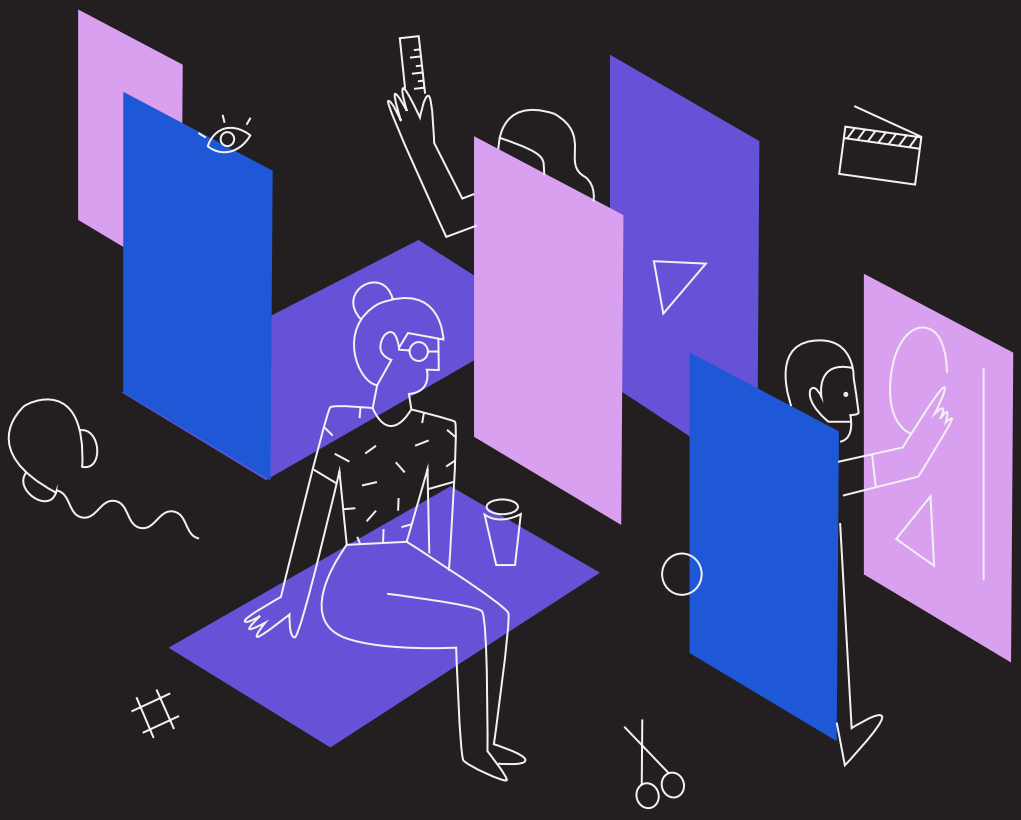
THE VALUE OF *Design* IN TECH

Shenkar & Start-Up Nation Central



הנדסה. עיצוב. אמנות.
هندسة. تصميم. فن.
ENGINEERING. DESIGN. ART.

שנקר
شنكار
SHENKAR

ACT SHENKAR
Accelerating Creative Talents

START UP NATION CENTRAL

JERUSALEM WHERE TECH MEETS DESIGN
START-UP NATION CENTRAL

Research Initiation and Lead
Tami Warshavski

.....

Research Team
Tami Warshavski, Founder and Managing Director of the Innovation Center ACT Shenkar (2011-2021); Founder and CEO Creative Nation
Dr. Yigal David, Engineering Faculty, Design Factory Shenkar
Uri Gabai, CEO, Start-Up Nation Policy Institute (SNPI)
Inbal Halperin Gottesman, Jerusalem Ecosystem Manager, Start-Up Nation Central

.....

Writing and Editing
Tami Warshavski, Dr. Yigal David, Alona Stern, Uri Gabai, Kochava Ayoun, Inbal Gottesman

.....

Steering Committee
Prof. Sheizaf Rafaeli, President, Shenkar – Engineering. Design. Art.
Wendy Singer, Executive Director, Start-Up Nation Central
Dr. Romi Mikulinsky, Head of the Master of Design (Mdes) Program in Industrial Design, Bezalel Academy of Arts and Design, Jerusalem
Ben Benhorin, Head of Digital Product Design, Visual Communication, Shenkar – Engineering. Design. Art.
Eitan Sharif, Adjunct Lecturer, Industrial Design Dept., Shenkar – Engineering. Design. Art.
Oded Barel-Sabag, Head of Platform, fresh.fund
Daniel Altman, Chief Innovation Officer, ACT Shenkar

.....

Research Support
Yuval Soffer, Meir Valman, Assaf Cohen, Samantha Rush Soclof, Lina Calavres

Design by **TWO DESIGN**

About

Shenkar - Engineering. Design. Art

Shenkar - Engineering. Design. Art. has established its position as one of the leading institutes of higher education in Israel and offers a unique interdisciplinary educational environment. The combination of engineering, design, and art faculties is the foundation of the institute's multidisciplinary academic approach, enabling students and lecturers to connect groundbreaking technologies with contemporary art and design concepts. Shenkar's goal is to foster an interdisciplinary environment where designers, artists, and engineers work together shaping the future of technologies.

שנקר
شنكار
SHENKAR

הנדסה. עיצוב. אמנות.
هندسة. تصميم. فن.
ENGINEERING. DESIGN. ART.

Start-Up Nation Central

Start-Up Nation Central is the address for corporations, governments, and investors to connect with the Israeli tech ecosystem. Start-Up Nation Central catalyzes growth opportunities by bringing Israeli tech innovation to global business and societal challenges. Established in 2013 and headquartered in Tel Aviv, Israel, Start-Up Nation Central is a nonprofit organization funded by philanthropy.

START-UP
NATION
CENTRAL

About

ACT Shenkar

ACT Shenkar supports the development of students and graduates as influential entrepreneurs and innovation leaders, collaborating with leading academia and industry leaders across a diverse set of fields. The goal of the center is to harness the power of students and graduates from the fields of design, engineering, and art to help them become future entrepreneurs and leaders in the Israeli workforce, reinforcing the critical role of design.

ACT SHENKAR
Accelerating Creative Talents

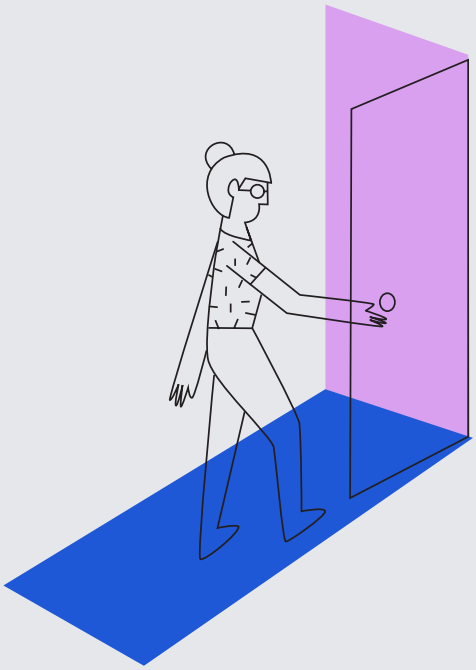
Tech Meets Design

Led by Start-Up Nation Central, Jerusalem: Where Tech Meets Design events bring together entrepreneurs from Jerusalem's flourishing tech sector and its dynamic design community to explore the nexus point between those two worlds. It aims to strengthen the economy of the city and serves as a model for strengthening a city's ecosystem by nurturing its design sector and fusing it with its tech sector.

JERUSALEM
WHERE TECH
MEETS DESIGN
START-UP NATION CENTRAL

Table of Contents

Table of Contents



Background

Why Design?

Since the 2010s, researchers have recognized the important role of design in delivering business value to tech companies. Recent research by the global digital design platform Invision revealed that companies that rank high in "design maturity" enjoy "cost savings, revenue gains, and brand and market position improvements as a result of their design efforts." [1] Extensive, longitudinal research conducted by global consulting firm McKinsey found that companies that scored high on the "McKinsey Design Index" outperformed industry-benchmark growth by as much as two to one.[2]

Additional research indicates that the lack of a human-centered, design-oriented approach to product development may significantly hinder a start-up's likelihood to succeed. CB Insights, the market intelligence platform, conducted post-mortem reports on over 100 start-ups that shut down and identified several patterns on why start-ups fail - 35% of these companies reported "no market need" ranking second on the list of reasons,[3] while 31% reported there was a problem with the product market fit. A human-centered, design-oriented approach is predicated on the idea of building products and services people actually want.

We believe that at this point in time, the Israeli market is ready to take a leap forward. In this first-of-its-kind study, we present the research base for the purpose of starting an organized process of measurement and to give the design field a significant hold in the Israeli ecosystem and innovation framework in the coming years.

1. The New Design Frontier, InVision
2. The Business Value of Design, 2018, McKinsey & Company
3. The Top 12 Reasons Startups Fail, 2021, CB Insights

Defining Design

Design is a rather wide term whose meaning continues to evolve and therefore lacks one coherent definition. In the high-tech sector it is used to describe everything from the graphics and user interface of a product to the user experience and user flow, as well as the use of the "design thinking" methodology to tackle strategic challenges. It is also related to systems architecture and the word 'design' is connected to other aspects of conceptualization and building and often interfaces with marketing.

But what exactly is design? A compelling, and encompassing, definition is: "the process that links creativity and innovation." [4] As the British Design Council states:"Design is not just about styling or adding a final finishing gloss; its true value lies in the proven methods used (often behind the scenes) to develop solutions. Design is creative problem solving." [5]

"Design thinking", a tool originating from the world of design, is defined by design-consultancy IDEO as "a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success" [6]. It is a holistic methodology that can be easily taught and used by anyone, even non-designers, and has proliferated in the past several years from a niche concept to a key component in a start-up's toolkit. In essence, design thinking begins with the end user in mind, rather than creating technologies and only then trying to find an audience for them.

4. DIUS (2008) Annual Innovation Report 2008, London: Department for Innovation, Universities and Skills
5. Design Council private communication, 2009, quoted in the UK's Department for Business, Innovation and Skills "The economic rationale for a national design policy", p. 7
6. IDEO Design thinking

According to the design thinking methodology, entrepreneurs should ensure that their start-up encapsulates the following core elements:

- → **Feasibility** - the technological ability to deliver the product
- → **Viability** - the ability to build and sustain a profitable business model
- → **Desirability** - the creation products and/or services that people actually want

In the past, the notion was that design is less critical for B2B companies than for B2C. This claim no longer holds much weight. A 2019 MIT Sloan Review article details why an **improved customer experience is critical for B2B businesses:** "Corporate purchasing decisions are made by human beings, who spend plenty of time on Amazon, Expedia, and other consumer e-commerce sites. Inevitably, these experiences shape their expectations for online transactions at work. Corporate buyers accustomed to easy, quick, and customized online transactions from sites targeting consumers now demand the same or better customer experience in digital business transactions." [7]

7. Why Customer Experience Matters for B2B, 2019, MIT Sloan Management Review

Measuring the business of design

In a data-driven world, facts and figures are critical. Yet, many companies in the Israeli ecosystem do not perform systematic measurements. Even at the macroeconomic level in Israel, there has been no measurement of the field to date, and the topic has yet to be reviewed in the annual reports of the Innovation Authority. Just like tech ecosystems around the world are measured, the field of design in tech has become a topic of interest and therefore is being measured and analyzed using similar methodologies. [8]

In the interviews we conducted, it appears that the subject of metrics and measurements is one of the industry's biggest challenges. Today, design value is measured only in areas related to user experience, but it is difficult to isolate the design component from the process and/or quantify the intangible value of design.

In this study we will provide a preliminary review of the leading global indexes, what we can learn from them, and what kind of metrics should be developed to establish and strengthen measurement capabilities when moving forward.

8. For further reading – see Appendix A "Leading Global Studies"

Measuring Design — The Design Ladder

What then are the metrics for measuring the extent to which start-ups embrace design and design research methodologies? The Danish Design Center created the "Design Ladder" as a tool for illustrating the different stages of maturity in how a company uses design.[9]

1 On the lowest rung is **Non-Design**, where design and the user's perspective have little or no clear role in the process of product development.

2 One rung above that is **Design as Form-Giving**, where design is primarily included in the final stages of development and offers mainly aesthetic, or styling elements. When talking about design in the context of high-tech, this is often what comes to mind - the user interface, such as the colors, layout, and graphics. Essentially, the way the product or service "looks".

3 On the next rung of the ladder, **Design as Process**, design is integrated at an early stage of the development process. Designers will often test prototypes before development starts and will work closely with engineers as part of the product development process.

4 Finally, there's **Design as Strategy**, where design plays a key strategic role in all elements of the business, up to and including the design of the business model. The Design Center posits that "that there is a positive link between higher earnings, placing a greater emphasis on design methods in the early stages of development, and giving design a more strategic position in the company's overall business strategy."

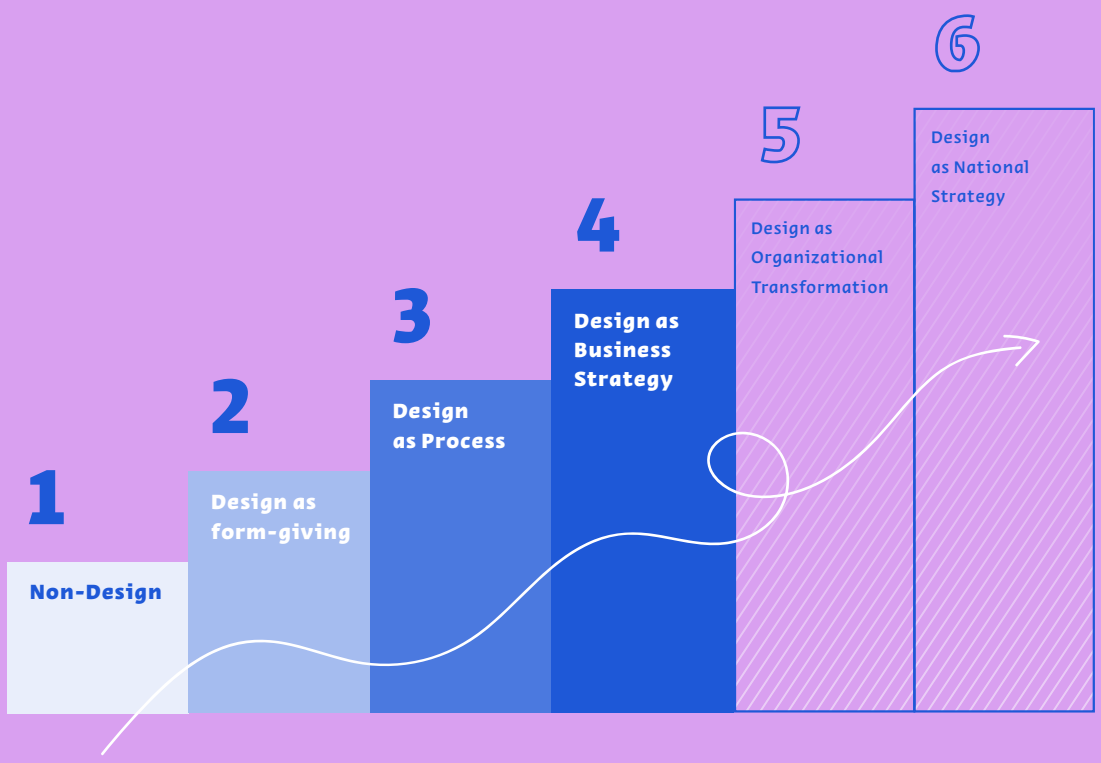
5 +6 Further interpretation[10] of the Danish design ladder adds steps 5 and 6 for acknowledging design as important for systematic change and business transformation and **Design as National Strategy**.

9. The Design Ladder: Four steps of design use, 2015, Danish Design Centre

10. Design Management Journal, 2016

Measuring Design — The Design Ladder

Figure 1: This report uses the design ladder as the paradigm upon which the evaluation was done. We measured companies' maturity according to the level of design adoption.



Why Now?

Israel is world-renowned for being a leader in the fields of entrepreneurship and technological innovation, and Israeli start-ups are a critical driver of the country's economic growth. For many years, Israeli start-ups grew on the basis of cutting-edge R&D, and most companies – even successful ones – placed little emphasis on design. The explanation for this is twofold; first is the "early exit" strategy, in which start-ups aimed to be acquired by large multinationals in relatively early stages. This created a division of labor: Israeli tech companies focused on the technology elements, while the multinationals that acquired them were responsible for designing the final product and delivering it to the end user.

The second strategy that caused design to be relegated to a peripheral part of the development process was Israeli start-ups' focus on businesses as end users (the B2B model). As previously stated, B2B companies, until recently, could "get away" with creating good technologies while remaining on the lower rungs of the design ladder. Both strategies are no longer relevant. Firstly, in the last year, the Israeli tech sector moved conspicuously to the "scale-up" phase, with more companies going public and reaching late-stage funding rounds than ever before. Many Israeli companies are choosing to grow organically and remain independent for as long as possible, and investors are focusing their efforts on identifying start-ups that are unicorn material. [11]

Reaching unicorn status requires much more than simply good technology. It requires rapid growth based on a seamless user experience; having a technological edge is no longer enough. Former Israeli unicorns like Wix, Monday, IronSource, Playtika (all of which are now multi-billion-dollar companies that have gone public or been acquired) seem to have a competitive edge based on great design that is well integrated into the development process.

11. Unicorns are start-ups valued at $1 billion or more

Staying on the lower levels of the design ladder for B2B companies isn't a solid strategy anymore. As stated in the previous section, users today expect a flawless user experience, regardless of whether they're using the product at home or in the office.
Yet, despite these insights, many Israeli start-ups, perhaps due to the technocentric legacy, still fall into the trap of "tackling problems that are interesting to solve rather than those that serve a market need." [12]

And while the "prize" for successful tech companies (in Israel as well as globally) is larger than ever, it becomes increasingly harder for new start-ups to reach this level of success. Indeed, the competition is fiercer than ever: both internally, over skilled human capital, and externally, as tech and innovation are becoming more important than ever in the post-COVID era, leading many nations to develop rival ecosystems. Investors have also become more generous when backing promising start-ups, but at the same time pickier than ever – focusing their funds mainly
on companies with unicorn potential.

Shenkar and Start-Up Nation Central jointly sought to answer these questions in the first study of its kind exploring the role of design in the Israeli high tech ecosystem. The research, consisting of both qualitative interviews and quantitative surveys, aims to create a baseline understanding of the role of design in Israeli tech companies today, highlight how some companies are deeply integrating design into their business processes, and identify opportunities for how Israel can continueto build design capabilities and use them as a source for innovation and growth.

While Israel is renowned for being a leader in software development, other countries are catching up. Israeli start-ups that are able to successfully combine their superior technology with cutting-edge design capabilities have the ability to gain a significant advantage in the long-term.

12. Ibid

Research Objectives

- Assess the perceptions towards design of high-tech companies & investors
- Challenge the paradigm that Israeli innovation must emerge from technological breakthroughs
- Create a baseline of Israel's design maturity to track over time
- Outline recommendations for different stakeholders in the Israeli high-tech ecosystem so they can leverage the power of design for innovation and growth

It is important to note that this research does not try to re-establish the claim that design is important for high-tech companies' growth. In the background section we explained why we believe this claim is both well-founded and more relevant than ever to the Israeli high-tech sector. Our aim instead is to methodically measure the perceptions of high-tech companies and investors towards design. And while this endeavor is important by itself, it becomes an even stronger tool if this type of research is repeated periodically in the future. This will allow the tech and design communities, as well as policy makers, to understand changes and trends and adapt accordingly.

Methodology

Qualitative Research

The qualitative research consisted of in-depth interviews with 23 senior leaders from Israeli high-tech companies, representing a cross-section of industries and customer focuses, including representation from cybersecurity, smart mobility, consumer, B2B, and more. It was critical to hear from a diverse set of people, in terms of their own background and the companies they work for.

» *A complete list of interviewees can be found in Appendix B.*

Quantitative Research

The quantitative research consisted of three surveys targeting:

- Israeli investors
- Senior managers of Israeli tech companies
- Designers who work for tech companies

The questions were structured to determine the relationship between different design factors and their perceived impact on the companies, assessing the role of design in generating value for the company. The survey was completed by 218 respondents from a wide range of companies representing different sizes, business models, lifecycle stages, and industries.

Since the study didn't survey the companies' business figures (revenues, investments, etc.) the answers represent the respondents' perception of the topics about which they were asked. Accordingly, we analyzed the following topics: design's contribution to growth and companies' view of design's overall importance, design's contribution to resolving specific challenges, and companies' ranking in the design ladder.

Findings

Design's contribution to growth

A main goal of this research was analyzing respondents' perception of design's contribution to their respective companies. We examined two variables – design's contribution to strategy, creativity, and growth (2017-2019). Respondents ranked both variables on a scale of 1 to 5 with the following distribution:

Figure 1:

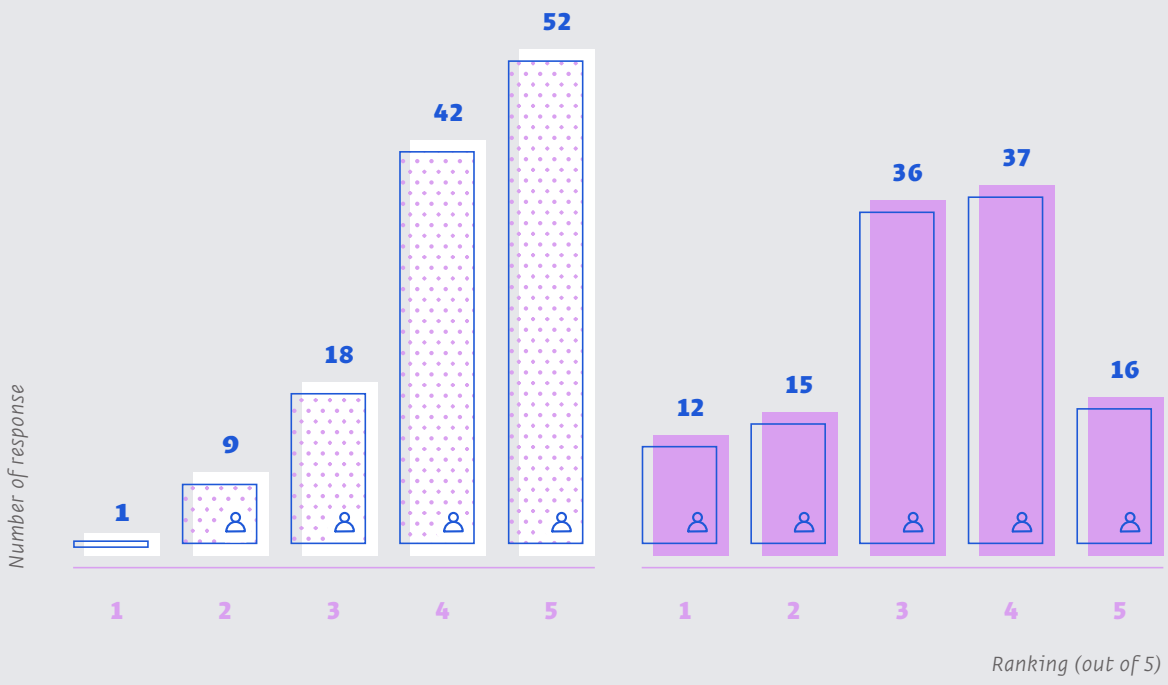
Distribution of the companies' perception of design

Figure 1A:

Product design's overall importance

Figure 1B:

Design's contribution to growth

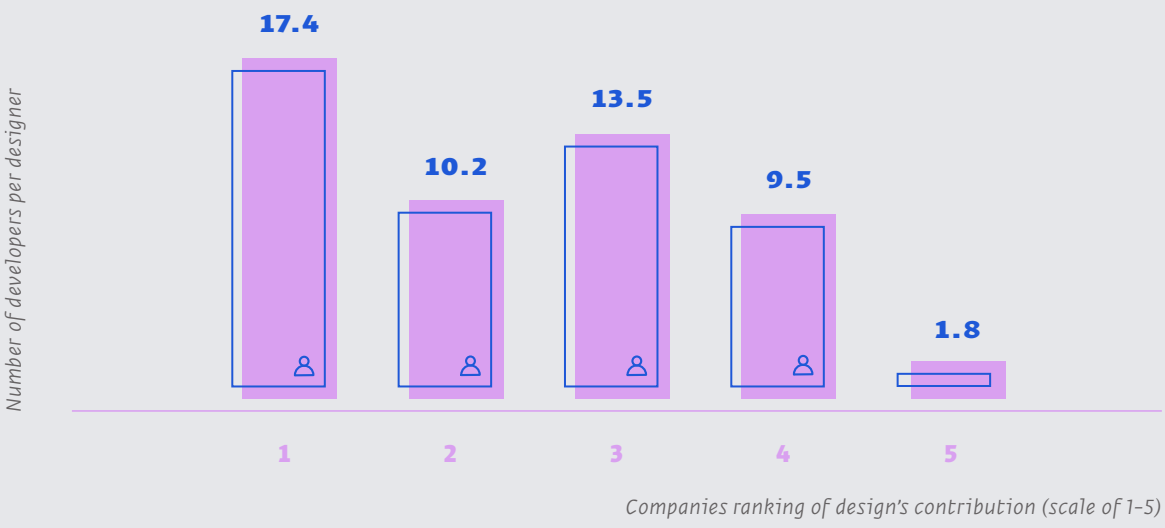


As can be seen in Figure 1A, a clear majority – 94 out of total 122 companies – ranked design's overall importance as either 4 or 5 (out of 5). The ranking was somewhat lower regarding design's contribution to growth, where the concentration was around a ranking of 3 or 4.

We then examined how the responses to these questions changed according to the ratio of tech employees to designers. As can be seen in the following graph, companies that ranked design's contribution as higher tend to have a lower ratio of designers to engineers (i.e., more designers for every tech worker). For example, companies that gave a ranking of 1 to design's contribution to growth had an average of 17.4 developers for every designer. On the other hand, companies that gave a ranking of 5 for the same question were almost equal, with 1.8 developers per designer.

Figure 2:

Ratio of developers to designers



Another interesting angle is whether design's contribution to growth varies amongst B2C and B2B companies (with the initial hypothesis that B2C companies still value design more).

Table 1:

Design's contribution and importance to growth according to business model (scale of 1 to 5)

	Average of design's contribution to growth (2017-2019)	*Average of product design's overall importance*
B2B	3.1	3.9
B2C	3.9	4.6
Mixed	3.0	4.2

As can be seen in the table above, on average **B2C companies rank design's importance / contribution to growth higher than B2B companies** and companies with a mixed business model. For both variables, the differences are statistically significant with a 95% confidence interval.

We conducted the same analysis of sectors and found that on average, **hardware companies regard design as less important than non-hardware companies.** When asked about design's overall importance, hardware companies gave an average ranking of 3.7 vs. 4.2 for non-hardware companies, and the difference was significant. We obtained a similar finding for design's contribution to growth (3.0 vs. 3.3 in non-hardware companies) but the differences weren't significant.

Another angle we examined was respondents' varying perspectives regarding design's importance, based on whether a designer holds a key position [13] in the company. Table 2 shows that **designers in key positions contribute to a positive perception of design in the company.** The differences between both groups (founders and senior management, respectively) and the group of companies in which neither a founder nor a senior manager is a designer are significant.

Table 2:

Design's contribution and importance according to designers in key positions (scale of 1 to 5)

	Average of design's contribution to growth	*Average of product design's overall importance*
Designer is one of the founders	3.8	4.3
Designer is in senior management	3.8	4.6
Both	3.8	4.5
Neither	3.0	4.0

In fact, in a regression analysis where the design contribution to growth is the dependent variable, we found that the only **two variables that were significant are "designer as manager/founder"** (adds an average of 0.6 to the ranking, when all other variables are held constant) **and companies that indicated that market penetration is a key challenge** (adds 0.5-0.7 to the ranking, depending on the specification). All other variables – business model, sector, size, and company stage - were not significant.

13. "Key position" was defined as a designer in the group of founders or if there is currently a designer in senior management (these are of course not mutually exclusive).

We obtained somewhat different results when we examined which factors contribute to product design's overall importance.

- **Two binary variables had a negative effect: being a company with a B2B business model** (-0.57 vs. non B2B companies), **and companies who reported that fundraising is a main challenge** (-0.66 vs. companies that didn't report fundraising as a challenge).
- On the other hand, being a **small company** (1-50 employees) **had a significantly positive effect** (adding 0.52 to the ranking vs. bigger companies).
- **Two other variables with positive effects – designer as founder or senior manager** (adds 0.33) and **market penetration as main challenge** (adds 0.31) – are close to statistical significance with p-values of 0.06 and 0.09, respectively.

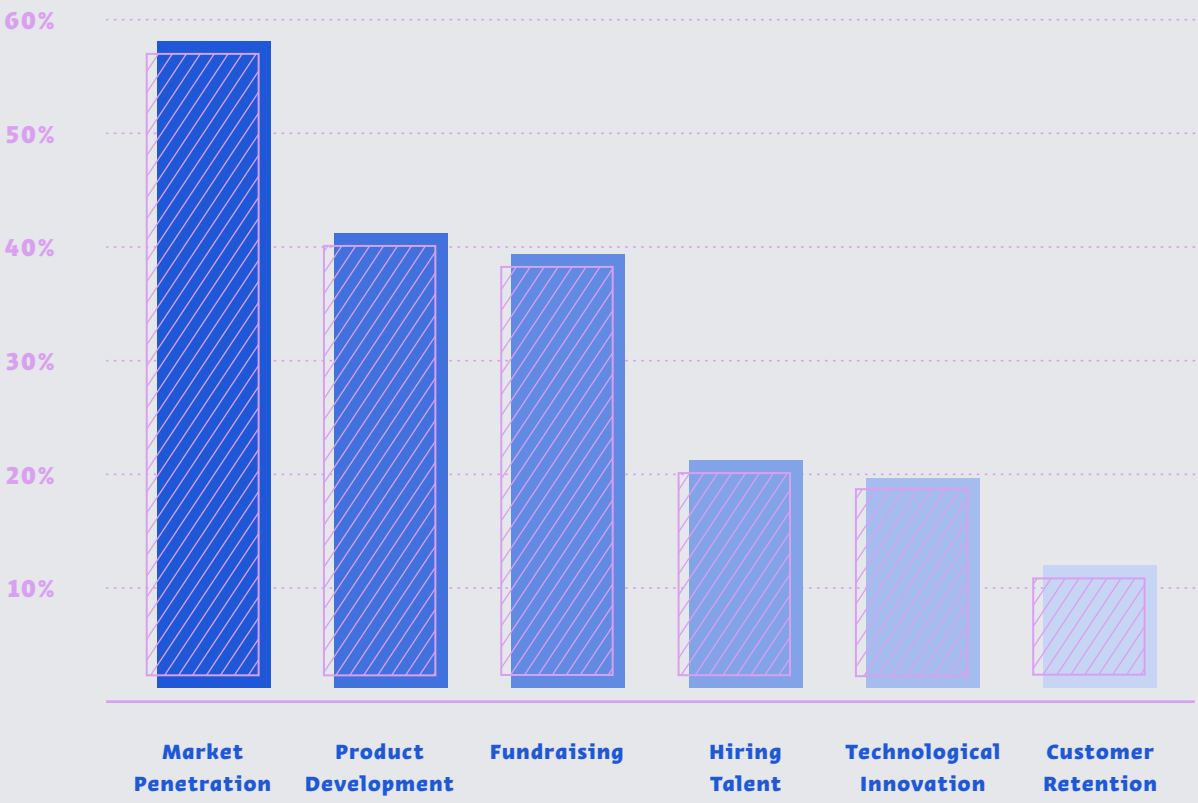
> **"I attribute most of my business success to design studies. Creative thinking teaches you to look for solutions to problems through unconventional thinking. A design mindset drives you to be skeptical and to challenge the status quo - and there's no better way than that when starting a new venture. My first recommendation to any entrepreneur is to partner up with a great designer."**
>
> Shai Wininger | Co-Founder and CEO, Lemonade; Co-Founder, Fiverr

Design's contribution to companies' challenges

In the survey, companies were also asked to list their two main challenges; the distribution of responses is presented in the figure below.

Figure 3:

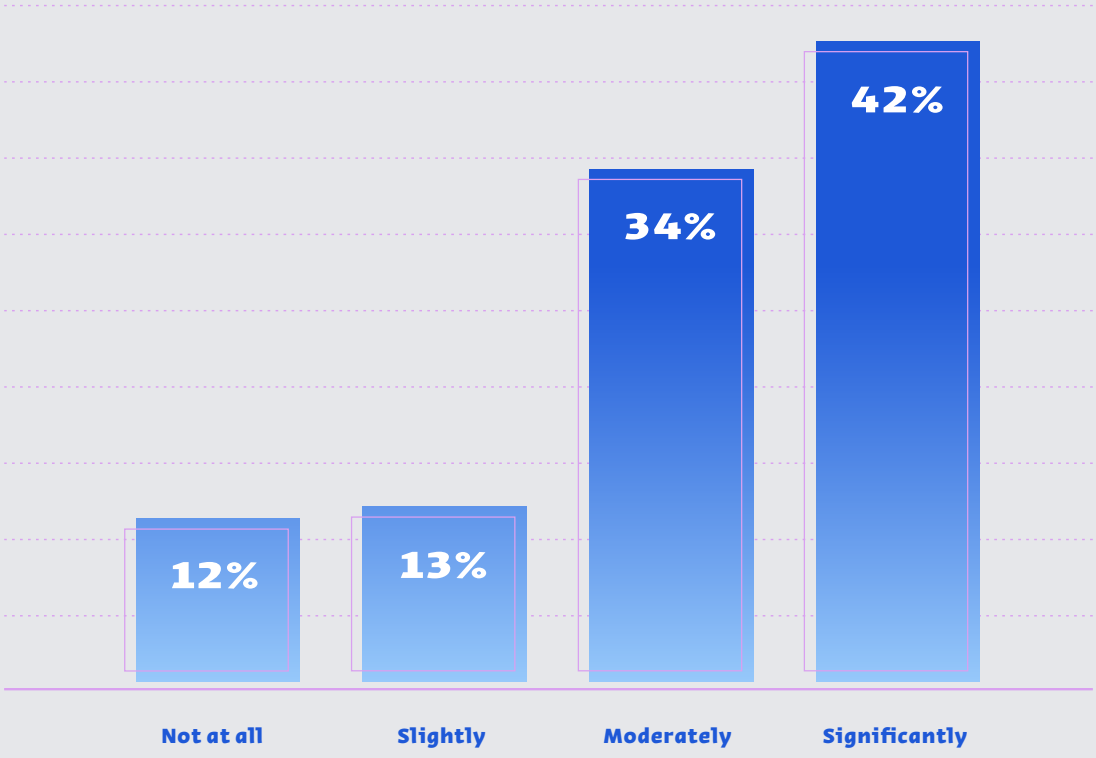
Companies' top challenges



One follow-up question was design's value in meeting technological and business challenges; the answers are presented in the graph below.

Figure 4:

Design's contribution in addressing technological and business challenges



distribution of companies perception of designs' contribution to growth

We also analyzed to which challenges is the contribution of design more beneficial. To do so, we coded responses into numbers (Not at all=0; Slightly=1; Moderately=2; Significantly=3). The differences are presented in the following table:

Table 3:

The added value of design in overcoming companies' challenges (scale of 1 to 5)

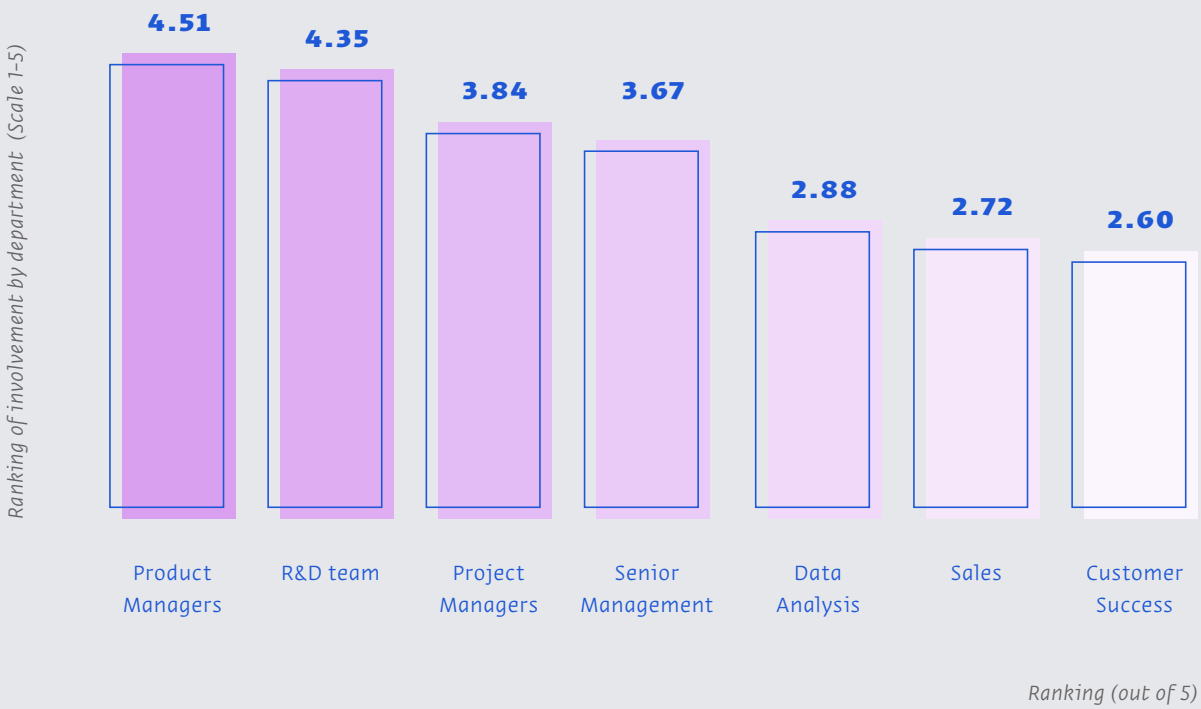
Challenge * *indicates that differences are statistically significant*	**Design's contribution to companies' challenges if this challenge is in the top two** *(on a scale of 0-3)*	**Design's contribution to companies' challenges if this challenge is not in the top two** *(on a scale of 0-3)*
Market penetration *	2.4	1.7
Fundraising *	1.8	2.3
Product development *	2.3	1.9
Technological innovation	2.0	2.1
Hiring talent *	2.2	1.4

The table indicates that there is a clear division between companies' main challenges when it comes to design. Companies for whom the top two challenges are **market penetration and product development perceive design as beneficial for addressing these challenges**. On the other hand, companies that mainly contend with the challenges of **hiring talent and fundraising view design as less relevant.** There was no statistically significant difference between companies which face technological innovation as a challenge and those that do not.

When asked **"in which teams designers are mostly involved"** the responses indicate there are three groups (as can be seen in the diagram below); high involvement in **Product and R&D teams**, medium-high involvement in **project management** and **senior management teams**, and medium-low involvement in **Data Analysis, Sales and Customer Success.**

Figure 5:

Average ranking of designer involvement in tech companies across departments

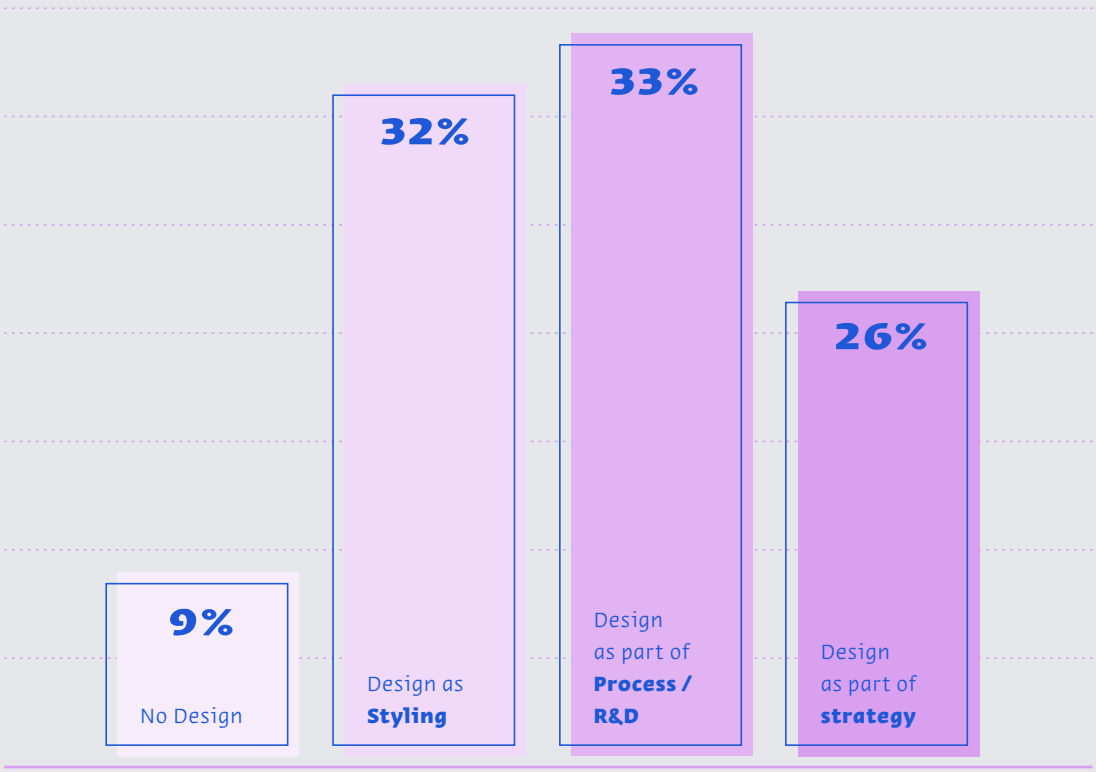


Design Ladder ranking

In the survey we also checked where companies are located on the design ladder. The distribution of responses is presented in the graph below.

Figure 6:

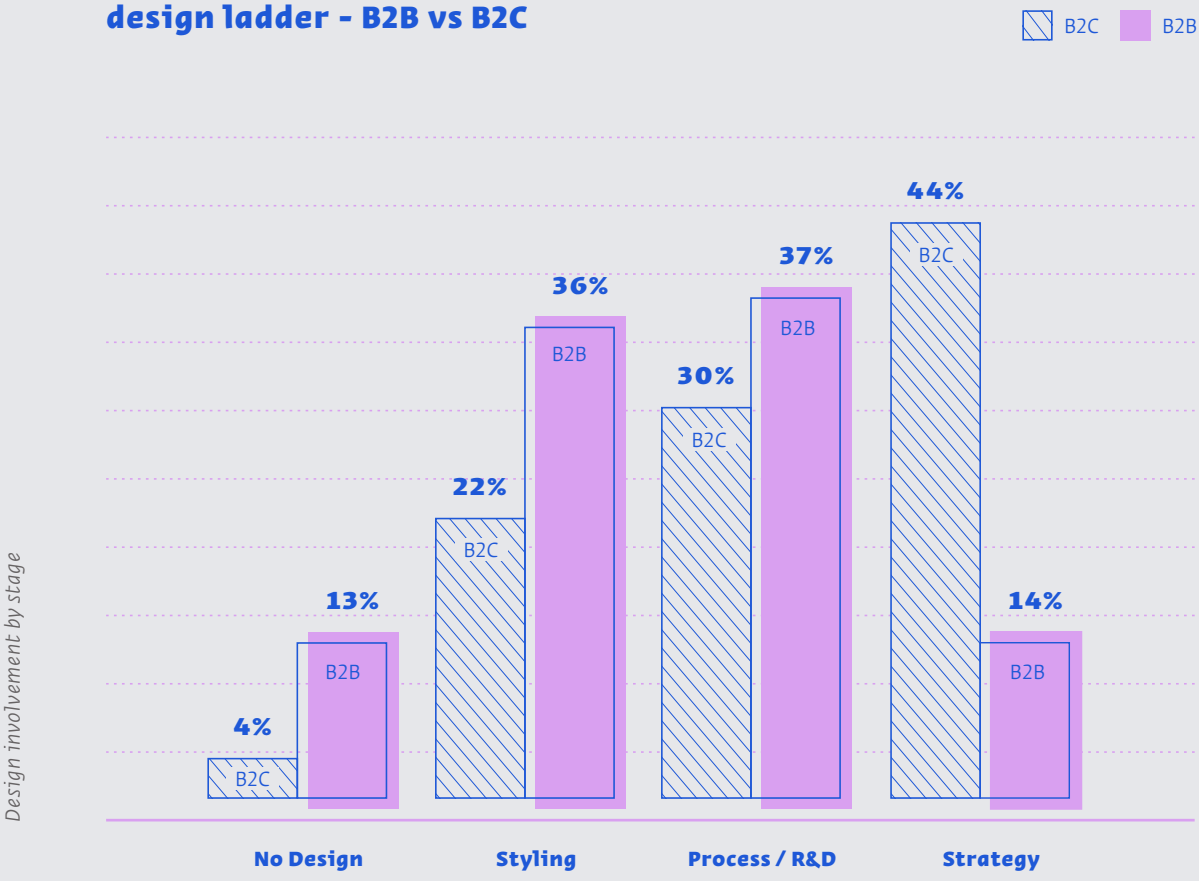
Overall Distribution of Companies on Design Ladder



We found significant differences when examining this question based on the business model. On average, B2C companies are noticeably higher on the ladder than B2B companies, as indicated in the graph below.

Figure 7:

Companies Positioning across the design ladder - B2B vs B2C



Distribution of design across stage

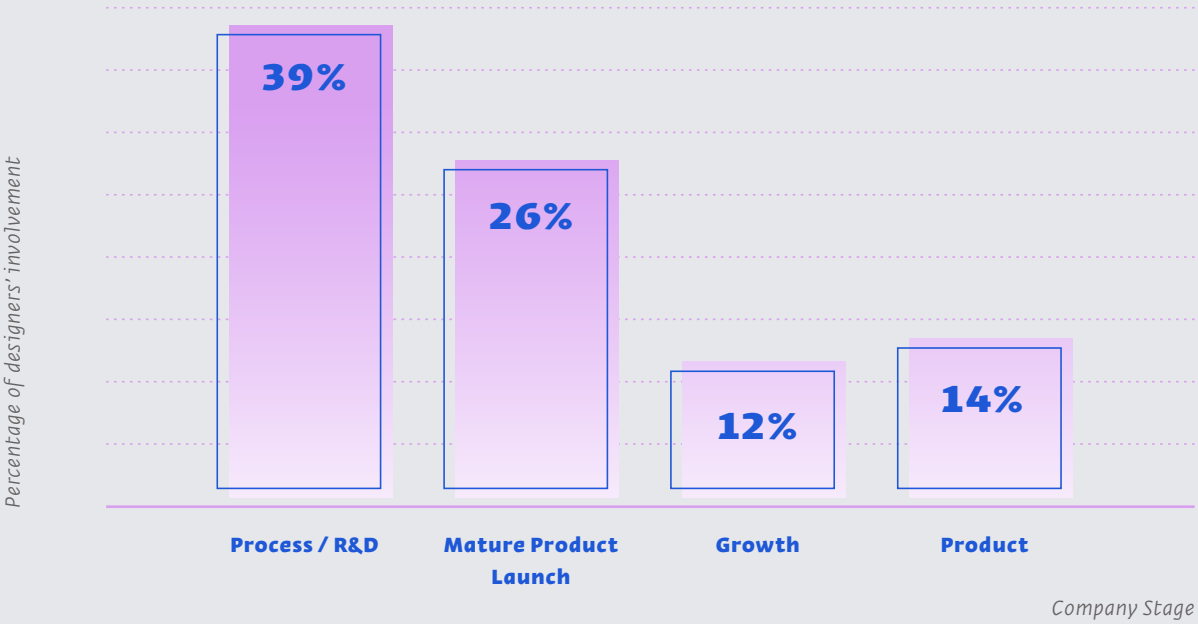
To check which attributes affect companies' positions in the design ladder, we coded the design ladder as follows: no design=0; styling=1; part of R&D=2; strategy=3.

We then ran an ordered logistic regression on different variables (business model, sector, size etc.). The results (available in full in the appendix) are that only two variables are significant: **if the business model is B2B** (deducts 0.5 from the ranking when all other variables are held constant) and **if a designer is a founder or in senior management** (adds 0.6 to the ranking when all else is equal).

Another analysis we conducted is the involvement of designers in strategic decisions. **The diagram below shows that designers are more involved in early-stage companies and far less involved in growth and mature companies.** However, we cannot say if the difference depends on the stage of the company or the generation/cohort of the company (for instance – if companies established more recently are more aware of the importance of design than older companies).

Figure 8:

Designer involvement in strategic decisions across company stages

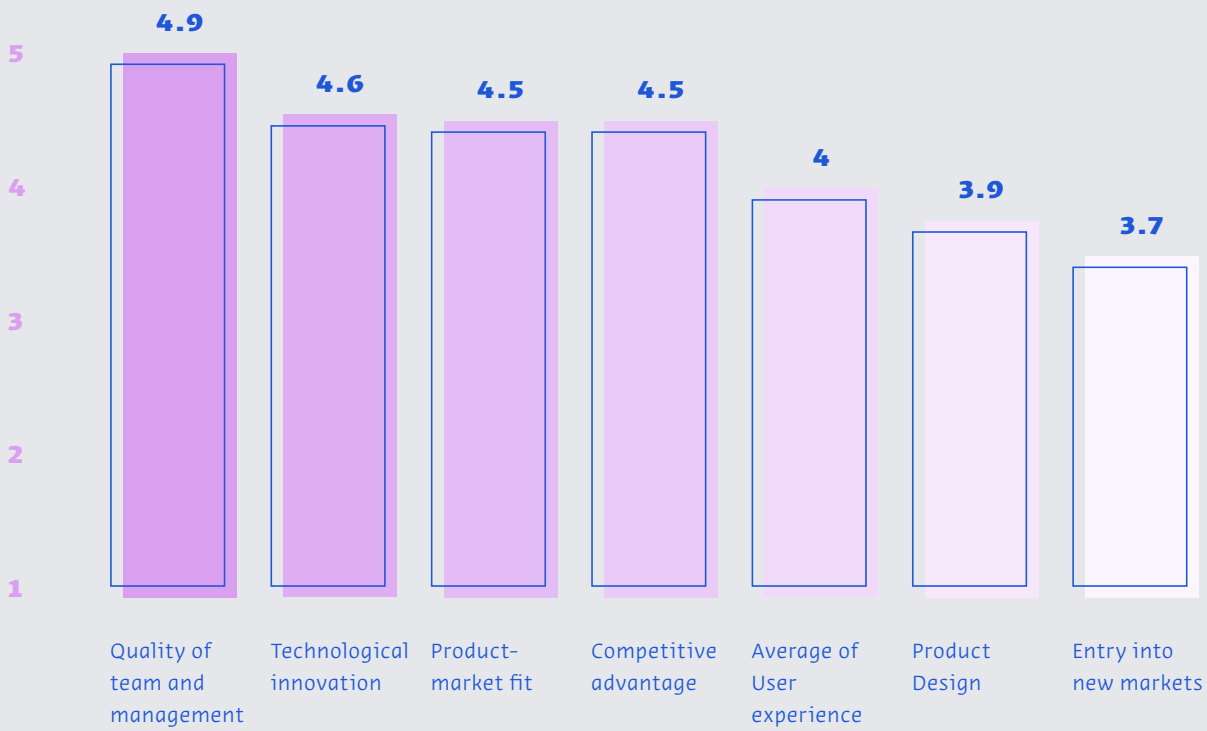


Investors' perception towards design

A main focus of the investors survey was to measure how they value different factors, specifically design, in the companies in which they invest.
They were asked to rank each of the potential success factors on a scale of 1 to 5; the average ranking per success factor is presented in the following figure.

Figure 9:

Average investors' view of design's importance on success factors (scale of 1 - 5)



As can be seen, all investors ranked the quality of the team with the highest ranking (5 out of 5). Product design was ranked, relatively low, with an average ranking of 3.9.

Zooming in on the product design factor, we have found two variables that seem to be important, as indicated by the following tables:

Table 4(a):

Importance of product design according to business model (scale of 1 to 5)

Average ranking for importance of product design	
Investors focused on B2B companies	3.7
Investors not focused on B2B companies	4.1

Table 4(b):

Importance of product design according to company focus

Average ranking for importance of product design	
Investors focused on software companies	4.2
Investors not focused on software companies	3.7

For both variables – the differences were not statistically significant with a 95% confidence interval but were significant with a 90% confidence interval.

Investors were also asked if Israeli companies invest more, less, or similarly, relative to tech companies abroad. 65% (20 investors) answered that Israeli companies invest less, 16% (5 investors) answered "more", and 19% (6 investors) answered "similar". There was no significant difference between the distribution of investors who invest only in Israeli companies and investors who also invest in companies abroad.

"Even technology giants in Israel realize that after years of investing in technical capabilities, design is one of the fields that is important and directly responsible for success in the new era. They must invest in design, otherwise they will lose the market, no matter how powerful their engines are."

Pazit Bar (Azubel) | Head of XDC – Experience Design Center, Amdocs

Main insights and discussion

Design is perceived as important by most companies

The research indicates that, by and large, Israeli companies understand the importance of design. Nearly 60% of respondents consider design as “part of strategy” or “part of process/R&D”, putting them at level three or four on the Danish Design Center’s Design Ladder. The Design Ladder “score” (average of the responses of all the companies in the survey where 0=no design, 1=design as styling, 2=design as process, and 3=design as part of the strategy) was 1.8. This puts Israeli high-tech as a whole (assuming that the sample is representative) very close to “design as part of process/R&D”.

Furthermore, the interviews we conducted indicate that there has indeed been a shift in Israeli companies’ attitudes towards design. Pazit Bar (Azubel), Head of Amdocs’ Experience Design Center, argues that ”even technology giants that have sprung up over the past decades in Israel realize that after years of investing in technical capabilities, design is one of the fields that is important and directly responsible for success in the new era. They must invest in design, otherwise, they will lose the market, no matter how powerful their engines are. The user experience is an integral component. The big companies must change and once again place the customer at the center, otherwise, new companies will emerge and change the rules of the game in their market.”

Shai Wininger, founder of Fiverr and Lemonade, goes even further: ”I attribute my success in the business world to design studies. I try to solve every problem through unconventional thinking. Design is in essence a process that is skeptical of traditional thinking and is an amazing catalyst for successful companies. Companies need the right structure and the courage to go against everything that has been done before. Designers have this inherent ability in their thought process and, because design is also a key element in organizational planning and the way it is conducted, the first thing I recommend to entrepreneurs at the start of their journey is to find a partner with a background in design and to go against conventions.”

Designer in key position is crucial to how companies perceive design's impact

What is perfectly clear, and admittedly not surprising, is that a key aspect in design's perception is whether a founder or a senior manager is a designer. This factor was statistically significant in all the aspects we checked – the importance of design to the company, design's contribution to companies' challenges, and ranking on the design ladder.

It's important to note that while the correlation is evident, the causation isn't clear. We cannot distinguish companies whose top management perceives design as important (or state that they are higher on the Design Ladder) and therefore have designers in key positions, from companies where high-ranked designers establish design's perception in the company. With that said, when looking only at cases where a designer is amongst the founders, we can assume that this sets the tone of the company regarding the importance of design, and not vice versa. Examples of leading Israeli companies demonstrate this point:

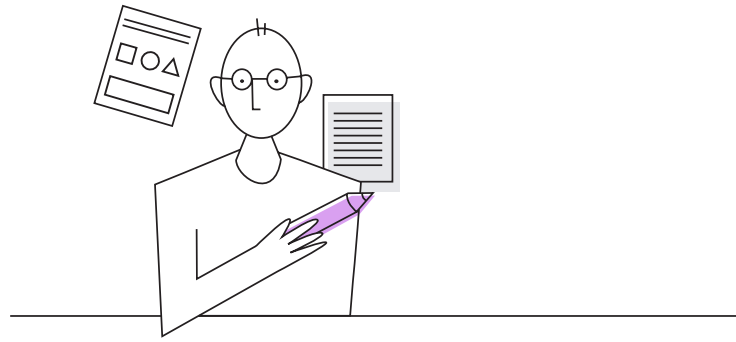
- **Fiverr** Has a designer on the founding team and designers on the development teams of all the company's products as well as in senior management roles.
- **Monday.com,** one of Israel's largest IPOs, has had designers on its management team from the outset and the number of designers continues to grow as the company scales.
- **HoneyBook's** co-founder Naama Alon is a graphic designer, Shenkar alumna, and has been Chief of Creative and Vision of the company from day one.
- **eToro's** founder Ronen Assia is an industrial and UX designer by training.

The interviews we conducted shed further light on designers' roles in tech companies. Designers increasingly serve in diverse roles as product designers, content designers, service designers, design researchers, user experience designers, user interface designers, strategic designers, growth hackers, and more. There are also employees with design backgrounds who hold positions that go beyond the mere definition of "just a designer", including roles in areas such as customer success, product management, growth lead, process optimization, and R&D.

Interestingly, in some companies, designers are integral to the R&D teams; at Fiverr, the Head of Design reports to the Chief Technology Officer, and a similar trend was observed at Amdocs. Pazit Bar (Azubel) also commented that "design comes under the company's R&D department. It is supported by the ratio between designers and engineers in work groups during the research stages. The dominance of designers in the negotiation stage is not in designing the experience but in identifying opportunities and developing concepts."

Alon Chitayat, Lead UX Designer for Growth at Waze/Google expressed a similar sentiment: "In the real world, challenges are collective, therefore design exists within the framework of multidisciplinary teamwork and so does the process of decision-making. A designer has to know how to communicate ideas to a wider team."

Similarweb takes this one step further, hiring "growth hackers" who often come from design backgrounds and are fully responsible for the user journey of their customers. They work with cross-functional teams and are reported to have a real impact on driving the company's growth.



B2B still lags behind in the perception towards design

Despite the global trend of design's rising importance in B2B companies, differences between these companies and B2C companies are still evident. Compared to companies with a B2C model, B2B companies still rank lower in the Design Ladder (few of them state that design is part of their strategy) and on average they state that design is less important to the company's growth.

These results indicate that there is still room for improvement on the side of some B2B companies to further capitalize on the advantages of design. **Melio** is an example of a company that did just that; this B2B online payments solution for small businesses describes itself as being "human-centered" and has recruited numerous designers and product people with backgrounds in consumer affairs. [14] Melio recently raised an additional $250M at a valuation of $4B.

Companies facing the challenge of market penetration value design more

One of the surprising findings of the research was how crucial design seems to be for companies that are considering market penetration as a challenge they are facing. The data clearly show that companies facing this challenge as one of their two top challenges better understand the importance of design, both in general and in tackling this specific challenge. And since market penetration is crucial to all companies at some stage and in particular for growth and in the transformation from start-up to scale-up, this finding suggests that companies will do better by incorporating a design mindset from the very early stages.

14. The Israeli Startup That Secretly Grew by 700 Percent During a Global Pandemic, 2020, Ha'aretz

In an era in which there is a great deal of competition in most products and categories, the design departments in growth companies have strategic importance. In the growth stage, users are at the center of the processes. Design is the engine in value creation for customers, increasing the number of customers and user satisfaction with the company's products and/or services.

Design's role in market penetration was showcased in multiple ways during our interviews. One of the most important challenges discussed was making sure that new technologies are accessible – creating successful user interfaces and interactions can best be achieved through design. Design helps in gaining consumers' trust in the company and the product, especially when it comes with new and unfamiliar offerings. This is especially critical for small companies that need to break into the market and will be competing with well-known giants. Another aspect discussed in the importance of making new technologies accessible is the adaptation of products and services to various market segments and creation of user experiences that are relevant to a wide range of audiences.

Idan Segev, Director of UX and Design at Moovit stated that "by ensuring that our design is inclusive and supports a wide range of target users, we are opening a wider gateway to new audiences. Accessibility - for older audiences, disabled users, and users in extreme situations - is particularly important in mobile devices (e.g., font sizes, usability in different weather conditions, etc.). All of these factors contribute to growing our customer base and supporting our business goals as well as doing what's ethically right."

Lemonade is a great example of a company that puts users at the center of its mission, aiming to become "the most-loved company". The designer, as a strategist, is required to understand what exists in the current market (customers who hate their insurance companies) and build a multidimensional brand that customers love. Much beyond a functional or technological experience, it's an experience that is meaningful for people.

Nadav Barkan, Head of Design at Fiverr, “many companies understand the value designers bring as deep thinkers, able to explore problems through different lenses and solve complex problems. They extend empathy towards customers and are able to put themselves in the user’s shoes, offering a better understanding of the product. This is why design has taken a more active role within R&D processes in many companies. We are consuming digital and interactive experiences and products so much more frequently than before, and as such, our expectations and standards for user experience have gone up a lot. Design’s role is to make the user’s experience as functional and enjoyable as possible, while conveying the company’s story in a holistic fashion. It’s clear that companies understand that today.”

In our interviews, we observed a growing trend in large companies with the establishment of in-house advertising departments as strategic assets with significant budgets. These budgets are now invested internally to ensure full control over messaging and content across all platforms. The companies become multi-dimensional brands, and customer loyalty depends on the coherency and reliability of the brand language on all interfaces and touchpoints with the company, which must be strictly maintained.

Adi Shua, Product Manager at **Cyberbit:** ”The customer is very significant in our R&D process. If you move a feature in development without the business view and perspective of a designer who has met with the customer, received their feedback, and learned their needs, the feature can very quickly become worthless. So, the company loses twice: ’wasted’ development and dissatisfied customers.”

Investors still don't see the full potential of design

The investors' survey indicates that investors regard design as a secondary factor versus other success factors like quality of the team, product market fit and technological innovation. This contrasts with a years-long trend in the US where leading VCs have hired designers as "design partners" to support their portfolio companies. Fast Company reported on this as long ago as 2014 in their article, "Why VC Firms Are Snapping Up Designers".[15] Leading VCs such as Khosla Ventures, Google Ventures, Kleiner Perkins, and True Ventures have turned to design to guide their investment strategies, with designers providing practical help to portfolio companies.

The investors' perception is supported by the finding that companies for which fundraising is a key challenge regard design as less important. One can assume that if investors perceive design as more important, companies in fundraising periods will put more effort into incorporating design as part of their strategy.

15. Why VC Firms Are Snapping Up Designers, 2014, Fast Company

> **"Challenges are collective, therefore design exists within the framework of multidisciplinary teamwork and so does the process of decision-making."**

Alon Chitayat | Lead UX Designer for Growth, Waze/Google

Shortage of designers

In the transition from "Start-Up Nation" to "Scale-Up Nation", the Israeli high-tech industry today creates new opportunities for the employment of designers that didn't exist before. Unfortunately, there does not seem to be a large enough supply of talent to meet this demand.

According to a 2020 survey by the Startup Designers community,[16] the basic salary of designers entering the high-tech industry is approaching that of developers. These higher salaries are likely due to their importance to the companies as well as the shortage of senior designers, a clear trend in the interviews we conducted.

The increased demand for designers has led private companies such as Netcraft, Pitango Academy, and Create Future, along with more established institutions including Reichman University and Haifa University, to offer specialized training in design fields such as user experience design, user interface design, and product management. Many larger start-ups even run 3- to 4-month training programs for new employees that bridge the gap between academia and industry, work processes, and corporate culture. These programs augment more traditional paths for aspiring designers to acquire training at Israel's globally ranked design institutes.

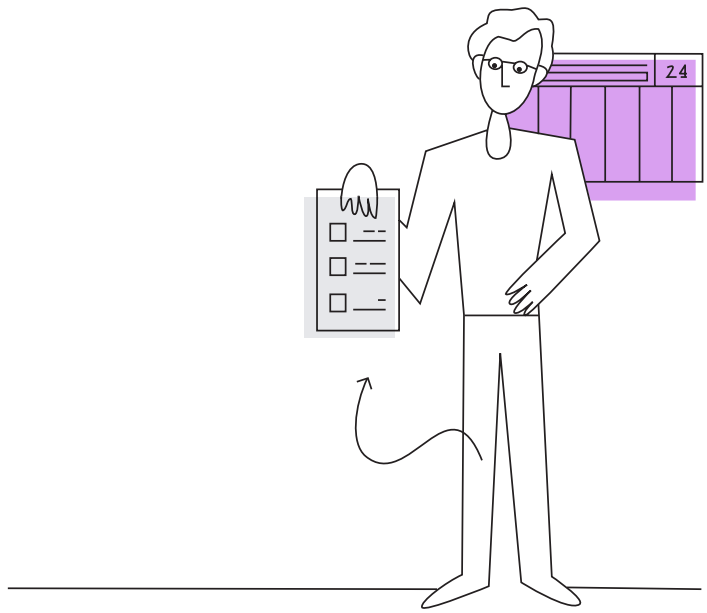
16. www.startupdesigners.co/#survey

Recommendations

While there is a deepening understanding globally that design is an integral part of achieving business growth, in Israel the field of design as part of the operational model of the Israeli high-tech ecosystem has been largely overlooked.

The following are our recommendations for steps that Israeli academic institutions, investors, and government stakeholders can take to ensure that Israel is well-positioned to leverage design as a source of innovation and economic growth.

While in the rest of the world the importance of design is garnering much attention and there is a deep understanding that design is an integral part of achieving business goals and growth, in Israel to date there is no formal acknowledgement of the field of design as part of the operational model of the Israeli ecosystem, and no formal metrics exist in the field.



Academia

- Design students should have a basic understanding of the tech ecosystem, and how innovation companies are founded and grow. Provide them with more background training in technology, business, and entrepreneurship, so that designers can thrive in Israel's high-tech ecosystem and design graduates can receive adequate training in a range of design-related skills including user research and design strategy. This requires embedding these vectors into the curriculum and offering workshops, intensive training sessions, or bootcamps, so that each graduate is fluent in them.

- This is, however, a two-way street: developers should be exposed to design orientation. The faculty in both technology departments and design schools need to have such training before they are able to broaden their students' knowledge. Programs to share and exchange knowledge between engineering/computer science faculties and design school faculties are important. Start-Up Nation Central, together with Bezalel and the Jerusalem Development Authority, have offered annual intensive workshops aimed at these faculty members, as one example. Another example can be shown through Shenkar's Creative Leadership trainings that they hold for faculty members from both design and engineering departments to stay at the forefront of the new frontiers in design and tech.

- Consider offering continuing education for young designers to elevate their skills, contributing to their seniority and preparing them to take on the challenges of growth stage companies.

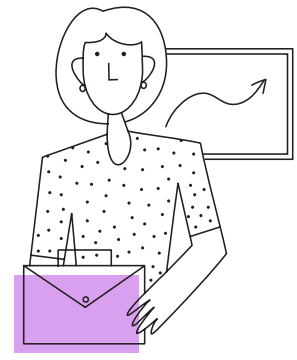
- Establish partnerships with entrepreneurship programs, accelerators, and tech incubators to provide students with opportunities to gain real-world experience while studying.

Government

- Promote the understanding among government ministries that innovation extends beyond technology.
- Educate tech-oriented public sector organizations about the role of design in the success of companies.
- Invest in programs to develop human capital for industry – alongside the massive efforts in recent years to train industrial engineers as a national mission, there is a need to develop programs, mechanisms, and incentives to train designers and integrate them into the industry to meet growing demand.
- Examine whether the Israel Innovation Authority should expand its support to include design as part of the grants for tech companies.

Investors

- Consider the growing role of design when evaluating start-ups, looking at objective criteria such as the extent to which design is part of the company's strategy from day one and the ratio of designers to developers, alongside more subjective criteria such as how design-oriented the company and its founders are.
- Involve designers as design partners and in advisory boards to provide guidance to portfolio companies and share input on investment decisions.



Next Steps

The aim is to continue this research longitudinally, to continue tracking changes over time and providing best-practice guidance for companies and investors on how to incorporate design and designers in order to achieve success.

We believe that at this point in time, the Israeli ecosystem is ready to take a leap forward and begin addressing the role of design in tech in a more structured manner. In this first-of-its-kind study, we present the research basis for the purpose of starting an organized process of measurement and expanding the role of design in the Israeli ecosystem in the years to come.

Appendices

Appendix A — Leading Global Studies

1 **"Design in Tech Report"** In Silicon Valley, the value of design to the global technology firms has been measured and published annually in the Design in Tech Report since 2015. The study identified a trend of venture capital enterprises that are interested in investing in ventures that have design co-founders.

2 **"Future of Design in Start-Ups"** This report by NEA found that 31% of start-ups, out of the 400 companies surveyed from around the world, have designer-founders. Airbnb, Instagram, Pinterest, YouTube, Kickstarter, Spotify – all have designer-founders. These companies, whose products we use daily, drive the global economy forward by developing new platforms for communication, information exchange, sharing resources and content, creating new value, new business models, designing new interactions, new functionalities, and new concepts.

3 **"The Business Value of Design"** A study by the global consulting firm McKinsey, which found that the revenues of companies that invest in design are 32% higher compared with companies that do not.

4 **"The New Design Frontier"** An industry-spanning report completed by InVision, which ranks the design maturity level of global companies according to their investment in design and examines design in different facets of the organization including the recruitment process, inter-organizational training processes, the quantitative ratio between designers and developers, and more.

Appendices

Appendix B — List of Interviewees in Qualitative Research

- ***Adi Shua-Zuker*** VP Product, Cyberbit
- ***Alon Chitayat*** Lead UX Designer for Growth, Waze/Google
- ***Ben Benhorin*** Former Head of Design Systems, Wix; Head of the Digital Products Design, Department of Visual Communication, Shenkar
- ***Benjamin Levy*** Chief Commercial Officer, Rubean AG
- ***Eli Kamhine*** Associate VP, Head of Strategy & Discovery, MAHI Technology Labs, MSD
- ***Erez Reznikov*** Head of User Experience, Firebolt
- ***Gilad Ratnovsky*** UX and Product Design Team Leader, Elbit Systems
- ***Idan Segev*** Director of UX and Design, Moovit
- ***Laly David*** Partner, Head of Business Development, OurCrowd
- ***Nadav Barkan*** Head of Design, Fiverr
- ***Oded Babayoff*** VP of Design, Similarweb
- ***Omri Barzeev*** Creative Director, PrimeManyone; Partner, Manyone
- ***Pazit Bar (Azubel)*** Head of XDC - Experience Design Center, Amdocs
- ***Ran Bittman*** Data Science Expert, SAP Concur
- ***Ron Perry*** Co-Founder, Class Data Systems (acquired by Cisco); CTO, Worklight (acquired by IBM)
- ***Roy Yogev*** Co-Founder, Datomize
- ***Shai Wininger*** Co-Founder and CEO, Lemonade; Co-Founder, Fiverr
- ***Shir Salzberg*** Senior Manager of UI/UX, Salesforce
- ***Tzachi Toledo*** Managing Director, Designit Israel
- ***Yishai Horn*** Former Head of Marketing Strategy & Planning, Better Place Israel
- ***Yosi Bercovich*** Creative Director, Lightricks

THE VALUE OF *Design* IN TECH

Shenkar & Start-Up Nation Central

Contact Us

act-shenkar@shenkar.ac.il

hello@sncentral.org

.....

designintech.com

הנדסה. עיצוב. אמנות.
هندسة. تصميم. فن.
ENGINEERING. DESIGN. ART.

שנקר
شنكار
SHENKAR

ACT SHENKAR
Accelerating Creative Talents

START UP NATION CENTRAL

JERUSALEM WHERE TECH MEETS DESIGN
START-UP NATION CENTRAL