

Digital Transformation

DIGITAL TRANSFORMATION STRATEGIES FOR GENERATION Z
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ECCO Leather Goods Unit

EXECUTIVE SUMMARY

Digital transformation is the future-proof strategy for companies to achieve sustainable development and maintain competitiveness (Vial, 2019). However, a critical aspect articulated by Kane (Kane, 2017): a key misconception in recent research regarding digital transformation, the focus is mainly given on the implementation of digital technologies and the acquisition of necessary skills. He argues that digital transformation is about the adaptability of companies to evolving contexts influenced by digital technologies, and their response to new expectations of customers, employees and partners.

This research report aligns with Kane's viewpoint by placing the spotlight on the aspect of "people", with a focus on GenZ (Generation Z). In 2023, GenZ has become the largest demographic group to date, and their values, expectations and behaviours are having considerable influences on companies' decisions and shaping their digital strategies. However, very few studies have connected this demographic with digital strategies in a business context.

This research paper seeks to bridge this gap, firstly, by conducting in-depth research on GenZ's characteristics. Then the outcome will serve as directions and evidence for a business to develop strategic roadmaps. Finally, the findings aim to provide frameworks for companies when implementing digital technologies to adopt new demands and expectations from different stakeholders, customers and so on.

The structure of this research report:

1. The first chapter consists of a brief introduction to ECCO, ELU and Generation Z;
2. The second section describes GenZ's characteristics within 5 themes, which serve as directions as well as objectives for Chapter 3;
3. The third chapter creates roadmaps based on the summarized 5 themes and explores in-depth relationships among data, digital technologies, and people's skills;
4. Finally, the last chapter combines the findings from Chapter 2 and Chapter 3, a new framework diagram, termed "Digital Transformation Infinite Loop", which offers a new perspective for companies to address the relationship among data, technologies, people and so on in the context of digital transformation. As well as implications and limitations for as further research possibilities.

Table of Contents

EXECUTIVE SUMMARY	1
1. INTRODUCTION.....	3
1.1 BACKGROUND: ECCO, ELU, AND THE MODERN FAMILY	3
1.2 THE BACKGROUND OF GENERATION Z	3
2. THE CHARACTERISTICS OF GENZ.....	4
2.1 ONLINE OR LIVE-STREAMING SHOPPING.....	4
2.2 MEANINGFUL INTERACTION.....	4
2.3 SNACKABILITY AND 24/7 CONNECTIVITY, VISUAL CONTENT IS MAINSTREAM	5
2.4 SUSTAINABILITY.....	5
2.5 WORK-FORCE AND PREFERENCE	6
DISCUSSION:	7
3. DIGITAL STRATEGY ROADMAP	7
3.1 THEME 1: ONLINE / LIVE-STREAMING SHOPPING.....	8
3.2 THEME 2: MEANINGFUL INTERACTIONS	9
3.3 THEMES 3: SNACKABILITY AND 24/7 CONNECTIVITY, VISUAL CONTENT IS MAINSTREAM.....	10
3.4 THEME 4: SUSTAINABILITY.....	11
3.5 THEME 5: WORKFORCE AND PREFERENCE	12
DISCUSSION:	13
4 . CONCLUSION AND IMPLICATIONS	14
CONCLUSION:.....	14
IMPLICATIONS AND LIMITATIONS.....	14
REFERENCE:.....	15

1. Introduction

1.1 Background: ECCO, ELU, and the Modern Family

ECCO is one of the world's leading shoe brands and is known for its comfort and quality. The uniqueness of ECCO is that it owns and manages every aspect of the value chain: from ECCO leather tanneries and shoe manufacturing to wholesale and retail activities (Ecco, 2019).

ELU, which stands for ECCO leather goods unit, which was founded in 2019 (Spindler, 2021). ELU was created to showcase the best of ECCO leather. The unit uses purpose-driven innovation to deliver functional, futuristic, and exceptionally crafted leather goods – designed for the **Modern Family** (Taylor, 2023).

According to Bloomberg's analysis of United Nations data (Spitznagel, 2020): at the end of 2020, Millennials (31.5%) and GenZ (32%) will jointly represent over half of the global population, which shows the significant influence of these two generations held in modern families and society. It also helps explain the diversity in modern family structures, including same-sex families, single-parent families, blended families, and childless families (Muraco, n.d).

In Sladek's (Sladek, 2018) article: researchers and companies are now turning their focus to GenZ, rather than the millennials. GenZ was born into a "modern family era", and has increasingly become the main workforce in future society and enterprises, their demands and expectations will have a significant impact on business strategies and digital transformation. For companies like ECCO, it is necessary to refine their digital strategies to align with the needs and expectations of this generation. Therefore, the main research group of this research paper focuses on GenZ, aiming to provide a holistic overview of their characteristics, that facilitate the development and refining of digital strategies.

1.2 The Background of Generation Z

According to the Pew Research Centre (Parker and Igielnik, 2020), GenZ refers to a generation born between 1997 and 2012. This generation has grown up in an environment closely tied to internet culture, giving rise to a series of corresponding cultural phenomena. They exhibit differences in values, mentalities, behaviors, career preferences, and lifestyles.

GenZ has also demonstrated strong performance in both population growth and purchasing power. According to Bloomberg's analysis of the United Nations (Spitznagel, 2020), by the end of 2020, the population of GenZ had reached 2.47 billion, contributing 32% of the global population. GenZ has also become the largest consumer group worldwide, according to Node statistics (Node, 2023), GenZ's purchasing power is \$360 billion, compared to just \$143 billion four years ago, making up 40% of the global consumer market.

This group considers themselves "digital natives"(Turner, 2015), which means that a business organization must know their preferred platforms, expectations, and needs. These all directly influence their shopping habits, subsequently changing the business models and strategies.

Therefore, understanding everything about GenZ is essential for developing successful digital strategies for ECCO.

2. The characteristics of GenZ

This chapter starts with an explorative research activity targeting GenZ to better understand their characteristics, and hence define their needs and expectations. The results are categorized into 5 themes, each theme is supported by specific cases to ensure credibility.

2.1 Online or live-streaming shopping.

GenZ primarily chooses online platforms (website and social media) as their main purchasing channel, some of the typical manners from them are:

1. Conducting online research before making a purchase, for instance, the product reviews and sales performance.
2. Comparing prices and directly searching for discount codes or coupons.
3. Only websites with a smooth and complete user experience design can provide more motivation for purchases.

*In China, due to the rapid technological development of e-commerce platforms and live commerce, live-streaming shopping has become the primary sales method for companies (NEW GENERATION Z IN ASIA: dynamics, differences, digitalization., 2020). This approach not only reduces the cost of the equipment (usually, a computer with a camera and microphone, and stable internet) but also bridges the gap between products and consumers, saving time spent on browsing and searching for information.

2.2 Meaningful Interaction

GenZ places a special emphasis on the interactivity of products or services, particularly 'meaningful' interactions:

1. Multi-channel advertising: traditional marketing strategies that involve high investments in television advertising are considered outdated. Single-channel promotional campaigns are not seen as the most effective means of engagement, sometimes, overly frequent advertising can even have negative effects (Torres, 2020).
2. Fostering new sale channels: According to Barclays (Retail: The rise of "phygital", n.d), in the UK, 22% of users aged from 18 to 24 use **ad blockers**. GenZ's average attention span for ads is only **8** seconds. This has led to the popularity of short video platforms (TikTok) and live-streaming commerce. Major companies like Tencent Technology and Meta all have launched their short video platforms. Tik-Tokers and influencers are hired to promote products.
3. Retailers are adapting their approach to display products to GenZ, brands like Hugo Boss, Zara, and H&M are creating immersive AR and VR experiences to attract GenZ both in retail

and online (Perry, 2020). Emerging technology is the key to bringing the physical and digital worlds together. The word “phygital” was created to name this hybrid approach.

2.3 Snackability and 24/7 connectivity, visual content is mainstream

In the era of the internet, speed is the key to success, especially in the fast fashion industry (Bhardwaj and Fairhurst, 2010). GenZ, born in this context, has higher expectations for online services and seeks immediacy. For instance, they want manufacturers to quickly address the issues they encounter.

- Different from millennials who might still prefer traditional phone-based customer service. GenZ is already used to using social media to voice their concerns or directly search for solutions online.
- Brands like Meta, and Spotify (Kim, 2018) have already implemented collaborative robotic systems, such as a chatbot system powered by Artificial Intelligence on their website or app to ensure 24/7 real-time services.

According to IBM's statistics (Cheung, 2018), GenZ expects seamless 24/7 connectivity and is accustomed to switching between 3 to 5 different platforms. Their attention spans are getting shorter, and slow loading speeds on websites or apps can lead to platform switches. Therefore, brands need to deploy IT technologies to maintain their websites daily to ensure their connectivity.

Images and videos have become the dominant means of cultural and information transmission for GenZ (Baron, 2019), and brands looking to attract the attention of GenZ must avoid relying primarily on text-based communication. Creative visuals and videos are more effective in capturing their attention compared to text. Creating trends on social media platforms can also drive consumer engagement (Alves, 2023).

- In terms of content creation on short video platforms, GenZ places a greater emphasis on the 'narrative' of a product. Brands need to bridge the gap between themselves and GenZ. For example: Simply showcasing finished products is no longer attractive for GenZ, as they exhibit more interest in the production process and its design philosophy.

2.4 Sustainability

For GenZ, consumption is no longer just about buying products and services; every choice represents support for a product's philosophy. GenZ has increasingly high demands for products, not only focusing on aesthetics, and innovation but also core values such as environmental friendliness and sustainability (Confetto et al, 2023). This requires businesses to continuously study and implement marketing strategies that are more in line with contemporary trends.

- Compared to brands that lack environmental considerations or neglect product updates, GenZ is willing to spend more money in pursuit of product sustainability and ongoing product upgrades. For example, Apple's decision in 2021 to use environmentally friendly renewable materials (metal), as seen in the iPhone 13, exemplifies this trend (Apple, 2022).

In the future, ECCO's design team needs to consider the use of recycled materials or explore the development of new materials or processes to ensure the attractiveness of their products.

2.5 Work-force and Preference

GenZ has not only brought fundamental changes to consumer and multimedia culture, but it has also gradually become the mainstream workforce in society. According to the Universum estimate (Universum, n.d), in the year of 2040, 40% of the global workforce will consist of GenZ, who will be the driving force behind social development and the primary producers of goods. Therefore, businesses need to make adjustments in their future operational models, leadership culture, and practices.

When it comes to career choices, GenZ prefers to integrate a balance of work, interests, and life, incorporating their values into their professional expectations (Handshake, n.d.). They have a high interest in flexible employment, valuing having their own time to explore. This requires businesses to change from the traditional nine-to-five fixed model and experiment with different types of work arrangements to ensure attractiveness.

Although GenZ is often described as stress-resistant and prone to depression, it's simply that their life goals are different. Born in an era of abundant necessities, GenZ is more inclined to prioritize life when they cannot balance work and life conditions.

Discussion:

This chapter underscores an important finding: the characteristics and behaviors of specific groups are shaped by their cultural context. Which impacts a business's strategies, whether is the product design process or service delivery methods. For instance, in the case of GenZ, this group of people/generation is known for voicing their concerns, especially those related to global issues such as Climate Change, through social media platforms. Their demands for sustainable products and an environmental-friendly future have led to impactful changes in the business strategies of companies. This relationship is illustrated in the diagram below:



(Figure 1: Relation Diagram, word count:8)

3. Digital strategy roadmap

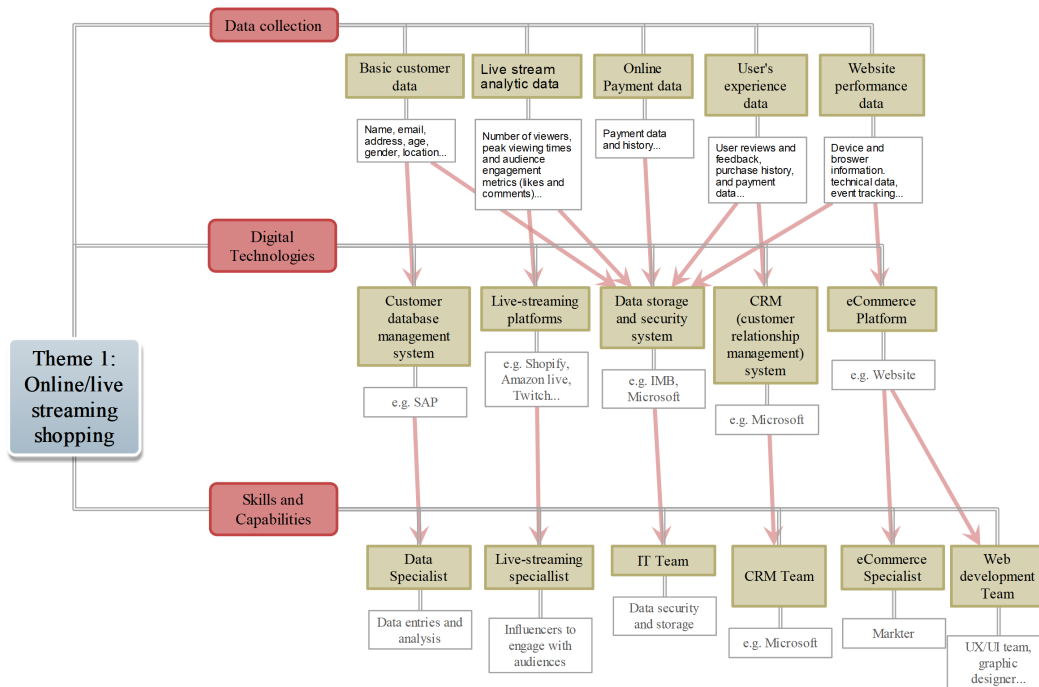
This chapter focuses on the development of a digital strategy that is closely aligned with the findings (5 themes) from the previous chapter. For each theme, a specific roadmap is developed. Each roadmap is developed by following the steps below:

- The 1) data collection, 2) digital technologies that could facilitate data collection, 3) skills and capabilities, and 4) relationships and partnerships, these four sections are being displayed as a diagram.
- To complete the roadmap of each theme, the 5) ethical considerations, 6) organization challenges & barriers and 7) leadership, and 8) KPIs will be discussed at the end of the diagram.

Prototype tools:

- The software MindMaple (www.mindmaple.com, n.d.) was used to create the diagrams.
- The development of each step utilizes the ChatGPT (OpenAI, 2022) to help the acquisition of a holistic overview. This search tool was chosen because of its extensive database, which comprehensively contributes to this research.

3.1 Theme 1: Online / live-streaming shopping



(Figure 2: Diagram for theme1, word count: 143)

Online/live-streaming shopping allows companies to promote products and services in real-time and ensure consumer engagement. Partnering with influencers could potentially help to increase exposure and reach a huge audience (Zhang et al, 2022).

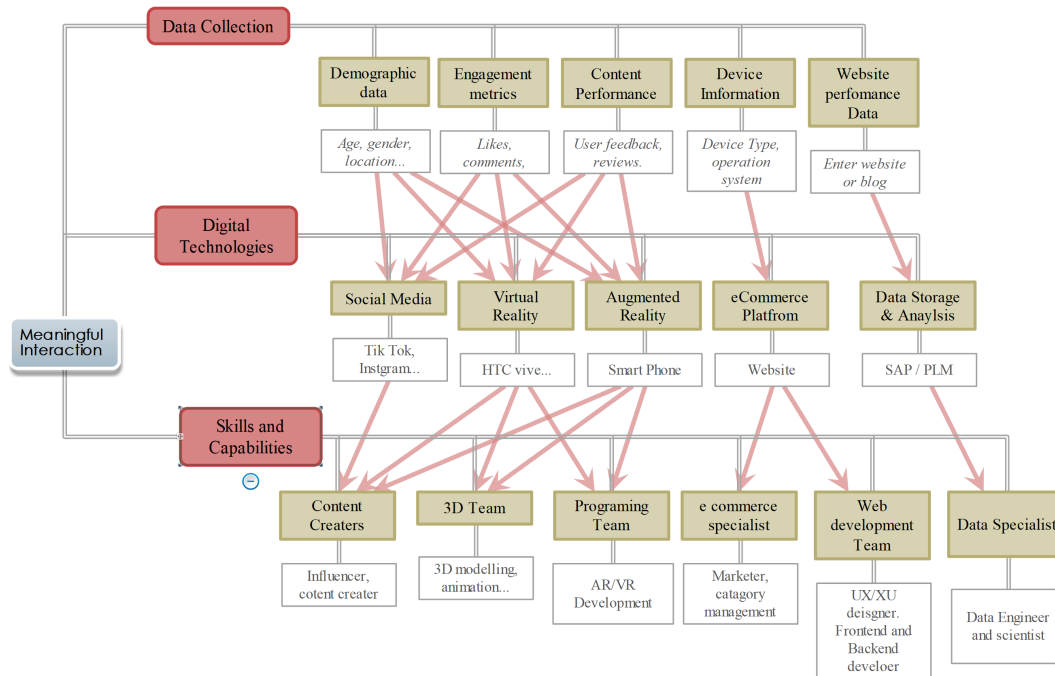
However, the communications during live-streaming need to be transparent and trustful. Building and maintaining a trustful relationship is crucial. Additionally, companies should also respect the regulations and laws related to e-commerce and live-streaming, as well as respect and protect consumer's privacy and their data.

A positive live-streaming experience requires a strong technological infrastructure. It is also a potential risk that consumers in Western countries have resistance to this means of the digital channel, which is popular in China. The leadership involves being supportive and open-minded to this new channel.

KPI:

The increase in viewer engagement, such as positive feedback, likes, and audience interaction during a live-streaming session.

3.2 Theme 2: Meaningful interactions



(Figure 3: Diagram for theme2, word count: 85)

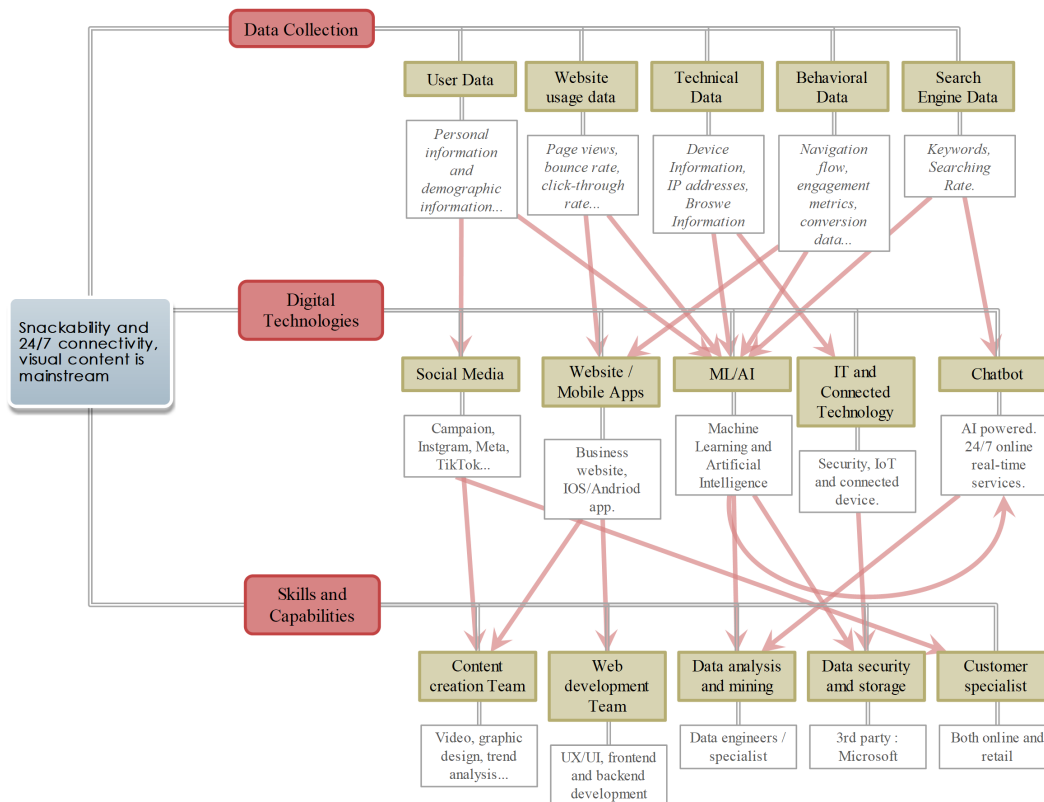
The meaningful interaction in this theme is associated with user experience and their interactions with social media and eCommerce platforms. GenZ expects smooth and immersive experiences and interactions offered by these platforms.

Respect and protect user privacy and collected data are important when utilizing these platforms. Companies also need to concern about the impact of social media on mental health and well-being. Therefore a content moderation system should be integrated to ensure both company-generated and user-generated content are free from harmful or offensive.

The leadership in this theme is to increase the availability of data (Vial, 2019). Ensure clear communication about data usage and content moderation policies, develop a trustful relationship with users, and promote a positive and healthy attitude towards the usage of social media.

KPI: Partner with influencers, to measure if the content (Instagram posts and stories, TikTok feeds, and VR/AR experience) created by them can reach out to their larger audience, and increase the exposure.

3.3 Themes 3: Snackability and 24/7 connectivity, visual content is mainstream



(Figure 4: Diagram for theme3, word count: 131)

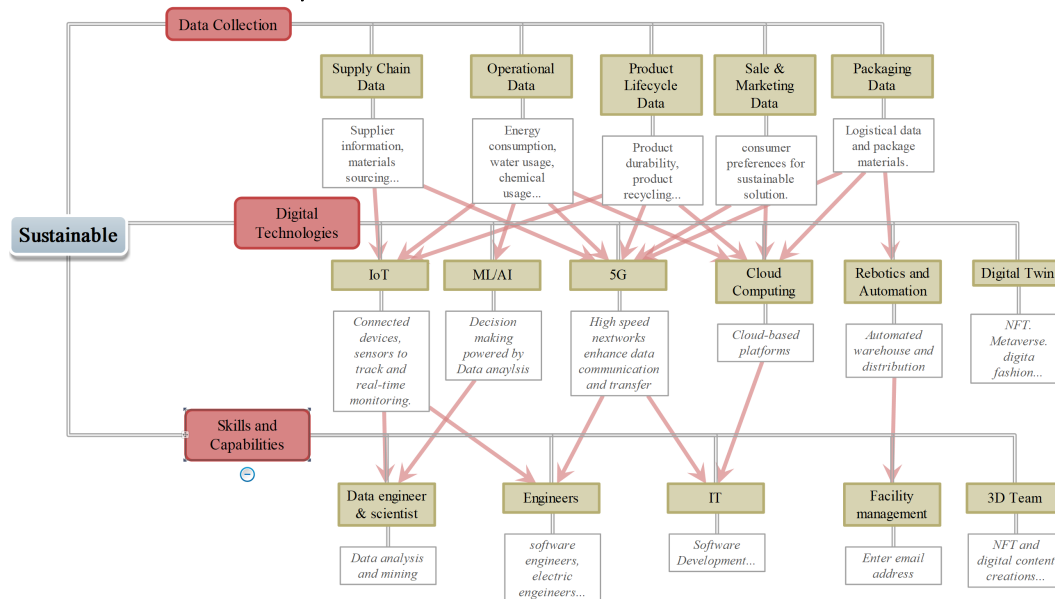
The ethical consideration given to using social media platforms in this theme was discussed in the previous theme. Therefore, the discussion in this theme will focus on the development and deployment of AI and ML-related products or services, e.g. algorithmic decision-making systems and chatbots.

AI and ML systems often process large amounts of personal data, therefore, the development team needs to prioritise user privacy and personal data, build robust data storage and security systems, and increase the availability of data to users. The other challenge is to address biases in training data and ensure the accuracy of outcomes.

The leadership involves responsibility for educating the importance of data security & protection and prioritizes transparency in the development and deployment of AI and ML to users. Clear communication about how algorithms work and personal data handling. The IT/ development team needs to continuously monitor the AI systems, improve their abilities to process biased data, ensure accurate outcomes for the company.

KPI: the positive accuracy and precision of AI and ML models.

3.4 Theme 4: Sustainability



(Figure 5: Diagram for theme3, word count: 114)

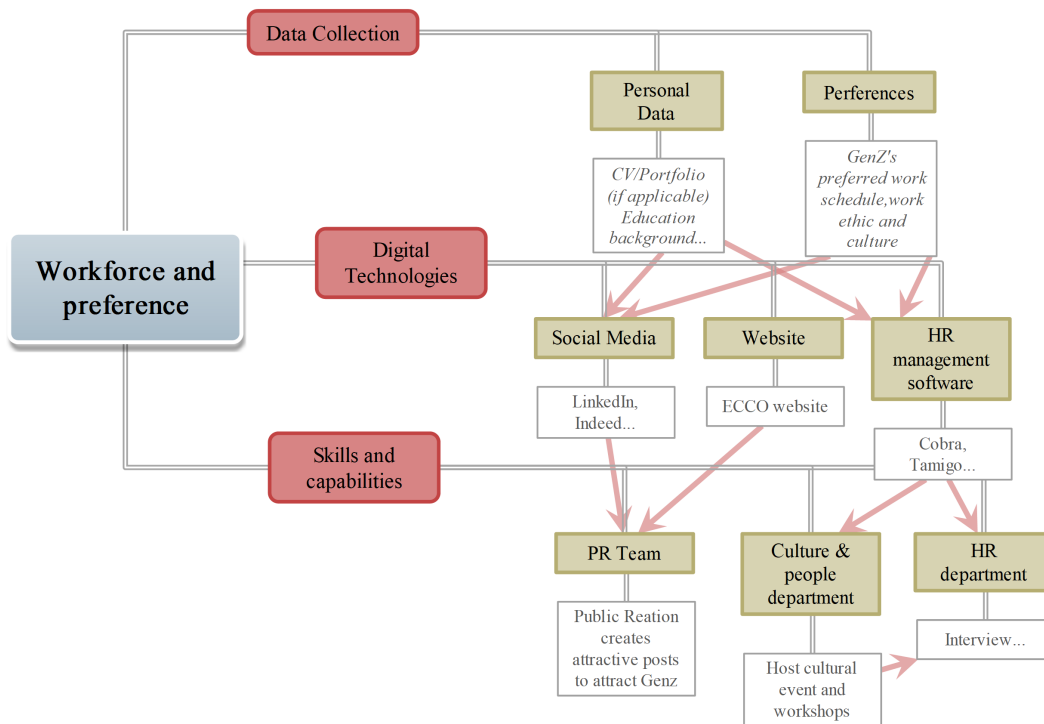
Sustainability is beyond the usage of recycled materials on products or packaging for a business. Sustainability in the theme can be interpreted as the implementation of digital ecosystem and technologies in the manufacturing sector, such as supply chain, sensors and automation technologies associated with IoT and cloud computing, etc.. In other words, sustainability is driven by innovation and technologies.

Data is collected, generated and shared in every corner of the ecosystem in real time. So the challenge is to ensure the viability and connectivity of data through the supply chain. For the leadership, it is also crucial to constantly increase the availability of data, foster an innovation-driven company culture, and take responsibility and initiative to develop or deploy sustainable technologies within its manufacturing, production assembling, and operation systems.

KPI:

1. Increase the availability of data.
2. Using recycled materials for product and package.

3.5 Theme 5: Workforce and Preference



(Figure 6: Diagram for theme5, word count: 60)

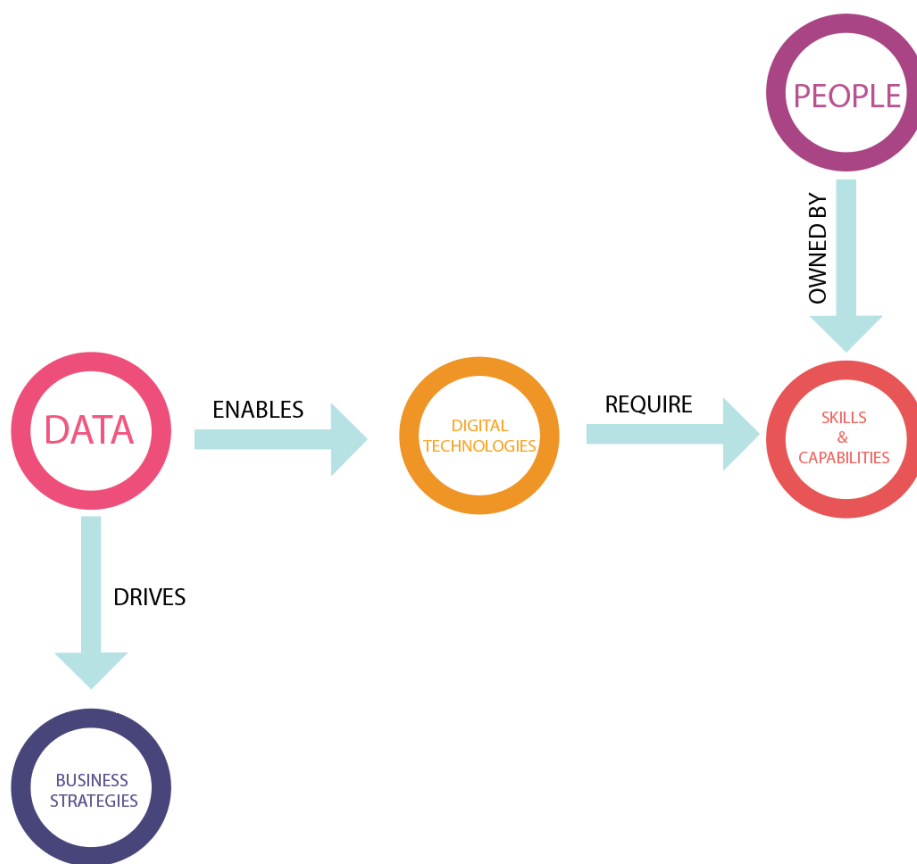
The leadership plays a vital role in this theme, GenZ values work-life balance, so maintaining and monitoring a healthy balanced working schedule is important. Considerations should be also given to foster an inclusive workplace that values diversity and equality, regardless of gender, ethnicity and religion.

KPI: The positive result on the employee turnover rate.

Discussion:

This chapter created in-depth roadmaps for each theme. Evident in this chapter is that data is collected and generated from everywhere in real-time: from operational processes of manufacture, customers, suppliers, social media platforms and other ecosystem players. Data is the fundamental element that not only enables the performance of digital technologies but also holds the potential to be interpreted and analyzed by data specialists, thereby creating insights that may drive decision-making for business strategies.

Not only do digital technologies and data management require people's skills and expertise, but also ethical considerations, challenges and leadership. The relationship is illustrated below:

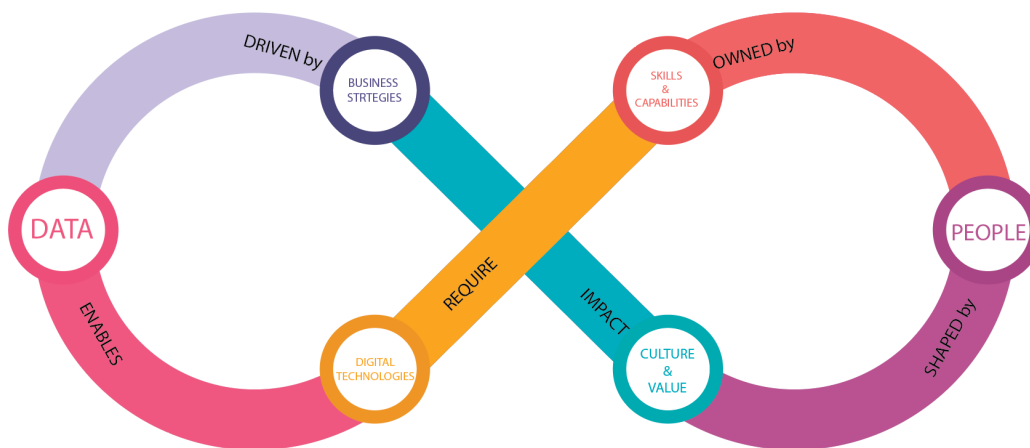


(Figure 7: Relationship diagram, word count: 13)

4 . Conclusion and implications

Conclusion:

Chapter 2, through research into the characteristics of GenZ, has revealed insights into the relationship among people, culture and business strategies. Chapter 3 creating a series of roadmaps, has prepared guidance on data collection, integrating digital technologies and required skills. Combining the two relationship diagrams, one can discern an “infinite loop”, that connects all the aspects of building a digital strategy.



(Figure 8: The digital transformation infinity loop, word count:20)

Implications and limitations

In the research on digital transformation, the predominant focus is usually given to data collection and analysis, as well as the implementation of digital technologies. However, this research paper diverges by giving the spotlight on the aspect of “People”, as it focuses on a target group: the GenZ. Through an in-depth analysis of their characteristics, the research concludes with 5 themes, which establish directions and objectives to develop the digital transformation strategies.

The contribution of this work lies in its distinctive approach and outcomes. By centering on the target demographic, it establishes a novel diagram, coined the “Digital Transformation Infinite Loop” which connects the relationship among data, technologies, and people, this diagram enriched the understanding of digital transformation.

Nevertheless, a limitation of this research is its research scope. Certain aspects, such as digital ecosystem, big data, AI, and so on, are addressed in breadth over depth. Future research activities may need to dive deeper into these subjects to comprehensively grasp the understanding of digital transformation.

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Iris van Herpen, the Radical Fashion Innovator

DEVELOPING INNOVATION, CREATIVITY AND DESIGN

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EXECUTIVE SUMMARY

At the intersection of art, couture, and technology, mixing the ingredients of authentic craftsmanship with the groundbreaking spirit of innovation. Iris van Herpen has been pushing the boundaries of possibilities in different disciplines since the establishment of her fashion house in Amsterdam in 2007.

Iris van Herpen is more than just a fashion house, she is a radical pioneer of expressing posthumanism and avant-garde aesthetics through using new technologies and traditional crafting techniques. She paves a new path for the realm of couture: **high-tech couture** (Mead,2017).

Driven by her vision, high-tech couture is the inevitable result of the development of this era, born out of the rapid advancements in modern technology within materials, sciences, and engineering. It creates rich soil where Iris van Herpen can collaborate and explore together with modern artists, architects, material engineers, and even mathematicians.

This research report aims to address the radical innovation features and discuss the innovation strategies that bring success to the fashion house of Iris van Herpen. This research report is structured as below:

1. The first chapter briefly introduces the designer Iris van Herpen in comparison with another innovative fashion designer - Alexander McQueen and her first breakthrough in fashion.
2. The second chapter discusses why Iris van Herpen is a so-called radical, or radical innovation. Bessant & Tidd's 4P innovation framework is used to address the innovative features concerning product, process and position innovation.
3. The third chapter explores the innovation strategies of Iris van Herpen, which is defined as a technology epiphany regarding to Verganti's framework.
4. The last chapter discusses the success and potential risk or failure of the fashion house.

Table of Contents

EXECUTIVE SUMMARY	1
1. INTRODUCTION:	3
1.1 <i>Alexandar McQueen vs Iris van Herpen</i>	3
1.2 <i>The first breakthrough</i>	5
2. WHY IS SO-CALLED "RADICAL?"	7
2.1 <i>Process & Product Innovation</i>	7
2.2 <i>Position innovation</i>	10
3. THE INNOVATION STRATEGY	14
4. SUCCESS AND RISK.....	17
5. LIMITATION & IMPLICATIONS	19
REFERENCE:	20

1.INTRODUCTION:

Iris van Herpen was born in 1984 in Wamel, a village in the Netherlands. She is a Dutch fashion designer known for combining different digital technologies with authentic craftsmanship in couture (Smelik, 2022). Iris graduated from the Fashion Academy at ArtEZ University of Arts in Arnhem, the Netherlands. In 2016, she completed an internship at Alexander McQueen and in 2007, she created her own fashion house and opened an atelier based in Amsterdam (Labarre, 2008).

1.1 Alexandar McQueen vs Iris van Herpen

Before diving deep into the fashion house of Iris van Herpen, it is worth investigating what or who has influenced and shaped her aesthetics and design vision. Through the research, the answer is clear: **Alexander McQueen**.

Alexander McQueen was a British fashion icon known for his avant-garde and dramatic creations (Lee and Roh, 2012). He was also recognized as one of the most influential and innovative fashion designers. The internship experience at Alexander McQueen influenced Iris van Herpen's design aesthetics at the earlier stage, which can be seen from her earlier collection: **Micro – SS12** (Iris van Herpen, 2012).

In comparison with McQueen, in his **Plato's Atlantis (SS10)** collection, which is considered one of the most iconic and influential collections from McQueen, which reflects McQueen's futuristic and alien-look aesthetics through a fusion of art, technology and authentic craftsmanship (Mower, 2009).



Figure 1-2: (Top) Look 41 & 42 from "Plato's Atlantis" from Alexander McQueen, published on Vouge Runway Edition (Mower, 2009)

Figure 3-4: (Bottom) Look 13 & 7 from "Micro" Collection from Iris van Herpen's official website (van Herpen, 2012)

1.2 The first breakthrough

Iris established her own fashion house in 2007, however, until 2010, the brand had not yet established its complete design aesthetics. Perhaps before the year 2010, people within the fashion or design industry may have been unfamiliar with the name Iris van Herpen. However, many are likely acquainted with the "Splash Dress" from her ready-to-wear collection as depicted in the image.



Figure 5: "Crystallization" from ss10, Look 8 and Look 11, from van Herpen's official Website (van Herpen, 2010)

This marked her first breakthrough, originating in "Crystallization"-**SS10** through a collaboration between Iris and London-based architect Benthem Crouwel. In this runway collaboration, Iris innovatively used 3D printing technology and glass as a material, capturing the moment of "splashing water".

This not only gained considerable exposure in fashion but also showed Iris van Herpen into the memory of the world as a practitioner of 3D printing

technology (Atalar, Lisanti and Gober, 2023). This runway event was not only proof of Iris's successful transition from ready-to-wear to couture but also marked the first instance where the media employed the term "radical" to describe her work (Atalar, Lisanti and Gober, 2023).

This breakthrough also aligns with Crynol's (Crynol, 2013) article published on Deloitte – "*disruptive manufacturing, the effects of 3D printing*", where he argues that 3D printer is a radical innovation by introducing a new manufacturing process known the additive manufacturing. This transformative, radical innovation not only disrupts the dominance of deductive manufacturing methods such as CNC or EDM in industry, but also paves a new path for markets, customers without affecting the existing market.

However, this article also points out that before 2012, 3D printers did not yet achieve enough market attention or significant investment. The application of 3d printers was primarily confined to fields such as automotive, architecture and industrial production, it is incredible to say how visionary it was, in 2010 (13 years ago), to employ 3D printing technology in fashion industry, however, 3D printing is merely a manufacturing method, the next chapter will investigate why the fashion house of Iris van Herpen is a radical innovation.

2. WHY IS SO-CALLED “RADICAL?”

This chapter focuses on exploring why the fashion house – Iris van Herpen, is a radical innovation, not only for the fashion & design industry but also for sciences and technology development, finally, addressing the value that it offers customers and businesses.

According to Bessant & Tidd’s (Bessant & Tidd, 2007) framework, radical innovation involves break-through, ground-breaking achievements, including entirely new technologies, products, or services. Their framework 4Ps of Innovation is used to address the innovative features of this fashion house.

2.1 Process & Product Innovation

Product innovation refers to changes in the things (products/ services) that an organization offers, and process innovation involves rethinking or improving the ways in which things are created or delivered (Bessant & Tidd, 2007).

Traditional process in haute couture always starts with collecting customer personal data, such as chest measurements, height, shoulder width, waist measurement and so on (AHA LOLO, 2022). After that, pattern makers and designers will create designs based on collected information. Much of the clothing design is based on sculpting the female silhouette, using conventional fabrics, materials, and craftsmanship & techniques. Lastly, the finished garments will be placed on a model or a dummy, the entire process can be seen as a transition from 2D to 3D.

Iris van Herpen recognises an obvious but often overlooked fact: the human body is a three-dimensional object, as well as a dynamic object. Grew up with ballet training (Smelik, 2022), Iris van Herpen is keen to express her aesthetics through the dynamic movement of the human body, as well as natural elements, like water or smoke. Therefore, in terms of design expression, most of Iris van Herpen’s works, instead of sculpting female silhouettes, her works **expand outward**, and mostly feature **3D fabrics**.

That is a distinct characteristic that sets her apart from many major designers. Iris continually investigates the possibilities of using unconventional materials in her designs, such as glass, 3D printing materials, and silicone, which are traditionally associated with scientific or engineering research rather than conventional fabrics, leather, or fur (Smelik, 2018). This innovative choice of materials demonstrates her commitment to pushing the boundaries of fashion and technologies.

According to Schudeboom (Smelik, 2022), who is the pattern maker and production manager from the fashion house of Iris van Herpen, their design team usually create their materials and fabrics, often by experimenting with different crafting techniques, combining materiality, and collaborating with artists and engineers from different industries (Smelik, 2018). The “infinity” dress and the sculpture “Omniverse” from collection “Hypnosis” – **AW19/20** are good examples to describe her radical design and process.

- *This collection was based on a collaboration with the American sculptor artist Anthony Howe (Howe, 2019), who is known for creating dynamic and moving kinetic sculptures.*

The “Hypnosis” collection is described (van Herpen, 2019) as visualisations of “the interweaving air, land and oceans”, the sculpture “Omniverse” was placed at the centre of the runway stage, serving as a manifesto to “explore relationship with nature and intertwines with infinite expansion and contraction, expressing a universal life cycle” according to the collection description on van Herpen’s website (van Herpen, 2019).

The dress “Infinity” is engineered with using aluminium structures, stainless steel and over 200 gears, which are embroidered under a layering of feathers, each piece of feather rotates around its centre axis infinitely (Howe, 2019). The design presents not only an artistic quality, in both sculpture and couture perspective. But also exhibits as a sculpture design that is not only visually striking but also has a sense of vitality and is “alive, full of life.”



Figure 5-6, Anthony, the "Omniverse" sculpture and the "infinity" dress at the collection of "Hypnosis" (Howe, 2019).

2.2 Position innovation

According to Bessant & Tidd (Bessant & Tidd, 2007), position innovation involves changes in the context in which products/services are introduced, in other word, the new business segments that offer to customers, and what the story told about it is.

Therefore, this part will discuss 3 separate perspectives: 1) business segmentation, 2) design philosophy and 3) brand image:

2.2.1 Business segmentation:

In 2015, the fashion house of Iris Van Herpen shifted its focus primarily on couture (Smelik, 2022), not on ready-to-wear anymore. On one hand, this decision allows her to express aesthetics and artistic visions without considering the commercial pressures and limitations, this can be seen as a radical alternative, because every garment in couture is defined as “unique, one and only”. As couture usually goes beyond fast fashion culture, which is usually driven by the mainstream trends. On the other hand, this decision also fosters an environment where she can experiment with different technologies and materials, collaborate with artists and engineers from various industries, combining her visions with authentic craftsmanship.

From a **business segmentation** perspective, Iris positions her fashion house in the segment of ‘**correspondent-member**’ or **foreign** couture, rather than ‘**permanent-member**’ or **official** haute couture (AHA LOLO, 2022), in which, to some extent, lowers the barriers for consumers to make purchases.

In contract with **official** haute couture brands like Dior or Chanel, which is required, by the *Chambre Syndicale de la Haute Couture*, to situate an atelier in Paris and at least create 50 original designs for the public every season (Blaazer, 2023). By positioning the fashion house at the **foreign** couture level, not only helps to attract a portion of consumers who were formerly unable to access **official** haute couture, and the design team could tailor their products & services to better meet the needs and preferences, but also help the fashion

house to create a more personalized and niche collection, despite the location and quantity, ultimately expanding their market reach, exposure, and relevance.

2.2.2 Design Philosophy

Design philosophy involves the “storytelling” of her works, it is her vision in design. Iris van Herpen’s design falls under the posthumanism and is situated within the avant-garde category (Smelik, 2022), (AHA LOLO, 2022) (Iris Van Herpen, Pitiot HERPEN and Cloe Pitiot, 2023). Posthumanism is developed based on the theoretical framework of futurism (AHA LOLO, 2022) and addresses the relationship between technology, biology, and humanity.

The concept of posthumanism posits that humans are no longer the central focus in all things, and humans can also be subject to bio-enhancement*.

** Bio-enhancement does indeed sound like something out of a sci-fi movie, but it has practical applications in the field of industrial design. For example, the hearing aids devices that can be used to improve hearing; devices like Google Glass to enhance visual experiences, or a very recent innovative concept like Neuralink, a company founded by Elon Musk.*

In many of her designs, the human body is only considered as a carrier or a piece of enhancing element to nature. In combination with using advanced technologies, Iris van Herpen is keen on embodying natural phenomena through her design, such as organic structures, water waves and smoke.

One famous example is the “water dress” (Look 9 and 10, **F/W10**) from the collection “Crystallization”. Originating from the collaboration with British architect Bentham Crouwel, they utilized 3d printing technologies and crystal-clear PETG (a type of 3d filament) to resemble ‘a splash of water’ surrounding the model. In her interview (SHOWstudio, 2013), she described that her goal was to capture the essence of feminism by representing it in the form of a

splashing water, 'Feminism can be perceived both soft like flowing water and resilient like ice'.

2.2.3 Design image

Iris established her own fashion house in 2007, however, until 2010, the fashion house had not yet established its own complete design image. At that time, the concept of bionics in fashion design and haute couture runways had not yet emerged, in terms of considering the relationship between humans and the environment. Her most radical action at the time was using 3D printers to make clothes.

After 2011, with the continuous refinement of Iris's design image and her ongoing exploration of technology, materials and innovation. It becomes clear that the entire brand image is becoming increasingly distinct. According to Rebecca Mead (Mead, 2017), a writer at The New Yorker, Iris van Herpen has created a new category in the field of couture, which she refers to as “**Hi-Tech Couture**” (Mead, 2017). Her designs have also begun to be collected by major museums, such as the Metropolitan Museum and the Victoria and Albert Museum.

In her recent book- *Sculpting the Senses* (Iris Van Herpen, Pitiot HERPEN and Cloe Pitiot, 2023), she has expressed a consistent focus on capturing and expressing various forms and states of natural elements, like water, soundwaves, smoke and so on. However, from a design perspective, personal aesthetics and expression alone are insufficient to establish Iris as a radical fashion innovator. What truly persuades the industry is her continuous exploration of novel technologies and materials, for example, 3D fabrics.

3D fabrics aren't something new to the fashion industry, one of the notable designers who uses 3D fabrics is Issey Miyake (figure 7), however, Iris van Herpen has established a very distinctive brand image. Essentially, whenever the use of 3D printing in fashion, or the exploration of 3D fabrics is mentioned, people naturally associate them with Iris van Herpen. As a new fashion house

that has been created for only 16 years, this is undoubtedly a successful business case.



Figures 7&8: Left dress from Issey Miyake's 2016 collection-"Botanical Delights" (Dezeen, 2016) and Right: Iris van Herpen ss19 collection - "Shift Souls" Look 1 (van Herpen, 2019)

In the realm of haute couture, cultural heritage and historical value are also important (DeDel, 2021). For instance, Coco Chanel, a brand with a history owning over 100 years, brand image and reputation that have been deeply rooted in the soil of the fashion industry over the past century. Iris van Herpen, with a history of only 16 years, has secured a place in the realm of couture due to its innovation in brand position, process and product.

3. THE INNOVATION STRATEGY

This chapter focuses on exploring the innovation strategies of the Fashion House of Iris van Herpen. The Verganti's framework is used to evaluate.

The innovation strategy that the Fashion House uses is **Technology Epiphany**. Verganti (Verganti, 2009) concluded three types of innovation strategies, which can be explained shortly below:

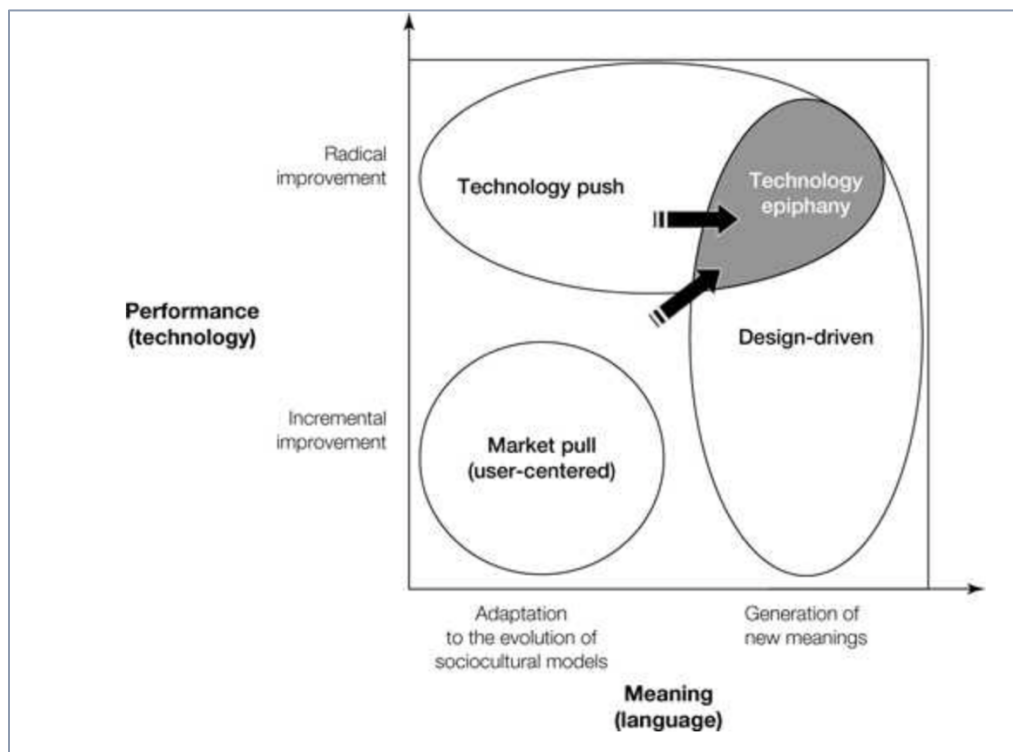


Figure 9: Verganti 's Innovation Strategies framework, chapter 4, p 36 (Verganti, 2009)

1. **Market-pull** innovation starts with the user-centered study and then implementing the matching technologies.
2. **Technology push** innovation focuses on advanced technological evolution and development.
3. Lastly, **Design-driven** innovation, or design push, is propelled by a firm (or person)'s vision about possible breakthrough meanings, and product (design) languages that people could love.

The fashion house of Iris van Herpen is forward-thinking, and futuristic-oriented rather than based on the user or consumer's needs or expectations and market trends, so the market pull is not the used innovation strategy.

In the discussions from the previous chapters, it is certainly that the Fashion House of Iris van Herpen is driven by her design vision, in combination with advanced technological developments and collaborations. For example, the "glitch" dress (figure 10) from the collection "Shift Souls" (Look 13, **SS19**), a collaboration with architect **Philip Beesly**, his atelier produced an expandable laser-cut Mylar material, a type of polyester developed by NASA (Smelik, 2022), and through the magical hands of Iris van Herpen, the dress was designed in CAD program, a 2D pattern program, although the dress has a 3D look, every individual piece was cut using a laser-cut machine, 1100 pieces were numbered and then stitched together.



Figure 10: "Glitch" Look 13, from van Herpen's official Website (van Herpen, 2010)

Many works by Iris van Herpen are crafted using both traditional crafting techniques and highly advanced digital fabrication techniques. Her works can be seen as well as technological achievements. Thus, the design strategies that the fashion house uses are design-driven and technology-push. In the intersection of those two types of strategies, is where the Technology Epiphany stands.

Iris van Herpen is the pioneer in integrating advanced technologies into fashion design in novel and creative ways, for example, the usage of 3D printing technology to create clothing structures that were previously difficult to achieve through traditional crafting techniques. She discovered the potential applications of this technology in couture and then transformed its technological advancements into design process, developing new aesthetics and materiality. She and her fashion house represent a milestone, a breakthrough in both fashion and science industries, pushing the boundaries of new possibilities and transforming technologies.

4. SUCCESS AND RISK

The success of Iris van Herpen and her fashion house, is not only driven by her unique aesthetics and creativity, but also benefits from her atelier's outstanding craftsmanship and keen on the utilization of new materials and techniques. What is more important is her clear strategies regarding the brand's vision and positioning.

However, potential risks also exist:

- First of all, high costs pose a challenge. Due to the fact of couture market, not only technicians with exceptional skills are needed, but also expensive materials, in her case, the "high-tech" couture, the materials she used are not conventional fabrics, which requires technical know-how and expertise from 3rd parties. For instance, 3D printing and materials. It makes her collection dependent on collaborations. This results in high pricing for her works, making it difficult to reach the average customer. According to Iris's interview (Socha, 2023), extensive research is always needed for each collection in the initial design phase, including both materials and technology. The upfront investment in time and money is considerable. Some technically intricate work requires the assistance of various 3D software, for example, Rhino, Grasshopper, Blender, Maya, etc. This demands her atelier to not only recruit craftsmen in traditional techniques, but also 3d designers or design engineers with proficiency in 3D technology to participate in the design process.
- Secondly, a limited customer range is another challenge. Around 2015, according to Schuddeboom (Semlik, 2022), the pattern maker and production manager of Atelier, Iris van Herpen stopped ready-to-wear collection, focusing primarily on couture. Apart from the critiques from industry that her wear-to-wear collection seems to be a "replica" of "real"

Iris van Herpen (Smelik, 2022), besides that, she did not harbour ambitions for ready-to-wear.

- Lastly, the brand image and reputation are also important, any quality issue could lead to a negative impact on the brand. Iris van Herpen's work often rely on new materials and craftsmanship, which poses a challenge for maintenance and upkeep in a long run. There is also a lack of clear caring or wearing instructions and after sales-support. Therefore, in order to create a long-term relationship between the brand and its customers, it is necessary to establish a membership system, which similar to the membership system of Hermes or Chanel, includes repair services, maintenance and early purchase opportunities.

5. LIMITATION & IMPLICATIONS

The scope of this research report is to analyse the innovative features and strategies of Iris van Herpen. The references included in this report are mostly derived from online articles, journeys, interviews and two academic papers both published by Anneke Amelik. Iris van Herpen's recent new book – "Sculpting the Sense," published on November 13, 2023, which primarily focuses on her design philosophy and source of inspiration, rather than providing detailed explanations of the production process.

In addition to Iris van Herpen's atelier developing their own new materials, projects involving collaboration with other artists, architects and designers, rarely the implementation of materials and techniques. Therefore, most of the product processes remaining as secrets or being treated as intellectual properties.

Furthermore, the fashion house of Iris van Herpen positions it at the level of **correspondent-member'** or **foreign** haute couture, in contrast to most of ready-to-wear or fast fashion brands, like Zara or ECCO, the implication could be kept themselves with the updates of technological development and find implementation areas, exploring new materials and trends. That is precisely the ingredient that nurtures the soil for innovations, making her a radical fashion innovator.

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