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# Reflecting on the Efficiency of Design Thinking and Lean Startup

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## ABSTRACT

**Objective:** In this article, the methods used to simplify the business modelling and founding of new companies are presented and critically reflected. Furthermore, it is discussed to what extent a specific method is advantageous, disadvantageous, applicable, not applicable, or even contradictory.

**Methodology:** The theoretical analysis is underpinned by a qualitative interview study asking company founders about applying the methods mentioned above. The work is based on scientific papers and books and is complemented by the data originating from a specially designed study.

**Findings:** The results conclude that business model founding instruments provide strategic guidelines favouring entrepreneurs, yet they turn out to be minor in its real-life significance as numerous factors rooted in different fields of expertise play in.

**Value Added:** The added value of this paper is in the elaboration of efficiency bringing and risk-minimizing components of the methods, respectively. Accordingly, managers and entrepreneurs of all industries are intended to be equipped with sufficient information content that eases the decision for or against one of the methods as realistic expectations considering the application are likely to emerge.

**Recommendations:** The limitations of this study are rooted in the chosen qualitative research since every interviewee is a subject to their individual perception.

**Key words:** business model, entrepreneurship, Design Thinking, Lean Startup

**JEL codes:** E37, E39, L1, L2, L21, L221

## Introduction

Entrepreneurship is increasing in popularity, contributing to the global economy's growth. Visionaries, game-changers, and challengers demand and facilitate entire industries' change through matured business model research and reflection (cf. Osterwalder & Pigneur, 2011; Christensen, 2000; Siegfried, 2014). Whereas the focus of management studies was previously centred on describing concepts, strategies, and tools for existing companies, it is now possible to refer to a collection of tools for drafting and sharpening business models (Blank, 2013). Numerous playbooks and academic resources exist on the market that business founders can employ (cf. Osterwalder & Pigneur, 2011; Ries, 2012; von Engelhardt & Wangler, 2019).

Specifically, the currently prevailing Covid-19 pandemic serves as starting point of novelties as it can be identified as a business megatrend forcing entire industries to restructure their economic core innovatively (cf. Lubin & Esty, 2010) towards crisis-resistant business models (McKinsey & Company, 2020a, b; Tidd & Bessant, 2013). Aspiring business founders should leverage that boost of shifting needs to design businesses that align with the future's economic requirements, accentuating digitized ecosystems, performing crisis-resilience (McKinsey & Company, 2020c, d). In that sense, this article's purpose is to critically reflect on instruments intended to help business founders drafting and sharpen their business model.

In the structure of this article, addressing aims and objectives comes first. After that, the analysis of the conceptual background follows. A detailed reflection critically examines Ries' (2012) Lean Startup (LS), and Kelley, Leifer, and Winograd's (2003) Design Thinking (DT) – providing in-depth information. Subsequently, a delineation of implications for the methods' added value and their issues are shown. The methodology guides the study's data conduction with the qualitative research method's approach. That output comprises interviews with business founders. After that, a discussion with managerial and practical implications for startups and this study's limitations will be addressed.

This research aims to focus on (digitized) startups and their gathering of knowledge to simplify the business model design process and commercial establishment while creating a competitive advantage from scratch. Derived from that, aspiring business founders can extract insights on which tool serves initially as the best state-of-the-art practice to visualize, understand, and present their business idea, tailored to individual conditions.

The study aims to identify critical aspects and benefits that must be considered while creating a business model applying the five methods examined. Thus, the overall aims unify identifying promising procedures, favouring aspiring business founders. The following objectives to achieve the respective aims are to identify pitfalls of employing the subject methods and to critically evaluate the use of the methods in their authenticity, and, equally, to draw transferable conclusions and implications.

To identify barriers throughout applying the methods, an extensive amount of literature will be referenced to generate a holistic reflection that provides valid information on benefits and pitfalls.

Overall, the objectives that shape this research will provide a chronological order that educates on employing the methods that could either be advantageous or detrimental to a company in its early stage.

Deriving from the aims and objectives, it is beneficial for business founders to know which of the five methods matches their cognition and business model best to attain and retain commercial vitality. The potentially resultant generating of competitive advantage underpins the significance of that education on the methods (Kim & Mauborgne, 2015; McKinsey & Company, 2020b; cf. Lubin & Esty, 2010; Siegfried, 2012). Beyond that, businesses and particularly innovative startups that build and shape the next decades' economy should be shown the derived, meaningful implications by reflecting on theory taught by the examples analysed (McKinsey & Company, 2020b; Siegfried, 2013a). Consequently, the following indicative research questions are intended to contribute to the closing of existing academic literature gaps in the context of building digitized business models:

- 1.** Can (digitized) startups extract and demonstrate key facts of their business idea using solely one of the subject methods?
- 2.** Is there a method that suits the digitizable platforms best?
- 3.** Are entrepreneurial methods consciously exercised by founders of diverse business backgrounds?

Throughout this study, the questions above will be answered to clarify the methods' feasibility and appropriateness in the contextual sector. Accordingly, business founders (independent from their operating industry) will be equipped with sufficient information on employing the methods.



## Literature review

In the following chapter, the conceptual background is dedicated to the analysis of the two subject methods in the entrepreneurial scope and/or depicts a digital ecosystem's establishment which is currently gaining importance:

- Ries' (2012) LS
- Kelley, Leifer, & Winograd's (2003) DT

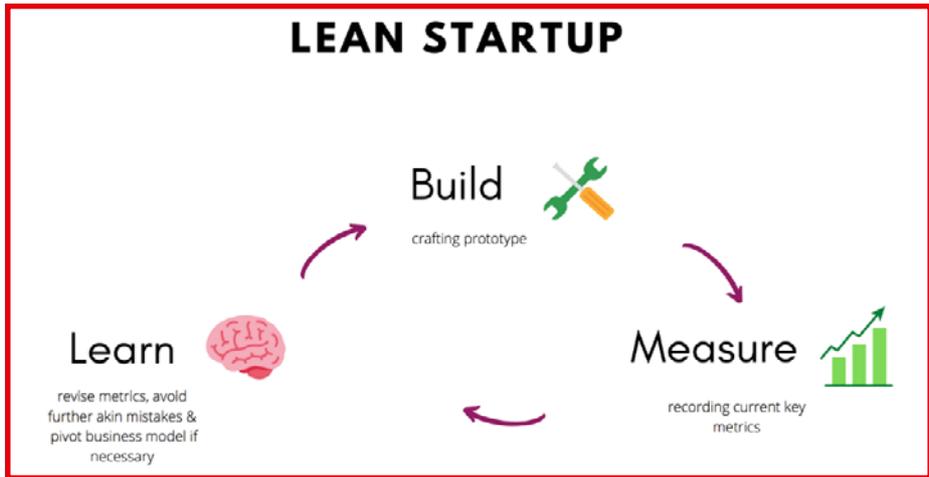
It will be critically discussed on their effectiveness for business founders to reflect of their effectiveness.

In the following text, a critical reflection on the feasibility and effectiveness of the LS (2012), and DT (Lewrick, Link, & Leifer, 2018) is elucidated. Furthermore, the analysis addresses the benefits but pitfalls that founders should take into account.

## A critical reflection on the Lean Startup

“The lean process concept is focused on the removing of the waste and improving the efficiency of the development process” (Nidagundi & Novickis, 2016, p. 30). The LS that was created by Ries (2012) is based on the credo “fail fast, fail cheap, fail happy” (Lin, 2014, p. 1) and the core principle of the build – measure – learn iteration loops.

Figure 1. LS iteration cycle



Source: Adapted from Ries, 2012.

The overarching goal of the LS approach is thus the quickly validated learning to evade voluminous monetary and time losses as well based on business models that were developed divorced from customers. Ries (2012) recommends monitoring the process of progress and optimization measured in key metrics, which he refers to as the innovation accounting – practicing entrepreneurial accounting hygiene (Ries, 2012; cf. Chesbrough & Rosenbloom, 2002; Klein, 2013; Maurya, 2016; Siegfried, 2017). Throughout the iteration loops, a customer-centric and profitable business built upon reflection is to be designed with the flexibility to respond to unexpected emergent events. Also, it asks for founders' ability to absorb and extract data from customers and to transmute these into information and business features that encourage a company's success (Ries, 2012; cf. Cohen & Levinthal, 1990; Mintzberg & Waters, 1985; Wheelwright & Clark, 1992; Williams, 2014).

The distinctive feature of the LS method is that practice precedes theory. Traditionally, young companies are encouraged to create a business plan as early as possible, following Cooper's (2008) Stage-Gate Model (see Appendix 2) that displays the deliberate process from its idea screen up to its launch. However, this is countered by the fact that theoretical planning is often incompatible with

real-world circumstances. Thus, Müller (2018) criticizes, “But how reliable can a planning be that is made without product and customer experiences under great uncertainty for several years in advance?” (p. 47; cf. Bennett & Lemoine, 2014; contra. Kubr, Ilar, & Marchesi, 2016). In contrast, Ries’s (2012) approach is supposed to ease forecasts for the next three to five years’ key figures since the business model was designed proximally to customers. Moreover, as usual, business plans can significantly vary in their volume – often about 30 to 40 pages are enough (Pott & Pott, 2012; Siegfried, 2015a) – the LS helps to create a business plan that is based upon facts and validated by customers as opposed to hypothetical scenarios (Kubr, Ilar, & Marchesi, 2016; cf. Maurya, 2012, 2016).

Agile methods such as the LS method are more advantageous than the traditional approach with a business plan. Business plans often disregard the uncertainty of the unpredictable VUCA business landscape (cf. Bennett & Lemoine, 2014), in which 80–90% of startups fail (4investors, 2020), while the LS method is reactionary with accompanying flexibility in response to the unforeseen and customer insights (Blank, 2013; Ries, 2012; Müller, 2018; Siegfried, 2015b). Ries (2012) intended with the LS to create a novel opportunity for companies to exploit their success through customer assessment and the analysis of their needs. Resultantly, the real-life validation that the LS method is supposed to provide founders with what can be considered a sound fundament of a sound business plan. Beyond that, customer feedback’s involvement can sharpen the business model since there can be an innovative competitive advantage in the long term. Furthermore, that is central to their needs due to customer’s (early adopters) co-creation (cf. Kim & Mauborgne; contra. Carvalho & Yordanova, 2018). Additionally, if founders find themselves in a setting where they pitch for an investment, they can appear to refer to a heightened degree of credibility and reflectiveness as they gained experience that has proven to be proximate to forecasts.

The continuous repetition of iteration loops is seemingly intended to serve founders – but projects and collaborations of established companies either (Müller, 2018) – with the possibility to learn from mistakes and reassess those and their progress in the shortest timescale possible. Hence, the employment of the LS can evoke the following expectations, as shown in the Figure 2 below.

Figure 2. LS expectations

LEAN STARTUP EXPECTATIONS				
	Visuality	Simplicity	Business plan	Key Metrics
Validated learning F	✗	✓	✓	✓
Real life preparatory experiences F	✓	✓	✓	✓
Time efficiency V + F	✓	✓	✓	✗
Customer proximity V + F	✓	✓	✓	✓
Precise guidance F	✓	✓	✓	✓

V: Viewers' point of view  
F: Founders' point of view

Source: Self-developed.

Since the LS is an iterative process, each founder can decide how many learning loops to go through. Unfortunately, a minimum or maximum number is not formulated. On the one hand, this can positively affect the learning process, as it is relatively detached from stringency, which could speak against the creative process of entrepreneurship (contra. Frederick, O'Connor, & Kuratko, 2016). However, on the other hand, this freedom of the learning process, which is neither determined nor fixed to a period of revisions, holds the potential of possible occurring stumbling blocks, of which founders who apply the LS method should beware of, due to lacking guidance in the execution (contra. Ries, 2012).

The LS is obtained by unfiltered customer feedback as customers will test the prototype and assess the added value of the early version presented (Ries, 2012; Verganti, 2011) – they become part of the creational value chain. That action is necessary as most customers do not know what they want until they experience it. Hence, the LS targets to create and validate an economically leverageable customer need (cf. Greve, 2010; Kaschek, 2014) even though the product and business model are not in their final stage. Applying company-internal absorptive capacity (Cohen & Levinthal, 1990) is a crucial element for

success: those businesses that observe and assimilate to the external environment's unpredictability by recognizing the value of latent unsatisfied yet existing customer desires survive economically in the long-term as strategic and practical skills are put in alignment with the customers (cf. Siegfried, 2017). This is induced through respective market research fostering a knowledge push, resultant in deliberately planned and structured novelties – incremental innovation (Pressfield, 2012; cf. Christensen, 2000; Rumelt, 2011; Siegfried, 2013b) – as intended by Ries (2012). Through assimilating to insights from customers that demand and foster innovation – lead users – and learnings of the early innovation's status while reinforcing its further development according to the organization's knowledge expansion (Herstatt & von Hippel, 1992; Isaacson, 2014; Tidd & Bessant, 2013; cf. Cohen & Levinthal, 1990), the attaining of early adopters is enabled.

Transmuting customers and the potential early adopters to a part of the value chain is psychologically advantageous for designing a customer-centric business model. According to Maslow (1943; see Appendix 1), self-actualization is the human psyche's highest need that can be activated commercially beneficial (cf. Habermann, 2008; Voloshinov, Matejka, & Titunik, 1973). Simultaneously, customers' ideas and feedback can either validate or refute an idea. Thus this step can be crucial for omitting monetary losses by companies.

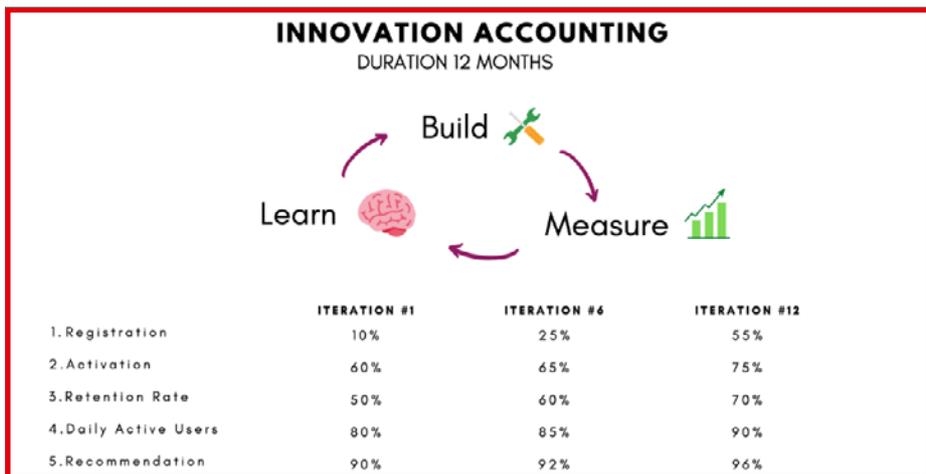
Moreover, it should be addressed that it can be difficult for inexperienced founders to identify reliable early adopters that provide insightful feedback. Thus, Stähler's (2019) suggestion should be followed here to seek other individual's opinions that are familiar with the target industry, which can yet be a complex undertaking in itself. Without such opinions, founders run the jeopardy to build a business model based on misguided customer feedback, leading to an economic failure (contra. Habermann, 2008; Voloshinov, Matejka, & Titunik, 1973).

Another relatively unconventional aspect of the LS is that Ries (2012) encourages founders to change their business model radically if necessary. On the founders' side, there is often an aversion to detach themselves from supposedly auspicious core elements of the aspired business model rooted in their initial enthusiasm and the experience of a confirmation bias – the impossibility to analyse the business model as objective as possible and to emancipate the

self from positive feedback due to extrinsic confirmations on the business’s success potential (cf. Düsing, 2016; Nickerson, 1998). Experiencing this can result in a cognitive dissonance (Festinger, 1957) that might have a lasting negative impact on a company’s optimization process and is not favouring the founders in a money-pitching setting (Düsing, 2016; cf. Deutscher, 2010; Fox & Levav, 2001; Nietzsche, 1888; contra. Kaplan, 1966; Rauch, 2013; Voloshinov, Matejka, & Titunik, 1973).

An instrument of Ries’s (2012) favouring founders in a money-pitching setting is the innovation accounting that is a measurement of numerical progress parameters (cf. Kaplan, 1966; Kaplan & Norton, 1992; Voloshinov, Matejka, & Titunik, 1973). The respective innovation balance provides information about optimizations of the early product version. The “innovation balance leads to faster course corrections” (Ries, 2012, p. 139). A potential innovation accounting could look like the following Figure 3.

**Figure 3.** Potential innovation accounting



Source: Adapted from Ries, 2012.

Each company must determine the appropriate parameters to measure milestones (cf. Drucker, 2006; Kaplan & Norton, 1992). Taking stock of one’s progress proceeds in three steps:

1. Using the MVP to obtain accurate data.
2. Optimizing the parameters towards the desired ideal.
3. Weighing up a change, of course: “change or preserve” (Ries, 2012, p. 112).

A generally applicable formula for creating an innovation balance sheet is redundant, as external factors vary greatly in interaction with the business model. On the other hand, this freedom can promote unsuccessful innovation accounting.

In refusing or omitting to determine KPIs, the risk of missing and tracking accurate data about the business’s progress increases (cf. Kalhammer, 2019; contra. Rumelt, 2011).

Tracking these metrics is highly relevant for a young business that operates in an increasingly VUCA economy where entire markets’ conditions require innovative novelties to achieve a competitive advantage and economic longevity (Bain & Company, 2020/2021; Bennett & Lemoine, 2014; Kim & Mauborgne, 2015; McKinsey & Company, 2020a; cf. Chesbrough, 2006; Rumelt, 2011). Disregarding performance goals that can foster growth can even result in a startup’s complete failure since that indicates the “Just Do It” (Ries, 2012, p. 9) mentality. Referring to Rumelt (2011), that mentality is a “Bad Strategy” (p. 7) since it deemphasizes the relevance of strategically planning a business’s founding and execution phase and corresponding market research, detaching the self from the entrepreneurial duty (contra. Drucker, 2006; Mintzberg & Waters, 1985). “It may seem counterintuitive to think that something as disruptive, innovative, and chaotic as a startup can be managed or, to be accurate, must be managed (however, that entrepreneurial management is inevitable)” (Ries, 2012, p. 9). Additionally, working with KPI’s and tracking these can teach potential investors about the pitching founders’ ability to improve their managerial skills. Furthermore, it would tell how quick or slow progress is achieved, but only if the founders can identify potential risks and act accordingly (cf. Cohen & Levinthal, 1990; Ries, 2012; Rumelt, 2011).

It should be reckoned that even a startup using Ries’ (2012) approach to business creation is not a guaranteed factor for a company’s economic success. It is to be regarded merely as a business founding aid. According to Müller (2018), agile, fast startups are often confused with dynamism and flexibility.

While both dynamism and flexibility are inevitable for the success of a young company that has to face unexpected customer demands again and again (cf. Greve, 2010; Kaschek, 2014), agility nevertheless requires stability (Müller, 2018). Startups often lack this stability due to the novel overall situation that can lead to team-internal problems as reported by 23% and financial problems by 29% of founders to heavily contribute to their startup's failure (t3n, 2016; StartUpWissen, 2020). That is an element that founders, who might enthusiastically follow the LS method, are unaware of, as the startup's opposing sides are usually only experienced after the initial euphoria.

Beyond, it is critical to consider that the LS method is compatible with companies of any kind. The LS was initially developed for business models of digital nature. Thus, it is questionable whether this method can be applied to tangibility-based business models or products. Digital business models can conveniently test agilely daily, e.g., an app can go through incremental optimizations from day to day. Therefore, digitalization is considered a catalyst for scalability (cf. von Engelhardt & Wangler, 2019; McKinsey & Company, 2020a, b, c, d), as marginal readjustments of an app or a website usually require only a short period.

In total, the LS method has the potential to provide particular, mainly digitized (aspiring) companies with meaningful insights. It is undoubtedly beneficial to design a business model proximal to the customer's vocalized demands. In contrast, the often only very vaguely formulated instructions of numerical measures, as in the innovation balance, are accompanied by the potential that founders applying the LS cannot pin down a point at which they should enter the market. Too many stretching terminologies can cause confusion, which is especially important in a barely predictable landscape (Bennett & Lemoine, 2014; cf. Deutscher, 2010; Nietzsche, 1888; contra. Kaplan, 1966; Voloshinov, Matejka, & Titunik, 1973) and can be detrimental. Thus, the following Figure 4 highlights the pros and cons of the LS.

Figure 4. LS after reflection

LEAN STARTUP AFTER REFLECTION				
	Visuality	Simplicity	Business plan	Key Metrics
Validated learning F	✗	✓	✓	✓
Stability F	✓	✓	✓	✓
Time efficiency V + F	✓	✓	✓	✗
Customer proximity V + F	✓	✓	✓	✓
Precise guidance F	✓	✓	✗	✗

V: Viewers' point of view  
F: Founders' point of view

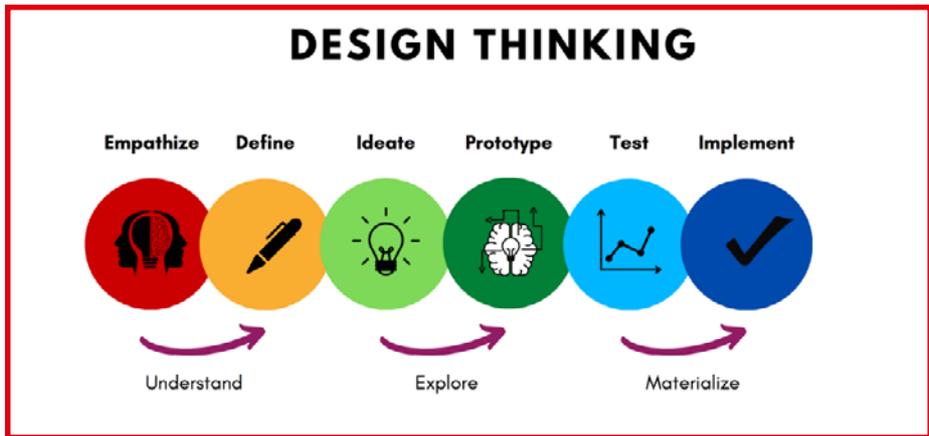
Source: Self-developed.

Although the LS method can generate entrepreneurial added value, the desired success is limited and dependent on the framework conditions in the subject business model and its founders.

## A critical reflection of Design Thinking

“Created and developed by the design agency IDEO in the nineties, Design Thinking was the decisive factor to found the d.school in Stanford by David Kelley, Larry Leifer and Terry Winograd (in 2003) with support from the SAP-founder Hasso Plattner” (Grashiller, Luedeke, & Vielhaber, 2017, p. 241; cf. Kelley, 2016). DT is – according to its name – the creative, simultaneously agile path of a product or service designer of economically leverageable solution approaches where empathy for the customers is a required component that is transmuted over several stages into a feasible business applying knowledge and emotional intelligence (see Figure 5).

Figure 5. DT Stages



Source: Adapted from Lewrick, Link, & Leifer, 2018.

Besides, as creativity is undebatably prominent in this method, the initial generating of the novel, value-enhancing solution should unconventionally tend to take place intuitively, according to Lewrick, Link, and Leifer (2018), aligning with a designer’s approach. The interactive processual method is supposed to help generate solutions to complex problems, following the credo “How can we learn more about a potential user and better uncover his or her hidden needs?” (Lewrick, Link, & Leifer, 2018, p. 17) The focus remains on linking needs with a business’s feasible profitability.

Also, the method is intended to not only create solutions but innovation-driven business models (Lewrick, Link, & Leifer, 2018; cf. Kim & Mauborgne, 2015; Tidd & Bessant, 2013; contra. Carvalho & Yordanova, 2018), since the balance of product and service innovation can accelerate in a customer-centric manner. DT is arguably not supposed to be limited to specific application areas but applicable to business models across a wide range of industries (Lewrick, Link, & Leifer, 2018). Thus, reconciling creativity and structure should be feasible for digital business models which are gaining significance (McKinsey & Company, 2020a; cf. Bennett & Lemoine, 2014; Von Engelhardt & Petzolt, 2019). Accordingly, founders might have the following expectations using DT (see Figure 6).

Figure 6. DT expectations

DESIGN THINKING EXPECTATIONS				
	Visuality	Simplicity	Need validation	Creativity
Customer centricity F	✓	✓	✓	✓
Emotional intelligence F	✗	✓	✓	✓
Flexibility F	✓	✓	✓	✓
novel unconventional value provision F	✓	✓	✗	✓
Efficiency + effectivity F	✓	✓	✓	✓

F: Founders' point of view

Source: Self-developed.

According to Weinberg (2019), DT consists of three basic components:

1. Multidisciplinary teams
2. Breathing space
3. Iterative process

The multidisciplinary teams should consist of four to six people. The team members involved should not encounter each other in their weaknesses but complementarily in their strengths. In this way, they can learn to act cooperatively and in an solution-oriented way, contributing to each other's creativity by being open to new ideas. This is to happen detached from any competitiveness learned or even expected by society (Weinberg, 2019; cf. Di Cristini et al., 2003; Lewrick, Link, & Leifer, 2018; Pearce, 2003). Therefore, shared leadership and flat or no hierarchies in teams are beneficial (Pearce, 2003; Di Cristini et al., 2003; cf. Myers, 1962) and even promoted through DT. The idea of a collaborative team working for and with the same vision in mind (Sinek, 2009) is crucial to running a successful DT Sprint. That is because shared innovation leadership

is an apparent core theme, as the development of multidisciplinary teams is hindered by team members working past each other (cf. Weinberg, 2019).

One argument that refutes the notion of “A Team of Teams” (Weinberg, 2019, p. 43) is the oppression of the matrix-resembling team structure: it takes place with a spacious recreation area at which the various micro teams merge into a macro team through their verbal exchange. The implementation of that requires sufficient financial resources to provide a company with a recreational area. A startup like that (P) could rent an office in a co-working space since a startup in its pre-seed stage usually does not consist of multiple coworkers where several micro teams could be formed. Then, the team could interact with people from different startups in the co-working space, but that would not contribute to the DT’s purpose as those from other startups are neither familiar with the subject business model nor with the subject DT sprint (cf. Frederick, O’Connor, & Kuratko, 2016; StartUpWissen, 2020; t3n, 2016; contra. Lewrick, Link, & Leifer, 2018; Weinberg, 2019). For this reason, the holistic practice of this method seems to be limited to large, mature companies and those companies with more excellent financial resources, for example BOSCH that successfully implemented DT as a creativity catalysator (cf. Weinberg, 2019).

At the same time, Weinberg (2019) lists another stumbling block of DT: the competitive mindset. Teaching institutions such as schools or universities – digital natives specifically – are still conveying an intensely competitive mindset to be beneficial for the career. That attitude is seen as a hindrance to DT (contra. Pearce, 2003; Di Cristini et al., 2003). The correct execution demands eliminating the apparent competitive confirmation bias (Nickerson, 1998) and familiarity bias (Fox & Levav, 2001). The issue is that emancipating the mind from that complex mindset and psychological structures can amount up to years (Durand, 2020), which expands a DT sprint that usually takes several days – a cognitive dissonance is present in the DT method (Festinger, 1957). Accordingly, even an experienced scholar along the lines of Weinberg (2019), who seemingly desires to inform about DT, contradicts himself. As a result, the invalid knowledge transfer is of little added value for those applying it (contra. Weinberg, 2019). Resultantly, if the formulation of DT is ambiguous, a loss of valuable resources such as time, but the missing

customer-centric and innovation-driven results can emerge (contra. Weinberg, 2019; Lewrick, Link, & Leifer, 2018).

The second component of DT is the breathing space that can be flexibly designed. That breathing space should be a spacious room where the sprints can take place. Here, the teams should be able to live out their solution-oriented creativity. The furniture necessary in that room is perceived as enough physical space to provide more potential for creativity's unfolding. In an optimal DT breathing space, nothing resembles a typical sterile conference room that does little to invite creative work. Instead, it is advised to provide lots of colourful pens, scissors, paper to write on and to create miniature prototypes to capture ideas – may it be a sketch or a crafted paper construct prototype. Besides, various whiteboards for visualizing different thought structures and attaching notes are supposed to strengthen the diversely positioned teams' communication and interactivity (Lewrick, Link, & Leifer, 2018; Weinberg, 2019; cf. Di Cristini et al., 2003; Pearce, 2003).

While this approach is logically comprehensible in theory, its execution does not always prove feasible for young companies, as not every startup immediately has its own office space (contra. Lewrick, Link, & Leifer, 2018; Weinberg, 2019). Nevertheless, in young, dynamic companies, this method can find appeal, as these are usually more open to new methods and, spurred by their enthusiasm, tend to enjoy creative, agile methods. Due to their flat hierarchical organizational structures, mature startups have the potential to benefit from the DT method to a particularly great extent, given the parameters of flexibility, little internal bureaucracy, and small teams where DT can be leveraged (cf. Lewrick, Link, & Leifer, 2018; Weinberg, 2019; Pearce, 2003; Di Cristini et al., 2003).

The third component of DT is the iterative process. It takes place in three stages that extend over six intermediate steps similar to Cooper's (2008) Stage-Gate Model (see Appendix 2).

# Understand

## 1. Empathize

In this phase, the practitioners are requested to understand the target problem(s) of customers. The consultation of experts is advisable as they can provide helpful information. Furthermore, to holistically approach the customers' problems, empathy must be applied to be leveraged by creating personas. The personas are designed in various versions but always describe one potential customer profile's perspective and what problems that person has, even beyond the horizon of the subject business model's solution. The Design Thinker creates a persona examined from different angles to enrich the team's comprehensiveness. In that way, after introducing the other team members to the subject persona, the problem and its early solution can then be optimized and adapted to further customer preferences. The multiple personas created refer back to a diverse set of customers and their diverse pain points, emotions, happy points, and desires (cf. Frederick, O'Connor, & Kuratko, 2016; Kaschek, 2014; Lewrick, Link, & Leifer, 2018; Osterwalder et al., 2014; Weinberg, 2019) and supply the team with an in-depth understanding of them.

In contrast, even experienced Design Thinkers cannot entirely emancipate themselves from their thought constructs which is required to create a persona that is independent of a particular person one has in mind (Düsing, 2016; cf. Festinger, 1957; contra. Lewrick, Link, & Leifer, 2018; Weinberg, 2019). Also, how a person is perceived varies depending on the individual opposite (cf. Deutscher, 2010) as there is no universal formula for interpreting individuals (Nietzsche, 1888). Humans are always subject to their subjectivity, yet they are enabled to minimize but not eliminate it. Therefore, the point of objective perception, free from personal opinions about different individuals' perceptions, cannot be asserted, even though perceived as a requirement for the successful DT's execution.



## **2. Define**

This phase involves gathering the previously obtained information and analysing the practical problems on a micro-level to define the severe problems that every sprint-participating member has to contribute to by providing subcategories of the overarching problems (Lewrick, Link, & Leifer, 2018; Weinberg, 2019). Here, it is advisable to structure the problems and the respective solutions logically on a whiteboard with sticky notes in subcategories to supply the entire micro team with an appropriate and easy-to-follow overview of the identified (Lewrick, Link, & Leifer, 2018; Weinberg, 2019).

The apparent issue here, however, is that there is no validation of the problems, as they are defined based on conjectures, which is not an economically justifiable approach (contra. Habermann, 2008). As a result, solutions were designed based on possible consequential errors (cf. DeAndrea, 2015). If followed Stähler's (2019) advice and adapt it as Lewrick, Link, and Leifer (2018) envision to seek direct discussions with customers in a stage as early, the subject company is enabled to circumvent this obstacle. Hence, the early validation of the identified problems is inevitable to omit for community-based startups (cf. Maurya, 2016).

## **Explore**

### **3. Ideate**

In this phase, Design Thinkers are prompted to chronologically exploit all the information from the previous two phases to design comprehensible solutions centric to the pre-defined problems. Besides, the ideas proposed are generated through brainstorming or brainwriting and should be introduced to the micro team through appropriate elaboration. The idea proposal pitches cover a maximum of 60 seconds each to convey essential information (Grashiller, Luedeke, & Vielhaber, 2017; cf. Seelig, 2015). The goal is to generate a large pool of ideas

(Weinberg, 2019; Lewrick, Link, & Leifer, 2018). That procedure enhances the incorporation of different ideas to examine and to merge these in the subsequent phases. Thus, the work of the ideation phase supplies a basic framework for the later outcome. Following this, the idea pool should also be presented in categories with respective subcategories on sticky notes on a whiteboard to ease the later phases' overview.

Seitz (2017) raised the criticism as while the process builds upon each previous phase in a linear, chronological fashion, the time constraint of fewer than 60 seconds can be problematic (contra. Weinberg, 2019; Lewrick, Link, & Leifer, 2018). The apparent time and action pressure can lead to an understanding of the ideas proposed, not reaching beyond the frame of that sprint. The Design Thinkers run the risk of lacking the ability to explain their ideas outside that sprint's setting. Externalists would not follow the thoughts introduced due to the dynamic these emerged due to the pressure to provide potentially abstract solutions immediately. DT's work is primarily to construct representations in here that refer to a specific reality out there. "[...] At the point when the projection achieves the requisite amount of stability, erasure begins" (Seitz, 2017, p. 59). In simpler words, the creative solutions may be too abstract for compatible implementation despite the customer-centric focus. The required resources, such as money and legal constraints, are considered for the eventual final solution. Consequently, several ideas may be perceived as redundant for cognitive-heavy people or those who were not attending that sprint (Bourdieu, 1987; Seitz, 2017; contra. Weinberg, 2019; Lewrick, Link, & Leifer, 2018).

#### **4. Prototype**

The fourth phase of the DT prototype focuses on creating early versions of the final problem solution. The goal is to test, validate or falsify hypotheses that the prototypes are built upon, delivering the core of their added value. Here, the findings of the previous stages are implied as well. The prototypes created can be tangible or intangible but should always convey the particularly salient, ideally incomparable solution approach, requiring creativity. Unfortunately, it may

not be easy for every practitioner to demonstrate a complex idea in a sketch or paper construct. Nevertheless, the intention of a prototype is not to create a finished, fully functional early version, but only to convey the most significant features of the solution to be presented to third parties (Erbeldinger & Ramage, 2013; Weinberg, 2019; Lewrick, Link, & Leifer, 2018).

Each prototype ideally represents novel solution(s). The team can investigate and approach a suitable solution in a holistic, creative, and agile manner, following the lock-and-key principle, fostering later cost-efficiency. That results in successively discarding irrelevant ideas at the end of the prototyping phase and retaining, even merging, the promising problem-solving possibilities (Grashiller, Luedeke, & Vielhaber, 2017; Lewrick, Link, & Leifer, 2018; Weinberg, 2019). In contrast, it can be assumed that the subject Design Thinkers become aware of stumbling blocks, limitations, and potential risks of their prototypes through the iterative learning process on the ideas proposed.

Underpinning creativity and cohesion, the diversified micro-teams may well be beneficial (Lewrick, Link, & Leifer, 2018; Weinberg, 2019; cf. Di Cristini et al., 2003; Myers, 1962; Pearce, 2003; Pilcher & Richards, 2013), yet it is essential to consider Seitz's (2017) criticism on the potentially too abstract solution provision that third parties cannot always grasp. Furthermore, DT implies another contradiction: it deprives itself of the visuality that it thrives on. After the sticky notes, neatly and traceably placed in subcategories on a whiteboard or wall, are taken out of this framework, they are supposed to become prototypes. While this is a purposeful process, DT prototyping means that the notes are taken out of the construct of ideas and can no longer be logically linked. Thus, Seitz reports, "As I took down the sticky notes from the wall, I erased all of the connections that were made visible as the product ideas came together. A reversal takes place" (2017, p. 59). As a result, Design Thinkers would have to develop new framework conditions that must be given for the subsequent test phase. That revalidates the aforementioned paradox that DT solutions are often situational and understandable under time and action pressure but do not remain transferable to reality (contra. Lewrick, Link, & Leifer, 2018; Weinberg, 2019).

# Materialize

## 5. Test

In the fifth phase of DT, the testing stage, the prototypes created previously are pivoted in their feasibility. The goal is to test to what extent the prototypes solve the problems identified in the empathize and define stages. Since the solution's feasibility is trialled in this phase only, adaptations take place. In the best-case scenario, the information provided in the first two stages will be revisited here to optimize the solutions, matching these with the insights gathered as DT proceeded (Grashiller, Luedeke, & Vielhaber, 2017; Lewrick, Link, & Leifer, 2018; Weinberg, 2019).

That is countered by the prototype construction, which can be based on consequential errors due to a lack of objectivity brought about by the use of empathy, such as in the creation of personas and a present cognitive dissonance of the practitioners (Festinger, 1957; cf. Fox & Levav, 2001; Jussim, 2012; Nickerson, 1998; Schmidt & Hunter, 1977), which prevents the ideal solution proposal, rooted in emotionality as methodology. Notwithstanding, "empathy [...] is an epistemological instrument of dubious quality that nonetheless plays an important part in [DT]" (Seitz, 2017, p. 40). Contrastingly, empathy is not a validated methodology that has been shown to help organizations scale significantly. Instead, it should be perceived as an additional tool in a manager's or founder's repertoire, not a fundamental principle enabling but potentially encouraging peak commercial success.

Empathy for the different target groups would help create a platform according to its diverse users' needs and desires. However, that empathy should not remain a persona but factual information extracted to be employed and transmuted logically. In that way, if respective amendments are undertaken, it could be tested if the data extracted were transmuted accordingly or if a revision is necessary. Hence, referring to empathy is not enough but can help find a direction for a problem, albeit that direction must be based on sufficient data.



## **6. Implement**

In the implement phase, the optimized prototype is implemented in the actual business model (Lewrick, Link, & Leifer, 2018; Weinberg, 2019), considering the information on the prototypes' hypotheses from stage 4. At this point, the actual demand for the finished product is shown since the finished result could not be tested beforehand. Nonetheless, founders should prepare for the unexpected. The startup 6Wunderkinder, founded by Frank Thelen, released a prototype called Wunderlist, an intuitive and straightforward project and time management tool. Customers liked the prototype, but the final product, called Wunderkit, enjoyed less appeal. The team went back to the prototype, made it mass-marketable, and built a successful company (BUSINESS INSIDER, 2015). Consequently, a potential loss of resources (time, money, human capital's involvement) should be considered since there is no guarantee of a prosperous DT sprint (contra. Habermann, 2008).

DT can be greatly relevant for young companies, as the application is expected to deliver fundamental, radical innovations (cf. Tidd & Bessant, 2013) but also approaches that will help sharpen the focus on customers' needs. Furthermore, its internal use implies the increased potential of supplying the emergence of a solution-oriented corporate culture – similar to the Japanese kaizen principle, where the pursuit of continuous performance improvement is strived for (Weinberg, 2019; Medinilla, 2014). DT rather envisions radical novelties within a business model (cf. Grove, 2009; Verganti, 2011; Tidd & Bessant, 2013) than realizing incremental improvements, as intends to restructure entire processes within a company, leveraging emotional intelligence since employees are introduced to a new way of approaching problems and solutions.

Overall, the DT method can be seen as a creative measure for identifying agile solutions that can intrinsically strengthen teams (cf. Pearce, 2003; Myers, 1962; Pilcher & Richards, 2013; Di Cristini et al., 2003). It also encourages the consideration of unconventional actions. Nevertheless, in practice, DT reaches its limits in financially and spatially limited startups, which raises doubts about its feasibility for young and small companies with only little budgets. Unfortunately, the method has some contradictions, which hinder the practical

implementation of it. The iterative process, which Ries (2012) advises either, is promising in error improvement. Thus, the method unifies cognition and creativity. In contrast, DT thrives on the experience of creativity, less on understanding it. This is countered by the interactive process, which is intended to promote creativity and mental flexibility. To help founders in their decision for or against the use of DT, the following table (see Figure 7) allows reflecting on the pros and cons.

**Figure 7.** DT after reflection

<b>DESIGN THINKING</b>				
<b>AFTER REFLECTION</b>				
	<b>Visuality</b>	<b>Simplicity</b>	<b>Need validation</b>	<b>Creativity</b>
<b>Customer centricity</b> F	✓	✓	✓	✓
<b>Emotional intelligence</b> F	✗	✓	✓	✓
<b>Flexibility</b> F	✓	✓	✓	✓
<b>novel unconventional value provision</b> F	✗	✗	✗	✓
<b>Efficiency + effectivity</b> F	✗	✗	✓	✓

F: Founders' point of view

Source: Self-developed.

### ***Comparison of the methods and implications***

LS (Ries, 2012) is based on validated learning, from which startups can benefit to sharpen their business model conditioned by feedback from early customers. In this way, budding entrepreneurs simultaneously create proximity to initial customers, who can become early adopters who, in the best case, attract further customers. Consequently, this method is promising for internal optimization purposes, which shows the founding team its development but can be



secondarily leveraged for investment pitches on the condition that persuasive performance progress is present. That means that at least derivatives of LS can be used for third parties (cf. Alpar, Koczy, & Metzen, 2015; Herzberger & Jenny, 2017). However, it must be added that the LS method is based on a range of uncertain parameters such as periods, numerical assumptions (uncertain metrics), and broad freedom of interpretation. Therefore, on the one hand, it can be easily misinterpreted what the incorrect execution of LS would entail, but it can also cause the founders to lose focus since much is vaguely formulated.

DT (Lewrick, Link, & Leifer, 2018) is intended to help company founders deal empathically with their customers' problems. This method can certainly help create a business model as a deeper understanding of the customer emerges, which is not tied to feeling the same emotions as customers but instead the ability to understand what their solvable problems are. Here, the first customers can be identified through recommended interviews with early customers, which favours first income. Therefore, DT should be limited to internal use initially, and results can be presented to third parties only if the customer insights and problems have been validated to be true. Third parties cannot benefit from subjective assumptions of a persona and deepen their understanding of the specific business model presented (Bhargava & Herman, 2020; contra. Lewrick, Link, & Leifer, 2018) through empathy for customers. Thus, the lack of relevant metrics indicates further fractures. Without sufficient numerical data sets, it is difficult to capture the potential of a business and the founders' skills. Hence, it is unlikely that investors would show interest in investing if only DT were applied, as not even a growth plan was shown.

Comparatively, probably the most advisable method from the comparison of DT (Lewrick, Link, & Leifer, 2018) and LS (Ries, 2012) represents a blend of either approaches. Although LS (Ries, 2012) already takes up elements of DT (Lewrick, Link, & Leifer, 2018) due to the customer-centricity, early validation, and pivoting through customer feedback, even more in-depth elements for customer understanding can be included in LS (Ries, 2012). If, for example, personas or stakeholder maps with their associated pain points were included, a holistic mean of capturing and sharpening the business model can emerge, as LS (Ries, 2012) presupposes the metrics that DT neglects. Beyond, DT (Lewrick,

Link, & Leifer, 2018) is intended to find creative ways of solving a problem. That knowledge can be applied to a novel business model, yet it is less based on validated, numeric learning as opposed to LS (Ries, 2012) that incrementally intends to guide entrepreneurs to the quick founding applying diligent entrepreneurial hygiene that does not necessarily give creativity as much space.

It is questionable whether factual drivers of success exist at all in an increasingly VUCA business landscape (cf. Bennett & Lemoine, 2014), especially under the premise of the currently prevailing Covid 19 pandemic (Lubin & Esty, 2010) that leaves diverse industries in unforeseeable conditions. Therefore, companies are forced to re-evaluate their success drivers holistically and individually. While the methods presented can deliver new impetuses or even guidance in establishing the business, they should not be perceived as promising success tools because too many external factors not captured by the methods presented can determine success or failure. The most crucial aspect of a business is its founding team and its vision that is not considered in any of the five methods (contra. Sinek, 2009; cf. t3n, 2016; StartUpWissen, 2020). This emphasizes that founders should not rely on methods only but consult more appropriate means. In the end, each method is only as effective as the founding team using it.

## Research methodology

In the following chapter, the methodology's research approach is elucidated. Qualitative data are obtained through interviews with business founders, reflecting on their founding process and ascertaining whether theoretical founding methods were used. To wholly depict this study's methodology, ethical core principles such as ontology are addressed as well.



## Qualitative research

The primary qualitative research's chosen design is cross-sectional, with the principal goal of identifying potential vital drivers of success and promising entrepreneurial methods. Hence, the data collection method of choice is a semi-structured interview administered personally to business founders (cf. Bryman, 2012).

Semi-structured interviews are scientifically validated and a popular method of conducting qualitative research data based on a relatively conventional interview style. An issue-focused interview is appropriate for collecting primary qualitative data as it intends to leave the subject as much space as possible, similar to an open talk (cf. Bryman, 2012; Saunders, Lewis, & Thornhill, 1996). Moreover, semi-structured interviews are not overly focused on criteria such as replicability, internal validity, external validity, and measurement validity, like quantitative research designs (Bryman, 2012). However, part of the research's fundament is respecting the ethical core columns of research that imply the subjects' voluntary participation, anonymity (if desired), confidentiality, and the freedom to withdraw. That so-called ethical ontology is inevitable to consider throughout the conduction and analysis of qualitative data.

The most prominent issues in semi-structured interviews are the interviewer's interpersonal level to the subject as the interviewer and subject can influence the opposite mutually. That must be considered throughout the process of data collection and analysis to keep the determinants' level of complexity on its minimum (cf. Bryman, 2012; Saunders, Lewis, & Thornhill, 1996). However, potential problems are inherent when conducting an interview. Also, lacking time and trust can be detrimental to the research. Both can affect the subject's opinion as essential facts can be withheld by the subject and lead to a non-representative study as either can lead to an incomplete data set. This means that an insightful interview must create rapport initially and schedule each interview appropriately to avoid a non-reliable outcome. Starting with mild questions first and ending with rather complex issues can therefore be beneficial. Moreover, asking short and precise questions allows the researcher a more comfortable and efficient analysis of the answers (Berg, 2006; Bryman, 2012; Myers, 2009; Myers & Newman, 2007).

However, the subject's opinion can be manipulated psychologically on a linguistic level by external factors such as the interviewer's linguistic framing of questions (cf. Smith, 2013; Whorf, 1956; contra. Nietzsche, 1888). Such actions can be contradictory to the desired outcome of reliable research. They would simultaneously nurture a cognitive dissonance that each researcher must beware of individually, as they would reject to conduct the study with openness to outcomes other than expected (Festinger, 1957). The withholding of crucial facts by the subject should be evaded to generate valuable, non-biased qualitative data set (Bell, Bryman, & Harley 2018). Accordingly, cognitive dissonances can foster the emergence of the test bias (cf. Schmidt & Hunter, 1977) that can falsify data aligning with the desired (cf. DeAndrea, 2015; contra. Hofstede, 1980). Consequently, wording, compliance, style, and sequence are dependent on the researcher's linguistic construction (contra. Kaplan, 1966; Nietzsche, 1888; cf. Voloshinov, Matejka, & Titunik, 1973) of the questions that are interdependent on the subject's education, ethnic and cultural background, age, and social status, respectively (cf. Bryman, 2012).

In general terms, the qualitative research's conduction aims to understand and present the interview data gathered profoundly. The result is achieved through the critical reflection of contextual determinants such as proficiency, age, gender, and professional experience of the subjects (cf. Saunders, Lewis & Thornhill, 1996), similar to the linguistic construction. Also, a critical evaluation will enhance transferability, dependability, confirmability, and credibility. This contributes positively to the research's quality (Bryman, 2012) to find out whether entrepreneurial theoretical methods greatly favoured the subjects regarding establishing their businesses.

## Sample group

The study's chosen sample group comprises 15 business founders of diverse backgrounds and different company stages to present a reliable outcome. Each interview was conducted via video calls to ensure time efficiency and

respect the present Covid-19 restrictions. Furthermore, to refer to meaningful insights that contribute to the results' validity, 5/15 interviewees are successful business founders with media presence in the entrepreneurial context and respective funding expertise – high profiles. The founders' companies refer to diverse economic maturity levels: from initial operational activity, founding an entrepreneurial university chair for ethnic minority groups, up to initial public offer. However, following a proper ontology hygiene, each interviewee will be kept anonymous.

## Semi-structured interview guideline

An issue-focused, semi-structured interview intends to leave the subject as much space as possible for replying to the questions. Nevertheless, regarding this research's conceptual background, it is centred on the usability of established entrepreneurial founding methods and tools (cf. Mayring, 2002). When designing interview questions for the semi-structured interviews, the first step is to make a draft that broadly reflects all relevant topics. In this study's case:

- personal background related to the occupation
- business creation and founding
- realizing and scaling of the business

Each of these categories is filled up thematically with three up to six questions. Here are the fourteen formulated questions:

Personal background:

1. What is your profession?
2. Since when have you been working in that position?
3. Can you briefly sketch your professional development?

Business creation and founding:

- 4.** Did you use an entrepreneurial instrument, e.g. LS for developing your business model?
- 5.** Were there any obstacles experienced throughout that particular process?
- 6.** If you experienced obstacles, how did you overcome them?
- 7.** For new founders, and knowing what you know now, what would you consider the most important key factors for developing a business model?

Realizing the business:

- 8.** What were the first steps you took to realize your business?
- 9.** Would you recommend retaking these, or would you do it differently?
- 10.** What challenges and issues did you have to overcome in the realization phase?
- 11.** What were your implications from these mistakes?
- 12.** In your opinion, what entrepreneurial principles, strategies, and methods helped you make your startup successful?
- 13.** Referring to your experience and the current challenging economic circumstances, what should today's entrepreneurs be aware of when building their business?
- 14.** Reflecting on your entrepreneurial journey, what are you the proudest of?

The questions' objective is to point out the conjunction between the subject's answers and the viewpoint on specific topics as the subject has intricate knowledge (cf. Mayring, 2002). This cognition entails explicit assumptions that the researcher can apply to open questions spontaneously, e.g., requesting elaboration on specific criteria given to question 13. Also, implicit assumptions are considered either. Thus, they should be supported by methodologically providing elaborative aid by asking diverse questions that reconstruct the subject's theories on the study. The four required categories of questions included are as follows:

- probing questions
- throw-away questions
- extra questions
- essential questions (Berg, 2006; Flick, 2011).

At the beginning of an interview, throw-away questions are often used to ease rapport-building. Hence, they do not necessarily contribute to the central aim of the study. In this thesis's case, the throw-away questions refer to questions 1, 2, and 3. Throw-away questions can either be general questions – here asking for the subject's position – or demographic questions, e.g., asking for the subject's sex affiliation. Nonetheless, they can regulate an interview's pace or focus, justifying their necessity (Berg, 2006).

Essential questions solely target the focus of the study. They are somewhat scattered over the interview (cf. Gray, 2004). Nevertheless, they show a linkage to gather precise information that contributes to the study's focus, as seen in questions 4, 6, 9, 12. Furthermore, essential questions refer to the study's core and its result (Berg, 2006; Flick, 2011).

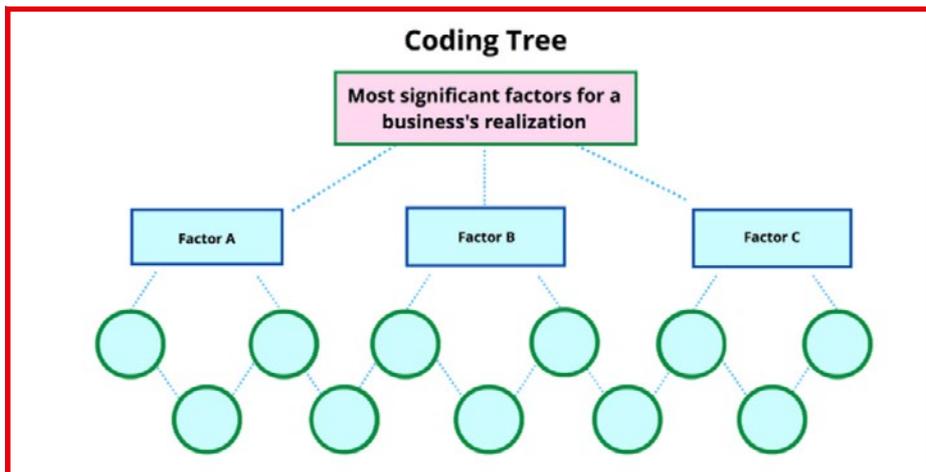
Extra questions are connatural to essential questions. However, they are not identical, as some wording is changed for the phrasing of additional questions; in this case, questions 5, 10, and 14 (Berg, 2006). The reasoning behind it is to examine to what extent a change in wording shifts the answer. Additionally, further questions test the answers' reliability (cf. Gray, 2004).

Probing questions or probes refer to another question answered before the current. Here question 6 is probing the answer given to question 5. Probing questions invite the respondent to elaborate on the information given earlier. The probing questions' usage allows the interviewer to gain a richer understanding of the subject's statements (Berg, 2006; cf. Gray, 2004).

## Results and discussion

Content analysis is a common approach to analyse literature (cf. Kuckartz et al., 2007). In this case, it is applied to interviews conducted with business founders. Employing the MAXQDA software equips the study with the interviews' transcription necessary to derive analyses. Beyond, using MAXQDA eases identifying the most frequent emerging terms through the search option for keywords that allows for coding categories. The interdependencies can be visualized in a coding tree afterward (see Figure 17) – simplifying the evaluation of the semi-structured interviews as the intention is to minimize the text material (Kuckartz et al., 2007; cf. Bryman, 2012). Accordingly, a coding tree quantifies qualitative data based on its content.

**Figure 8.** Coding Tree



Source: Adapted from Kuckartz et al., 2007.

Hierarchical coding systems of that kind provide researchers with the appropriate instrument to visualize the relationships between overarching topics and qualitative interview insights. Consequently, these relationships take on the form of not only categories but their respective subcategories either (cf. Bryman, 2012). Thus they add trustworthy value to the study and



the expected result of providing knowledge about the feasibility of entrepreneurial methods in real-life scenarios (Kuckartz et al., 2007; cf. Saunders, Lewis, & Thornhill, 1996).

## ***Results***

In the following section, the results of the qualitative study will be presented. Furthermore, the research method applied will address the pros and cons of the deployed proceedings.

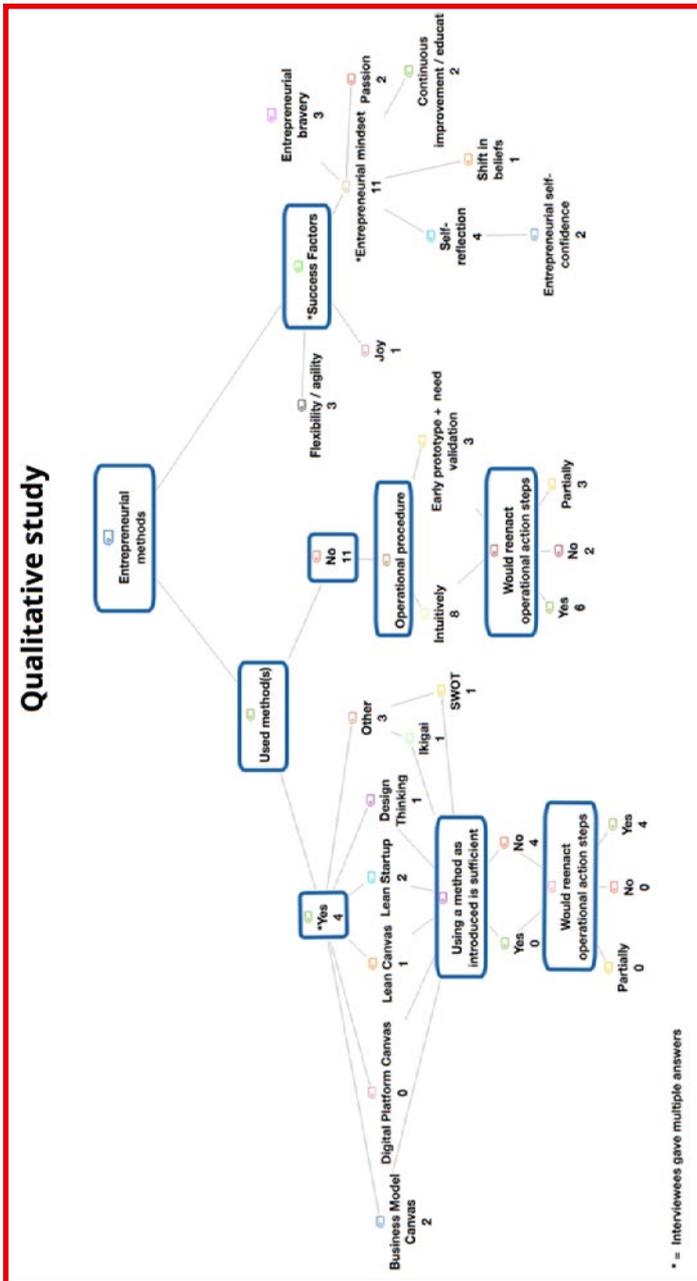
### ***Qualitative research: interviews with business founders***

The qualitative research comprises a series of interviews with founders; the information can be filtered out that 15/15 interviewees stated an early validation of the business idea or the customer need is of highest relevance.

### ***Evaluation of the interviews***

From the qualitative research collected, which was quantified using the coding tree, only 4/15 interviewees used 3 of the methods analysed (see Figure 9).

Figure 9. Evaluation of the interviews



Source: Self-developed.

In addition, 2 of the interviewees stated that they had used SWOT analysis and the Ikigai method, respectively. Therefore, based on the present study results, the established methods are not used as prominently in real founding cases as the theory would suggest. The statements of the interviewees support this. Throughout the conduction of interviews, it turned out that none of the method users would rely exclusively on a single method's execution. Instead, those founders who used methods understood them as a guideline or a starting point. "So, I always have to know the ignition switch that I use very gladly at the beginning with a product idea teams together. But I have also adapted changed it somehow, and I have that to speak as a model in my head. And then I know that, that the image can still tell me something about it, and that's like such a mental image" (Interviewee 4, 2021). Therefore, it can be assumed that entrepreneurial reason is required for reflection in order to be able to apply learned methods emancipated from theory and applied to the founding case. Thus, while the founders appreciate the thought-provoking impulses presented to them by a method, they still transmute it to fit their product or service and other framework conditions.

It is remarkable that even though every 3 founders that employed the methods analysed made changes to fit their situation because the methods did not entirely reflect the needs of their founding case, nonetheless they would still repeat the action steps they took at that time. However, this may be primarily related to human and entrepreneurial maturity and recognition of the learning process, considering the resources available at the time. Less can this be attributed to the sole guarantee of success of the methods. "So I believe that, yes, I would do that again, I will do that again. But of course, I [would do] this slightly better because now I have an idea of how to go about it. And, of course, expand my network's Joint Entrepreneurship Association's entrepreneurial networks rights. And I think that would help me" (Interviewee 1, 2021).

Regarding the 11/15 interviewees who did not use a theoretically elaborated method, it can be stated that they started intuitively (8/11) or with early need validation and the associated prototype (3/11) in the business model development and realization phase. It must be emphasized here that early validation is also part of the methodological processes analysed. Therefore, it can be assumed that those founders who decided not to use the methods are not

familiar with those methods and are often presented in an academic context. “I did it more intuitively [...]. The exciting thing about it is more [...] in retrospect, as I then developed this, sometimes I found out [...] that there are models already out there, but I have been using them intuitively for myself for years” (Interviewee 2, 2021). On the positive side here the founders could link their entrepreneurial reasoning with their intuition. It turned out that acting intuitively does not exclude ways of acting using established methods. It became clear that the methods presented were known to a total of 6/15 interviewees – those who had studied business academically.

However, what is striking here is the distribution of the percentage about whether the company founders would repeatedly act in the same way. While six interviewees answered in the affirmative, two answered in the negative, and three would do so again to some extent. This may be due to the lack of knowledge about standard startup procedures taught in the academic context, but it may also be related to a founder’s need for optimization and hunger for success, which is, however, uncertain.

It was therefore of utmost importance to find out which factors the founders said helped them. Three interviewees stated that flexibility was of great importance, especially concerning the Covid-19 pandemic, while only one interviewee named the joy of founding a success factor. However, 11 interviewees referred to the entrepreneurial mindset, which was named as a driver for success. However, this category was further subdivided into self-reflection (4), entrepreneurial self-confidence (2), shift in beliefs (1), continuous improvement/education (2), passion (2), and entrepreneurial bravery (3). Based on the available data, it can be seen that the founders’ thought patterns made a decisive contribution to their success, irrespective of their academic degree and academic economic calibre.

## ***Discussion***

In the following section, theoretical as well as managerial implications are explained. Furthermore, limitations that may invalidate this study’s results are addressed.



## **Limitations**

Each study has a limited research quota, and this study also encounters limitations that call into question the validity of the research findings. In the qualitative interview part of this study, open-ended questions were used to ask about resources, methods, or strategies that were perceived as helpful, for example the Business Model Canvas or Lean Startup, since these are the most widespread and the interviewees were not to be restricted too much in their response radius or even manipulated. Nevertheless, it must be criticized here that the three other methods analysed did not receive equal prominence in the survey. Thus, it is possible that although Design Thinking was not explicitly asked for as a tool, this method was nevertheless pursued. The possibility exists that this merely did not immediately occur to the interviewee.

Furthermore, it can be criticized that the qualitative study was not conducted in person due to Covid-19. The physical perception can allow the attentive interviewer to ask even more detailed questions at appropriate points, contributing positively to the research result.

Moreover, the composition of the sample group is not free of criticism as only 3/15 interviewees were men and only 1/5 high profile interviewees was female. Thus, especially concerning gender equality, the composition of the interview partners is questionable since daring statements such as “primarily male entrepreneurs make it to great success” could arise. Another flaw of the sample group’s composition lies in the high profile’s academic background: every single high profile interviewee has a degree in economics. They were supplied with a subliminal set of potentially meaningful criteria to decipher what elements of founding a business are useful.

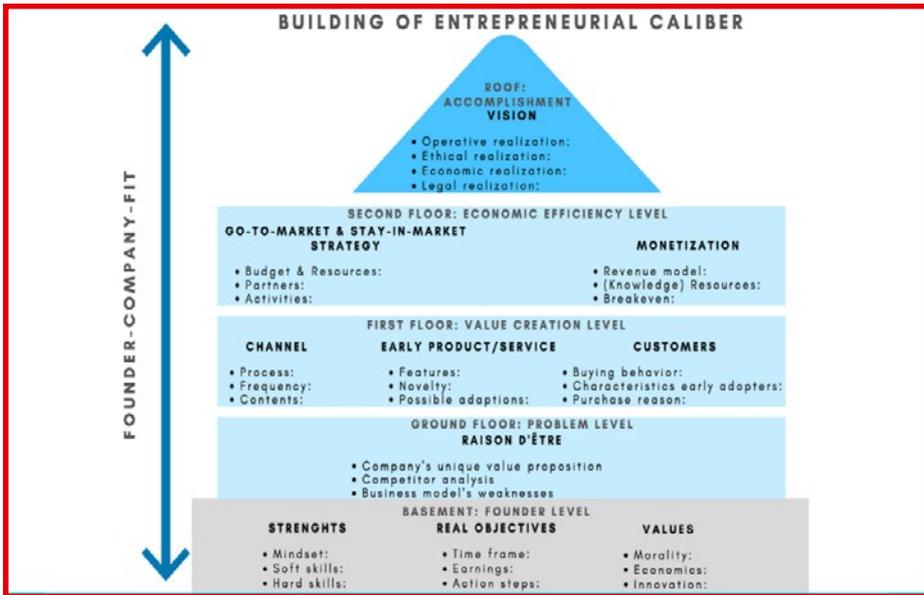
# Conclusions

## *Theoretical implications*

For theoretical purposes, the present findings of the methods presented have their *raison d'être*, as they provide founders with principles and procedures that can simplify the startup process and stimulate risk minimization. Nevertheless, there are gaps in the methods presented, especially considering the mindset that 11/15 interviewees (Figure 18) consider essential. Moreover, none of the methods presented comprehensively addresses entrepreneurial rationality and the emotionality of entrepreneurial spirit in equal measure. Elements of Sinek's (2009) Golden Circle or the Japanese Ikigai (Mogi, 2020), which deal with the founder himself and his creational ambition, are not involved in the methods presented. That denotes that research question 1. has to be negated as employing solely one method as presented is insufficient based on a digitized business's multidimensionality. Furthermore, it is impossible to formulate a generic statement on the best practice method; best practices always rely on the founders' subjective preferences and the degree of their founder-company-fit (see Figure 19).

Even among investors, the personalities behind a startup are receiving more and more attention; it would therefore be advisable for founders seeking guidance to use a framework that illuminates economic rationality and competitiveness in the same course as the entrepreneurial mindset, so that in the end the vision behind a startup can be realized by the founder-company-fit. One such framework is the "Building of Entrepreneurial Calibre" (see Figure 19; self-developed, 2021), explained in the following part. For a sufficient elaboration on each building blocks' component, an article solely dedicated to the framework should be considered, which exceeds this master study's frame. Here, each floor represents a separate microanalysis within an overarching macroanalysis.

Figure 10. Building of entrepreneurial calibre framework



Source: Self-developed.

The framework sees self-reflection at the founder level as an indispensable asset. This is because the whole business finds its origins in its founders; it is the least that the entrepreneurs critically deal with themselves as a startup always entails an increased risk compared to a permanent position. Therefore, founders are encouraged to reflect on their strengths, tangible goals, and values. In this way, strengths can be optimized by leveraging values embodied in their actions to pursue their objectives. Also, from a psychological and managerial point of view, it is advisable to consider in-depth (self-)reflection as entrepreneurs are aspiring leaders and/or managers who – if desired success comes in – are obliged to be responsible for their team members. Accordingly, those who are accountable should be the most credible and resilient, empowered through a mentality of intrinsic demand and openness for optimization.

The problem level points out existing economic blind spots that allow the business model for realization, providing space for defining the *raison d'être* – including the competitor analysis. Beyond, the problem level requires founders

to conduct an in-depth analysis of the business model's weaknesses, demanding entrepreneurial maturity and honesty to build strengths upon. Simultaneously, addressing weaknesses prepares the founding team for the undesired yet likely event of copycats or outperforming companies' emergence.

The subsequent value creation level addresses the monetizable product/service. The diverse channels through which the new added value is distributed (Siegfried, 2021), and the customers and relevant characteristics are the centre of this building block highlighted. Founders must differentiate channels between logistics and marketing streams as each requires different execution strategies. Furthermore, to prepare for the following startup stages, possible business model adaptations that might not be realizable in the beginning should be addressed here. Concentrating on customers, the framework asks founders to identify whether the majority is relatively emotional or rational in their purchase behaviour, enabling further analysis, such as characteristics of early adopters or the purchase's reason that can be divergent from the expected.

At the level of economic efficiency, it becomes more specific in the sense of conventional economics, since here the go-to-market and stay-in-market strategy and the monetization are underpinned with essential data. That level of the framework is intended to help acquire first investors, as here dramaturgically building on the previous levels, a comprehensive and self-contained framework of realizable and concrete action steps for the business can be a comprehensive and self-contained framework of realizable and concrete action steps for the business taken. Also, investors are supplied with a more profound understanding of the founding team's economic mentality, as information on the point of breakeven, existing partners/business allies that might reduce the investor's work or serve as warning signal assist in the investor's assumption on how much of their resources such as time, money, network, strategic calibre is needed.

With the level of accomplishment, the company with its vision, which serves as an overarching guideline, will enter the market through operational realization in ethical, economic, and legal duties. Across the use of this framework, the prime objective for founders is to equip themselves with a more comprehensive guiding tool and experience their founder-company-fit, so that potential adaptations of any nature can occur and the chance of sustainable success is maximized.

## ***Managerial implications***

From a manager's perspective, the implication is that neither a validated path nor a framework or model promise a startup's success. The frameworks analysed, intended to streamline the successful founding process and make monetary losses as avoidable as possible, serve as a guideline that founders who feel lost in the flood of literature and workshops can use, but founders should perceive these more as an aid, less as the rule of law. Especially in an entrepreneurial case, changing framework conditions are expected, which cognitively reduces the strict implementation of a method. That could be one of the various reasons why only 3/15 founders interviewed consciously applied methods to ease their founding process – limiting the range of answers to research question 3 on the feasibility of entrepreneurial methods. Therefore, the art of entrepreneurial management lies in realizing creative flexibility and astuteness combined with strategic procedures. The managerial mindset of a founder should therefore be coupled with reflective behaviour and a willingness to emancipate oneself from established thought patterns and approaches “[...] it is just very much about letting go of old behaviours, to open up for the new” (Interviewee 4, 2021).

Consequently, and referring to research question 2, there is no best practice model or framework neither for a digitized ecosystem nor for any other business model as too many inconsistencies play in. Factors such as the founding team itself, resources available, and entrepreneurial maturity that cannot be measured uniformly determine a startup's success or failure, which is applicable for using a specific model of framework. As Interviewee 4 suggests, success drivers from existing research should be implemented and adapted to the challenges of the current economy.

Moreover, primarily referring to the qualitative research, it is apparent that creative flexibility is necessary but still complementary to necessary facts. These facts may be especially relevant for a prototype. For example, managers in a startup setting can tap into the fact that extensive research and work performance are relevant for a convincing prototype as possible learning for themselves, but the “start before you are ready” (Interviewee 3, 2021) should not be underestimated either. For entrepreneurs, it is of unspeakable relevance

to be open to new ideas and feedback. The burgeoning shame of asking experts or potential investors for their opinion on one's idea may be a human flaw. However, for the entrepreneurial manager, it is inappropriate to practice such behaviour as the unfinished product or service embeds the potential for realization of untapped ideas.

### ***Future outlook***

In conclusion, the frameworks presented provide a helpful guideline for the core elements of a startup and the problem it is trying to solve. The validity and appropriateness for a venture's particular product/service are not set in stone. Furthermore, the hype that some introduced strategies enjoy is not entirely reasonable as the methods imply weaknesses in their overall construction. However, the methods serve as a starting point, but entrepreneurial flexibility and the ability to adapt methods should be considered. Thus, it is to be expected that established core principles are increasingly merged but simultaneously added novel and fashionable dimensions in the future to approach a company's founding and market entry with untapped angles. Here, both – DT (Lewrick, Link, & Leifer, 2018) and LS (Ries, 2012) – find their fit to supply business founders with insights for their future operations, yet with pitfalls to consider, simultaneously.

The outlook that digitized business models and ecosystems will prevail is therefore not only justified but necessary to consider, as these are likely to be indispensable terms of future's managerial vocabulary.

Overall it is assumable that an increasing number of models and frameworks will pay greater attention to the founders, risk management and resilience considering the need for digitization. The strategic orientation towards sustainable and crisis-resistant competitive advantages will be given a new depth by coming startups, hopefully contributing to reconstructing the weakened economy.

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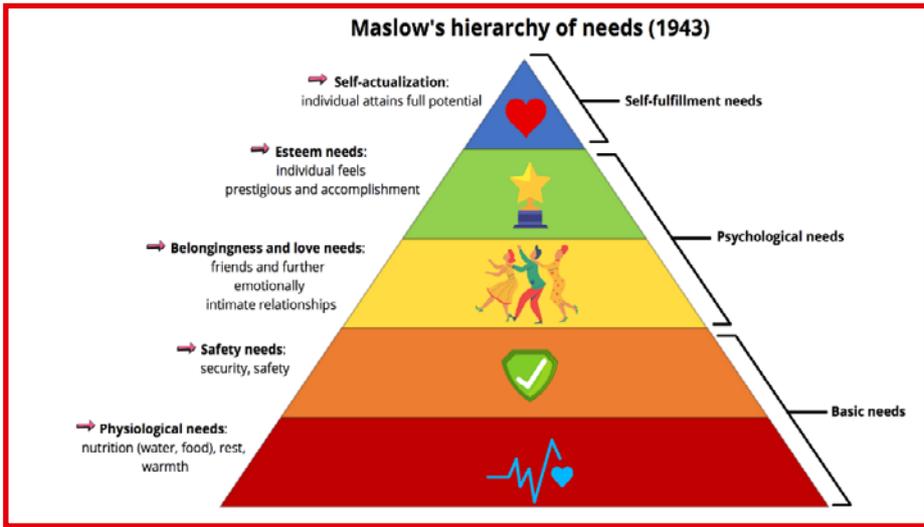
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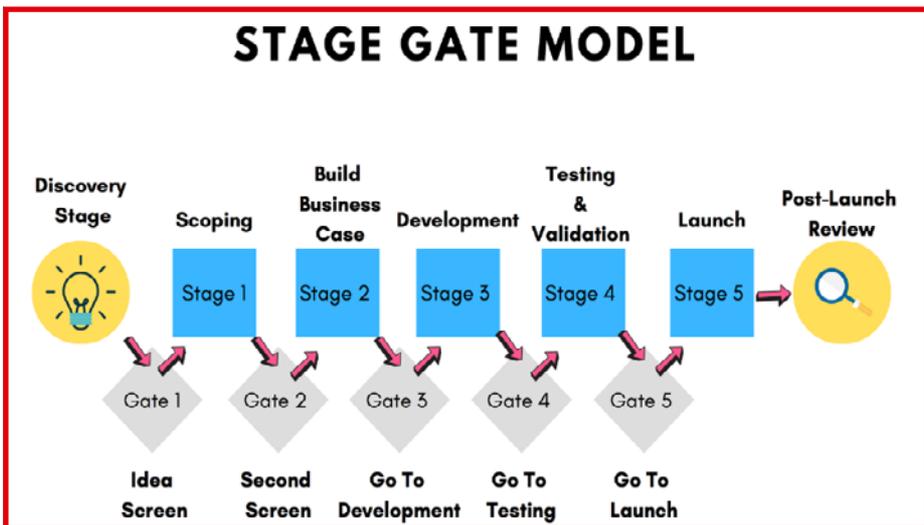
# Appendix

## Appendix 1. Hierarchy of needs



Source: Adapted from Maslow, 1943.

## Appendix 2. Stage-Gate Model



Source: Adapted from Cooper, 2008.



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# Generational Differences in the Labour Market – Three Confounded Effects

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## ABSTRACT

**Objective:** Many research claim that Millennials value work ethic much lower and leisure time much higher than older generations. Most of them are based on cross-sectional analyses of data collected at one time. This design confounds the COHORT effect (born in the same time period and thus exposed to the same cultural forces during their formative socialization period) and biological AGE, and it makes it impossible to separate them. Our goal is to demonstrate how to empirically separate the confounded effects of APC (biological AGE – PERIOD of measurement – COHORT) in a simple way.

**Methodology:** Three generations (Baby Boomers, X-ers and Millennials) from the representative Polish samples of the World Value Survey, were cross-sectionally compared, and a cross-lagged comparison was made between BB in 2005 vs X in 2020, and between X in 2005 and Millennials in 2020.

**Findings:** It was shown that significant cross-sectional differences in attitudes toward work between the 3 generation (with the highest score for Baby Boomers and the lowest for Millennials) cannot be explained by age differences. Over the period of 15 years, the importance of leisure time has increased for all generations (PERIOD effect).

**Value Added:** The paper highlights significant methodological problem: the confounding effect of APC in most generational findings. It promotes the idea of using nationally representative samples from publicly available data like World Value Survey, instead of collecting convenience samples.

**Recommendations:** Greater methodological rigour in generational studies is recommended, as their results can create/support stereotypes that tend to generate individual expectations (e.g. every Millennial is computer literate or lazy), ignoring the fact that intra-generational variability is very high.

**Key words:** World Value Survey, generational differences, confounded effects of age, period and cohort, multigenerational management, generational studies

**JEL codes:** C18, D64, E24, J53, J62, M12

## Introduction

The Internet revolution, which has taken place on an almost global scale (cell phones with Internet access have reached the farthest reaches of the world), has dramatically changed the relationship between generations. Millennials (Generation Y representatives) are the first cohort that does not need the

intermediation of elders to access information. The times when the young learned primarily from their elders are gone forever. Situations in workplaces where elders were considered an indispensable source of knowledge for young and inexperienced workers are a thing of the past.

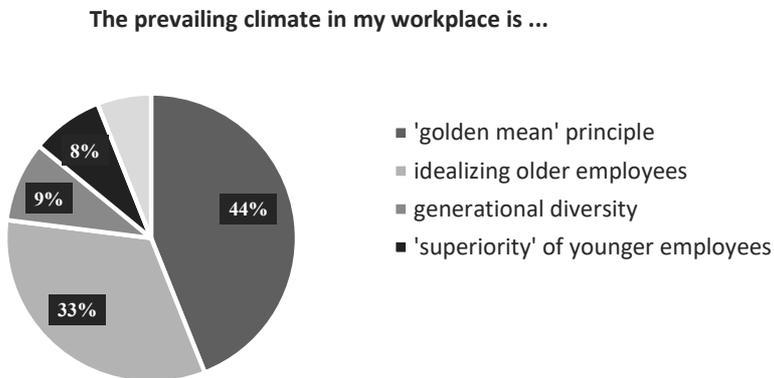
Before the Internet era, the experiences of the succeeding generations were similar. In the Internet era, the “master-student” relationship is often supplanted by the “Internet-student” relationship. However, this can lead to confusion and information overload with the dynamic growth of the Internet information network (the rate of new content on the Internet is growing exponentially). An important difference in the indicated relationships is that, so far, the master has passed on to the student not only information, but also a value system.

Two conflicting views on intergenerational relations co-occur in the literature. Representatives of one “camp” (e.g. Wątroba, 2017; Moczydłowska, 2020) talk about loosening ties between employees representing different generations who behave like “distinct tribes” speaking different languages and perceiving reality differently. On the other hand, attention is drawn also to the fact (Wieczorkowska, 2022) that the globalization of media coverage (e.g. the same news services and series broadcasted around the world) is causing the elderly to be exposed to youthful language, style of dress, etc. to an unprecedented degree, leading to the blurring of not only cultural, but also intergenerational differences.

A survey of managers conducted in Poland (Moczydłowska, 2018) showed the diversity of the intergenerational climate in Polish companies (see Figure 1). Managers were asked to choose 1 of 4 descriptions (see below) that best characterized the situation in their workplace: (1) There is a prevailing belief that the extensive work and life experience typical of older workers is most valuable. There is a **climate of idealizing older employees** while depreciating the position and achievements of the younger. The principle of “know your place” is applied to the young. (2) There is a prevailing belief that the most valuable thing is energy and openness to novelty and constant change – typical for the youngest employees. There is a pervasive **climate of “superiority” of younger employees**. Behaviours bordering on discrimination against older workers based on their age are accepted. Attitudes towards elders are set by the “you do not know, your time is up” philosophy. (3) The principle that

everyone, regardless of their age, brings something valuable to the company is promoted, i.e. **“the golden mean” principle** prevails, where acceptable for employees of different ages norms and values are sought. (4) Diversity is promoted, including **generational diversity** as a value. Emphasis is placed on getting to know each other’s different age groups in a spirit of acceptance, respect and trust. The philosophy of “we are all responsible for the performance of our organization, we all learn from each other’ is applied.” (5) There was also an option “None of the above descriptions characterize my workplace well.”

**Figure 1.** Diversity of intergenerational climate



Source: Own study based on the results of a survey of managers by Moczydłowska (2018, p. 170). The percentages in the figure have been rounded to whole numbers.

Although in surveys conducted by commercial research agencies, generational diversity tops the list of current trends and challenges in people management practices, only 9% of managers in the study mentioned above indicated a (prevailing in their workplace) climate of generational diversity. Most of the managers surveyed chose “the golden mean” principle as a dominant one. This research also showed that the assessment of organizational climate depends on the age of respondents. The BB Generation was more likely to notice signs of paedocracy (power in the hands of the young and inexperienced) in their organizations. The “online generations” (Generation Y and younger) were

significantly more likely to rate their company's organizational culture as typical of a gerontocracy (power in the hands of the elderly).

Population aging (Kurek, 2008) through reduced fertility rate, migrations, good health and increasing life expectancy, allows retirees to stay active in the labour market longer (Moczydłowska, 2018). Therefore, many companies face the challenge of having a **multi-generational workforce** that must be led and managed to create high-performance teams. Age diversity in workplaces is steadily growing, thus increasing the likelihood that a team leader will be younger than its members.

More than half of organizations with 500 or more employees have reported conflicts between younger and older workers (Burke, 2005; Cogin, 2012). Younger employees often do not understand the problems of older ones; they are unfamiliar with the so-called work ethos, which loses out to the desire to maintain a work-life balance; they sometimes lack patience in dealing with each other, impose their own speed of work and want to change the established order of things at all costs. Older employees with many years of experience, both specific – in performing particular tasks, and non-specific – e.g. in dealing with emotions at work, resolving conflicts, differ from younger ones even if they have identical education and professional qualifications.

The number of publications dedicated to generational diversity in organizations is growing. In one year alone (2021), in the Google Scholar database, the phrase “**generational diversity**” in the title or keywords of publications occurred more than 600 times. The attention of researchers focuses primarily on the specifics of each generation, their similarities and differences in behaviour in the work environment.

Stereotypical perceptions of representatives of different generations, building multi-generational teams, professional mobility and career paths of people of different ages are also among the most frequently discussed topics. Tools for managing generational diversity and good practices for its use are also being searched for.

Despite the rich literature on the subject, due to the high contextualization of the social sciences, it is difficult to consider the problem of generational differences as solved. The topic of generations is so popular because age, like gender

and race, is among the automatically decoded surface traits (Van Vianen, Shen, & Chuang, 2011), which are an “invitation” to create group stereotypes – simplified judgments about groups/categories of people. Among them, a distinction can be made between **positive** stereotypes, concerning desirable traits (e.g. strong man, dedicated woman, computer-savvy Millennials) and **negative** stereotypes, concerning undesirable traits (e.g. domineering man, dependent woman, lazy Millennials). It can be ventured to say that almost everyone has a latent (and therefore often non-verbalized) theories about generational differences. The second reason for the popularity of generational studies is the ease of operationalizing age.

Unfortunately, the results lead to different conclusions. Some studies show generational differences (D’Amato & Herzfeldt, 2008; Twenge, 2017), while others show very weak or no correlation (Costanza et al., 2012; Trzesniewski & Donnellan, 2010). But do not such easily generated research reports on generational differences create grounds for stereotyping employees?

The purpose of this article is to empirically disentangle the confounded effects in analyses of the importance of work in an employee’s life based on data collected in the 2005 and 2020 World Value Survey<sup>1</sup>.

## The concept of generation

Socialization – a lifelong process of learning (Szacka, 2003) – is what makes us human (Aronson & Aronson, 2020). Primary socialization in the family home loses its dominant role in personality formation during early adolescence, when personality formation begins (Wiczorkowska, 2022). In secondary socialization, which lasts a lifetime, we distinguish a formative period, in which socialization learning is extremely rapid and sustained. This period of privileged formative

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1 The World Values Survey (WVS) is a global research project that explores people’s values and beliefs, how they change over time, and what social and political impact they have. Since 1981 a worldwide network of social scientists have conducted representative national surveys as part of WVS in almost 100 countries.

socialization falls approximately between the ages of 16 and 25. During this period of life, the socioeconomic and cultural environment makes a stronger imprint by facilitating the internalization of beliefs, values, attitudes and expectations, which can influence behaviour (also in the workplace) (Inglehart, 1997; Glass, 2007). It is assumed that attitudes and behaviours formed during the formative years of socialization remain constant as the years pass (Inglehart, 1997; Smith & Clurman, 1997).

The term “generation” is defined in many ways, which more or less emphasize the commonality of landmark generational experiences (Edmunds & Turner, 2005; Jurkiewicz & Brown, 1998; Kiely, 1997; Kupperschmidt, 2000; Smola & Sutton, 2002) such as World War II, the sexual revolution, the fall of the Berlin Wall, the 9/11 WTC attack, the spread of the Internet and the COVID-19 pandemic.

Only one of these events, the **origin of the Internet**, is universal alike to Poland, the United States and any other corner of the world (where the Internet has appeared), so it is the Internet that is the important cut-off point between the older generations (which can be described here as **pre-internet**) and the younger generations (**post-internet**).

For Poland, 1991 can be considered the beginning of the Internet, and it can be assumed that Generation Y is the first to have had worse or better access to the network during the formative socialization period.

The terms **generation**, **birth cohort**, **age group** are not synonymous, but they are often treated as such. In this article, these terms are used interchangeably in the sense of birth cohort (Mannheim, 1952). In this paper, GENERATIONS denote groups of people born during the same period. The view on the cut-off values separating generations vary from researcher to researcher (Cox, Bachkirova, & Clutterbuck, 2014; Mazur-Wierzbicka, 2016; Nelson, 2012; Wilson et al., 2008; Wojtaszczyk, 2016). The year ranges adopted as the standard in all analyses conducted in the Department of Sociology and Psychology of Management at the University of Warsaw are as follows:

- Baby Boomers (BB) – cohort of workers born between 1946 and 1964.
- Generation X (X) – cohort of employees born between 1965 and 1980.

- Generation Y (Y) / “Millennials” – cohort of employees born between 1981 and 1995.

Generational differences in the workplace have been studied from many different perspectives, e.g. industry, consumer segment, national culture and demographic factors (Carter, 2008; Eisner & Harvey, 2009; Lindquist, 2008), job satisfaction (Kowske, Rasch, & Wiley, 2010), organizational commitment (D’Amato & Herzfeldt, 2008).

When describing generational differences, one operates with the notion of a **collective (prototypical) individual** who was shaped by the prevailing social and cultural conditions during the period of intensive socialization. Attitude preferences formed during the formative period (not only in relation to fashion, music, but also, for example, the role of work in life) turn out to be very durable and can lead to the formation of generational consciousness (Eyerman & Turner, 1998). Theoretical analysis uses Bourdieu’s notion of **habitus** (Bourdieu, 1977), which refers to acquired skills and competencies that take the form of an individual’s enduring dispositions and influence the way a person perceives the world.

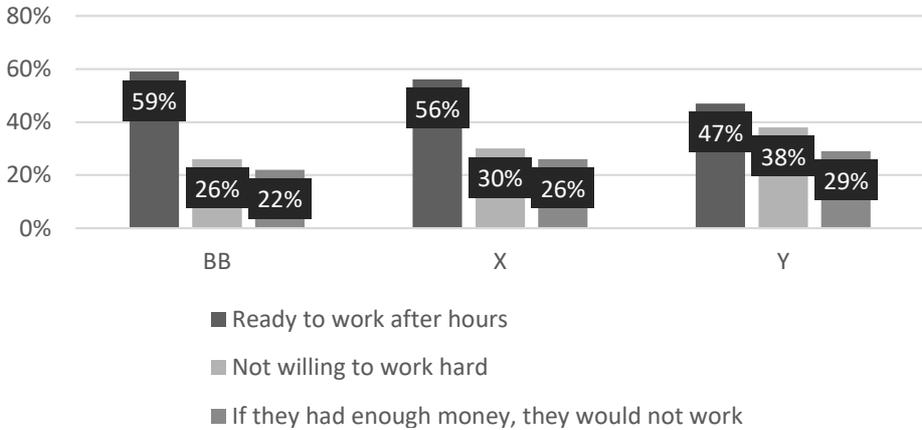
## Declining importance of professional work?

A comprehensive review of research on intergenerational differences in attitudes towards work can be found in Kinga Wilczyńska’s doctoral dissertation (Wilczyńska, 2022); here, only 2 sample studies will be presented.

A survey of U.S. high school graduates conducted since 1976 (the “Monitoring the Future” project, which surveyed half a million high school students – the biological age of respondents across generations is therefore constant) has shown generational shifts in responses to questions about work.

Teenage representatives of Generations BB, X and Y respond differently to three questions about attitudes toward work (see the chart below in Figure 2).

**Figure 2.** Attitudes towards work of American high school graduates



Source: Own study based on Twenge, 2016.

A 2018 U.S. study compared the degree of agreement on the value of work (Twenge, Campbell, & Freeman, 2012). “1” indicates the highest value acceptance, “2” the average, and “3” the lowest one.

**Table 1.** Acceptance of the value of work among representatives of the three generations

	BB	X	Y
Work as a value in human life	1	2	3
Ethics of work	1	2	3
Importance of leisure time	3	2	1
Individualism	3	2	1
Role of extrinsic motivation	3	1	2
Willingness to leave the organization in the absence of satisfaction	3	1	2

Source: Own study based on Twenge, Campbell, & Freeman, 2012; Moczyłowska, 2020.

Most likely, it is the work ethic that is the main difference between younger and older workers. Representatives of Generation BB find it difficult to accept what the younger generation suggests about work, methods, working hours, regulations and rules. Moreover, the younger generations always want to

balance their personal lives and work, but representatives of Generation BB sees this as a sign of a lack of work ethic. Representatives of these generations react differently to guidelines, restrictions and technology, and they are driven by different rewards (Gravett & Throckmorton, 2007).

## Methodological problems in the study of generational differences

The division of a continuous variable such as age into nominal categories comes at the expense of both theoretical precision (as arbitrary age limits are imposed inconsistently across studies), and statistical inference (MacCallum et al., 2015; Twenge & Campbell, 2008; Twenge et al., 2010). It is worth noting that the ranges are not of the same length: for Generation BB it is 19 years, for Generation X it is 11 years, for Generation Y it is 15 years. Lack of consistency in generation limits (i.e. when they start and end) may limit the comparability of research results (Constanza et al., 2012).

In studies of generation differences, the most common strategy used is cross-sectional design, i.e., generation comparisons at a single point of time (Rudolph, 2015), which makes it impossible to separate the impact of the 3 confounded effects, which is the problem this section will detail.

The confound of the 3 variables, due to its universality, is referred to as **APC**, from **Age-Period-Cohort**. When a layman is asked, for example, what the answers to survey questions about the attractiveness of tattoos depend on, he will easily say that the timing of the survey is important (tattoos are rated better now than 20 years ago) and the age of the respondent (older people rate them worse). This means that even a layman is aware of the presence of the PERIOD effect (the time of the conducting survey) and the biological AGE effect. Rarely, however, will anyone point out the COHORT/GENERATION effect, which this article is devoted to.

The differences between APC effects will be shown using the examples:

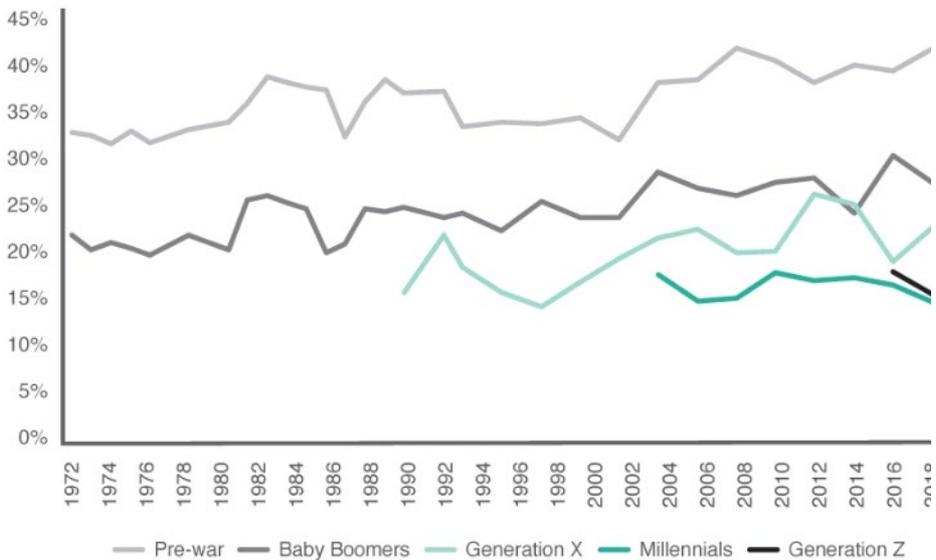
- Changes from 1972 to 2018 in the number of Americans attending services at least once a week.

- Changes from 2010 to 2018 in the number of French people considering terrorism as one of the country's most worrisome problems.
- Changes from 1997 to 2018 in the number of British people considering immigration as the main problem facing the United Kingdom.
- Changes in the number of satisfied Europeans according to their biological age (from 16 to 84).

In the empirical part, the separation of these 3 effects in a survey of attitudes toward work on World Value Survey data in 2005 and 2020 will be presented.

The **COHORT/GENERATION effect** means that the analysed views, preferences, values are shaped most strongly and persistently in youth – In the formative period during secondary socialization (cf. Wiczorkowska, 2022) under the influence of cultural messages and socioeconomic experiences. Internet spread had a different impact on people if it happened during the respondent's formative years (before age 25) vs. later in life. From an analytical point of view, this means reduced variance in the explained variables across generational groups.

An example of a variable that is strongly subject to the COHORT/GENERATION effect can be religiosity operationalized by attending religious services at least once a week. Based on the data in Figure 3, it can be predicted that the percentage of Americans attending services can be determined by generational affiliation.

**Figure 3.** Percentage of adults in US attending religious services at least weekly

Source: US General Social Survey (1974–2018), after: Duffy 2021b.

The **effect of biological AGE** means that the analysed views, preferences and values are changing with biological age; for example, the desire to seek emotional experience may decrease. An example of a variable that is strongly affected by the age effect is the sense of happiness, which is lowest in the middle phase of life (see Figure 4). The grey line represents averages of life satisfaction according to the age of the respondent. Green are averages adjusted due to other sociodemographic variables.

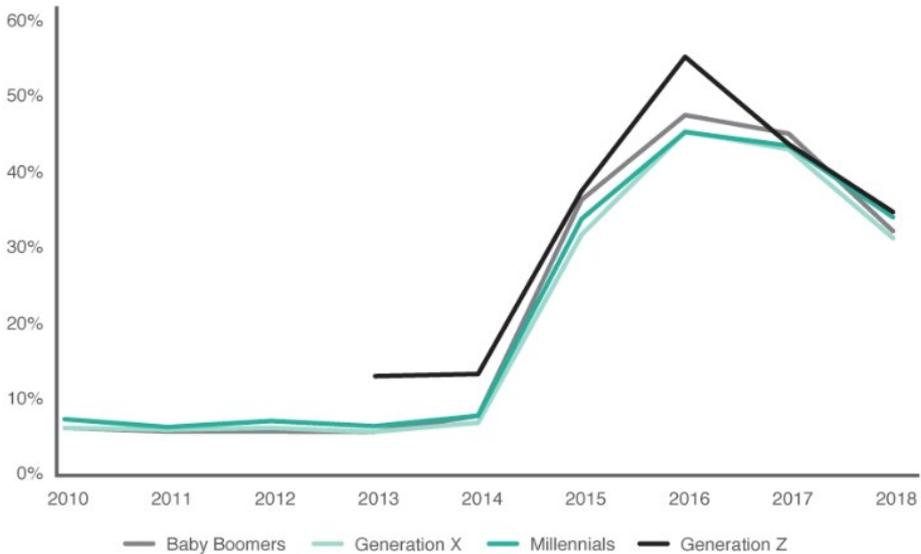
**Figure 4.** Life satisfaction by age in Europe



Source: Source: Blanchflower reanalysis of Eurobarometer data (2009–19) in Blanchflower, “Is Happiness U-Shaped Everywhere?”, after: Duffy 2021b.

**The PERIOD/ERA effect** means that the changes being analysed are in response to major events (e.g., pandemic, war, economic crisis, cultural crisis) equally affecting the attitudes, beliefs and behaviours of all generations. An example of a variable that is strongly subject to the PERIOD effect can be the feeling of threat of terrorism. In Figure 5, we see that changes in the percentage of French adult respondents considering terrorism as one of the most important threats do not depend on their generational affiliation, but on the time the survey was conducted.

**Figure 5.** Percentage of adults in France who say terrorism is one of the most worrying issues in their country



Source: Ipsos What Worries the World survey (2010–18); around 1,000 interviews per month; after: Duffy, 2021b.

An example of a variable that is subject to both the **PERIOD** and **COHORT/GENERATION effect** can be the percentage of people choosing immigration as a major social problem. In Figure 6, it can be seen that the percentage of British people claiming that migration is the main problem facing the United Kingdom, which is explained by generational affiliation and the time of conducting the survey.

**Figure 6.** Percentage of adults in Britain picking immigration as a top issue faced by the country



Source: Ipsos MORI issues Index (1997–2018), after: Duffy 2021b.

In the examples analysed, the impact of the respondents’ biological AGE could not be easily estimated. The age of the respondent is linearly determined by the information about the year of birth (COHORT/GENERATION) and the year of survey (PERIOD).  $AGE = PERIOD [year\ of\ survey] - COHORT/GENERATION [year\ of\ birth]$ .

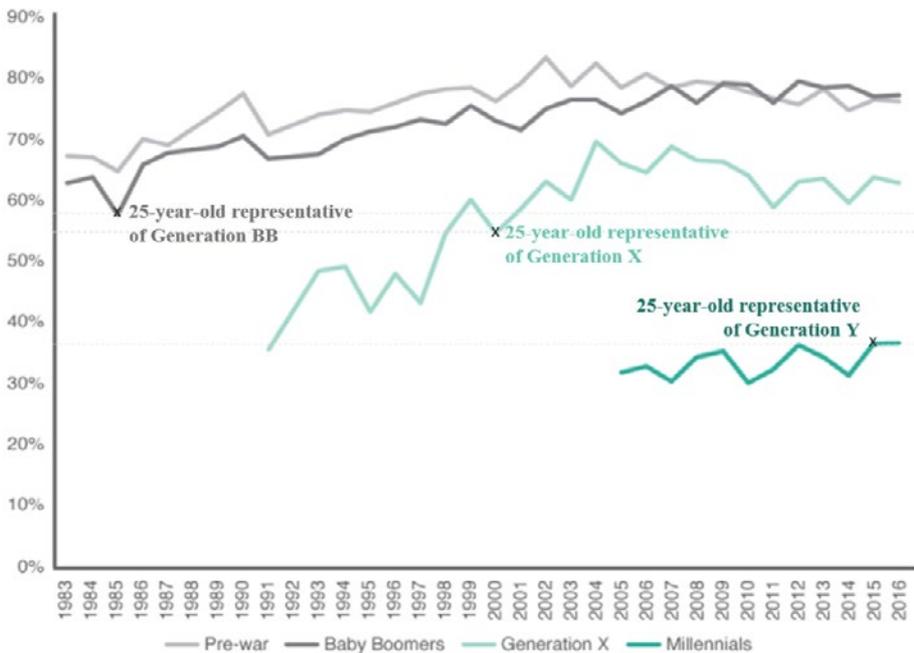
The separation of the influence of biological AGE from the influence of COHORT/GENERATION should be analysed, as it is the most difficult issue using the example of data determining the percentage of British adults owning (including with a mortgage) a home between 1983 and 2017. It is quite obvious that a higher percentage of homeowners will be found among older generations. However, by comparing 25-year-olds belonging to different generations, it is possible to see how likely they are to be homeowners (see Figure 8). A 1960-born representative of Generation BB was 25 years old in 1985, a 1975-born representative of Generation X was 25 years old in 2000, and a 1990-born representative of Generation Y turned 25 in 2005.

A comparison of the percentages on the OY axis for these 3 points shows that the chances of owning their own home for representatives of Generation

BB and Generation X were similar, and for representatives of Generation Y, or Millennials, they are already significantly lower.

With this simple example, we intended to show how to separate the biological AGE effect from the COHORT effect.

**Figure 7.** Percentage of adults in the UK who own their own home or have bought one with a mortgage and live independently of their parents



Source: Own study based on British Social Attitudes survey (1983–2017), after: Duffy 2021b.

Longitudinal studies (time-lag studies) are needed to separate these effects. The prototypical example is the aforementioned **Monitoring the Future** study of high school fourth graders conducted since 1976 by the Institute for Social Research at the University of Michigan in Ann Arbor. The respondents compared are ALWAYS the same age so biological AGE cannot be responsible for the differences found.

For example, Generation BB students filling out the survey in 1976 were 17–18 years old, the same age as Generation X students filling out the survey in

1990, or Millennials in 2005, and Generation Z representatives in 2015. Therefore, one can exclude the effect of biological AGE – but this kind of data cannot separate the effect of COHORT/GENERATION (resulting from cultural influences during the formative period of socialization) from the effects of PERIOD (resulting from cultural influences at the time of the survey affecting all generations). From a practical point of view, whether a difference is the result of a COHORT EFFECT or a PERIOD effect is not always of great importance, since in both cases there is a cultural change involved.

When cell phones appeared, people of different ages started using them (the PERIOD effect), but it was teenagers in their formative years who spent more time using something that their parents and older siblings did not use when they were the same age. If we have data **over many years** from **many generations**, then using advanced statistical methods it is possible to separate the effect of biological AGE from the effect of PERIOD and COHORT. A discussion of these methods requires a separate article, but it is worth drawing readers' attention to a very interesting text (Costanza et al. 2017), in which the researchers, using 2 large datasets from (1) nearly 360,000 military personnel surveyed over 19 years and (2) over 55,000 US respondents collected over 38 years, compared 3 advanced analytical methods and found that each yielded slightly different results on generational differences. This shows the relevance of the triangulation of analysis methods advocated by the WiW methodological paradigm.

In the empirical part, an attempt will be made to disentangle the effects of APC<sup>2</sup> (Age – Period – Cohort) using the example of an analysis of attitudes towards work of three generations in longitudinal surveys in 2005 and 2020.

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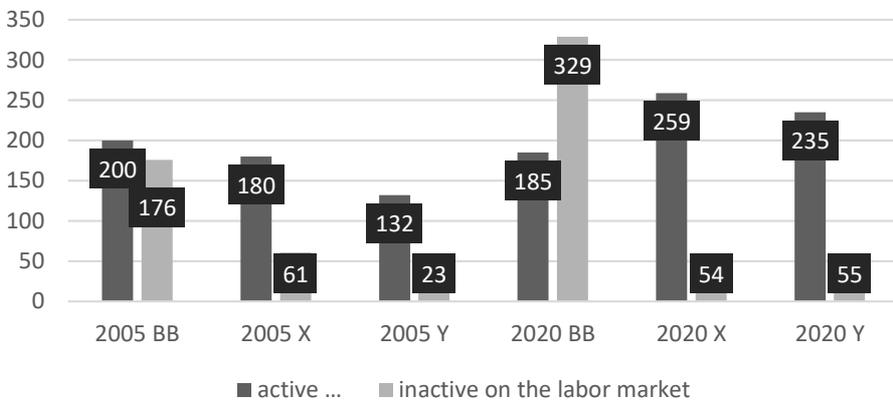
2 in Polish as WEK, from: *Wiek-Epoka-Kohorta*

## APC analysis of attitudes towards work

A test of the hypothesis that representatives of Generation Y, as the first online generation, attach less importance to work than their parents (Generation BB) and “older siblings” (Generation X) was carried out using the data from two waves of the World Value Survey from 2005 and 2020 (N=1984). In accordance with the standard, the respondent’s year of birth was recoded into birth cohort.

Figure 8 shows the numbers of workers analysed by survey year (2005, 2020), generation (BB, X, Y) and employment status (1=Inactive/absent on the labour market 2=employed or looking for employment).

**Figure 8.** Labour activity of respondents by generation and survey year



Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

Analyses were performed according to the WiW methodological standard (Wieczorkowska, 2022) for two different operationalizations of attitudes towards work (triangulation of operationalizations). In Analysis 1, the explained variable was attitudes toward work operationalized by responses to 3 questions, from which an indicator was constructed. In Analysis 2, the explained variable was responses to questions about the importance of work and leisure time in an employee’s life.

# Analysis scheme

## Variables explained:

- Attitude towards work – a synthetic indicator formed from responses to 3 questions (Analysis 1).
- Weight of work and leisure time (Analysis 2).

## Predictors:

- GEN3 – Generation: BB, X, Y.
- WAVE – year of research 2005 vs. 2020.

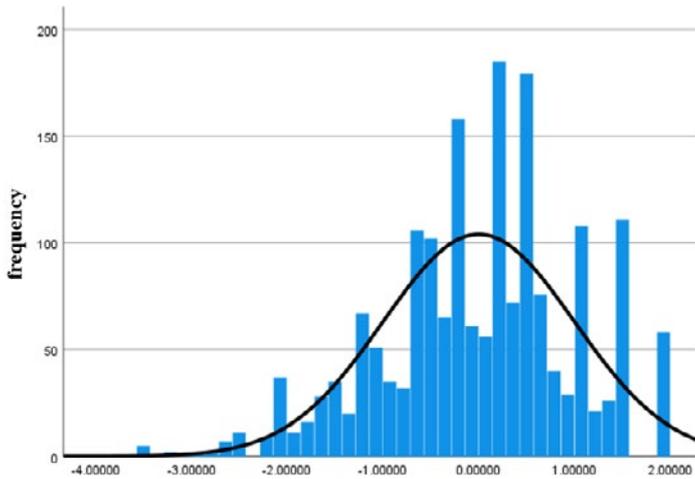
In all analyses, the following were controlled: employment status (employed or looking for employment vs. inactive/absent on the labour market), education in years of study, and gender (binary variable).

## Analysis 1: Attitude towards work

The variable explained in Analysis 1 was an indicator built from responses to questions about the degree of agreement with the following 3 statements:

1. people who do not work become lazy;
2. work is a duty towards society;
3. work should always come first even if it means less spare time.

Responses to these 3 questions were highly correlated, allowing the construction of a single indicator, the distribution of which is shown in Figure 9.

**Figure 9.** Distribution of attitude towards work indicator

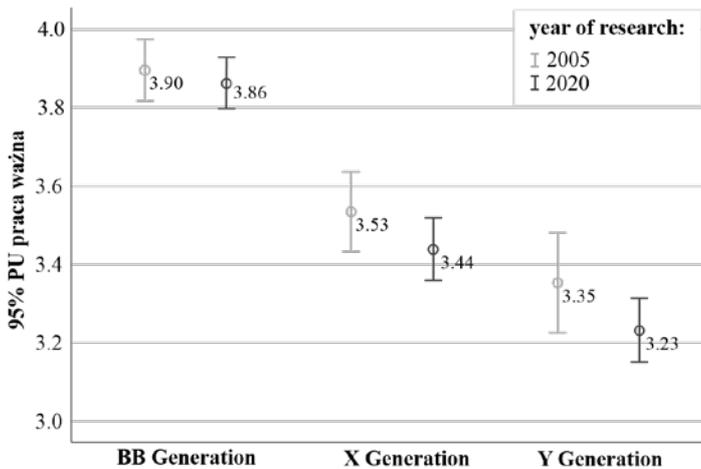
Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

The results of the bivariate analysis of covariance (year of survey, generation) conducted (for all analyses, see Wilczyńska, 2022) showed:

- Significant effect of generation ( $F=67.68$   $p<0.001$ ).
- No significant effect of survey year and its interaction with generation (both  $F<1$ ).

The figure below shows the averages showing that the work attitude indicator has the highest values for Generation BB, significantly lower for Generation X, and significantly lowest for Generation Y. Although the averages in 2020 are lower than in 2005 for all generations, the differences are not statistically significant.

**Figure 10.** Attitudes towards work by generation and wave of the survey



Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

The intergenerational differences shown in the figure above are statistically significant. The only significant covariate was education level – the higher the education level, the more important the job.

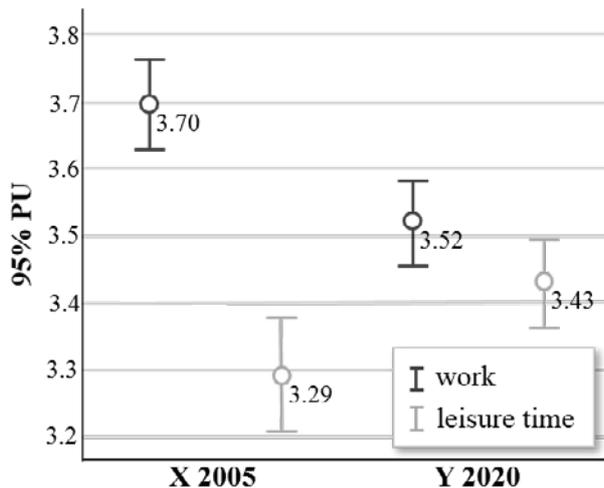
## Analysis 2: Importance of work vs. leisure time

The results of the three-factor analysis of covariance (year of survey, generation, importance) with repeated measures on the last factor: importance of work vs. leisure time (see Wilczyńska, 2022, for the entire analysis) showed that:

- The interaction of domain importance and generation, as predicted by the hypothesis, turned out to be statistically **INSIGNIFICANT** ( $F=2.0$   $p=0.14$ ).
- As expected, work was more important for respondents than leisure time ( $F=171.3$   $p<0.001$ ).

- Over the period of 15 years – the importance of work decreased, the importance of leisure time increased ( $F=38.41$   $p<0.0001$ ) – see Figure 9: Weight of work and leisure time by survey wave.

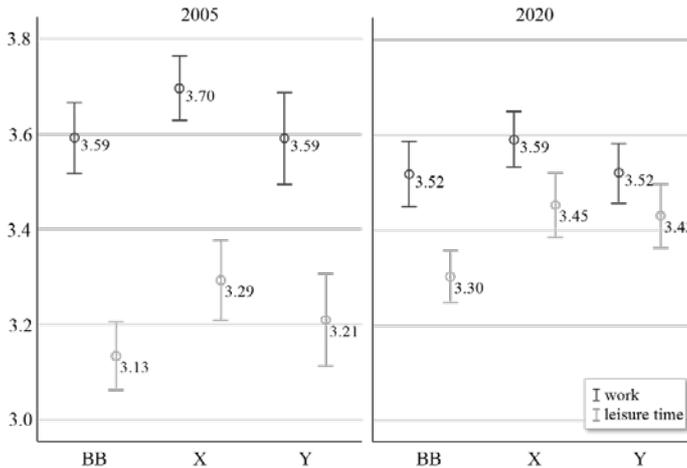
**Figure 11.** Importance of work and leisure time by survey wave



Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

Figure 11 presents the average weights for professional work and leisure time by generation. It is interesting to note the highest value of the work importance for Generation X in 2005 – significantly higher than for Generations BB and Y, which are not significantly different from each other in this regard. It is worth noting as well that the work importance for the BB group has a significantly higher variance than for the X and Y groups. After including employment status in the analyses (Wilczyńska, 2022), it turned out that economically active representatives of the generation BB and X are not significantly different from each other – the difference was generated for those outside the labour market BB and X. Generational differences in work importance disappear in 2020.

**Figure 12.** Importance of work and leisure time by generation and period (year of survey)



Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

In the subsequent step, the hypothesis that the generational differences found are due to differences in biological age was tested.

## Separating the effect of biological AGE from the effect of COHORT

To eliminate the effect of a variable means to make the variable constant, e.g. to eliminate the effect of gender means to survey single-gender groups. Therefore, when we want to **eliminate** the influence of the PERIOD effect, the time of the survey should be more or less similar for all respondents. In large surveys, data from the same wave are often collected for several months. When wishing to **examine** the impact of PERIOD (e.g. before and after the pandemic), the survey time must take different values (e.g. until March 2020 – as the time before the pandemic, and from March 2022 – as the time when restrictions were lifted).

With a desire to **eliminate** the influence of biological AGE of respondents from the analyses, we have explored respondents of the same age only (e.g.:

solely high school graduates like Twenge, 2017), or different cohorts at multiple time points, which allows us to compare how these age groups change over time. In contrast, if we want to **examine** the impact of biological AGE, we should survey people of different ages at the same point in time.

Table 2 shows how the age of respondents from each generation changed in 2005 and 2020.

**Table 2.** Summary of generation and age of respondents from two waves (2005 and 2020) of the World Value Survey

	Born during the years		Biological age during the survey wave	
			2005	2020
<b>BB</b>	1946	1964	41–59	56–74
<b>X</b>	1965	1980	25–40	40–55
<b>Y</b>	1981	1995	<24	25–39

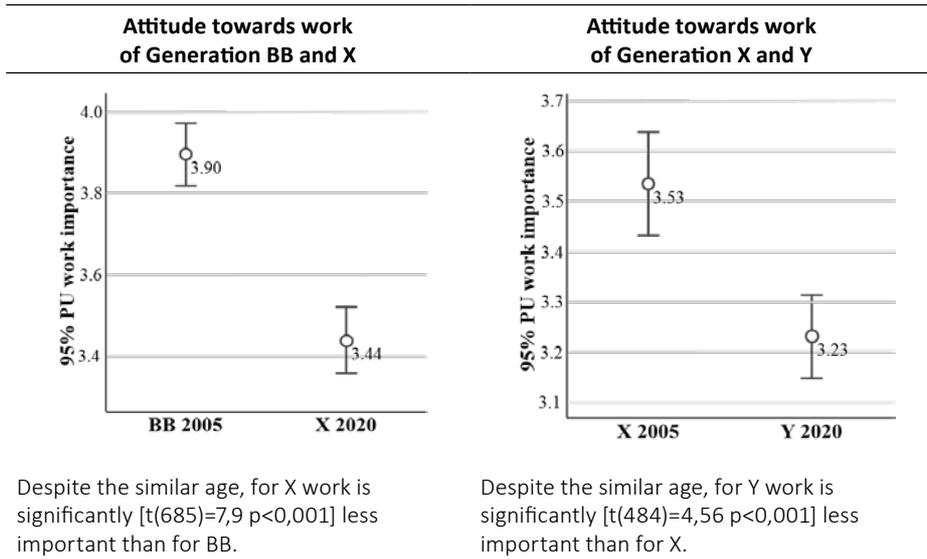
Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

To eliminate the effect of biological AGE, groups of approximately the same age should be compared:

- representatives of Generation BB in 2005 and representatives of Generation X in 2020, since both groups were approximately the same age at the time: 40–59 years old (marked in dark grey in the table above);
- representatives of Generation X in 2005 and representatives of Generation Y in 2020, since both groups were approximately the same age at the time: 25–40 years old (marked in light grey in the table above).

Following the logic outlined above, 6 Student's t-distribution were conducted for independent samples. Comparison of the views of peers from (1) Generations BB and X and (2) Generations X and Y.

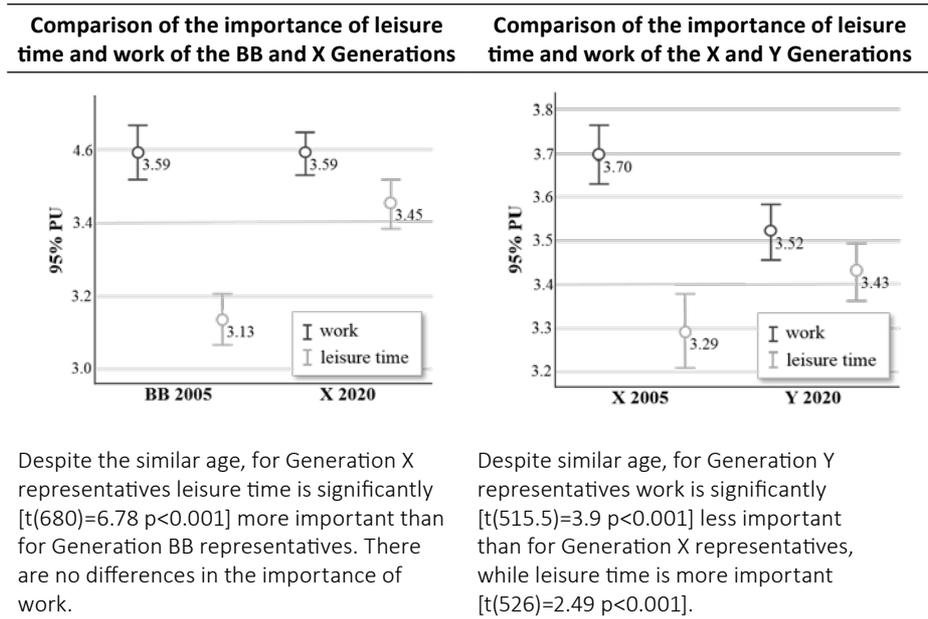
**Figure 13.** Comparison of attitudes towards work of respondents of the same age, belonging to different generations



Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

A comparison of groups aligned by biological age and belonging to different generations showed that the generational differences found in Analysis 1 cannot be explained by the biological age of the respondents. It can be said that attitudes towards work are internalized during the formative period of socialization.

**Figure 14.** Comparison of the importance of work and leisure time of respondents with the same age, belonging to different generations



Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

In order to operationalize Analysis 1, significant generational differences were found between the 3 generations – work is most important for representatives of Generation BB. There were no significant differences between the waves of the survey in 2005 and 2020 (although the demographic structure of the samples changed in the 15-year period between the measurements; in 2020, the number of representatives of Generation Y increased, and the number of economically active representatives of Generation BB decreased). The level of education was a significant positive predictor of job importance, while the gender of the worker was not significant.

The analysis allowed separating the influence of cohort (generation) from the influence of biological age – It showed that it is the cohort and not the age of the worker that influences the importance of work.

According to the WiW methodological paradigm, replication of the same conclusions on different datasets and with different operationalizations (triangulation

of data, operationalizations, modes of analysis) increases the external validity of the conducted studies. The strengths of the analyses conducted also include (1) the representativeness of the samples analysed (which increases external validity); (2) the measurement of the same variables at two time points, which made it possible to separate the influence of cohort/generation from the influence of biological age. Of course, we do not know if the conclusions would be replicated on unavailable units (Jerzyński, 2009) but it is a limitation of any study, as people can be selected yet cannot be forced to participate (Wieczorkowska, 2022).

## Summary

We should keep in mind that whenever we talk about the characteristics of entire generations these are group stereotypes and as such, even if they are true (e.g. men are taller than women), they are *always* dangerous when they generate individual expectations (every man must be tall). Generational thinking assigns an employee quite arbitrarily to certain generational groups based solely on the year of birth, and thus creates artificial boundaries between people born at almost the same time, e.g. an employee born in 1979 is classified as a representative of Generation X, an employee born in 1981 as a representative of Generation Y (Baltes, 1987).

The danger of generational analysis<sup>3</sup> consists in overlooking the socio-economic status of the family as a determinant of beliefs, attitudes and experiences. Millennials born in a family of State Agricultural Farms workers<sup>4</sup> who bankrupted during the systemic change had completely different life chances than Millennials born in the same year in Warsaw, in a family of the business elite. In the analyses, the prototypical representative of Millennials is the latter and not the former one. Similarly, the prototypical representative of Generation

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3 As Mannheim pointed out.

4 The liquidation of the large socialist State Agricultural Farms (PGRs) in 1993 left hundreds of thousands of workers in a very difficult situation.

Z is an elite high school student with a high pocket money and an Instagram account, not a peer who, in addition to the studies, spends all free time working on the family farm. It is economic circumstances that largely determine<sup>5</sup> the timing of entry into adulthood.

It would be tempting to say that all stereotypes (whether positive, negative or neutral) about generations should be discarded; actually, they should rather be brought into the light (withdrawing them from consciousness as politically incorrect would not guarantee that they would stop being applied).

We cannot change employees' life experiences and group stereotypes. However, it is necessary to emphasize their statistical nature and the harm of using them to generate individual expectations. Despite the statistically significant – also described in this publication – generational differences, it should be remembered all the time that intra-generational variability is very high. Moreover, as the research described in Wilczyńska's dissertation shows, generational differences in declarations of work values disappear when employee behaviour (declared commitment, job satisfaction) is measured.

Theoretically, from the HR point of view, it does not matter whether the differences found between young and older employees are due to cultural and economic peculiarities of the time of their intensive socialization or their biological age. If it is necessary to use different motivators for younger and older, it does not matter what these differences are caused by. However, due to the universal (i.e. affecting everyone) and unknowingly applied projection mechanism (Wiczorkowska, 2022), which in the case of older HR employees is to think “me at their age”, which is admittedly an attempt to take into account the effect of biological age, but without taking into account the impact of generational differences. It can be a mistake for business leaders and managers to adopt a leadership style appropriate to their generation without reflecting on how to lead multi-generational teams, which already include the youngest and least cognizant representatives of Generation Z entering the job market just now.

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5 As Duffy shows.

As emphasized many times, the impacts of age, cohort (generation) and period (era) are inherently intertwined (“confounded”) and these elements are very difficult to separate. According to some researchers (Rudolph & Zacher, 2017), it is reasonable to analyse these influences only at the individual level of analysis, rather than as a manifestation of common generational effects. According to the general development model (Schaie, 1986), cohort effects should be operationalized as inter-individual differences, while period/era effects should be defined in terms of intra-individual changes.

In addition, it is important to adopt the principles of lifelong development in designing age-sensitive work processes, interventions and policies that do not rely on generations as a way of representing age.

Both researchers and practitioners should take action to avoid the pitfalls of “generational thinking”, which comes with many risks (Rauvola et al., 2019; Rudolph, Rauvola, & Zacher, 2018; Zacher, 2020).

A more profound analysis of generational differences is presented in Kinga Wilczyńska’s doctoral dissertation; in this paper, due to the lack of space, it can only be noted that the widespread complaints of Generation X representatives about “Millennials” (Generation Y) that they do not want to work after hours have not been confirmed by the results of the study.

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# A New Perspective for Marketing: The Impact of Social Media on Customer Experience

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## ABSTRACT

**Objective:** The purpose of this paper is to examine the impact of social media on customer experience and how companies can use social media to enhance the experience of customers.

**Methodology:** Literature synthesis method was followed to trace out and analyse the data. The EBSCO Discovery of Science and Google Scholar databases were used to find the articles. Over thirty articles were produced from the total (190) search query results after applying limiters, deleting duplicates, and enforcing non-business settings.

**Findings:** Social media has a considerable impact on customer experience due to its widespread and easy access by customers. It enabled companies to classify customers, get a lot of information about them, and get very fast feedback about their impressions related to their product or services. Social media may have a positive or negative impact on customer experience, so the role of management is important to manage these media in a way that will benefit the company and support it to achieve its objectives.

**Value Added:** This article provides a clear picture on exploring the impact of social media on customer experience. The results of the research can be used to guide companies on how to use social media to enhance the experience of customers.

**Recommendations:** Companies should smartly manage social media and employ qualified staff to improve the customer's experience and avoid the side effects that this type of media may have on customer experience. In addition, customer experience should be a strategic goal because it helps the company meet its overall goals.

**Key words:** social media, customer experience, marketing

**JEL codes:** M31, M30, M1

## Introduction

Customer experience is a construct that started to attract a lot of attention in the last century and until now. It plays an important role in the way customers

deal with, evaluate, and trust the company. Many researchers highlight the importance of customer experience as it affects the process of service evaluation (Veríssimo & Menezes, 2016). Recently, the focus of marketing practice has transformed from creating fast-moving customer product brands to building customer relationships through service marketing and creating good customer experience (Maklan & Klaus, 2014). Customer experience contributes to the customer's assessment of the offered product or service value. This can highly affect the customer's purchase decision. Customers tend to compare their experience with different companies. Customers need to express their expectations and points of view about products and services. The interaction between companies and customers allows the customer to assess the experience over time and across channels (Maklan & Klaus, 2014). Customer experience is a goal-oriented process that has an effect on customer loyalty and focuses on forming positive behavioural intentions. As a result, this will affect the future relationship between the company and its customers. Besides, customer experience is an important strategic objective. It is highly attributed to customer satisfaction and the company-customer relationship (Maklan & Klaus, 2014). Nowadays, with the huge spread of social media platforms, social media has changed or affected customer experience management; social media offers opportunities for positive experience that can lead to a long-term relationship which involves product information search, purchase transaction, and/or service delivery (Rose, Hair, & Clark, 2011). Regarding customer experience, little attention has been paid to online customer experiences compared to face-to-face ones. Social media platforms are a way of communication and interaction between people. It facilitates the way for companies to interact with their customers and offer services like online purchases, online pay, and product search. With the increase in the use of social media in the world, companies have started to put effort into enhancing customer experience through social media platforms and internet websites in general (Rose, Hair, & Clark, 2011).

Although the impact of social media on customer experience is a highly fundamental topic in marketing, there is still a lack of research done on this issue. This may be due to the idea that companies still do not have extensive



experience in dealing with online customers. In addition, social media is improving rapidly, and every day new technologies and applications arise. Therefore, there is always something new to learn about companies.

This study aims to answer the following questions:

- How has social media impacted customer experience?
- Do social media platforms, in some cases, harm customer experience?
- How do companies compete with one another in enhancing the customer experience of their customers through social media?

## Methodology

Literature synthesis is pursued to trace out data from databases and to make a synthesis. The primary databases utilised to search articles are EBSCO's discovery of science and Google Scholar. Among the databases in it, the emphasis was put on more business-related databases: academic search complete, business source premium and science direct. The search topics used for searching include social media, customer's experience, and social media's impact on customer experience. The total records or search results observed from databases were narrowed down using the limiters such as years from 2000–2021, since social media are a recent phenomenon. Also, the course or discipline option includes only Marketing, Management, and business. The "relevance of the topic" and the time of publication "latest" are applied in the selection process. Out of the total search queries result, which is 190, after imposing adequate limiters, removing duplicates and none-business settings, over 30 articles were synthesized.

# Literature review

## *Customer experience*

Nowadays, with the increase in the need to focus on customer value, managers tend to construct creative ideas that can enhance the relationship between companies and customers (Berry, Carbone, & Haeckel, 2002). “A company’s first step toward managing the total customer experience is recognizing the clues it is sending to customers” (Bery, Carbone, & Haeckel, 2002). This means that there are areas that managers can shed some light on to manage and develop customer experience. First, the company should understand the customer’s journey, which starts with the expectations of the customer before purchasing, then the experience and the assessment after the process of purchase is completed. These hints or information can greatly assist the organization in developing a customer experience, gaining customer satisfaction, and dealing with competitive threats (Berry, Carbone, & Haeckel, 2002).

## *Customer experience management: The challenge of enhancing customer’s customer experience*

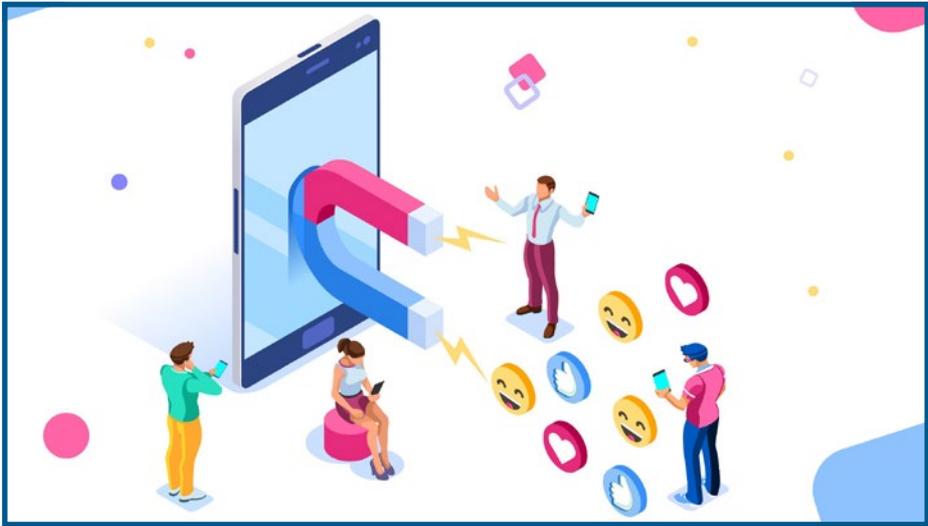
The first one is concerned with the function of the product or service. The second one is concerned with the emotional aspect, which means the smell, taste, and texture of the good or service, in addition to the environment where the product or service is offered. In the process of “purchase”, customers always have an experience with the company. This experience can be good or sometimes bad. The fundamental issue here is how the company can manage this experience and organize clues and information to develop the company-customer relationship and get rid of any disappointments (Berry, Carbone, & Haeckel, 2002). Companies compete in the aspect of customer experience management to gain customers’ loyalty. This is somehow more difficult than product or service enhancement because the holistic nature of these experiences makes them difficult to copy by companies (Berry, Carbone, & Haeckel, 2002). Creating positive customer experience is a fundamental

issue. Customers interact through many touchpoints, and this needs a better understanding of their behaviours and customer journeys, as there are now more complex customer journeys (Lemon & Verhoef, 2016; Salvietti, Ieva, & Ziliani, 2021). Customer experience managers are responsible for managing the experience of their customers. Researchers focus on explanatory attempts to measure the experience. It has been said that customer experience is one of the most researched challenges due to the increase and complexity of customer touchpoints, so creating strong and positive customer experiences will result in improving the customer journey at multiple touchpoints (Lemon & Verhoef, 2016; Salvietti, Ieva, & Ziliani, 2021). According to Abbott (1955), customer experience is based on the idea that “what people desire are not products but satisfying experiences.” The emotional aspect of human behaviour is highly influential in the customer’s decision-making and experience. There are multiple definitions of the concept of “customer experience.” It is a multidimensional and holistic construct that requires the customer’s cognitive, affective, emotional, social, and physical responses to the retailer (Verhoef et al., 2009; Rojas, Quiñones, & Rusu, 2021). According to Brakus, Schmitt, & Zarantonello (2009), customer experience is a subjective and behavioural response of a customer to brand-related stimuli that is part of a brand’s design. In the area of marketing, customer experience is integrated with customer satisfaction, customer equity, service quality, and relationship management. As mentioned above, customer experience process starts with the pre-purchase, then the purchase, and finally the post-purchase in the customer journey. In each stage of this experience, the customer interacts with different touchpoints depending on the nature of the product or service, such as brand-owned, partner-owned, and customer-owned ones. Customer experience is the internal and subjective response customers have to any direct or indirect contact with a company. The direct one means the direct contact that is usually initiated by a customer during the purchase. On the other hand, indirect contact means word of mouth or unplanned encounters with representations of a company’s products and services (Meyer & Schwager, 2007; Rojas, Quiñones, & Rusu, 2021; Cambra, Polo, & Trifu, 2021).

### ***Enhancing online customer experience: A social and sensory approach***

Social media has evolved into an integral aspect of people's life in the modern day. Due to its significant influence on retail, businesses are increasingly investing more resources in optimizing online consumer experience. The core idea here is the capacity to turn a page visitor into a buyer. Some design elements contribute to this process, like visual stimuli (Bleier, Harmeling, & Palmatier, 2018; Nagy & Hajdu, 2021). Online customer experience represents the customer's subjective, multidimensional psychological response to the online presence of a product or service. This experience also has a social and sensory appeal, as the pages involve photos, videos, and comparison materials of the presented product or service. The essential technique here is how every product or service can be offered in a way that enhances customer experience and online shopping (Nagy & Hajdu, 2021). Customers have a chance to evaluate a product or service based on how it is offered online rather than on their physical experience. On the other hand, customers may be uncertain about the accuracy or truthfulness of the offered materials. Uncertainty arises in online shopping rather than in offline shopping because consumers cannot deal physically with products: they cannot feel or touch them, so they are not sure about their assessment of the offered products in the pre-purchase phase (Bleier, Harmeling, & Palmatier, 2018; Cambra, Polo, & Trifu, 2021). This problem varies between products because some products need more physical experience than others. The physical separation that online shopping is associated with requires customers to have faith in the product web pages and, in turn, stimulates companies to work more professionally on improving their social media pages to reduce such a gap and make their products more attractive despite the physical separation from customers (Kim, Bai, & Han, 2021).

**Figure 1.** Social media impact



Source: Author's creation.

The company's social media platform can include elements like verbal or visual stimuli that provide the building material of the page or app (see Figure 1). According to the study by Bleier, Harmeling, & Palmatier (2018), the results show that a product's type and brand trustworthiness affect each experience dimension, which, as a result, impacts the customers' purchase. Due to that, marketers should use design elements strategically to have specific types of experiences for different products and brands. Moreover, videos have the strongest effect on the sensory experience of customers. Sellers should design elements that are informative and can entertain the customer, in addition to how online design elements can be used to drive purchase behaviours by customizing experiences according to the product being sold (Silvia, 2019; Wibowo et al., 2020; Bate & Balawi, 2022). The way content is shared by the company on social media is highly important, as it affects the way customers interact with the company and what it offers. As a result, this interaction by customers can lead to either a positive or negative experience.

Also, Plessis & Vries (2016) conducted a study in South Africa that focused on designing the form of a holistic CEM (Customer Experience Management)

framework. The results clarified that the service experience occurs at the point where the customer and enterprise meet. Besides, there are moderators like customer perceptions that influence the customer's service expectations, which in turn affect the perceived quality of the experience. The study also revealed that there is a model called the "Enterprise-Customer Service Model" that focuses on the customer-enterprise relationship and indicates that the service experience occurs at the point where the customer and the enterprise meet (Plessis & Vries, 2016). Managing customer experience is highly important because it acts as a moderator between companies and customers. Customers base their purchases on their previous experiences with the company. Due to that, companies should focus on the needs of the customer plus how they can offer the needed products or services in a way that attracts the customer, leads to a positive customer experience, and maintains customers' loyalty. Social media facilitated the way for companies to present and offer their products and services in various ways, e.g. through photos, videos, and in many other ways. Moreover, social media gives customers a huge platform on which they can review their desired products and interact easily with the company (Kim, Bai, & Han, 2021).

According to Meyer and Schwager (2007), customer's attention needs a closed-loop process that focuses on delivering a good experience. Their study focuses on describing the customer experience process through three kinds of customer monitoring, which are: past patterns, present patterns, and potential patterns. The main goal of this experience is to provide the end-user with positive experience. The study also shows that a successful brand shapes customers' experiences by offering fundamental value propositions in every feature. Also, the way a company delivers its content to its customers is highly effective in terms of the consumption rate. Customers are attracted by the presentation of the product more than the product itself. In addition, customers are affected by the experiences of other customers found on social media. The company should keep in touch with the new trends in the technology of such important media so that they will be able to have more updates about their customers' needs and how they can offer their products to them in an innovative way. Social media in the scope of customer experience is used to collect data for

customer experience management; data can be collected, analysed, and distributed to monitor the progress of every process. Companies can recognize what their customers usually buy so that they can classify them. In contrast, companies cannot monitor or classify customers' emotions, thoughts, or general states of mind. They can monitor the subjective experiences of customers through what they write, review, and comment on social media platforms (Meyer & Schwager, 2007). Recent research has looked into how people share their experiences on social media. Customers' subjective experience or knowledge is highly influential in the domain of consumption. On social media, written opinions and reviews shared by customers are computer-mediated, which means that they are based on check-in facilities like self-service technology. Trust is associated with the tendency to offer positive word of mouth (subjective experience). In their study, Lin and Oliveira (2014) aimed at investigating the consumption experience and understanding of customers' participation through comments in online consumption communities. The results revealed that the ease of online consumption and "perceived usefulness" are fundamental moderators of the experience and the relationship between companies and customers. Also, social media platforms involve electronic word of mouth, through which firms can set up their online community sites and help customers create and disseminate their knowledge. They can also encourage innovators to share their experiences online. As an example, companies can encourage and enhance their customers' sharing of experiences online by classifying them into, for example, silver, gold, and diamond ones based on the frequency of their participation and activation on the company website (Lin & Oliveira, 2014). By using these strategies, customers will be encouraged to be active on and monitor social media platforms. Thus, when they comment or write a review about their positive experience with the company, they will encourage other customers to purchase from and have experience with that company (Civelek et al., 2020).

## Discussion

The increasing focus on social media has shifted the ways companies interact with their targeted customers. Social media has become a fundamental part of creating a successful and competitive area of marketing and customer experience enhancement (Pütter, 2017). Therefore, companies put much more effort into how they can utilize social media to enhance customer experience, improve branding and marketing approaches, and investigate customers' buying intentions. Moreover, companies try to create approaches in which they can value the use of social media platforms to keep in touch with the latest updates about their target group. Marketing, advertising, and promotion strategies focus on how technology can be used to influence customers' behaviour and enhance their experiences. The use of technology around the world has led to a big change in how the company and its customers work together and how the customer experience has changed.

Nowadays, Facebook, YouTube, and Twitter have become the most widely used social media platforms. These platforms are considered the core sources of online information, so companies are now creating more social and content methods that can increase the appeal of their products to customers. Moreover, the use of social media platforms impacted word-of-mouth and customer-to-customer communication. In 2017, the global social network audience was estimated to be around 2.55 billion people. Social media platforms can be modified to generate content for users, and these platforms can be used as a marketing tool for companies to direct the process of purchase and enhance the customer experience. Companies are more competitive in using social media to attract customers (Yurdagul, 2019). Every company has the challenge of working on how they can present or deliver the content of the offered product or service in an attractive way for customers to follow. It should be noted that social media platforms have made it easier and more convenient for businesses to communicate with their customers. For example, the company can monitor what customers write about products and services; companies can benefit from the positive comments as readers or other customers will be encouraged by other experiences (Zilber, Monken, & Quevedo-Silva, 2019;

Zubiaga, 2019). On the other hand, negative comments can be a challenge for companies, so every enterprise should put more effort into monitoring comments and reviews. They should also try to interact with what customers write, and solve any problems that may arise (Zubiaga, 2019; Grewal, Stephen, & Coleman, 2019).

Due to the vast use of social media, companies now hire employees who are responsible for monitoring and evaluating the process of marketing through social media platforms. These employees are called “social media specialists.” Through social media, both customers and companies now have access to improve or develop the revenue of the company themselves. Building a positive customer experience here is highly fundamental due to the new idea that both customers and companies are moderators of social media platforms, and they can both affect customer experience (Chen & Lin, 2019; Wibowo et al., 2020). Moreover, social media has impacted the way marketers design their strategies and approaches and how they can deliver brand information to enhance consumer experience. Most companies now depend on social media in the process of branding and customer experience enhancement. Facebook has provided a new way of introducing brand-related content and creating exchanges with consumers. Reviews that customers add to the company’s page are highly influential. Companies concentrate their efforts on having customers with a good appeal of what they offer because when the customer has positive experience, he or she will share it and recommend other people or customers to try an experience with that company (Jacobson, Gruzd, & Hernández-García, 2020). Customers are now more active on social networking than five or ten years ago. Currently, they tend to share every experience they have had, and they try to recommend or sometimes write about any bad or negative experiences they have had. Due to this shift, customers are involved in the process of branding rather than the company by itself. They draw the line for companies on the alternations and adjustments that should be made to a product or service (Koetz, 2019). The company takes in these reviews and comments because they are like feedback on the offered product and service. The most important objective for companies now is to have customers with positive experience, and firms always try to enhance the experience as it highly contributes to

branding and marketing. With customer experience enhancement, companies can enlarge the circle of their customers because, with the impact of social media, experiences are now shared in public on social media, where millions of people can reach and see them. Customers' responses are feedback on their experience; businesses are now attempting to build a sense of belonging with their customers. Customers' loyalty depends on the relationship between customers and companies (Li, Larimo, & Leonidou, 2020; Jacobson et al., 2020). When customers have a good experience with what is offered, they will be encouraged to stay loyal to the company and recommend it to their family and friends (Jacobson, Gruzd, & Hernández-García, 2020). Social media gives customers and companies the trait of publicity. Before the popularization of social media, customers were able to ask for help and recommendations by using or contacting customer service or care department. Nowadays with the presence of social media, customers can benefit from other experiences that are posted on social media platforms. In addition, these experiences of customers are no longer unique; they are shared in public, and millions of people can see, read, and benefit from them. Companies should bear in mind that they need to manage customers' interactions on social media quickly and creatively. This means that the company needs to monitor how customers interact and what their concerns and problems are so that they can solve them (Li, Larimo, & Leonidou, 2020). Furthermore, companies can improve customer experience on social media by using some technological tools that can enhance the customer-company relationship. Companies may use technology for the distribution of their public services. They can also use other types of social media like newsgroups and communication groups to expand the area of their business (Balawi, 2020, pp. 18–25).

Furthermore, the Internet and social media have changed the way companies interact with their customers. They now deal with abstract customers. This means that face-to-face communication is now reduced, and online relations are currently the new face of customer-company relations. It is not an easy task for companies to deal with the customer behind the screen; this relationship lacks body language, facial expressions, and eye contact. Due to that, there is more effort put by companies into their interaction and enhancement of



customer experience (Li, Larimo, & Leonidou, 2020). Ultimately, companies can enhance customer experience through applying tools and strategies like asking for feedback, being proactive with customers, offering the best deals for the best customers, and staying competitive and interactive to keep their clients and improve their positive customer experience.

## Conclusion

The current and rapid use of social media has impacted all aspects of human lives, and the number of social media active users is exponentially increasing. One of the fundamental aspects of marketing that is affected by social media is customer experience. Customer experience highly impacts the buying intentions of customers and the relationship between companies and customers. With the increase of social media users worldwide, social media platforms have become a valuable and inevitable tool in enhancing customer experience. Companies now use social media extensively to enhance the experiences of their customers (Bate & Balawi, 2022). Through comments, reviews, and recommendations, companies can get feedback about the experiences of customers. Customers themselves become a part of the branding and marketing process. They search on platforms like Facebook and YouTube to gather information about companies and what they offer in terms of products or services, as well as the experiences of other customers, whether they are good or bad, about the companies' products or services. Customers can be highly affected by what is written on social media, like bad comments or negative experiences of other customers. Additionally, the competition between companies using social media has rapidly increased to enhance customer experience. Companies can search for what customers need or like through social media, but the most important point is the way in which companies utilize social media platforms to enhance customer experience and maintain it as positive as possible, avoiding anything that may harm it related to companies' products or services. In this regard, businesses must have highly qualified personnel with extensive

experience in this field to manage these media in a smart and effective manner, as well as employ creative ideas constantly to promote customer experience. Finally, companies need to consider customer experience as a strategic objective and provide all the necessary resources and means to enhance it since it supports the company in meeting other objectives. Other research can be conducted on how social media has impacted the marketing strategies of companies and how this shift has affected the jobs of people in the companies' marketing departments.

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# The Nexus between Uncertainty Avoidance Culture and Risk-taking Behaviour in Entrepreneurial Firms' Decision Making

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## ABSTRACT

**Purpose:** The concerted effect of national culture and risk-taking behaviour of individuals on decision-making has not been given much attention in the literature. This paper, thus, attempts to investigate how the two variables, separately and jointly, affect the decision-making of firms.

**Methodology:** The review pursues systematic literature review methodology. The keywords constituted in a series of search queries include risk-taking, or risk-taking behaviour, risk taking propensity, risk aversion, uncertainty avoidance, uncertainty avoidance national culture, fear of unknown or future, and uncertainty avoidance culture and risk-taking. The review of the studies addresses more than thirty-five countries over the years 1975–2021.

**Findings:** The review result re-boosts the existing negative relationship between a high uncertainty avoidance culture and risk-taking behaviour. When the level of risk-taking is increased, the effect of uncertainty avoidance culture gets decreased, which thereof helps to reduce resistance to change in firms. The latter institutes a greater fear of failure, lower level of ambition, and less tolerance for ambiguity that result in low risk-taking appetite. Their concurrent effect is realized in various decision-making contexts including firms' entry and investment decisions, customer buying decisions, self – versus group decisions, and policy decisions.

**Value Added:** As a result, firms may need to consider the risk-taking behaviour and uncertainty avoidance culture of employees for certain jobs, consumers for marketing, managers for an international assignment in risky positions, and of individual countries for business expansion. The study claims to have added significant value to the practical and theoretical discourse of uncertainty avoidance national culture and risk-taking behaviour in business decision-making scenarios.

**Key words:** risk-taking, national culture, uncertainty avoidance culture, decision-making, business firms

**JEL code:** M100



## Introduction

Everything in life needs a decision. To achieve anything that has an anticipated economic or social value, every individual, a firm or a society needs to make some sort of decision that is followed by an action. Decision-making has been defined as the ability of individuals to select among competing alternatives while considering their respective consequences (Michailidis & Banks, 2016). Based on the nature of the decision, Scott and Bruce (1995, after: Michailidis & Banks, 2016) identify four different decision making styles: intuitive decision-making style – referred to as a tendency to rely upon feelings only; rational decision-making style – refers to the systematic evaluation of alternatives; dependent decision-making – which is done by searching for advice from others before making a decision; and avoidant decision-making – which refers to the suspending or avoiding of making decisions whenever possible. Also, there is another one decision-making style, called “spontaneous decision”, which is described as a tendency to reach a quick-fix decision (Michailidis & Banks, 2016). Dahlbäck (2003), on the other hand, classifies decisions into two types: an impulsive decision, which is made without much thought of disadvantages and advantages, and non-impulsive decision making, which is made carefully and deliberately (Dahlbäck, 2003). Non-impulsive or rational decision-making resembles what the behavioural economist and Nobel laureate Kahneman and his colleagues (2002) say “system 2 process” (after: Emmerling, 2018, p. 37), and the same decision-making type is considered for the analysis in this paper.

In general, people’s decisions can be influenced by numerous factors including the psychology of individuals, national culture, economic conditions, the availability of resources and other elements. This review considers national culture in association with the risk-taking behaviour of decision-makers. Sternad (2011) defines national culture as a set of commonly shared assumptions in a society that is manifested as beliefs, values, and thinking patterns. Hofstede (1984) defines it as a collective programming of the mindset that distinguishes the members of a category of people from those of another. It can also be defined as the entirety of behavioural norms, values, practices, and traditional beliefs that influence the majority of individuals in a country (Cetenak, Cingoz,

& Acar, 2017). In fact, every action comes from a decision; decision comes from sense-making or perception; perception comes from values, beliefs, and thinking patterns; finally, they all originate from, or at least are influenced by national culture (Sternad, 2011).

Hofstede (1991) identifies six bi-polar national culture dimensions that are commonly used for comparative studies at the country level: individualism vs collectivism, long-term vs short-term orientation, masculinity vs femininity, uncertainty avoidance flexible vs restraint, and power distance. The paper, specifically, gives attention to uncertainty avoidance culture. It is defined as the extent to which the members of a society feel threatened by uncertain or unknown situations (Hofstede, 1980, 1991; Gaganis et al., 2019).

This review reveals that, at the individual level, uncertainty avoidance culture immensely determines consumers purchase decisions, especially online versus offline purchase and consumption (Hwang & Lee, 2012; Sabiote, Frias, & Castañeda, 2012, 2013; Money & Crotts, 2003; Lu et al., 2018) and, at the corporate level, it influences decisions such as resource allocation decision (Chang, Ho, & Wu, 2016), strategic management decision (Dimitratos et al., 2011), cross border acquisition (Bremer et al., 2017), corporate investment decision (Cetenak, Cingoz, & Acar, 2017; Lehmberg & Davison, 2018) and business entry decision (Autio, Pathak, & Wennberg, 2013). In all decision-making contexts, there is a negative relationship between high uncertainty avoidance culture and risk-taking behaviour. The former induces a greater fear of failure, lower level of ambition, and less tolerance for ambiguity, which results in low risk-taking appetite (Hofstede, 1980) and forces a decision-maker to prefer an intuitive decision or dependent decision or avoidant decision-making style, instead of a rational decision-making style. This study further investigates how the uncertainty avoidance culture of individuals affects risk-taking in decision making, identifies factors triggering risk-taking behaviour in decision making, and figures out the concerted effect of risk-taking behaviour and uncertainty avoidance culture of individuals on decision making. To meet these objectives, a total of 56 articles have been extracted from Web of Science using Systematic Literature Review (SLR) methodology. The details of the methodology are presented in the following section.

# Research methodology

## Data source and selection process

To garner data from databases and make an analysis, SLR methodology is pursued. The main database utilized for the search of articles is the web of science (WOS). A total of four search queries were developed and inserted one by one in the basic search option of the WOS core collection. The key words constituted in a series of search queries include *risk-taking, or risk taking behaviour, risk taking propensity, risk aversion, uncertainty avoidance, uncertainty avoidance national culture, fear of unknown or future and uncertainty avoidance culture and risk taking*. The total records or search results observed were narrowed down using the limiters such as years *from 1975–2020*, document types: *only articles*, course or discipline: *only management, business, business finance, entrepreneurship, economics, operation research management science, operation management and applied psychology*; indexes include all the available ones under the WOS core collection. The search queries result before and after limiters and removing duplicates is presented below in Table 2 and Figure 2. Among articles that remained after removing duplicates and reading abstracts, two from the first search topic and three studies from the second search topic were discarded, because they deal with uncertainty avoidance culture and decision making in the non-business area. However, none of the articles from search topic No. 3 were discarded, whereas seven of the studies from the fourth query were removed.

**Table 1.** Search topic results

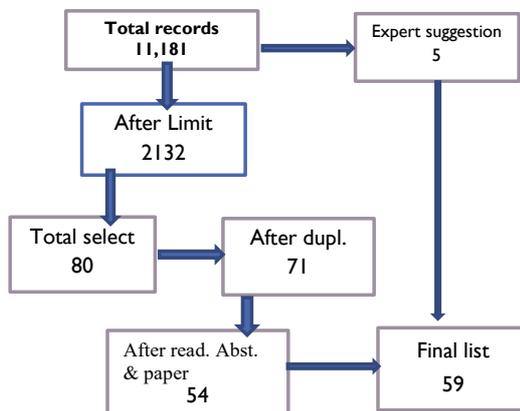
No.	Search Queries or Topic	Total records	After limiting	Selected articles	After removing duplicates	Finally included for reading
1.	Risk taking in decision making	10,989	2,009	20	19	17
2.	Uncertainty avoidance in decision making	94	52	20	20	17

No.	Search Queries or Topic	Total records	After limiting	Selected articles	After removing duplicates	Finally included for reading
3.	Uncertainty avoidance culture and risk taking	48	34	20	17	17
4.	Uncertainty avoidance culture, national culture, and Risk-taking behaviours of individuals or firms	50	37	20	15	8
	Total	11,181	2132	80	71	59

Source: Author's creation, 2020.

Finally, out of the 59 articles selected for reading, 54 were included in the study after reading the papers and appraising their relevance to the study on hand and, including 2 studies suggested by an expert, a total of 56 articles were synthesized. The quality of the studies was assessed based on the quality assessment tool adopted from Dixon-Woods et al. (2006), Littell, Corcoran, & Pillai (2008) and Pittaway et al. (2004) (see Appendix, Table 2). The following PRISMA diagram shows the flow of the data filtration process, including the expert suggestion, from the first search result up to the final studies list.

**Figure 1.** PRISMA model of data collection



Source: Author's creation, 2021.

## ***Description of studies and study areas***

Among 17 study subjects on uncertainty avoidance, about 12 (70%) are based on the empirical survey, and the remaining five articles are articulated using quantitative data from various databases. Regarding the study places, 5 studies in the USA, 3 in China, 2 in the Asian-Pacific region, one study from OECD, and the remaining 4 from European countries including France, Greece, Denmark, Cyprus, Spain, and Germany are found in the literature. However, only 2 studies from Africa are observed and they address Tanzania, Ghana and Nigeria, which could be due to the lower proportion of research work in the continent as compared to those in other continents. Nonetheless, almost all the cultural settings of different regions in the world have got representations in this study. Out of 17 studies concerning risk-taking behaviour and decision making, 13 articles (76 %) are based on empirical survey data, and the remaining ones are based on quantitative data from accredited websites. Some of the most frequently observed countries in these studies are the USA, Singapore, Sweden, UK, Indonesia, China Canada, Denmark, and Turkey. Out of 25 articles, on the 3<sup>rd</sup> and 4<sup>th</sup> search topics, 16 articles (64%) based on empirical data and dealing with both risk-taking and uncertainty avoidance are identified and synthesized. Most of the studies analysed, i.e. 10 (67%), are cross-cultural ones including a minimum of 18 countries and a maximum of 75 countries (e.g. Tran, 2019; Diez-Esteban, Farinha, & Garcia-Gomez, 2019a; Gaganis et al., 2019; Ashraf & Arshad, 2017; Boubakri, Mirzaei, & Samet, 2017; Gray, Kang, & Yoo, 2013; Li et al., 2013; Kanagaretnam, Lim, & Lobo, 2011). After removing duplicates, over 35 countries are included in the data synthesis and analysis in this paper.

# Literature review

## *Uncertainty avoidance in decision making*

Culture is defined as “a collective programming of the mindset that distinguishes the members of a category of people from those of another” (Hofstede, 1984, p. 389). He argues that managerial decisions are inevitably “culturally-dependent” with respect to a national setup. According to Hofstede (1991), there are about six bipolar national culture dimensions: individualism versus collectivism, masculinity versus femininity, long-term versus short-term orientation, power distance, uncertainty avoidance, and indulgence versus restraint. Scholars from various fields of studies including management (Gray, Kang, & Yoo, 2013; Lu et al., 2018), entrepreneurship (Watson et al., 2019), tourism (Money & Crotts, 2003), finance (Kanagaretnam, Lim, & Lobo, 2014; Boubakri, Mirzaei, & Samet, 2017; Gaganis et al., 2019), behavioural economics (Paine et al., 2020) and, of course, sociology and psychology, use these national culture dimensions to conduct cross-cultural comparisons and analyse the effect on economic variables. In this paper, the effect of uncertainty avoidance culture on various decision-making levels or scenarios is reviewed and synthesized mainly based on empirical research articles. Uncertainty avoidance culture shows the degree to which society rejects or feels uncomfortable with an uncertain and ambiguous situation (Gaganis et al., 2019; Hofstede, 1980).

As seen from the literature review, the uncertainty avoidance culture of a given society does not only influence an individual or firm-level decision-making, but also national and international decision-making processes. At the individual level, it immensely determines consumers’ purchase decisions, especially online purchases and consumption (Hwang & Lee, 2012; Sabiote, Frias, & Castañeda, 2012, 2013; Money & Crotts, 2003; Lu et al., 2018). In online customer purchase decision making, the most important thing to do is to assure trust, credibility and enhance understanding in a virtual relationship with clients. Uncertainty avoidance moderates both subjective norms of customers and cognition-based trust that includes integrity and ability (Hwang & Lee, 2012). The empirical evidence shows that tourists who are from high uncertainty avoidance



countries achieve less perceived value and less enjoyment from online tourism services (Sabiote, Frias, & Castañeda, 2013, 2012). In general, online customers have a high sense of uncertainty avoidance as compared to offline customers. The countries with high uncertainty avoidance and long-term orientation are less likely to adopt online channels, and they prefer offline channels like telephone' whereas countries with low uncertainty avoidance culture, high individualism, high masculinity, and high indulgence are more likely to adopt online channels (Lu et al., 2018). This finding implies that the cross-national variation of culture affects retail channel selection (Lu et al., 2018).

As far as travel information search is concerned, the study also shows that consumers from countries identified with higher-level uncertainty avoidance national culture use information sources that are related to the regular channel (e.g. travel agent) instead of using personal, mass media sources or destination marketing-related tools. In terms of their travel party nature, they travel in larger groups, frequently purchase pre-packaged tours, visit a smaller number of destinations, and stay on average a shorter period as compared to tourists from low uncertainty avoiding culture (Money & Crotts, 2003). Despite the digitalization of the world economy, especially due to uncertainty avoidance, countries are not equally engaged in information sharing on digital platforms or using cloud service data warehousing. There is high information protection in countries with a high uncertainty avoidance culture. The study conducted on both the USA and Ghana pinpoints the fact that the fear of the unknown, intention to avoid the possible information leakage and data theft are found to be the reasons for less adoption of these technological tools, especially in the latter country (Crossler, Andoh-Baidoo, & Menard, 2019).

What is more, uncertainty avoidance extends its effect even on the shopping tendency and motivation of individuals. In shopping, the susceptibility to peer influence and the need for consumer uniqueness vary from country to country. For example, a need for a peer approval is higher in France, which is more collectivistic and has a high uncertainty avoidance culture, than in the USA, which has a highly individualistic national culture with a low uncertainty avoidance and low power distance (Gentina et al., 2014). In the same study, both a need for uniqueness and susceptibility to peer influence are equally

observed in the USA, but there is less need for uniqueness with the counterpart country, France. Moreover, the influence of uncertainty avoidance is not limited to individual buying decisions or consumption, but also individuals' entry decisions. The combined data from Global Entrepreneurship Monitor (GEM) and Global Leadership and Organizational Behavior Effectiveness (GLOBE) shows that uncertainty avoidance practices were negatively associated with entry but not with growth aspirations (Autio, Pathak, & Wennberg, 2013). High uncertainty avoidance culture leads to lower propensity to enter risky business and use the opportunities available (Liu, Pacho, & Wang, 2019).

At the firm level, the influence of uncertainty avoidance touches every decision-making point including managerial, financial, and operational decision areas. A handful of literature testify that uncertainty avoidance culture affects corporate decisions such as resource allocation decisions (Chang, Ho, & Wu, 2016), strategic decision-making process (Dimitratos et al., 2011), cross border acquisition (Bremer et al., 2017), corporate investment decision (Cetenak, Cingoz, & Acar, 2017; Lehmberg & Davison, 2018) and business entry decision (Autio, Pathak, & Wennberg, 2013). Understanding the national culture enables multinational firms to identify managers from different cultures and their tendency in resource allocation decisions. For example, Taiwanese managers tend to allocate more funds than US managers do when the project is close to completion because there is high uncertainty avoidance in the former case (Chang, Ho, & Wu, 2016). Moreover, variation in cultures has a paramount influence on financial decisions in these firms. Cetenak, Cingoz, & Acar (2017) examined the variation of financial decisions due to national culture in 20 countries and found that uncertainty avoidance exerts an effect on all of the financial decision parameters including the cost of capital, capital structure dividends, cost of equity, leverage ratio and so on (Cetenak, Cingoz, & Acar, 2017).

It may be that managers' choice of investment is also under national culture influence. The effect of uncertainty avoidance is not only limited to an internal financial decision-making, but it also concerns managers' international perspectives in cross-border business operations. The study on the Asia-Pacific region throughout 2000–2009 shows that there are fewer cross-border acquisitions from countries with a high aversion to uncertainty (Bremer et al., 2017). As

compared to the UK and the USA (where there is low uncertainty avoidance), firms from Greece and Cyprus (relatively high uncertainty avoidance) exercise more formalization and implement high-level control in the implementation of their strategic decisions (Dimitratos et al., 2011). National culture, especially uncertainty avoidance, first affects managers' beliefs, values and thinking patterns, then managers' sense-making or perception, then their decision making, and then, finally, their strategic action (Sternad, 2011, p. 140). It also shapes the ethical perceptions towards international marketing (Armstrong, 1996).

At a national level, there are three implications for uncertainty avoidance culture: types of planning, the meaning of time, and tolerance for deviant ideas (Hofstede, 1991; Andersen & Rasmussen, 2014; Boubakri, Mirzaei, & Samet, 2017). In countries with higher uncertainty avoidance, like France and Japan, short-and medium-term planning and scheduling entertain more attention than in Great Britain and Denmark, which are the countries with less uncertainty avoidance. Again, in the former countries, time and the future are something that should be mastered and exploited, while in the latter countries it is simply a framework for action. As for tolerance for deviant ideas, the countries with strong uncertainty avoidance maintain rigid codes of belief and behaviour and they are intolerant of deviant persons and ideas. Hence, there is always a battle to introduce new things in higher uncertainty avoidance culture (Andersen & Rasmussen, 2014). The authors also suggest that instead of depending on regional affiliation (like WEST, EAST, or Pacific-Asia), it is national culture, especially power distance and uncertainty avoidance, that is the most decisive context in framing national policy.

### ***Risk-taking behaviour in decision making***

Decision making encompasses diverse settings, including strategic managerial decision making (Dimitratos et al., 2011), bank risk-taking decisions (Gaganis et al., 2019; Ashraf & Arshad, 2017), employees' decisions at the workplace (Kiliç, van Tilburg, & Igou, 2020; Michailidis & Banks, 2016), gambling decisions (Moreno, Kida, & Smith, 2002), investment and financial decisions (Ashraf & Arshad, 2017; Ashraf, Zheng, & Arshad, 2016), competition and marketing

decisions (Lu et al., 2018; Sabiote, Frias, & Castañeda, 2013), and individual versus group decisions (Jetter & Walker, 2018; Ertac & Gurdal, 2012). The domain of gains or losses in which decisions are to be taken determines the risk-seeking behaviour of decision-makers. Those who have suffered losses are exposed to risk-taking behaviour, and people are more risk-averse in the domain of gains (Moreno, Kida, & Smith 2002; Angner, 2016). Decision-makers are usually risk-averse when they can choose from the alternatives that yield potential gains, and risk-takers when the alternatives are given yield losses (Moreno, Kida, & Smith, 2002; Angner, 2016). Furthermore, Angner (2016) argues that the way losses and gains are described influences the risk-taking behaviour of individuals.

In addition, the literature reveals plenty of triggering factors that affect risk-taking tendency in decision-making, such as the characteristics of decision-makers, the state of mind of decision-makers, motivation for decision making, and area of influence of decision: deciding for oneself or others. Some of the characteristics related to decision-makers are age, gender, and personality traits (Ertac & Gurdal, 2012; Nieboer, 2015; Lloyd & Döring, 2019). The state of mind of decision-makers includes the affective reaction towards the subject of decision (Moreno, Kida, & Smith 2002; Se, Goldfarb & Barret, 2010), emotional differentiation of feelings (Li & Ashkanasy, 2019; Se, Goldfarb, & Barret, 2010), burnout (Michailidis & Banks, 2016) and boredom (Kiliç, van Tilburg, & Igou, 2020). The level of risk-taking is also determined by the very reason of motivation for decision-making (Paine et al., 2020). In addition to these triggering factors, the expected effects of a decision or area of influence: deciding for oneself or others or with others (Nieboer, 2015; Ertac & Gurdal, 2012; Fullbrun & Luhan, 2017), competition (To et al., 2018) and performance (Singh, 1986), and interruption during decision making (Kupor, Liu, & Amir, 2018) are also found as factors affecting risk-taking tendency.

Several studies (e.g. Ertac & Gurdal, 2012; Nieboer, 2015; Jetter & Walker, 2018) debate the effect of gender on risk-taking and analyse it in both individual and group decision-making contexts. The findings show that gender significantly affects risk-taking and women are more risk-averse than men in decision making in both contexts (Ertac & Gurdal, 2012; Nieboer, 2015). Even in the experiments made on a group decision-making process, a group with

a higher composition of women is more risk-averse than its counterpart (Nieboer 2015; Hurley & Choudhary, 2020). On the other hand, when women are paired against men, they become aggressively competitive and take more risks (Jetter & Walker, 2018). Also, women are more likely inclined towards individual decisions than group decisions. Moreover, there is a significant gender gap between the willingness of women and men to decide on behalf of the group: in men it is 86%, while in women 55% (Ertac & Gurdal, 2012). Men who are with a higher risk tendency are daring enough to make decisions not only for themselves but also to decide on behalf of others, and they are therefore more likely to assume leadership positions. Due to this reason, most commonly we could see fewer women at different managerial positions than men. Even those females at executive and leadership positions tend to be more risk-averse and they mainly manage small-size firms (Hurley & Choudhary, 2020).

Regarding personality traits, males who show interest to decide for the group score more on “openness” and less on “agreeableness” traits compared to males who do not show such interest (Ertac & Gurdal, 2012; Lloyd & Döring, 2019). The influence of age in risk-taking is explained by the level of exposure of decision-makers to peer pressure. Generally, adolescent males are more risk-takers if there is peer pressure and if the probability of the outcome is explicit. On the contrary, Lloyd & Döring (2019) argue that if peer pressure exists, adolescents are more likely to take risks even though the possible outcomes are not explicit.

Furthermore, the area of influence of decision – deciding-for-self or – for-others or with others – shapes the risk aversion or risk-taking tendency of decision-makers. The experiment was conducted by Füllbrunn & Luhan (2017) in three treatments: *Self-decision* – everyone decides for his/herself; an *aligned decision* – a decision that is taken for both oneself and others; and *decision for Others* – is a decision taken only for others. The result shows no difference between a *self-decision* and an *aligned decision*. But there is a higher loss aversion in *self-decision* than *decision for Others*. That means decision-makers take a higher risk while deciding for others because the decision bears no adverse consequences for decision-makers (Andersson et al., 2014; Füllbrunn & Luhan, 2017).

Again in the non-impulsive decision where choices are made more deliberately and carefully, there are three likely conditions determining group risk-taking (Dahlbäck 2003): i) *receiving support from group* – makes individuals more risk-takers if the group supports them in case the decision fails, ii) *diffusion of responsibility leads to higher risk taking* – a greater responsibility makes decision-makers more cautious, iii) a higher social value is associated with *relatively high-risk positions* – makes group members compete to take such positions. Thus, it all shows that individuals' risk-taking tendencies vary when they decide for themselves only, for others, for themselves and others, and when they make the decision in the group or outside of the group (Dahlbäck, 2003; Andersson et al., 2014; Füllbrunn & Luhan, 2017). Even within a group, risk-taking tendencies could vary depending on the group members' support, the span of responsibility, and the positions assumed (Dahlbäck, 2003).

Even in non-impulsive and rational decision-making, individuals' or consumers' risk-taking tendencies can be influenced by their affective reactions or feelings towards the subject under consideration. Even though managers are risk-averse in the domain of potential gains and risk-takers when the alternative yields losses (Moreno, Kida, & Smith, 2002; Se, Goldfarb, & Barret, 2010), the rhetoric could be changed by affection. In the presence of an effect, they reject the alternative decisions that elicit negative affective reactions and accept alternatives that elicit positive reactions. Such behaviour could result in risk-taking in gain contexts and risk-avoiding in loss contexts despite the information analysed (Moreno, Kida, & Smith, 2002). The decision frames of gains and losses and risk-taking is moderated by both pleasant and unpleasant feeling (Se, Goldfarb, & Barret 2010; Moreno, Kida, & Smith 2002; Angner, 2016). "After experiencing losses, individuals tend to make more risky choices with framing effect" (Angner, 2016, p. 158), but the situation is not the same after decision-maker experiences unpleasant feelings towards the loss. Pleasant feelings could eliminate the framing effect of gains and losses, whose operation is a central tenet of many theories, including prospect theory (Se, Goldfarb, & Barret, 2010). This shows that the successive feelings of decision-makers affect risky choices by interacting with situational factors, the decision frames of gain or loss. Notably, the level of feeling depends on emotion differentiation – the degree to

which an individual identifies, distinguishes, and describes specific feelings, and risk adaptation (Li & Ashkanasy, 2019). In experiment by Li & Ashkanasy, it is shown that participants' risk-taking at Time 2 is increased only when they have medium to high success at Time 1, which indicates risk adaptation.

Moreover, burnout and boredom are the other factors related to the mental states of decision-makers that affect decision-making in a work context and are widely discussed in management literature. Burnout has been described as exhaustion, cynicism (feeling of indifference towards co-workers), and professional inefficacy. Burnout is significantly and positively correlated with avoidant decision making and negatively with rational decision making (Michailidis & Banks, 2016). In general, burnout leads to risky decision-making, and employees who experience professional inefficacy – reduced confidence in their ability to do the job, may feel that they no longer take control over situations and then they take a risky track (Michailidis & Banks, 2016). In the experiment by Kiliç, van Tilburg & Igou (2020), the three likely risky decision-making scenarios are revealed when individuals are bored: i) there is a greater risk-taking across recreational, financial, ethical, and health or safety domains when people have high exposure to boredom; ii) risk-taking is increased with the state of boredom over a series of risky decisions; iii) bored people are more likely to choose risky gambles. Boredom erodes individuals' self-control and then makes them take risky decisions to get out of it.

Externally, the type and level of competition and competitor's identity determine risk-taking. The interaction with rival partners increases risky behaviour and the laboratory experiment on football matches proves that rivalry increases risk-taking in two ways: by increasing promotion focus and physiological arousal along with greater concern for status (To et al., 2018; Arping, 2019). It means that individuals become more risk-seeking when competing against a rival rather than a non-rival. In line with this, fear promotes risk aversion, whereas anger promotes risk-taking. Besides, the level of performance of individuals or organizations determines their risk-taking capacity in decision-making. Poor performance is related to high risk-taking in organizational decisions and good performance is related to low risk-taking (Singh, 1986; Arping, 2019). As far as motivation is concerned, promotion focus increases risk-taking (To et

al., 2018) but prevention focus reduces risk-taking (Paine et al., 2020). It implies that individuals with a high prevention focus perceive greater risk in a near-loss event and are less likely to take the risk (To et al., 2018; Paine et al., 2020).

### ***The uncertainty avoidance culture and risk-taking behaviour in decision making***

According to the literature, it is believed that uncertainty avoidance culture impacts risk-taking behaviour (Gaganis et al., 2019). The concurrent effect of both risk-taking behaviour and uncertainty avoidance culture has been felt in various decision-making contexts including managerial decisions (Li et al., 2013), corporate takeover decisions (Frijns et al., 2013), bank and insurance risk-taking decisions (Ashraf, Zheng, & Arshad, 2016; Gaganis et al., 2019), national economic policy decisions (Tran, 2019), consumer buying decisions (Garbarino et al., 2001), financial crisis decisions (Boubakri, Mirzaei, & Samet, 2017; Kanagaretnam, Lim, & Lobo, 2014; Kanagaretnam, Lim, & Lobo, 2011), and entrepreneurial decisions (Liu, Pacho, & Xuhui, 2019; Watson et al., 2019).

National culture extends the effect on risk-taking not only through individual managerial decision-making, but also through the country's formal institutions (Li et al. 2013; Ashraf, Zheng, & Arshad, 2016; Gaganis et al., 2019). The arrangements of social, economic, and even regulatory institutions are set up to fit into the culture of a given society. The uncertainty avoidance culture influences national economic policy decisions and increases the negative effect on economic policy uncertainty and corporate risk-taking (Tran, 2019). The culture of uncertainty avoidance and harmony exerts negative and significant associations with managerial discretion and firm size (Li et al., 2013). It pinpoints that even the span of management and the level of expansion on firm size has a connection with the cultural outlook of managers. CEOs from where there is a high uncertainty avoidance culture engage less in cross-border takeovers and trade deals (Frijns et al., 2013). The same study indicates that the culture of a society affects the risk-taking of CEOs more than an individual risk perception of the latter.

Moreover, Ashraf, Zheng, & Arshad (2016) and Gaganis et al. (2019) conducted a study in 75 countries and 42 countries, respectively, to investigate the

effect of national culture and bank risk-taking. The result proves negative effect and shows that in the countries with low uncertainty avoidance, along with low power distance and high individualism cultural values, there is a higher risk-taking tendency. On the other hand, high uncertainty avoidance is associated with greater fear of failure, a lower level of ambition, and a lower level of tolerance for ambiguity, which all results in a low risk-taking appetite (Hofstede, 1980, p. 184). The innate nature of the culture and risk-taking is proven and their corresponding cumulative effect on decision making is undoubtedly strong. In the case of multinational firms, it must be clear whether the host country or home country's culture prevails in risky decisions. The risk-taking behaviour of subsidiaries is more influenced by the home country's culture than host countries, and their risk-taking tendency is relatively higher if the parent company's home country has low uncertainty avoidance, high individualism, and low power distance cultural values (Ashraf & Arshad, 2017; Engelen, Schmidt, & Buchsteiner, 2015). This is, therefore, an additional argument for the negative relationship between uncertainty avoidance and risk-taking (Gaganis et al., 2019).

Furthermore, culture has also the power to influence the risk-taking behaviour of entrepreneurs. In most cases, the opportunity exploitation decision of entrepreneurs is influenced by their risk-taking behaviour. A high uncertainty avoidance culture reduces the risk-taking propensity of entrepreneurs in opportunity exploitation decisions (Liu, Pacho, & Xuhui, 2019; Engelen, Schmidt, & Buchsteiner, 2015). Furthermore, the study conducted on cross-national franchise systems shows that operations in high uncertainty avoidance and feminine cultures are less entrepreneurially oriented (Watson et al., 2019). This implies that high uncertainty avoidance culture makes entrepreneurs have less entrepreneurial orientation – i.e. it is less innovative, less proactive, less competitive, and less prone to risk taking (Watson et al., 2019; Liu, Pacho, & Xuhui, 2019; Engelen, Schmidt, & Buchsteiner, 2015).

Furthermore, the decision-making approach of individuals or organizations would not be the same before, during, and after the crisis period. Of course, the risk-taking tendency does not remain the same in these periods, and the decisions taken could also vary with respect to the culture of uncertainty avoidance. During the global financial crisis of 2007/2008, banks operating in high

uncertainty avoidance societies performed relatively better than those operating in low uncertainty avoidance cultures (Boubakri, Mirzaei, & Samet, 2017; Kanagaretnam, Lim, & Lobo, 2014, 2011). Cultures that encourage higher risk-taking went through more financial turmoil in the form of larger losses or default loans than others (Kanagaretnam, Lim, & Lobo, 2011).

Additionally, in terms of the flow of earnings during the crisis, banks in a high uncertainty avoidance society generate earnings more conservatively and in a smoother way than banks in low uncertainty avoidance societies coupled with high individualism (Kanagaretnam, Lim, & Lobo, 2014, 2011). It is due to the fact that those high uncertainty avoidance cultures exhibit lower risk-taking levels as observed in the volatility of net interest margin, volatility of earnings, and z-score (Kanagaretnam, Lim, & Lobo, 2014). In the pre-financial crisis period, a study conducted between 1993 and 2006 revealed that banks in low uncertainty avoidance with high individualism and high masculinity societies elicit earnings to just-meet-or-beat the prior year's earnings. However, high uncertainty avoidance societies with high individualism and high-power distance guaranteed smoother earnings (Kanagaretnam, Lim, & Lobo, 2011). This shows that high uncertainty avoidance culture could reduce finance-related risks and save firms from bankruptcy. Therefore, it is not always bad culture, as it is beneficial when shunning the crisis is required.

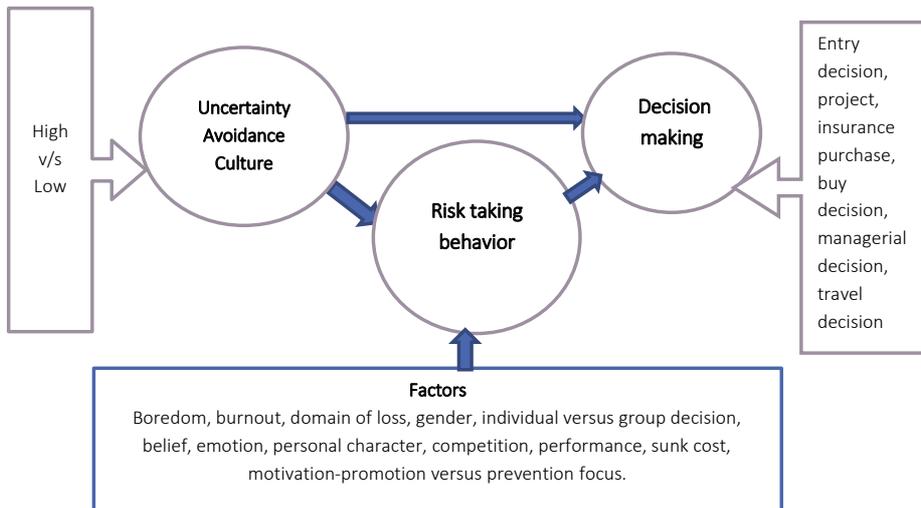
On the other hand, it is worthy to note that the sunk cost invested has its role in initiating the successive risk-taking propensity. The high level of project sunk cost increases risk perception. Too much risk perception leads to less risk propensity of decision-makers, and the two are inversely related (Keil et al., 2000). High uncertainty avoidance culture minimizes risk propensity by increasing risk perception (Keil et al., 2000). Culture even goes deep into the financial return from an investment that a society with low uncertainty avoidance demands the high cost of equity-the rate of return on investment due to their high-risk taking orientation (Gray, Kang, & Yoo, 2013). In addition, as culture encompasses religion or belief, risk-taking propensity varies from religion to religion (Jiang et al., 2015; Diez-Esteban, Farinha, & Garcia-Gomez, 2019). There is a negative relationship between corporate risk-taking and religion, especially in Islamic and Catholic affiliations. However, the same is not true in



the Protestant dominant community, where there is less uncertainty avoidance (Diez-Esteban, Farinha, & Garcia-Gomez, 2019).

Presumably, consumers usually evaluate products from different aspects before they make a purchase decision. This purchase decision can be influenced by their perception towards product features, warranty or guarantee, or even by manufacturer or country of origin. In particular, consumers' uncertainty avoiding culture intensifies the evaluation of products (Garbarino et al., 2001; Andersen & Rasmussen, 2014). Consumers with a low uncertainty avoidance tend to be more tolerant of opinions and behaviours different from their own, more comfortable with uncertainty, and take risks easily (Hofstede, 1991; Andersen & Rasmussen, 2014). But those who are high in avoiding uncertainty need to take extra time to search, see very explicit rules, instructions, and take safety measures before they make a purchase decision, especially for an unknown brand, to reduce the risk (Hofstede, 1991; Garbarino et al., 2001; Money & Crotts, 2003; Andersen & Rasmussen, 2014). Insurance purchase can be considered as one of the mechanisms people use to avoid or reduce uncertainty in life. The study on 801 firms (including life and non-life insurance) shows that there is a strong relationship between culture and insurance risk-taking (Gaganis et al., 2019). In countries with a high uncertainty avoidance culture, higher insurance purchase is observed, but there is low insurance firm risk, which makes the insurance firms beneficial (Gaganis et al., 2019). People's inclination to avoid uncertainty gives insurance firms an advantage to reduce risk. Figure 2 below shows the relationship between uncertainty avoidance and risk-taking and their effect on decision making and the moderating factors.

**Figure 2.** The Framework of uncertainty avoidance, risk-taking behaviour and decision making



Source: Author's creation, 2020.

## Conclusion

The effect of uncertainty avoidance culture is not only limited to an individual level decision but also affects decisions at a firm-level as well as national and international level. At an individual level, insurance purchase and consumers' online purchase decisions are the main areas impacted by the uncertainty avoidance culture. Therefore, extra information, detailed instruction, legal documents, warranty and safety measures must be provided to build trust, credibility and enhance the understanding in a virtual relationship with clients. Online customers have a high sense of uncertainty avoidance as compared to offline customers, whereby customers from a high uncertainty avoidance culture are less likely to adopt online channels. High uncertainty avoidance culture is also characterized by low business entry, as it reduces the risk-taking propensity of entrepreneurs and opportunity exploitation decisions, and a high insurance purchase but less insurance firm risk.



At the firm level, uncertainty avoidance culture is associated with all managerial decision areas including resource allocation decisions, strategic decision-making process, cross-border acquisition, corporate investment decision, and business entry or expansion decisions. For instance, firms from high uncertainty avoidance cultures such as Greece and Cyprus, as compared to firms from the UK and the USA, exercise more formalization and apply high-level control in the decision and its implementation. Moreover, a high uncertainty avoidance culture results in fewer cross-border acquisitions and trade deals, but it makes firms generate earnings more conservatively and in a smoother way, experience less suffering from crisis and financial risk than those in low uncertainty avoidance culture. Therefore, high uncertainty avoidance culture is not always bad for decision-making, as it contributes to minimizing unnecessary risk-taking notions.

Furthermore, uncertainty avoidance culture plays a role in both domestic as well as international expansion of firms and the risk-taking behaviour of subsidiaries, whereby a home country's culture has a greater influence than the host country's culture. Therefore, during recruitment and selection, the culture to which managers belong should be considered for any country-level or international business expansion positions. At a national level, a high uncertainty avoidance culture is characterized by short-and medium-term planning, intolerance of deviant persons and ideas, high information protection policy, and privacy concern. This implies that the secret of effective international marketing activities of multinational firms is engraved in knowing the culture of both home and host countries.

In addition to the direct influence of culture, the triggering factors that affect risk-taking tendency in decision making are the features of character, the state of mind and motivation of decision-makers and the area of influence of decision: deciding for-oneself or for others. The risk-taking behaviour can also be increased by the domain of losses and the way the option of loss and gain is expressed, frequent exposure and suffering from losses if there is no unpleasant feeling, boredom that erodes individuals' self-control, burnout that is negatively associated with rational decision making and leads to the risky decision, poor performance that puts decision-maker under pressure, competition with

rival increases, low level of sunk cost, motivation with a promotion focus, not prevention focus, and deciding on behalf of others without including oneself; consecutive success story also increases risk-taking behaviour.

At a group level, receiving support from group members, diffusion of responsibility, and higher social value associated with risky positions increase risk-taking behaviour. Moreover, gender plays a decisive role in decision making, as women are more averse than men in risky decision making considering both individual and group decision making contexts, and they prefer individual decisions to group decisions. Therefore, it may be advisable to consider gender, if it is not against firms' employment policy, in making an assignment in some risky business positions. In the end, given the above risk triggering factors, a high uncertainty avoidance culture induces a greater fear of failure, lower level of ambition, and less tolerance for ambiguity, which results in low risk-taking appetite and forces decision-makers prefer an intuitive decision or dependent decision or avoidant decision-making style to rational decision-making style.

## Managerial implication and further research

The effect of both risk-taking behaviour and uncertainty avoidance culture has been recognized in various decision-making contexts, such as consumer buying decisions, managerial decisions, and national policy decisions. There is a negative relationship between high uncertainty avoidance culture and risk-taking. High uncertainty avoidance culture leads to low risk-taking behaviour in all decision-making contexts. To lessen the effect of uncertainty avoidance, managers should provide detailed instruction, enough warranty, and safety measures to enhance risk-taking notion and build trust with clients. Trust can be built by making open communication and a series of successful job order accomplishments. Risk-taking can be enhanced by making a way to get *support from others, diffusing responsibility, and increasing social value of a given task, increasing the number of male participants in group composition, creating a competitive environment*, motivating decision-makers, and introducing various mental



stimulation programs to overcome burnout, inefficacy and boredom. When risk-taking is increased, the effect of uncertainty avoidance gets decreased, which thereof helps to reduce resistance to change.

The risk-taking behaviour of individuals and uncertainty of avoidance culture would affect decision-making separately and jointly. The latter has a double effect on decision making, directly by determining the type of decision to be taken and indirectly by modelling the risk-taking behaviour of the decision-maker with other moderators. Therefore, firms may need to consider the risk-taking behaviour and national culture of employees for jobs, consumers for marketing, managers for an international assignment in risky positions, and individual countries for business expansion. Furthermore, empirical research can be done to determine the effect of uncertainty avoidance culture on risk-taking behaviour in decision making controlling for the other factors of risk-taking behaviour identified in this study. In any study on risk-taking behaviour, the national culture, in particular uncertainty avoidance culture, should be given adequate attention. Extracting data from one database only, the Web of Science, may be the limitation of the findings of this review, and engaging in diverse databases could improve the study and increase its generalizability for application.

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## Appendix

**Table 2.** The quality assessment tool and scale of the study

Element	Scales				
	0 – Absence	1 – Low	2 – Medium	3 – High	Not Applicable
<b>1. Research questions/ Objectives clarity</b>	The article does not have clear objective	There is objective but it is not clearly defined	The objective is defined and stated but hard to understand, it could have been modified	The objective is attractive, well defined and stated	The objective/ RQ is not found in the article
<b>2. Theory robustness</b>	The article does not provide enough information to assess this criterion	Weak development of theoretical insights and limited awareness of prevailing literature	Basic development of theory and use of concepts garnered from existing literature	Good use of theory, including the novel and provocative development of concepts	This element is not relevant to the study

Element	Scales				
<b>3. Methodology. Data supporting arguments</b>	The article does not contain clear research design and sampling section	Research design and sample are weak	Research design and sampling procedures are stated even if few of methodology components are missing	Research design and sampling procedures are clearly stated	This element is not relevant to the study
<b>4. Implication for practice</b>	The article does not provide enough information to assess this criterion	Hard to use the concepts and ideas in pragmatic problem solving	The studies findings and observations have potential utility for businesses and policy makers	The utility for practitioners is clear	This element is not relevant to the study
<b>5. Relevance of findings to the current study</b>	The article does not provide enough information to assess this criterion	Only tangentially relevant. Provocative but linked to “line of flight”	Broadly relevant – perhaps in one of the areas, or applied in a different disciplinary field	High level of relevance across findings, methods and theoretical constructs/ concepts	This element is not relevant to the study

Source: Adopted from Dixon-Woods et al., 2006; Littell, Corcoran, & Pillai, 2008; and Pittaway et al, 2004.

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