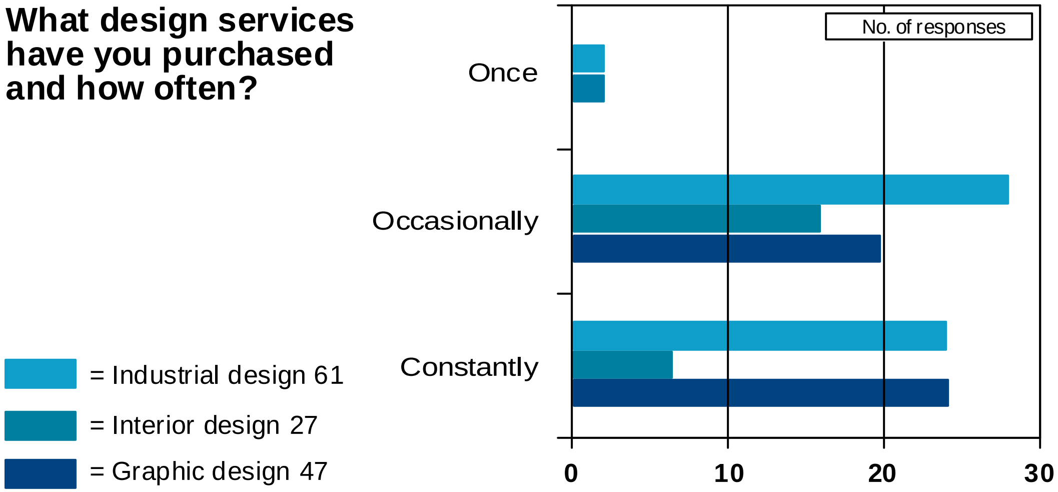


48% of the companies had purchased design services. The principal factor affecting the selection of supplier was their references. This might also imply that these respondents had not been purchasing design services for very long and consequently the company had not yet established a regular supplier. Familiarity with the customer's line of business was also clearly an important factor. Word of good work by design firms spreads to other companies in the same sector by word of mouth. To assess the quality of work by a design firm, earlier experiences are needed as a reference point.

Personal relations are important, designers are their own best marketers. According to the design agencies, the demand for comprehensive, turnkey solutions has increased. Price is not the determining factor in selecting the supplier of design services.

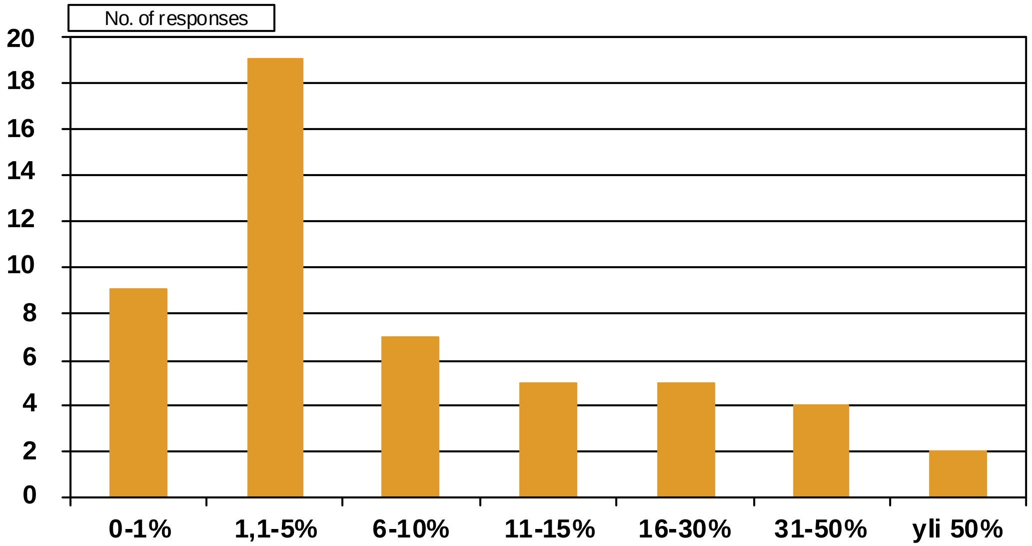
Industry

What design services have you purchased and how often?



Design services studied were limited to industrial design, interior architecture, and graphic design. **Industrial design is used mostly occasionally, but also the proportion of respondents using design constantly was remarkably large.** Differences between interior architecture, graphic design and industrial design are explained by the nature of the work in these sectors: for example, business premises do not need to be refurbished all the time.

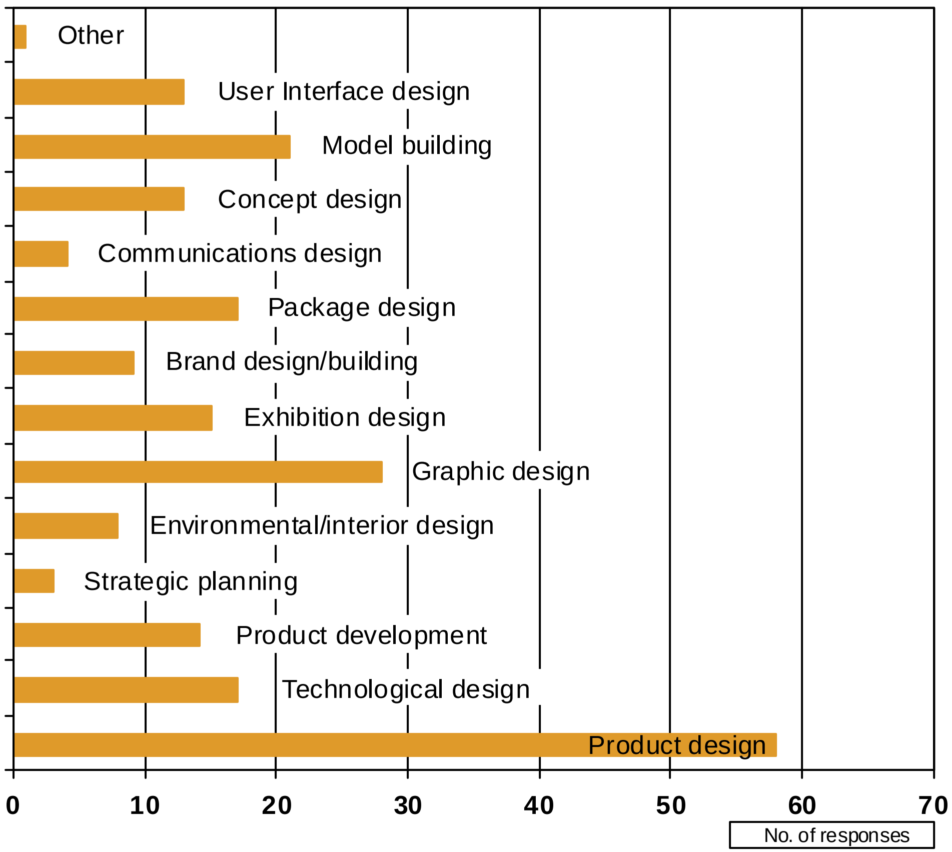
In your estimate, how much of your R&D budget goes to design?



The variation was quite large in responses regarding the proportion of design in the R&D budget. Most of the respondents were unable to give an estimate. The average figure of the responses was 13%, but the range was great.

Industry

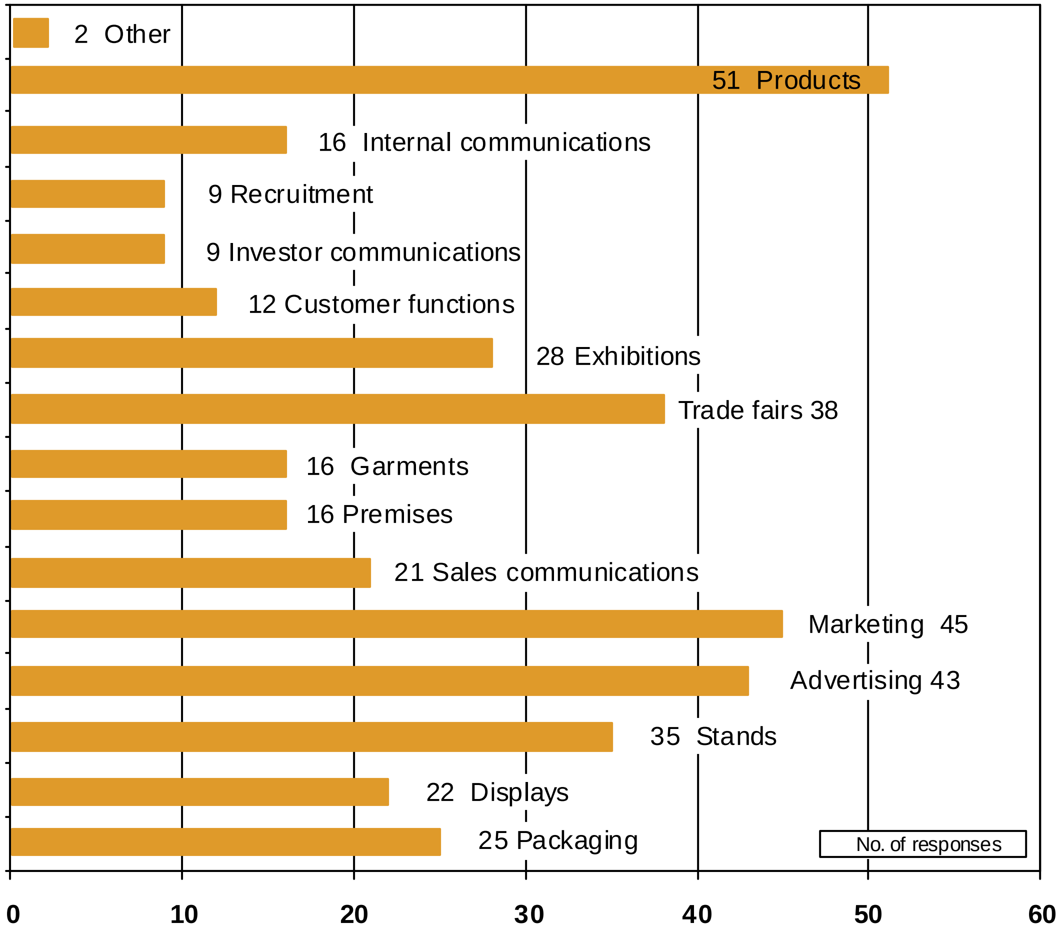
What services have you purchased from industrial design firms?



The most commonly offered service was product design and it was also the most commonly purchased one. The responses also indicate that package and graphic design services are also purchased quite a lot from industrial designers and industrial design agencies, whereas strategic design services are rather seldom outsourced. Client companies understand technical expertise, but do not utilise the consultation services of design firms.

Industry

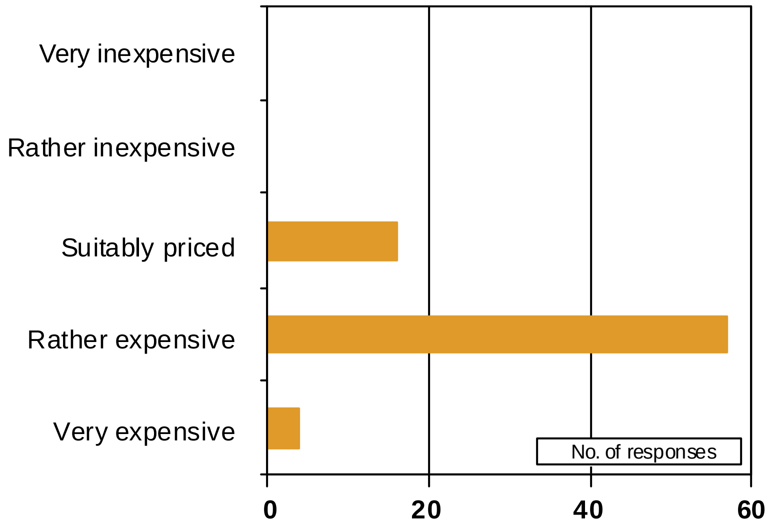
How do you use design to build your corporate image?



Design is used for building the corporate image especially in products (industrial design), **marketing and advertising** (graphic design) and **trade fairs** (interior architecture). The entire spectrum of design is utilised in building the corporate image.

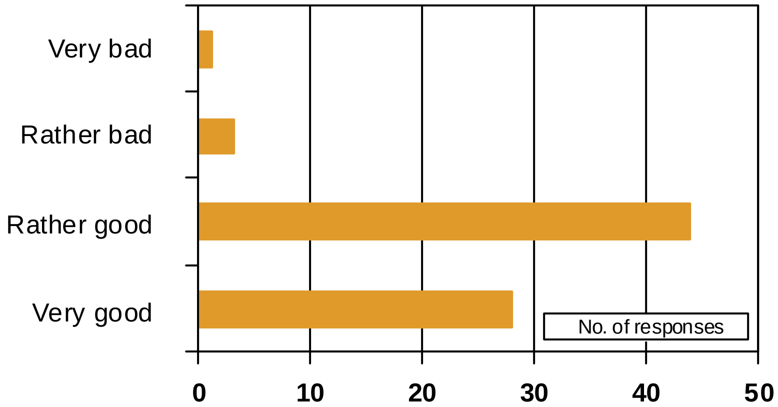
Industry

What is your opinion of the price of design services?



Design services are considered fairly expensive. Nevertheless, the price is not the key factor in purchasing design services. In reply to the question, which factors affect the selection of the design agency, suitable pricing was seventh on the list.

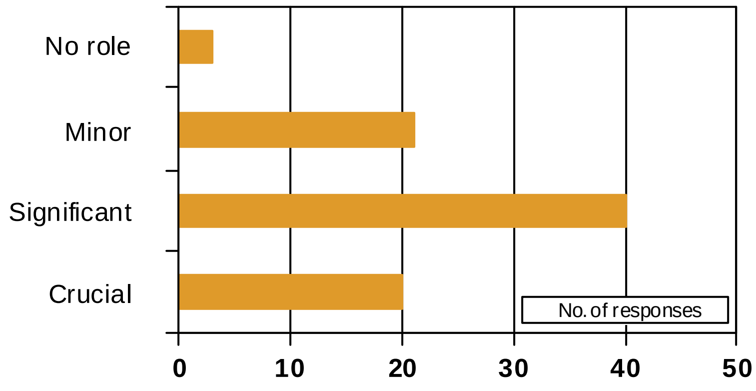
Your experiences of the utilisation of design in business operations



Experiences of the use of design services were generally good. Exceptionally good experiences were reported by no less than 37% of the respondents. Of course, positive experiences increase the willingness of companies to use design services in future as well.

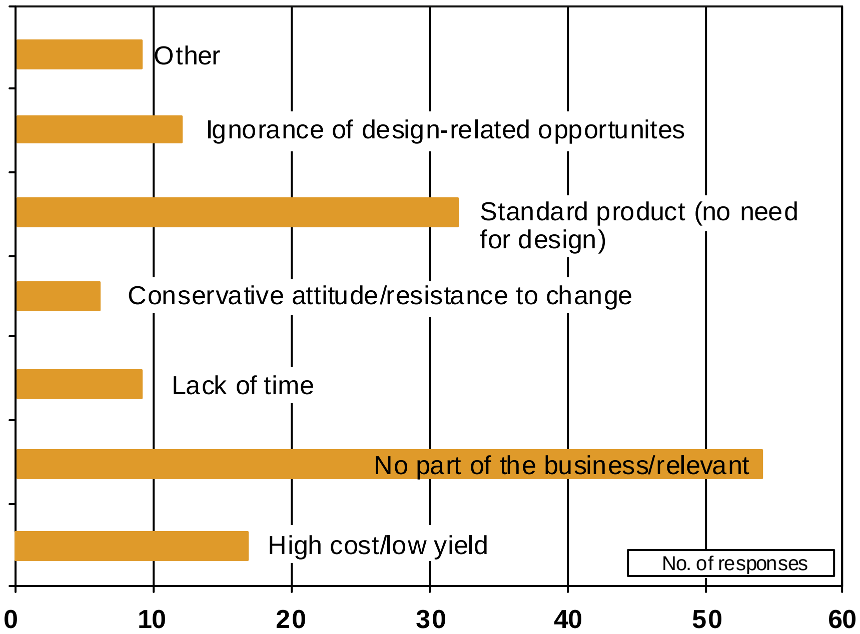
Industry

How important is the role of design in your line of business?



Most respondents considered design a significant factor in their business operations. Companies that said they use only a few design services, nevertheless, considered the role of design significant to their own business. Design occupied a crucial role in the clothing industry in particular.

Obstacles to using design



The greatest obstacle or reason for infrequent use of design services was the unimportance of design to the sector in question. Most of the respondents who gave this reason purchased design services from subcontractors. In some cases the design was received from the customer. Many food and chemical companies also considered design to be insignificant in their business. Typical standard products mentioned as not requiring any design were products of the construction materials industry. In these companies, design is probably considered to consist of nothing but product design, and its strategic importance has not yet been understood.

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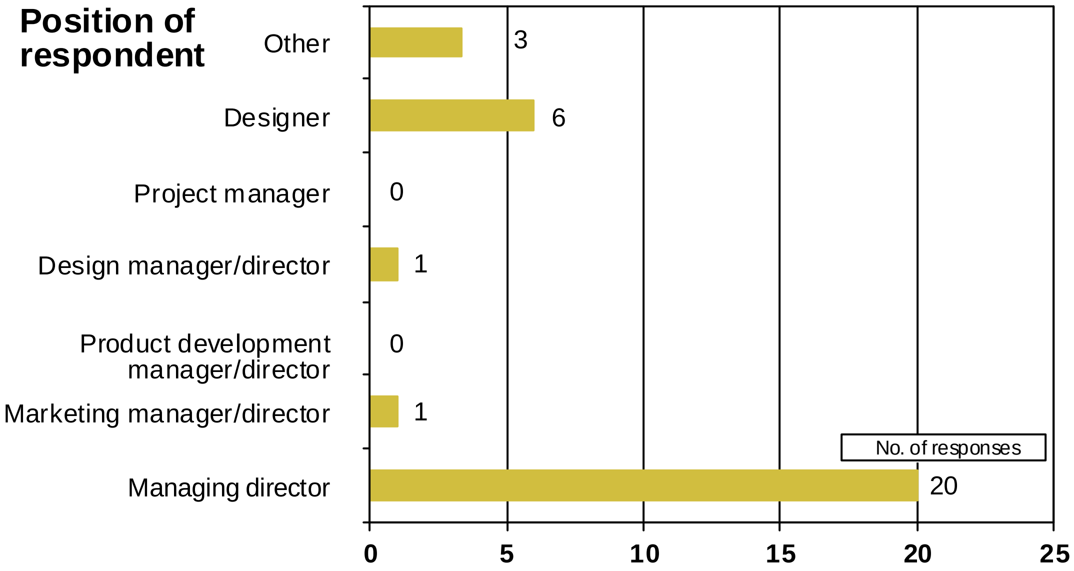
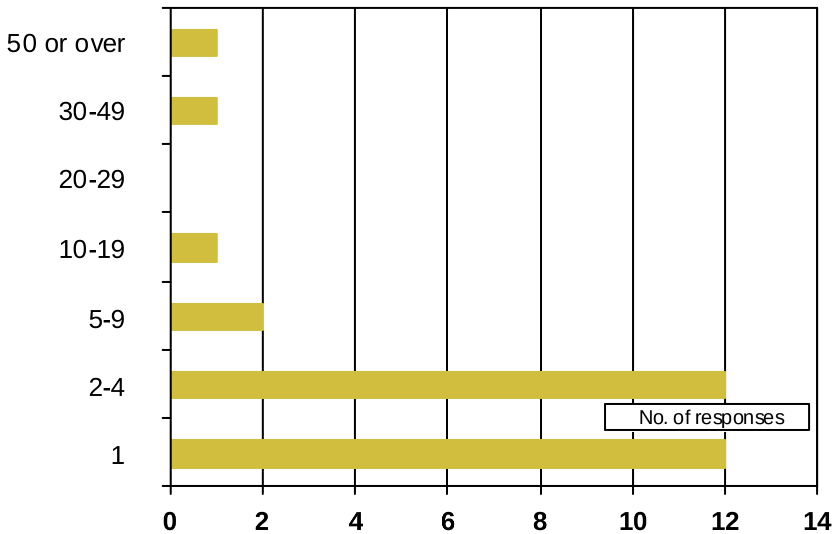
Design consultancies

Design consultancies

Position of respondent



Number of permanent employees



The average age of the 30 design firms that responded to the questionnaire was 9 years. The scatter was great; the oldest respondent firm was established in 1981, the youngest in 2002. A majority of the firms were based in the Greater Helsinki area. 55% of respondents were domiciled in Helsinki. Other areas of concentration were Lahti (3 firms), Turku (2 firms) and Tampere (2 firms). Some of the firms from outside the capital area considered regionality a strong sales argument.

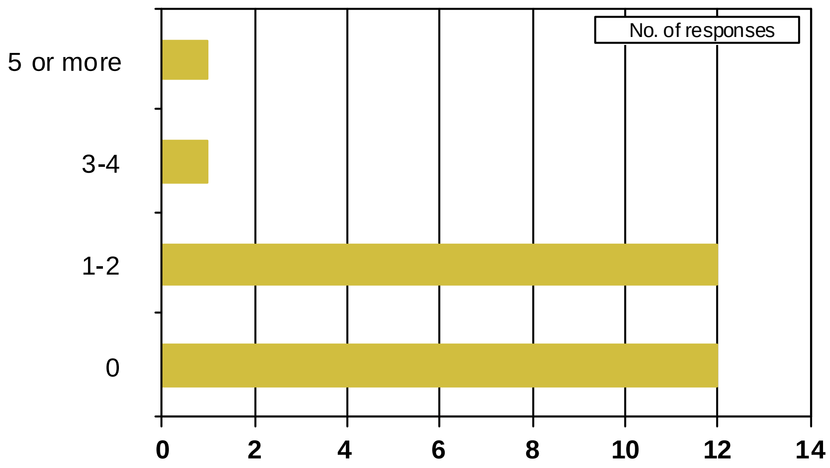
The average turnover of the respondent agencies in 2000 was EUR 213,135, in 2001 EUR 217,609, and an estimated EUR 221,036 for 2002. The only figure for the turnover of the largest firm (ED-Design) was for 2000, and was, therefore, left out of the statistics. It would have increased the figure for average turnover for 2000 to EUR 331,839. The average growth of the turnover of respondent firms over the past five years had been 41% (gross).

Most of the respondents were managing directors of the firm (20 respondents). This can be explained by the small size of the firms. The managing director is also a designer and marketing director. There were no career directors in any of the agencies. Only one respondent gave marketing director as their title.

40% of the respondent firms were one-man enterprises. Another 40% were companies of 2-4 people. The number of larger design firms in Finland is no more than 5 or 6. One clearly different firm is ED-Design from Turku, probably the largest design firm in Scandinavia. Small size was considered the greatest obstacle to the improvement of operations.

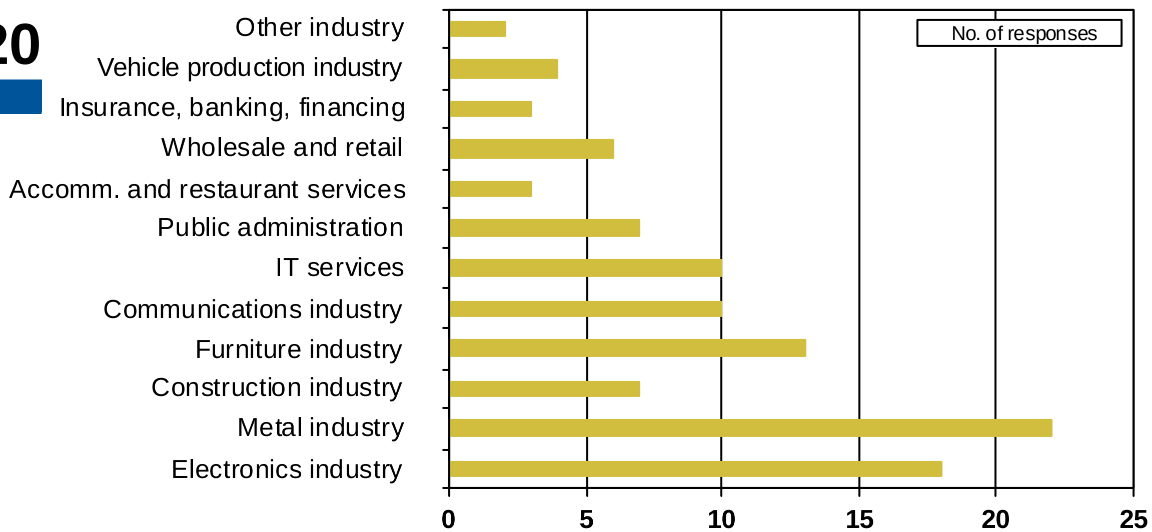
Design consultancies

Number of freelancers/temporary employees in your firm



54% of the respondent design agencies use freelance designers. Design is a field that is very sensitive to economic fluctuation, and the use of freelancers gives the necessary flexibility to adjust. The business concept of the one agency using more than 5 freelancers was based on combining design and communications. In this case, the use of freelancers rests on a different basis than in the other agencies.

Which sectors of the economy does your firm serve?

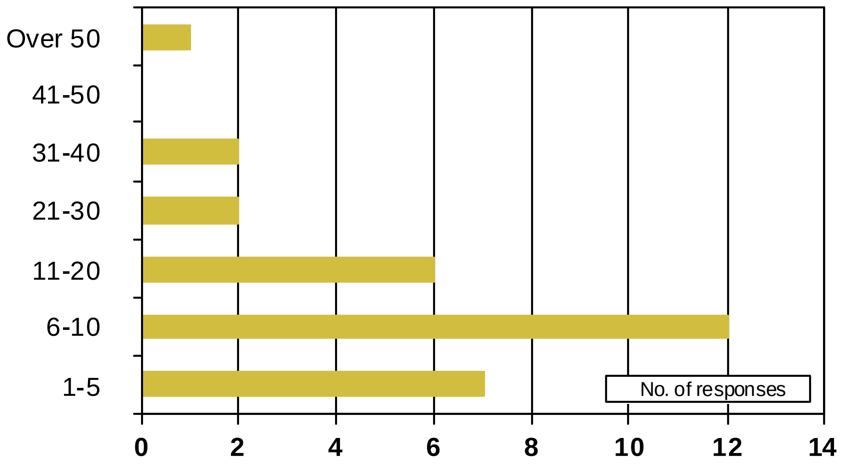


The classification of sectors was a difficult task in definition. Because this part of the questionnaire was mailed only to industrial design firms, the sectoral divisions should have been more precise. The metal industry is the largest user of design services in the questionnaire sent to industry.

Many design firms are difficult to classify. They operate in many different fields. For example, firms in the furniture industry reported operating in the metal industry and in the wood industry, depending on the classification. However, there were three sectors that clearly used design services more than the others: metal, electronics and furniture industries.

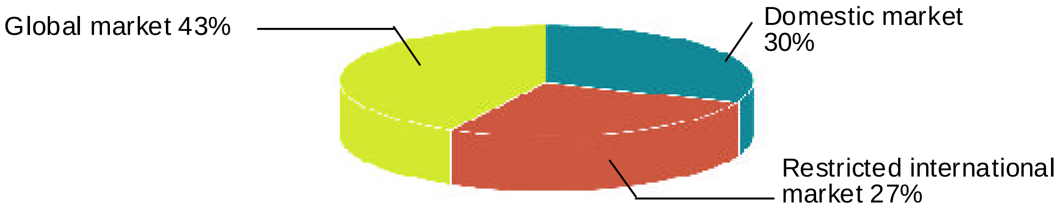
Design consultancies

The number of active customers per annum



Does your firm have foreign customers? (head offices abroad)

In which markets do your customers operate?



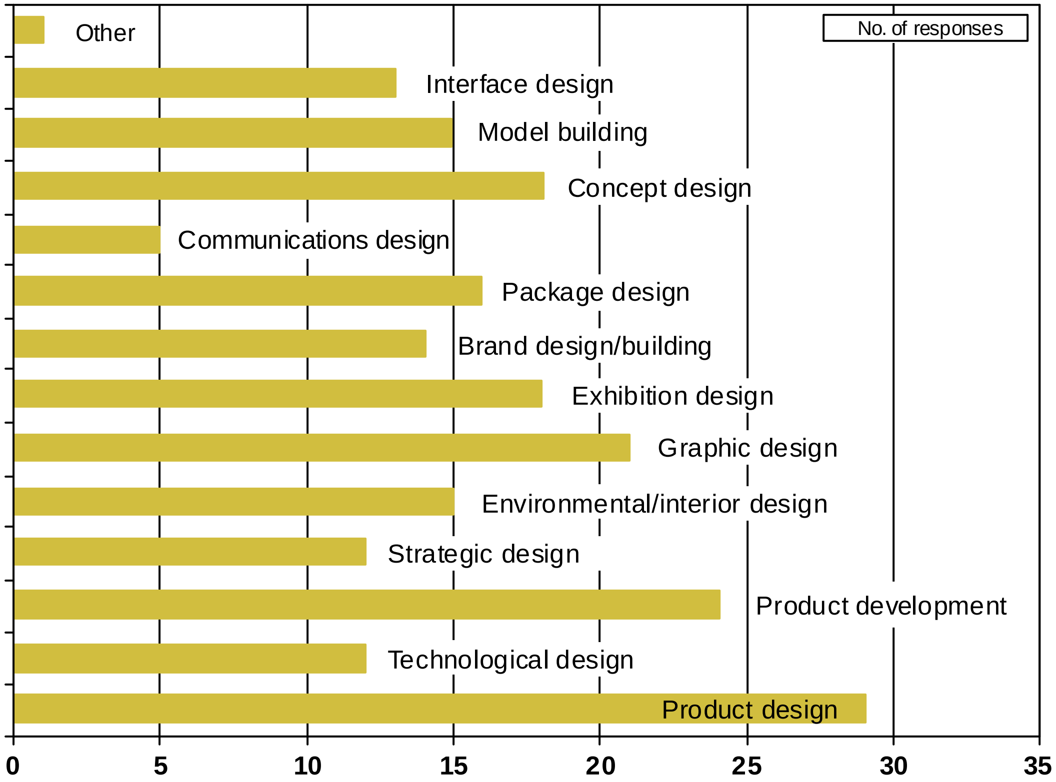
The number of active customers depends on the capacity of the design firm. On the other hand, some smaller firms may have specialised in fast lightweight projects, such as graphic design, which increases their number of active customers. Other agencies may have longer projects with fewer customers.

Most of the customers of the respondent firms came from the Greater Helsinki area and from southern Finland. A surprising number of respondents had or had had foreign customers. Commissions had mostly come from the USA, Sweden and Germany. Other countries mentioned were Switzerland, Italy, Estonia, Britain, the Netherlands and Austria. A foreign customer was defined as a company with their head offices abroad.

Design firms were used mostly by export companies. Companies operating solely on the domestic market tended to use small design offices more. A gratifying proportion of the customers were global companies. The interviews conducted with the design agencies showed that they expect their own internationalisation to take place as their own customers become more international.

Design consultancies

What are your business operations?

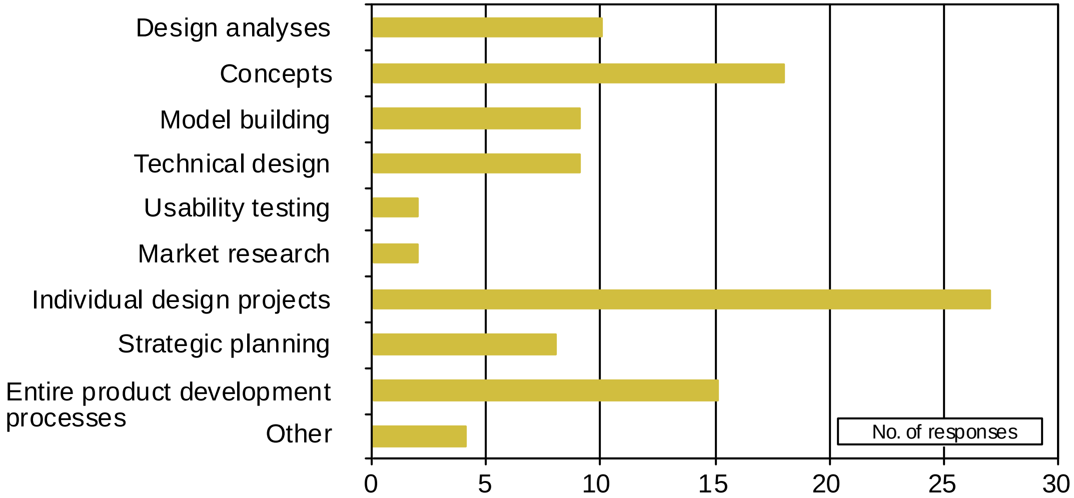


Product design was the most common service or function provided by the design agencies. The next most common service was product development. These belong, in fact, to the realm of traditional industrial design. Graphic design, exhibition design and environmental and/or interior design are fields with their own professionals, but where industrial designers operate as well.

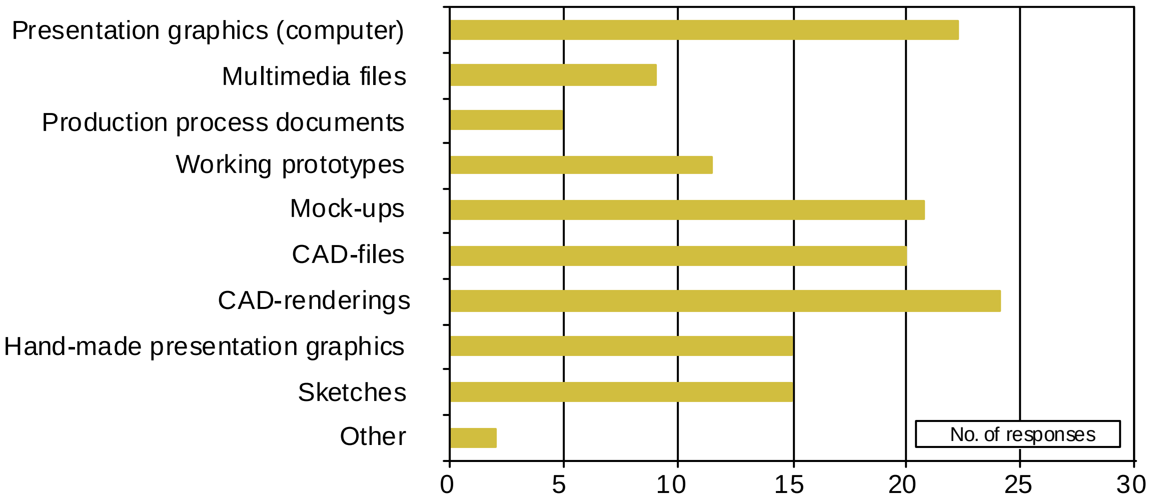
When the markets are small, the customer basis must be kept broad and firms must try to offer "something for everybody". Many agencies offer concept design services. The meaning of the terms *strategic design* and *brand building* probably varies a great deal between the respondents.

Design consultancies

What are the principal services you provide?



What documents do you typically supply to the customer?

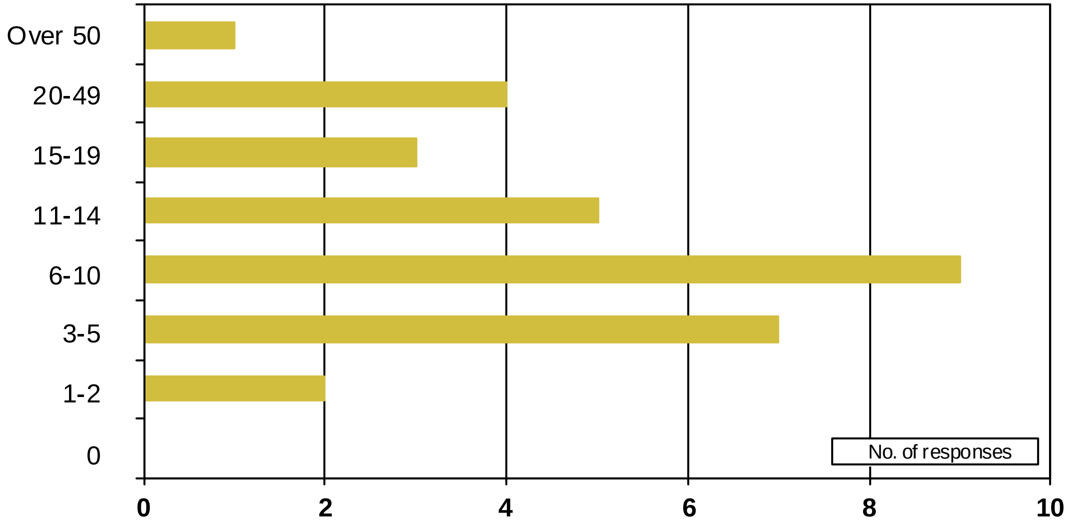


Individual design projects are the most common commissions of design firms. It was gratifying that customers had also purchased concepts from the firms. Big clients may commission concept designs from several suppliers to support their decision-making. Entire product development processes are probably provided for small client companies or companies that have outsourced all their product development activities. Design analyses are used to chart the opportunities of design within a company.

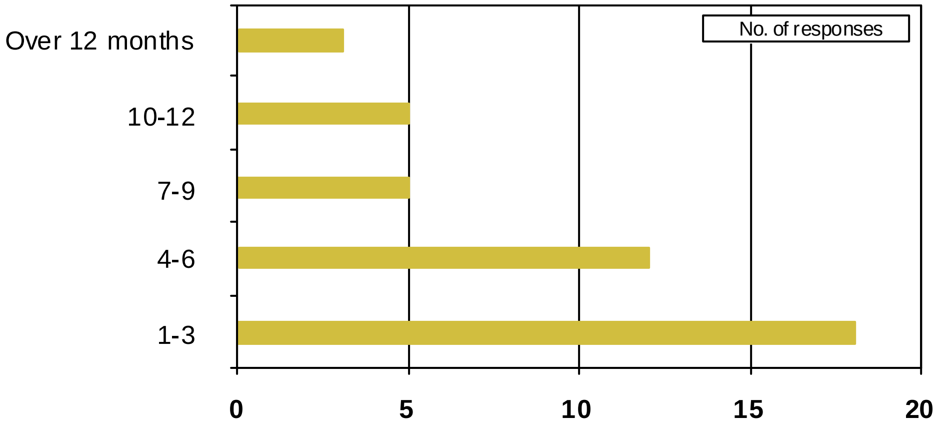
Computer-aided design methods have become more common. They have also affected the form of the documents supplied to the customer. Hand-made presentation graphics or drawings are now almost a rarity. File transmission and sharing have enabled simultaneous working with mechanical designers, for example. Mock-ups are, nevertheless, an excellent and tangible way of demonstrating a product. They are also produced by rapid modelling methods.

Design consultancies

How many projects does your firm launch each year?



Typical duration of projects



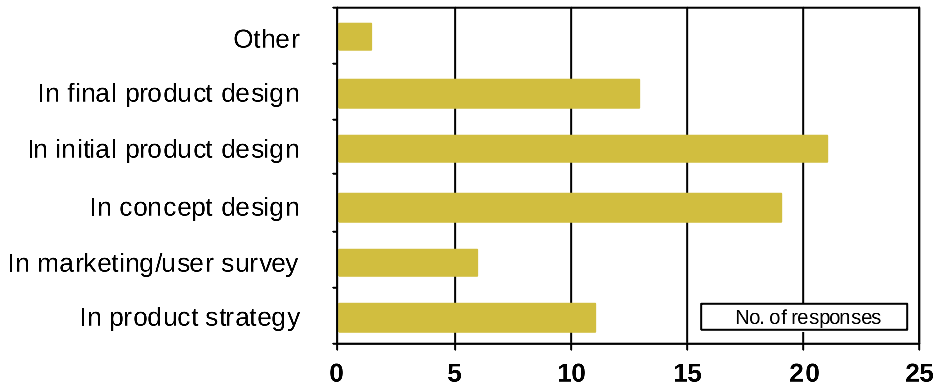
Small design firms do not have the resources to launch many projects each year. Networking between design agencies is not yet sufficiently advanced to be of real assistance. Small, fast projects, such as graphic design commissions, clearly increase the number of launched projects for some firms. Large projects tie up resources so that smaller projects cannot be started at the same time. Only some of the largest agencies had enough resources to conduct both big and small projects at the same time.

The typical duration of projects is difficult to define. Different projects require different time spans. One design firm may have projects of different duration. However, 1-3 months was clearly the most common answer. Some of the respondents marked two options; 1-3 months for smaller projects, and 7-9 months for larger ones.

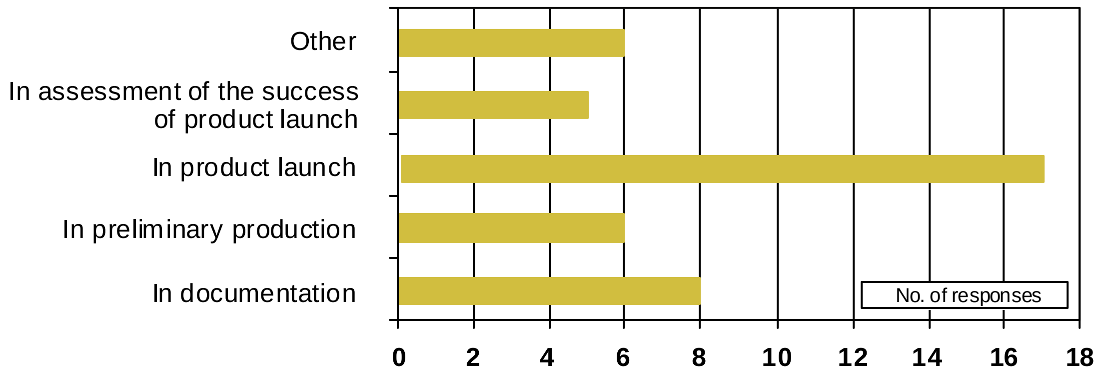
The average sum invoiced for projects also varied considerably, from EUR 1,000 to 70,000.

Design consultancies

At what stage does the designer/firm enter the customer's project?



At what stage does the designer/firm leave the project?



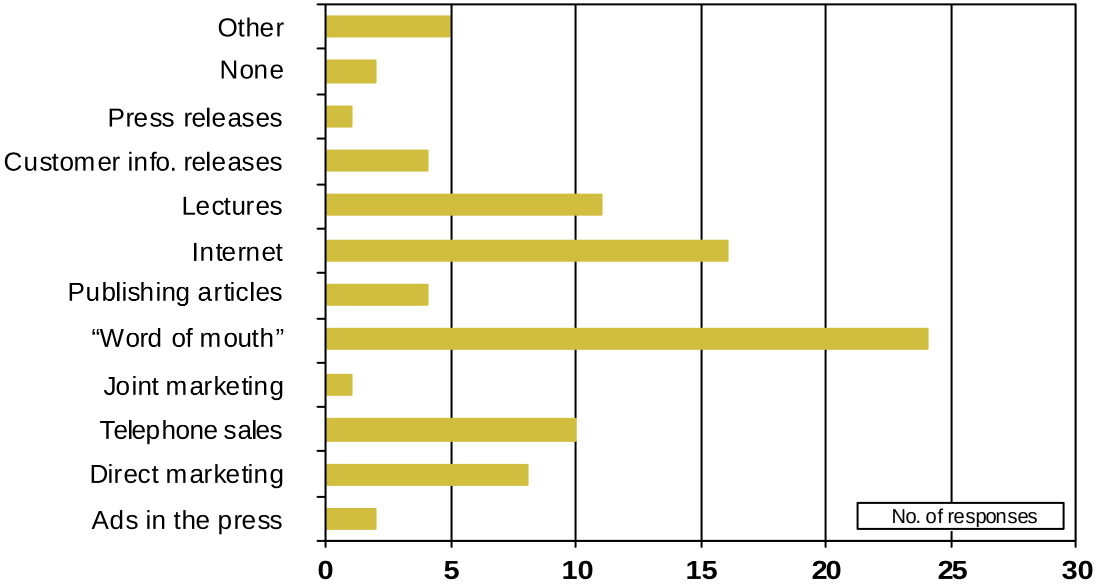
Design firms seem to join the customer's projects at an ever earlier stage. The point of entry in initial product design and concept design was more common than final product design. Presence in the planning of product strategy requires deeper trust between the client company and the design agency. None of the respondent agencies reported doing market surveys, although market or user surveys are supplied to the customer through cooperation partners.

'Other stage' refers to the participation of the design firm in the planning of corporate strategy with respect to design and technology choices.

Here, too, the responses depended on the type of customer. One alternative mentioned under 'other' was after the preparation of prototype. The point was also made that a designer does not simply leave a project, but begins planning and scheduling the next project right away.

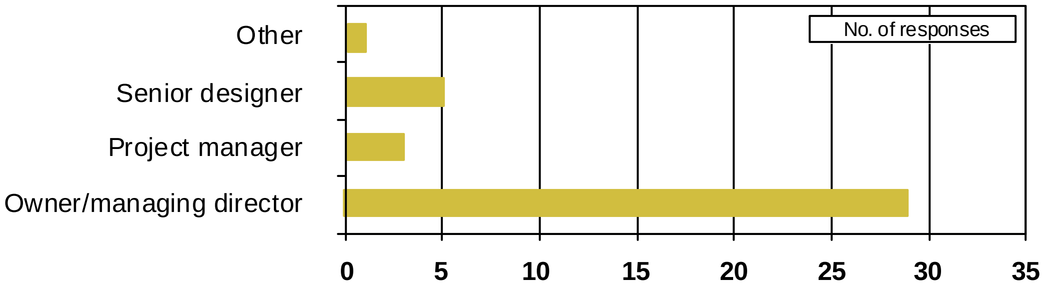
Design consultancies

The main communication channels of your company in marketing and PR



Marketing is undeveloped and small-scale. It requires an investment for which there are not enough resources. The most common marketing method is "word of mouth", word of work well done spreads far and wide. Lectures were a surprisingly common marketing method. Lectures also serve to train customers in the use of design services. Direct phone or mail marketing is generally done by the managing director/owner alongside their other duties.

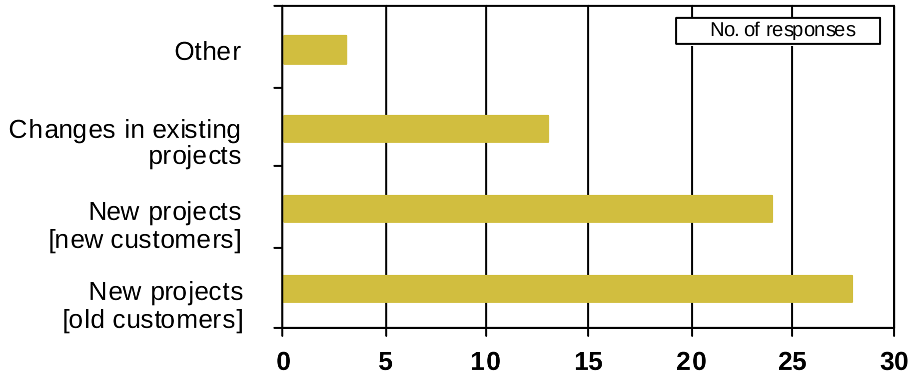
Who is responsible for marketing and sales in your company



Design firms do not have career directors. Marketing and sales are usually done by the owner. In larger agencies, contacts with old client companies are maintained by senior designers.

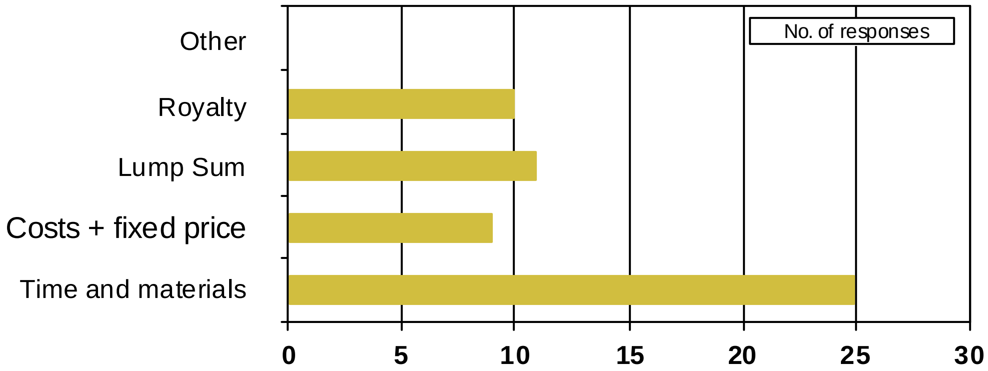
Design consultancies

What are the sources of the design commissions of your firm



Long-term relationships are beneficial to both parties. Continued cooperation with old customers is a sign of success. The customer has perceived a benefit in design. New projects for new clients indicate that more businesses are becoming interested in design. These may in time become new "old" customers. Other sources of business mentioned were consultation and proprietary production.

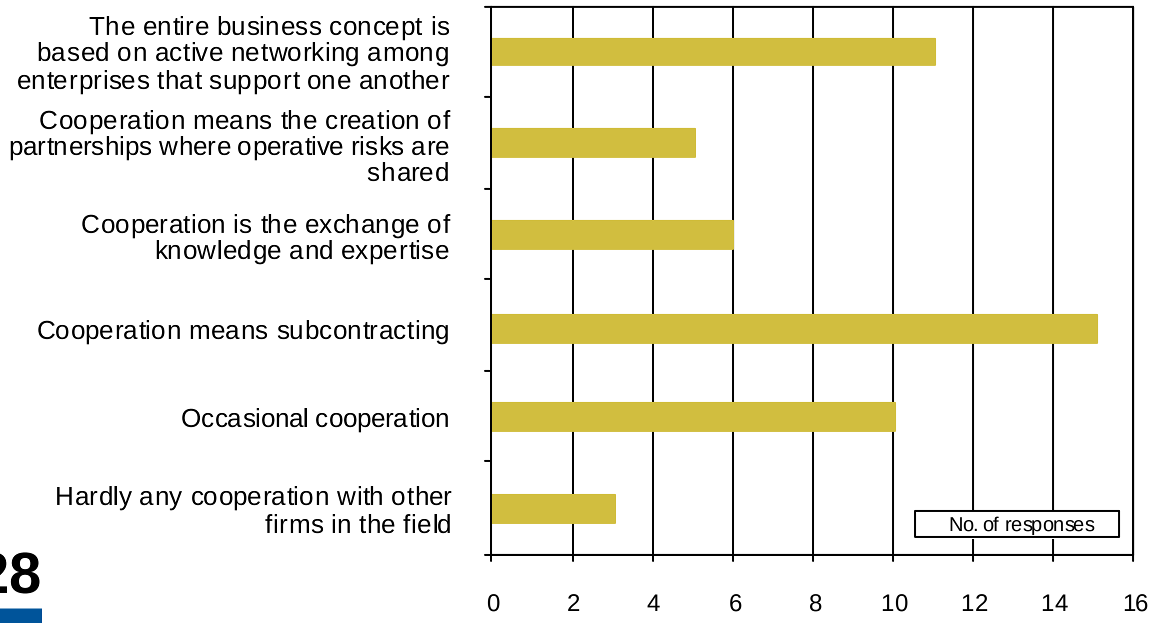
What is the basis of invoicing in your firm?



Design firms generally base their invoicing on the time used for projects. Alternative methods have been discussed, but existing practices are difficult to change. Royalties are used in the furniture industry in particular.

Design consultancies

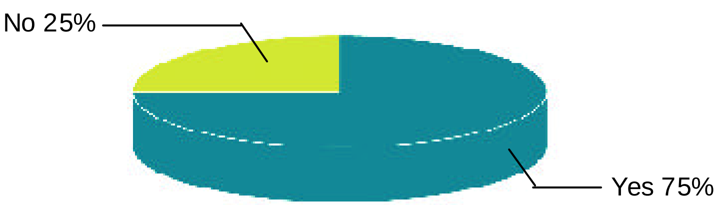
Networking with design firms or subcontractors



Cooperation primarily takes the form of subcontracting. Design firms have networked with mechanics design and advertising agencies, for example. Turnkey packages demanded by clients cannot be done without cooperation.

Design agencies cooperate with companies in a variety of fields, but cooperation between agencies is rare. The respondents had an average of 5 active partnerships. Some also had foreign partners.

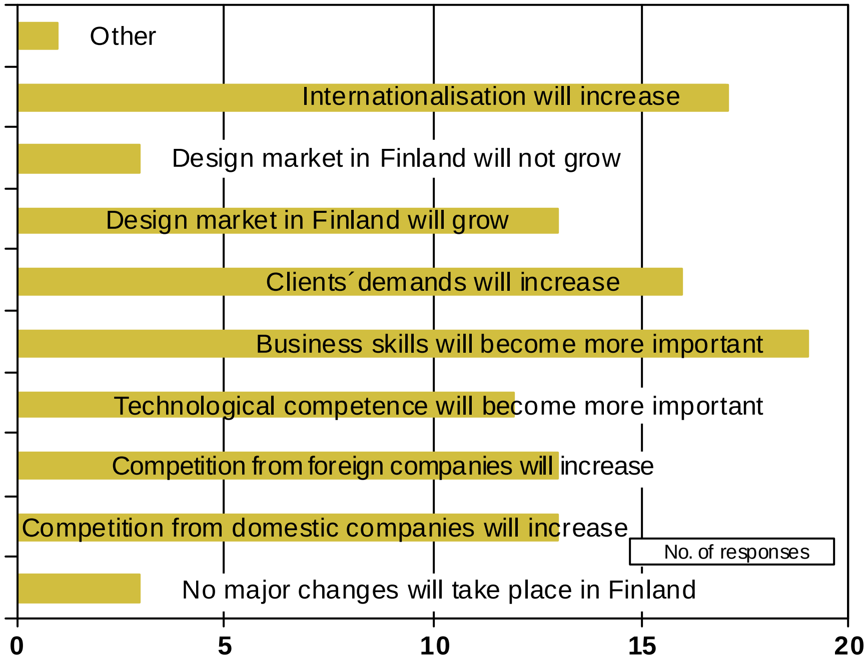
Do you get customers through your partners you would not get otherwise?



The majority (75%) of design firms said they got new clients through their partnership companies. On average, 31% of new customers were obtained this way. Cooperation is vital in a small sector. The quantity and quality of cooperation will become an important barometer in the future.

Design consultancies

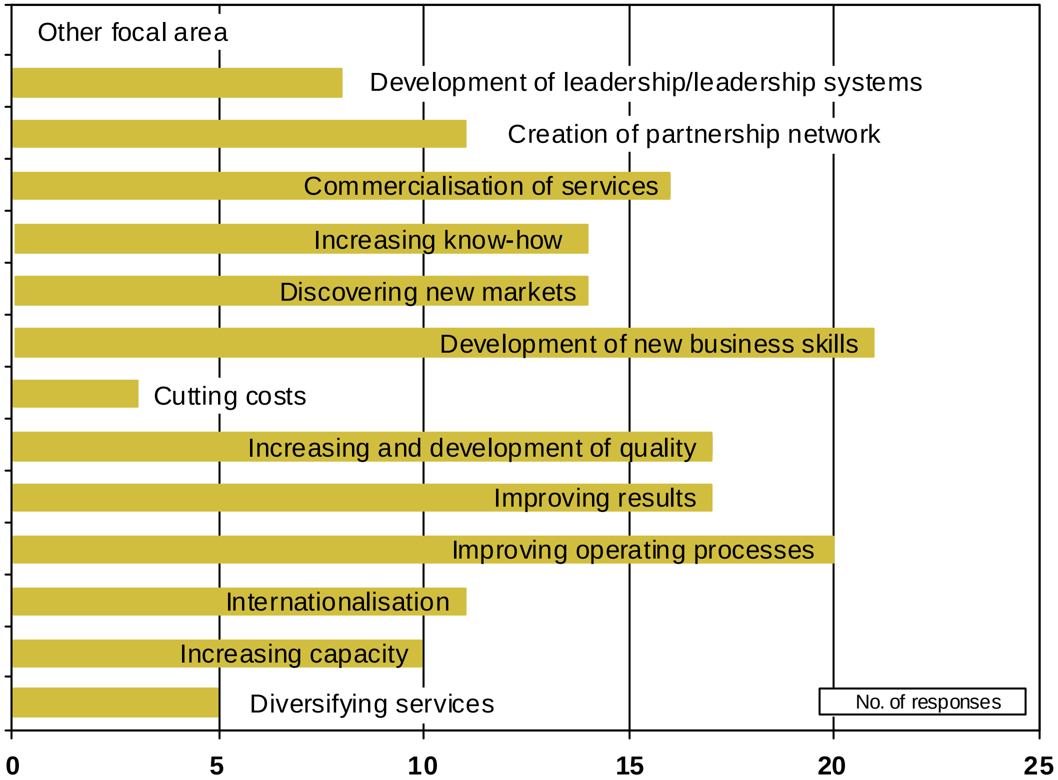
What do you expect will happen in design within the next three years?



The design service market is expected to grow and competition is expected to escalate at the same time. It is feared that businesses that need design services will buy them from abroad. As the use of design becomes more common, the clients' expectations will also increase. Business skills will become increasingly important and operations are expected to become more international.

Design consultancies

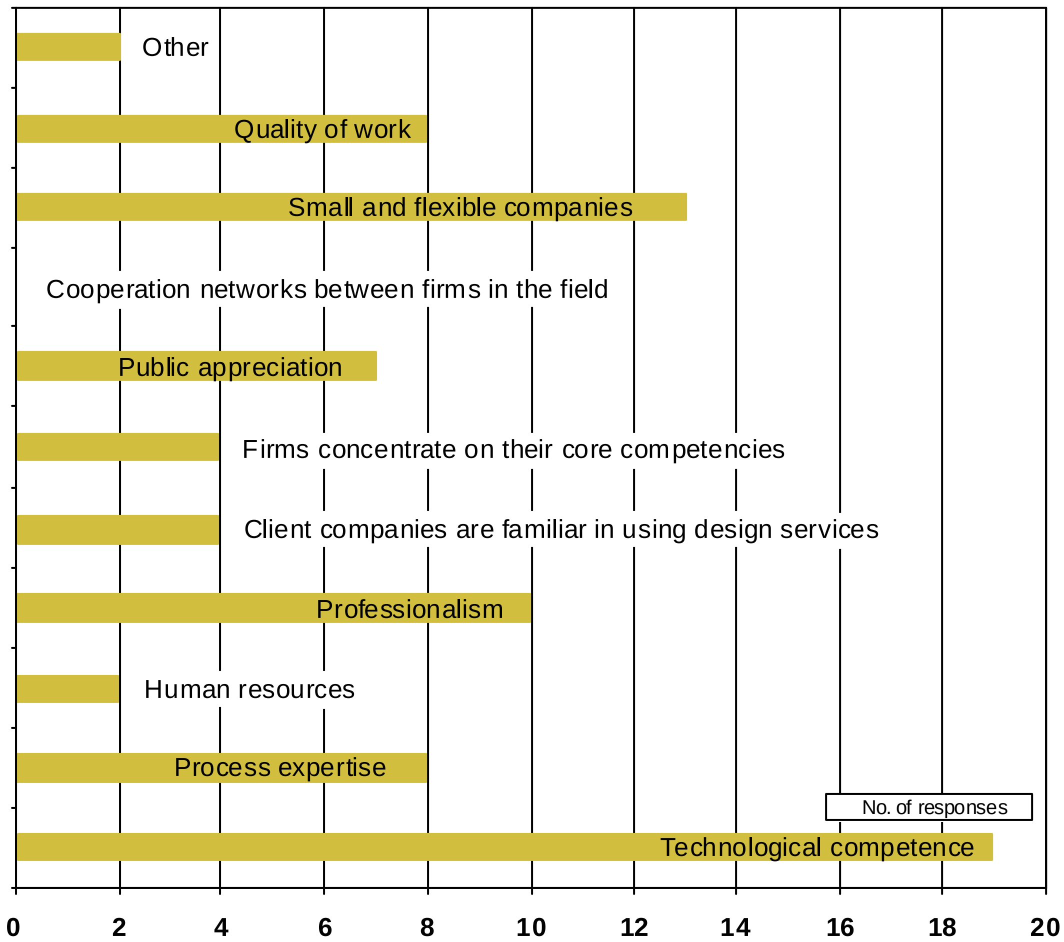
What will be the focal areas of your own business over the next three years?



Development of business skills and improvement of operating processes were cited as aims by most respondents. All wish to turn their activities into profitable business. One aspect in this is the turning of services into products. There is no desire to increase the range of services as the firms already have too many sidelines. Costs have already been cut at an earlier stage. Internationalisation is one of the future focal areas for many respondents.

Design consultancies

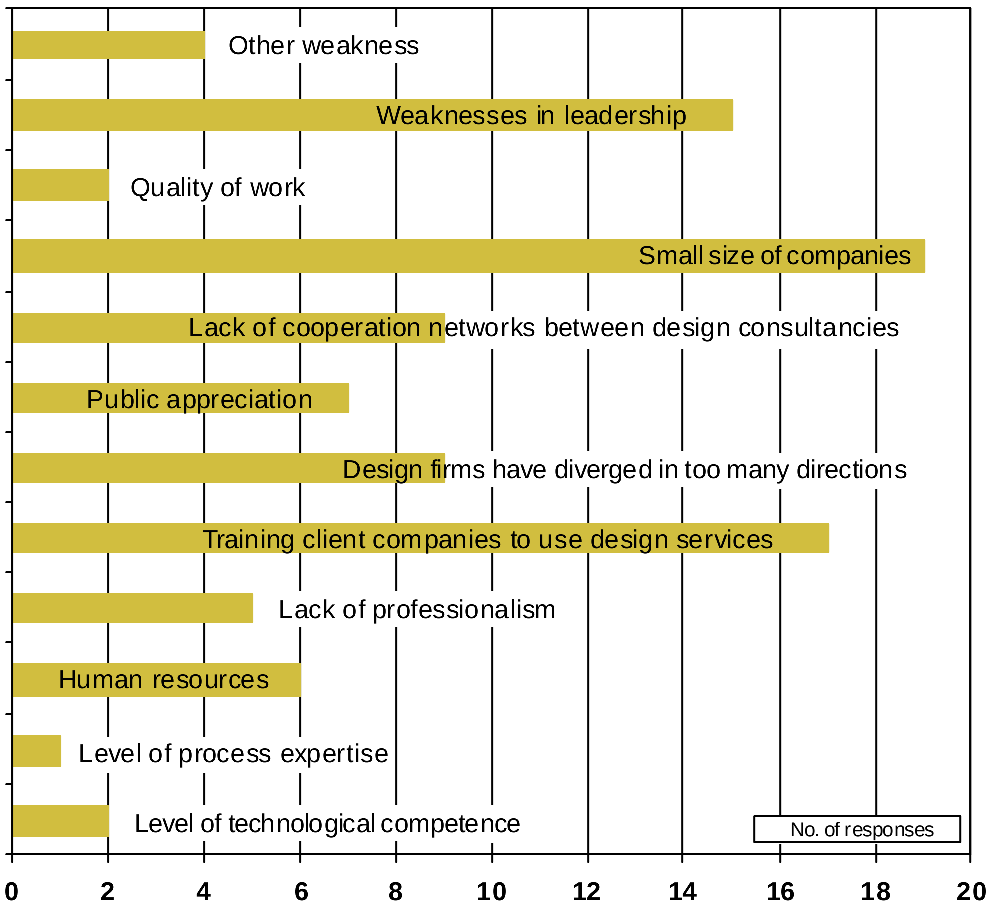
In your opinion, what are the strengths of Finnish design?



Technological competence is considered the key strength of Finnish design. Finnish design is traditionally based on operations and trust in customer relations, which is reflected as professionalism. The small size and flexibility of design firms is seen both as a strength and a threat.

Design consultancies

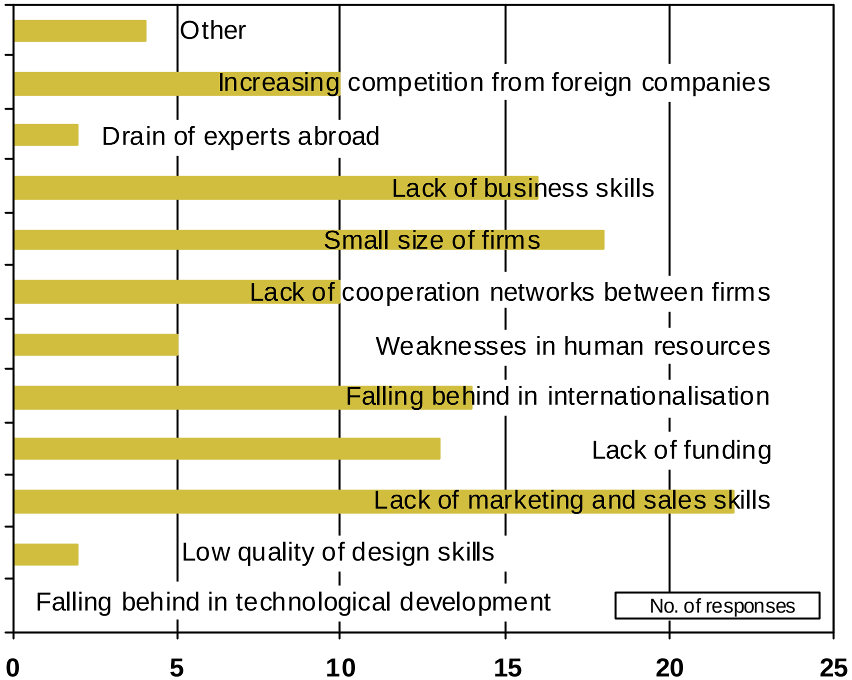
In your opinion, what are the general weaknesses of Finnish design firms?



The greatest perceived weakness of design firms was their small size. Design agencies are not very well networked among themselves. There are weaknesses in leadership. Customers do not know how to utilise design services and the agencies are unable to train them. The lack of specialisation is understandable in a small market, but at the same time it is acknowledged that diversification is excessive. Specialisation is a great challenge for the development of design firms. Other weaknesses mentioned included lack of business skills. On the other hand, this was the most common focal point in the development of activities.

Design consultancies

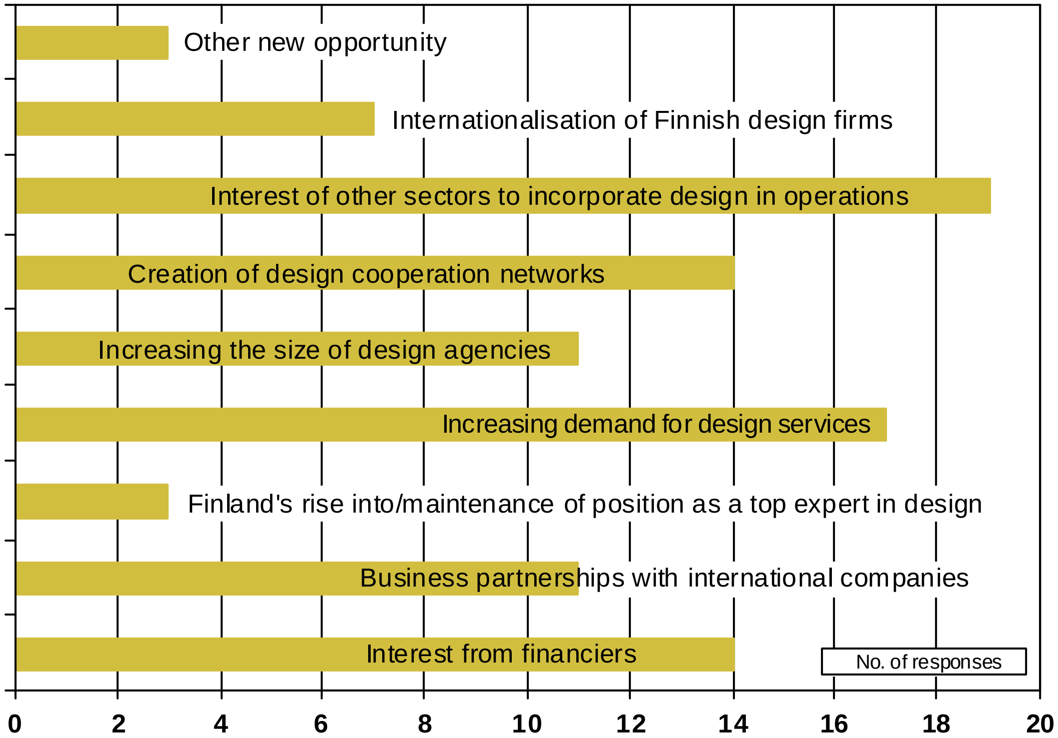
In your opinion, what are the threats of Finnish design in the near future?



The greatest perceived threat was lack of marketing and sales skills. This was confirmed by the responses of the industry. According to industry respondents, it is difficult to obtain information concerning design agencies. This highlights again the threat posed by the small size of design agencies and the lack of business skills. The fear is great of falling behind in technological development and internationalisation. Development of operations requires money, but there are no sources of funding, or the agencies are not aware of them. Other threats mentioned were the excessive number of students trained in this field, the reluctance of domestic markets to develop design into profitable business, and the difficulty of small agencies to find others to continue their business.

Design consultancies

What new opportunities for Finnish design do you see in the near future?



The greatest perceived opportunity was integration of design firms with other sectors. Many small agencies are established to provide a living for the designer. Merger with an engineering or advertising agency was, therefore, seen as a positive option, allowing the designer to concentrate on what they know best, design. The respondents both believed in and hoped for growth in the demand for design. They also understand the importance of cooperation. Interest of financiers would create new opportunities in the field. The respondents were not very confident regarding their own internationalisation, but partnerships with international firms seems to be the greatest opportunity for them.

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