FH·W-S

University of Applied Sciences
Würzburg-Schweinfurt

Bachelor's Thesis

For the degree program Business and Engineering

Approach for a More Efficient Operating System for ZF Friedrichshafen AG

In cooperation with
ZF Friedrichshafen AG

Author:	Betharie Cendera Arrahmani
Matriculation no.:	3815036
Submission date:	February 28, 2019
1st Examiner:	Prof. Dr. Elke Stadelmann
2nd Examiner:	Prof. Dr.-Ing. Bastian Engelmann

Confidentiality Clause

This thesis, titled Approach for a More Efficient Operating System for ZF Friedrichshafen AG contains information of ZF Friedrichshafen AG that needs to be protected.

The publication, reproduction – also in digital form – or distribution – even in extracts – as well as the provision of this thesis in a university library or publicly accessible library, as well as any other form of publicly accessible provision are not allowed without written approval by ZF Friedrichshafen AG before the embargo specified below expires. An exception to this approval requirement can only be made when the thesis is used for purposes that are absolutely required according to the applicable examination or study regulations.

The embargo applies for a period of 3 years starting on the date of submission of the thesis to the university.

The deadline for this thesis to be submitted to the university is February 28, 2019.

Friedrichshafen, February 28, 2019 

ZF-internal note: protection class of confidentiality (see ZF Group Directive DG 97-05):

internal

Table of Contents

List of Figures

List of Tables

Abbreviations

3M	=	Minnesota Mining and Manufacturing
ADAS	=	Advanced Driver Assist Systems
AES	=	Applied Energy Services
AG	=	*Aktiengesellschaft* (stock corporation)
AI	=	Artificial Intelligence
Alcoa	=	Aluminum Company of America
BMW	=	*Bayerische Motoren Werke* (Bavarian Motor Works)
BoD	=	Board of Directors
BoM	=	Board of Management
BPN	=	Business Process Network
BU	=	Business Unit
CEO	=	Chief Executive Officer
CFO	=	Chief Finance Officer
Co KG	=	*Compagnie Kommanditgesellschaft* (limited partnership)
CoE	=	Center of Expertise
CV	=	Commercial Vehicle
DB	=	Deutsche Bahn
DBS	=	Development Bank of Singapore
E2E	=	End-to-end
EBIT	=	Earnings Before Interest and Taxes
EIU	=	Economist Intelligence Unit
EU	=	European Union
FAVI	=	*Fonderie et Ateliers du Vimeu* (Vimeu Foundry and Workshops)
Fintech	=	Financial technology
FTE	=	Full Time Equivalent
GDP	=	Gross Domestic Product
GEM	=	Global Entrepreneurship Monitor
GmbH	=	*Gesellschaft mit beschränkter Haftung* (limited liability company)
HP	=	Hewlett-Packard
HR	=	Human Resources
IHS	=	Information Handling Services
Inc.	=	Incorporated
ING	=	*Internationale Nederlanden Groep* (International Netherlands Group)
IoT	=	Internet of Things
IT	=	Information Technology
KPI	=	Key Performance Indicator

KPMG	=	Klynveld Peat Marwick Goerdeler
Ltd.	=	Limited
M&A	=	Merger and Acquisition
MNC	=	Multi-National Companies
N.V.	=	*Naamloze Vennootschap* (limited liability company)
P&G	=	Procter & Gamble
PEST	=	Political, Economic, Social, Technological
PL	=	Product Line
PLC	=	Public Limited Company
PMC	=	Process Management Committee
PMI	=	Project Management Institute
PPM	=	Project Portfolio Management
PTV	=	*Planung Transport Verkehr* (Planning Traffic of Transport)
PwC	=	PricewaterhouseCoopers
R&D	=	Research & Development
ROTI	=	Return on Time Invested
S&P	=	Standard & Poor
S.A.	=	*Société Anonyme* (publicly traded company)
SE	=	*Societas Europaea* (European society or company)
Singtel	=	Singapore Telecommunications
SWOT	=	Strengths, Weaknesses, Opportunities, Threats
TUI	=	*Touristik* Union International (German travel agency)
U.S.	=	United States
USA	=	United States of America
USP	=	Unique Selling Proposition
VUCA	=	Volatility, Uncertainty, Complexity, Ambiguity
ZF	=	*Zahnradfabrik* (gear wheel factory)

Acknowledgement

This Bachelor thesis becomes a reality with the kind support and help of many individuals. I would like to extend my sincere thanks to all of them. At the very foremost, I want to offer this endeavor to God/Allah Almighty for the wisdom he bestowed upon me, the strength, peace of my mind, and good health in order to finish this thesis.

I would like to express my special gratitude and thanks to both supervisors, Prof. Dr. Elke Stadelmann from the University of Applied Sciences Würzburg-Schweinfurt and Dr. Markus Bergmann from ZF Friedrichshafen AG. Their dedication and keen interest in giving guidance, scholarly advice, and scientific approach have helped me to a very great extent to accomplish this task.

Also special thanks to Mr. Andre Jurkevythz, Mr. Holger Schilha, Mr. Jürgen Heller, Ms. Nicole Roth, Ms. Selina Hellmann, and Ms. Svenja Corbo as ZF colleagues in the Strategic Performance Management department, which has been dissolved since January 2019, for their support and valuable information.

I am also grateful to have Dominik Köhler, Erwin Zahari Nurcahya, Hanna Eureka Chaidir, Jochen Zell, Lies Sundari, Lucas Hanson, Lucimara Piza, and Nina Bruckner for taking their time to give critical and helpful comments on early drafts.

My thanks and appreciations also go to my parent and siblings for encouraging me throughout this research and being my big motivation to complete this thesis successfully.

Abstract

The pace of changes is increasing significantly through swift technology advancement, easily accessible information, and extensive interconnectedness. As a result, a new business environment, which is characterized as volatile, uncertain, complex, and ambiguous (VUCA), emerges. When the business environment changes, companies need to revisit their strategy and eventually their organizational structure with which they operate their business. The modern or matrix organizational structure that is adopted by most companies currently are incompatible in today's business environment. This is due to the fact that silo structures inhibit team's creativity and slow down firms to respond to customers quickly. Based on the challenges and PEST analysis in the current business environment, as well as criteria derived from corporate culture of ZF Friedrichshafen AG, this Bachelor thesis proposes the hybrid organizational structure for ZF to sufficiently address all the challenges at the same time. Besides, Keller and Meany (2018, p. 4) indicate that firms with a dual operating system are three times more successful than those maintaining flexibility without stability.

1. Introduction

1.1. Background

Nowadays, the pace of changes is increasing significantly through swift technology advancement, easily accessible information, and extensive interconnectedness (Deloitte, 2016; Pryor et al., 2008; Radović-Marković, 2008a; SolutionsIQ, 2017). As a result, a new business environment, which is characterized as volatile, uncertain, complex, and ambiguous (VUCA), emerges. Lawrence (2013, p. 3) describes VUCA business environment as "chaotic, turbulent, and rapidly changing business environment". Those who are able to keep on track with the pace of change in the VUCA environment can sustain their business in the future. Otherwise, if they are lagging behind, their business might be endangered (Häusling, 2018; McChrystal et al., 2015). As depicted in the Figure 1, a study conducted by Innosight shows that the average lifespan of companies on S&P 500 index is decreasing from 33 years by 1965 to 22 years by 2018 and into 13 years by 2027 (Anthony et al., 2018, p. 2).

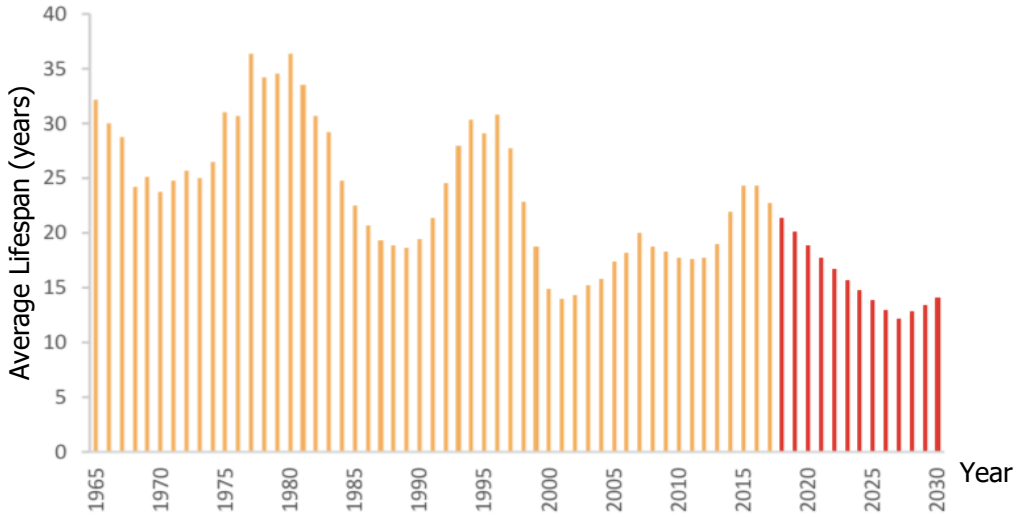

Figure 1. Average Lifespan of Companies Listed on S&P 500, Source: adapted from (Anthony et al., 2018, p. 2)

When the business environment changes, companies need to revisit their strategy to know necessary actions given their opportunities and threats (Andrews, 1997). Although strategy gives a big picture of the direction aimed by companies, they also need to consider their organizational architecture to accommodate the organization as a whole moving toward the target (Anthony et al., 2017; Deresky, 2017; Lampel et al., 2013; McChrystal et al., 2015). Business organizations are challenged to be agile in the VUCA environment. Being agile means having "the ability to thrive in an environment of continuous and often unanticipated change" (Dove, 1999, p. 19). For newly founded companies, bringing agility to their organization is not a difficult task, since they are already born into VUCA environment. However, for companies that have existed since decades or hundreds years they pose a challenge, as they internalize different

consciousness, mindsets, and cultures (Laloux, 2014). Their current operating system, i.e. their organizational structure, is incompatible in today's era (Anthony et al., 2017). Häusling (2018) argues that silo structures hinder companies to satisfy customers in the VUCA environment. Whereas McChrystal et al. (2015) reveal from their experience in the U.S. Army that rules imposed by institutions inhibit team's creativity. According to many literatures, business organizations are seeking for a more flexible, flattened, and responsive organizational structure to meet current challenges in the VUCA environment (Anthony et al., 2017; Deresky, 2017; Häusling, 2018; Laloux, 2014; Lampel et al., 2013; Luo et al., 2018; McChrystal et al., 2015; O'Reilly III and Tushman, 2004; Rohrbeck, 2010; Smith et al., 2017).

Some enterprises have started to embark on a journey for an agile organization. The Dutch bank ING started its agile transformation since 2015 and it received Global Finance's Best Bank of the World award in 2018 (Schotkamp and Danoesastro, 2018). 1&1 Internet SE and sipgate GmbH give examples of an agile organization in the telecommunication area. For energy provider, such examples are given by Yello Strom GmbH and ista GmbH (Häusling, 2018, pp. 145–146). These examples are running in the service sector. For manufacturing sector, a limited number of literature is available. Laloux (2014) takes FAVI—a French die casting company with 400 workers (FAVI S.A., n.d.)—and Sun Hydraulics—a U.S. hydraulic manufacturer with ca. 1,000 people (Sun Hydraulics Corporation, n.d.)—as examples for manufacturing sector. Yet, these firms are considered as small companies. One article explains an agile journey in the Chinese white goods industry Haier with 85,000 employees (Haier, n.d.; Luo et al., 2018; Reeves et al., 2017). Therefore, the author chooses to conduct a research for a suitable organizational structure coping with VUCA business environment, especially in the manufacturing sector and takes ZF Friedrichshafen AG as an example for her case study in the big enterprise.

ZF Friedrichshafen AG is an automotive supplier company focusing on driveline and chassis technology as well as active and passive safety technologies (ZF Friedrichshafen AG, n.d.). Headquartered in Friedrichshafen, Germany, it is registered as a private stock corporation and employs 146,148 personnel in 230 locations across 40 countries generating $41.7 billion (€36.4 billion) in sales as of December 31st, 2017 (ZF Friedrichshafen AG, 2018a, pp. 26 & 28).

1.2. Scope of the Thesis

The research emphasizes two questions: 1) How will ZF Friedrichshafen AG structure its organization in the future to meet challenges?; and 2) Will, and if so, to which extent the new structure (fluid, agile, process- and project-oriented organization structure) increase competitiveness, performance, and growth of a business?. Furthermore, the scope of the research is limited to the following aspects:

a. Organizational chart describing the roles and responsibilities of board members and management levels, supporting functions, along with lean process management;
b. Project management covering project proposal, execution, and performance evaluation; and
c. Leadership style, as in giving feedback sessions, motivation and incentives as well as communicating information internally and externally.

Additionally, Figure 2 summarizes situation and question addressed in this Bachelor thesis.

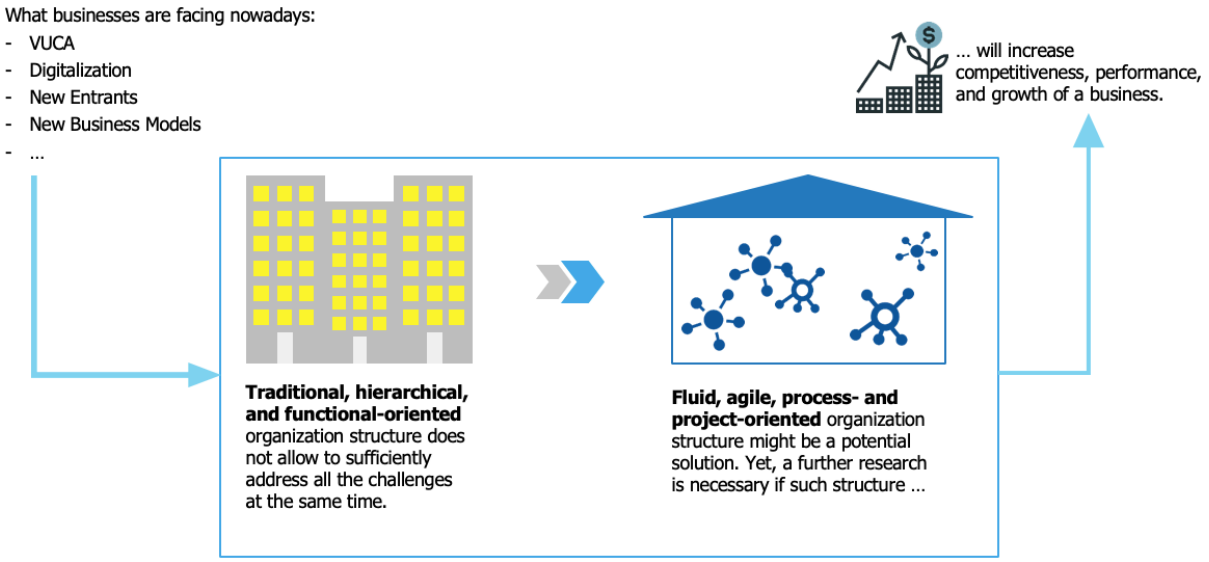

Figure 2. Illustration of Question Addressed in this Bachelor Thesis, Source: own depiction

1.3. Structure of the Thesis

The Bachelor thesis is structured into five big chapters with an introduction of the problem, target, and scope in the first chapter. A thorough literature review is presented in the Chapter 2 and broken down into current drivers for restructuring organization, various organizational structures, and best practices from companies and consultants regarding new organizational structures operating in the VUCA environment. Then, Chapter 3 describes ZF Friedrichshafen AG started with the current ZF organizational structure and its building blocks. Subsequently, trends influencing the milieu of ZF Friedrichshafen AG as an automotive business segment are referred. Lastly, strategy and necessary characteristics for ZF future state are deduced from the ZF Management System. The outcomes from theories and conditions at ZF Friedrichshafen AG are discussed in the Chapter 4. It is divided into the evaluation of potential organizational architecture based on the defined criteria and the practical recommendation for solution along with a preliminary implementation plan and supporting tools. At last, a summary and recommendations for further research are written in the Chapter 5.

2. Literature Review

2.1. Current Challenges in Business that Drive Reorganization

The pace of changes is increasing significantly in the recent years compared to the previous era (Deloitte, 2016; Pryor et al., 2008; Radović-Marković, 2008a; SolutionsIQ, 2017). Business leaders are forced to think strategically in order to keep up with the current speed of change. They should be first aware of the matters that are currently affecting their business environment and respond to it in the right way. A recent study carried out by McKinsey reveals that 82% of executives have undergone reorganization at their current workplaces. Almost two-third of the respondents intend to accomplish their strategic priorities through restructuring (Berenson et al., 2014). This indicates that reorganization is a common approach for people in the management levels to answer the current challenges influencing the state of business.

In 2005, the Economist Intelligence Unit (EIU) conducted a survey regarding the business forecast for 2010. The respondents consisting of business leaders reckon four aspects that trigger changes in their business structure. These aspects are new business models, technology, customer demand, and new entrants (The Economist Intelligence Unit, 2005). One year later, EIU released a foresight into business trends for 2020. Dynamic customer demand, increased competition, and technology advancement still exist as business challenges for the next 15 years. Topics regarding demographics, globalization, and commoditization attribute to the foreseen business trends by 2020. In addition, 53% of surveyed participants will focus into a more efficient organizational structure as a technique for improving companies' productivity growth (The Economist Intelligence Unit, 2006). In the meantime, EIU develops an initiative to pinpoint the real challenges for driving the companies into the future. Three top challenges worldwide from the executives' standpoint are technology transformation, fluctuating customer demands, and cybersecurity, respectively. Whereas market data shows that the fluctuating customer demands is placed as the highest priority, then followed by internal bureaucracy and human resources (HR) management (The Economist Intelligence Unit, 2018a). Looking deeper into one aspect, e.g. internal bureaucracy, restructuring organization coupled with deployment of technology for collaborative work is an opportunity to diminish or even close the gap between businesses and markets (The Economist Intelligence Unit, 2018b).

Table 1 shows a summary of six main triggers for reorganization from different consultants and researchers. It can be seen that all sources place fluctuating customer demand, global competition, and development in technology at the highest position among others. Changing expectations from employees and new generation of prospect talents toward employers are considered

as the next reasons for reorganization. Some authors are in the opinion that policies and regulations have a role in changing the organizational structure, too. Lastly, three sources consider that company growth, i.e. divestiture, joint venture, partnership, and merger & acquisition (M&A), leads to reorganization initiative.

Drivers for Reorganization	Cited from
Customer behavior	(Dawson and Andriopoulos, 2014; Deloitte, 2016; KPMG, 2012; McKinsey Agile Tribe, 2018; Page et al., 2016; Pryor et al., 2008; PwC, 2015; Radović-Marković, 2008b; Smith et al., 2017; SolutionsIQ, 2017)
Global competition	(Dawson and Andriopoulos, 2014; Deloitte, 2016; KPMG, 2012; McKinsey Agile Tribe, 2018; Page et al., 2016; PwC, 2015; Radović-Marković, 2008b; Smith et al., 2017; SolutionsIQ, 2017; Wrona et al., 2017)
Technology advancement	(Dawson and Andriopoulos, 2014; Deloitte, 2016; KPMG, 2012; McKinsey Agile Tribe, 2018; Page et al., 2016; Pryor et al., 2008; PwC, 2015; Radović-Marković, 2008b; Smith et al., 2017; SolutionsIQ, 2017)
New generation of workforces	(Dawson and Andriopoulos, 2014; Deloitte, 2016; KPMG, 2012; McKinsey Agile Tribe, 2018; Pryor et al., 2008; PwC, 2015; Wrona et al., 2017)
Policies and regulations	(Dawson and Andriopoulos, 2014; KPMG, 2012; Oakland and Tanner, 2007; Pryor et al., 2008; PwC, 2015; Radović-Marković, 2008b; Wrona et al., 2017)
Company growth	(Dawson and Andriopoulos, 2014; KPMG, 2012; Wrona et al., 2017)

Table 1. Summary of Drivers for Reorganization from Various Sources

2.1.1. Customer Behavior

Chander and Raza (2015) mention in their article that customer is the motive for business existence. Entrepreneurs gather resources to provide supply for demand by establishing business entities. From the rise of industrial age in the late eighteenth century (Chandler et al., 2009), trades occurred locally and then with neighboring countries. Through globalization in the last four decades (Senghaas-Knobloch, 2014), business organizations have been able to fulfill demands across continents. Enterprises introduce a broader product portfolio to meet different preferences from consumers (Häusling, 2018; KPMG, 2012). Since the past years, buyers are able to access knowledge about products that they are looking for, thanks to the Internet invention. Furthermore, consumers become connected via communities and hence are able to share experiences using a product/service (Page et al., 2016). Enterprises are now struggling to satisfy consumers' expectation to have a shorter product lifecycle (Smith et al., 2017). If a business organization fails to deliver consumer wishes, other enterprises are on the line to substitute. Industries need to have optimized end-to-end (E2E) processes and iterative innovations involving independent multidisciplinary teams in order to answer consumers' demand accurately at the right time (Häusling, 2018).

2.1.2. Global Competition

Every business entity, be it a long-existing or a new one, faces competition throughout its lifetime. Strategic leaders are familiar with tools refining business' competitive advantage, such as Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis and Michael Porter's five forces (Deresky, 2017). As written in an article by Porter (1989), two forces, i.e. new entrants and current competitors, have to be taken into consideration. Competitors and new entrants used to appear from the relevant industry segment. However, nowadays managers should be acquainted with competitors emerging unexpectedly from totally different sector with unprecedented business models. An example is a threat coming from Google and Apple toward car manufacturers (Häusling, 2018). The driverless car launched by Google in 2010 shook up automotive industries. Some renowned car manufacturers have been successfully implemented driver assistance systems since the last decades, but to that time they have not yet brought fully driverless vehicles on the road (Poczter and Jankovic, 2014). Another example comes from grocery retail business (Häusling, 2018). Amazon, the biggest online retailer (Farah and Ramadan, 2017), poses a threat for famous supermarkets, such as Aldi, Carrefour, and Walmart, in a way to reach consumers. In order to gain the competitive advantage, executives hence need to also invest in a new business in addition to the existing business with core competency (Anthony et al., 2017).

2.1.3. Technology Advancement

Technology is defined in the Oxford Learner's Dictionary as "scientific knowledge used in practical ways in industry" (Oxford University Press, n.d.). Often technology is considered to validate and give rise to theoretical framework (Mokyr, 2018, p. 13541). The development of technology itself has been undergone through centuries. For example, a telegraph used Morse codes initially to send messages and later it used bits so that the information transfer was quicker (Bloom, n.d.). This then marks the digitization, which means a process in transforming analog signals to digital signals and eventually binary digits. While digitization highlights the digital technologies, the term "digitalization" is used to define "the manifold sociotechnical phenomena and processes of adopting and using these technologies in broader individual, organizational, and societal contexts" (Legner et al., 2017, p. 301). Figure 3 puts these definitions in a

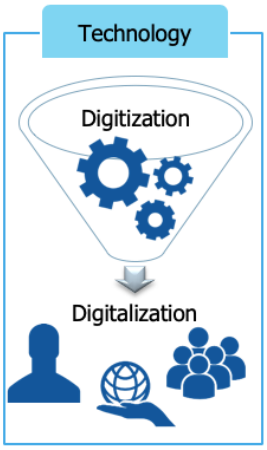

Figure 3. Relationship between Technology, Digitization, and Digitalization, Source: own depiction

nutshell. Digital technologies have been making easier for people to carry out tasks. Since the invention of computer, people can store data electronically and thus it reduces paper usage (Harrison, 2018). Furthermore, the discovery of internet allows humankind to connect with each other at the real time despite the geographical distances along with language and cultural barriers (KPMG, 2012). Internet of Things (IoT) enables access to abundant data resulted from, for instance mobile phones, smart energy meters, cars, and industrial machines (Manyika et al., 2011). A report from McKinsey & Company (Henke et al., 2016, p. 21) reveals that the amount of available data has increased exponentially and proceeds to double every three years. The growth of digital technology advancement, however, is not balanced with the business productivity. This can be inferred from Figure 4, which presents the gap between technology development and business' state of being effective and efficient throughout time. A reason for this gap existence is due to organization of business (Deloitte, 2017). In addition, Radović-Marković (2008b) argues that swift and steady technology innovations lead to changes in organizational systems and processes.

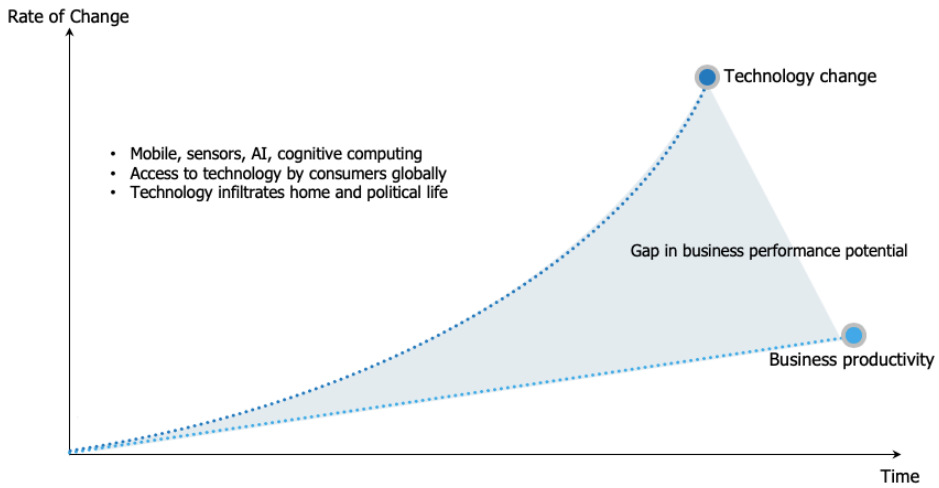

Figure 4. Gap between Technological Change and Business Productivity, Source: adapted from (Deloitte, 2017, p. 3)

2.1.4. New Generation of Workforces

In their book, Dawson & Andriopoulos (2014) explain that each business entity necessitates in ascertaining approaches to motivate, develop, and retain the talented employees. Generation Y, who was born between 1979 and 2000 or sometimes is referred as "millennial", dominates the current labor forces consisting of Generation X and Baby Boomers, too (Conway and Monks, 2017; Deloitte, 2016; Grail Insights, 2010; Kienbaum Consultants International GmbH, 2015). Moreover, Generation Z considered as "Digital Natives" is the future labor market (Grail Insights, 2010, p. 3). Each generation prefers and values things in life differently, since they are raised by a certain generation in various environments and witnessing diverse stages of technology development (Grail Insights, 2010; Häusling, 2018; PwC, 2015). As an example, Baby Boomers are individualists, whereas Generation X, Y, and Z prefer to work together with other colleagues to get new insights. While Baby Boomers and Generation X focus on the achievements, Generation Y and Z emphasize on personal and professional journeys toward the goals (Berkup, 2014; Conway and Monks, 2017; Grail Insights, 2010; Kienbaum Consultants International GmbH, 2015). Employers need to accommodate generations with different expectations in order to have people with the right skill sets to attain strategies today and in the future. Collaborative teamwork across functions with quicker considered decision making is more appealing for the workforces and future labor markets (PwC, 2015; Radović-Marković, 2008b). Baby boomers can be a mentor for the younger generations promoting constant learning and development possibilities, instead of a supervisor giving orders (Deloitte, 2016). However, the common organizational structures, in which people are deployed, are still based on hierarchical functions or divisions and have not yet supported an environment with bottom-up approach and asking for experiences in different areas (KPMG, 2012).

2.1.5. Policy and Regulation

Policy is defined as set of rules imposed by individuals, groups, companies, or governments aiming at goal achievements. Whereas regulation is meant as rules established by authorities that have the effect of law and are considered as code of conduct for one's behavior (Navya, 2016). Every company needs to act in accordance with the policies and regulations applied both on the home country and on the other countries where the business operates (KPMG, 2012). The rules can be classified into two groups: a) set by the government considered as external; and b) introduced by the company itself considered as internal. New external policy and regulation that result in a need to reorganize is, for instance, higher taxation for imported Chinese goods to the United States leading to a trade war between China and America. Due to such circumstance, producers might look for other suppliers (The Economist, 2018). Introduction of

new technologies leads to the establishment of new external policy and regulation. For example, there are many government regulations promoting financial technology (fintech) startups, while for the conventional financial enterprises these regulations are disadvantageous. The traditional financial players have to rethink their strategy, organizational structure, and business model in order to maintain their market shares (Staykova and Damsgaard, 2019). Technology development affects external policy and regulation, too. Three-quarter of business leaders mentions that automation needs new skills in the following years (Deloitte, 2016, p. 107). Employers require to revisit their payment policy for the affected workers because the work content moves from physical to intellectual assignments. As mentioned by Page et al. (2016), big enterprises have complex bureaucracy, hierarchical system, and many reporting lines. There are a lot of reporting procedures and appointments for taking decisions. As a result, personnel are kept busy with issues concerning themselves, instead of focusing on what customers want (Häusling, 2018).

2.1.6. Company Growth

The growth of an enterprise can be heading into a negative or positive direction. For once, a company can make a breakthrough enabling it to gain access to markets and triggering it to seek capitals for market expansion. Yet, if the company cannot deliver another innovation successfully, the owner might file a bankruptcy or sell it to another business entity so that incurring debts can be covered (Downes and Nunes, 2018). Some companies consider buying businesses that are going to bankruptcy because, for instance, they expect higher return than merging with companies in a healthy finance condition. This is consistent with a study conducted by Meier & Servaes (2015, p. 2) stating that firms yield two percentage points higher excess returns in acquiring almost-bankrupt firms. Expanding market and product portfolio are other motives of a business entity to grow positively (Deresky, 2017; Nickels et al., 2014; The Economist Intelligence Unit, 2016). Such growth can be realized through M&A and coopetition models. Merger occurs when two companies unite and become one single company. Whereas acquisition is described by Nickels et al. (2014, p. 136) as “one company’s purchase of the property and obligations of another company”. M&A can take place between companies whose businesses are related but at the different stages, or who are in the same industry, or even whose industries are not related at all. Besides, coopetition models such as joint ventures and strategic alliances can strengthen the company’s growth (ibid.). As companies of the same markets behave competitively and cooperatively among themselves in the coopetition model, each of them can tap into new knowledges (Tsai, 2002). At the recent time, competitors are coming from startups. A statistic from Global Entrepreneurship Monitor (2018, pp. 106–107) unveils the rate of startup establishment in various regions: 11.7% in Latin America and Caribbean; 10.3% in

North America; 7.3% in Africa; 6.2% in Asia and Oceania; and 5.1% in Europe. As a result, the big players are funding startup projects or even acquiring the business in order to acquire new skills, gain access to different markets, and nurture their customer relationship (Mallette and Goddard, 2018). In the meantime, both business entities are experiencing difficulties in merging the business. The traditional companies have a hierarchical and rigid organizational structure, whereas startups have a flat and flexible organizational structure. Employees in startups are used to have their authority in decision making and so it can be frustrating if they have to go through many reporting lines to come up with a decision (Hawk, 2016). Another issue is that the conventional firms do not just want to buy startups and depend on them. They also want to be innovation leader that can be in the same league as other innovative competitors or new entrants (Ward, 2018). For this, big players need to enable their people to work in a bottom-up environment, instead of top-down approach.

2.1.7. VUCA World

Swift technology advancement, easily accessible information, and extensive interconnectedness accelerate the pace of change of the abovementioned challenges (Deloitte, 2016; Pryor et al., 2008; Radović-Marković, 2008a; SolutionsIQ, 2017). This transformation creates a new business environment which is characterized as volatile, uncertain, complex, and ambiguous (VUCA). The acronym of VUCA has been first introduced by the United States (U.S.) Army right after the Cold War ceased (Kinsinger and Walch, 2012). In the early 21st century, business executives adopt the term VUCA to describe "the chaotic, turbulent, and rapidly changing business environment" (Lawrence, 2013, p. 3).

Volatility means having an unpredicted matter whose duration is indefinite (Bennett and Lemoine, 2014). It can be further classified into microeconomic and macroeconomic scales. Corporations encounter volatility in microeconomic scales comprising expectations from their new generation workforces, unstable raw material price imposed by policy and regulation, along with shorter product lifecycle influenced by customer behavior and technology advancement. In the macroeconomic level, volatility is a consequence of factors such as policy and regulation put into effect nationwide and worldwide as well as increasing GDP growth of a nation leading to a positive consumption behavior (Geissler and Krys, 2013). Accordingly, a necessity for flexible structures and processes concerns business organizations (Bennett and Lemoine, 2014; Franken, 2016).

Uncertainty is defined as having a lack of ability to prognosticate things accurately (Milliken, 1987, p. 136; Urbach and Röglinger, 2019). Being uncertain is not the same as being volatile. Big or small changes occur rapidly in a volatile situation. Meanwhile, an uncertain situation

does not lead to abrupt changes, its impact is a time limit in planning a response. As an example, a company faces business and market uncertainties coming out from an imminent product launch by the competitor. For the reason that uncertainty is due to the lack of knowledge, business organizations have to fill their gap of knowledge by gathering information from manifold stakeholders, such as their customers, partners, experts, and even their competitors. A working environment which promotes active collaboration across boundaries internally and externally is a possible solution for uncertain situations (Bennett and Lemoine, 2014).

Complexity is characterized as having abundant information inter-related to each other (Bennett and Lemoine, 2014; Franken, 2016; Geissler and Krys, 2013; Mack and Khare, 2016; Urbach and Röglinger, 2019). Its interactions are not straightforward and even slight changes can result in totally different consequences. Besides, a dynamic system in a complex situation with mutual evolution of elements hinders people to predict the future based on the integration of the past and the present (Snowden and Boone, 2007). The latest technology advancement enables more devices to be connected at once. The more shared data there are, the more complex the data analysis is (Franken, 2016). From the customers' perspective, the overload information provides a broad product variety, yet this fact increases the degree of complexity for businesses to manage their product portfolio (Geissler and Krys, 2013). Expanding company to other countries and/or partnering with other competitor also contribute to complexity because a thorough market research, supply chain management, legalities, and risks on currency shall be taken prior into consideration (Franken, 2016). Corporation needs to adapt to the ever-changing business environment to be able to tackle complex situation. A research done by Heugens & Lander (2009) indicates that organizations who reshape its structures and processes have a higher performance level than those who do not redesign in the unsteady business milieu.

Ambiguity denotes hesitation regarding the causal relationship of a subject due to less or even no previous case. Enterprises encounter an ambiguous situation during a journey to new opportunity, introduction of a new product or innovation, or penetration into a new market (Bennett and Lemoine, 2014), for instance, the increasing number of Chinese households having car (Geissler and Krys, 2013). Such situation can create some plausible interpretations (Gupta and Gupta, 2018). On the one side, if the Chinese inhabitants buy Western cars, then it benefits the Western car manufacturers. Otherwise, the Chinese car manufacturers will reap the benefit (Geissler and Krys, 2013). Another example is the book publishers. More humans prefer digital media, especially Generation Y and Z. Conventional publishers have to look for a new business model to both be profitable and also fulfil customer demand (Anthony et al., 2017). Yet, digitalization has just happened these days and thus there are no precedents to refer to. Corporations

need to be able to iterate solutions and learn from failures earlier. They can experiment various new strategies, e.g. releasing some new features and observing the market acceptance, until they are convinced of the best match solution for the customers (Bennett and Lemoine, 2014).

2.2. Definition and Types of Different Organizational Structures

Certo and Certo (2016) define organizational structure by breaking down the term into two separate words. While organization is the outcome of allocating resources in the context of management system, structure explains "the designated relationships among resources of the management system" (ibid., p. 213). Other authors, for instance, Nickels et al. (2014, p. 221) describe organizational structure as "a visual device that shows relationships among people and divide the organization's work; it shows who reports to whom". Over the course of time, organizations grow larger, business environment shifts, companies' strategy changes, and so does organizational structure transform (Dawson and Andriopoulos, 2014; Deresky, 2017; Lampel et al., 2013; Nickels et al., 2014). A researcher named Laloux (2014) comes up with an idea to observe and classify the organizational development through stages on which the consciousness of its main resource—human—evolves. Figure 5 summarizes these stages of organizational development. It is divided into five phases, namely archaic, magical, tribal, traditional, and modern.

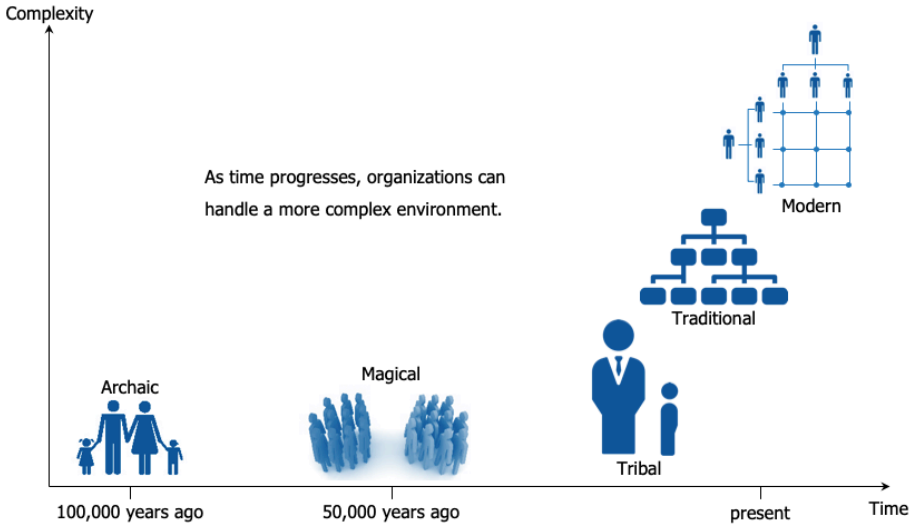

Figure 5. Stages of Organizational Development, Source: adapted from (Laloux, 2014, p. 35)

2.2.1. Archaic

Initially, people formed a group based on the blood relationship. The degree of complexity that could be handled by human beings in 100,000-50,000 years ago was relatively low. Therefore, a family band at that time was only with a few tens of people. As the personal ego has not been developed in the archaic period, humans were not yet able to distinguish themselves from others

and from environment. Neither did they have an organizational structure, since their main activity was food hunting. There was almost no labor division, except for the women to take care of their children at home. Leadership has not appeared in this stage, either (ibid.).

2.2.2. Magical

People in 50,000 years ago could perceive their distinction physically and emotionally. They started to move beyond kinship band to a larger group consisting of some hundred members. Even though they could manage more complexity, they still were not able to uncover the causal relationships of a matter, e.g. they would think bad weather as "spirit's punishment" for their sinful behavior. Humanity believed more in mythical reasonings and thus the term "magical" signifies this stage. To overcome such occasion, humankind followed suggestions from gurus and healers along with performed rituals. In the magical period, human race tried to always think in the present and mix some past occurrences but did not consider the upcoming events. Similar to archaic period, there was no organizational structure exist in this stage. However, people already had a moderate labor division and authority emerged to a small extent (ibid.).

2.2.3. Tribal

In this era, people started to believe that they could die at any given time. They turned their perception of a menacing world into an occasion in which their necessities could only be fulfilled by being determined and resilient. As a result, power meant a lot in the tribal period. Those who had power could achieve their desires, yet the ones with less power could only hope for a good care from them through submission. Unlike in the archaic age, the personal ego in this time was better developed and human beings could make a distinction from others and the environment. Hence, for the first time an organizational life emerged. A tribal organization encompassed usually from thousands to tens of thousands of people and was limited to maximum three to four levels. In contrast to the magical time, the tribal mankind considered cause and effect relationships as "rewards and punishments" and thus discerned the world as two different poles, e.g. strong or weak. Most of the time they thought of the present time. The leaders or people with more power in this stage turned the present mindset through manipulation or submission so that they could reach out the future, yet only to a small degree. Despite significant task differentiations, systematic organizational structure and job titles have not been evolved. A tribal organizational life can still be discovered these days in an aggressive milieu, such as the combat zones, civil wars, or a savage district near the city center. These organizations still maintain their old structure but make use of the actual technology advancement. This type of organization can orient itself in a chaotic environment because it can respond to new threats and opportunities well by exerting power in interpersonal relationships. The drawback

of such organization is its adaptability in a stable environment where planning and strategizing are indispensable. Moreover, a tribal organization tends to be fragile and disintegrated, since only the submissive and anxious people want to stay under the vast power (ibid.).

2.2.4. Traditional

Instead of having a few persons with immense power, humankind in the traditional phase has been civilized and organized into several states, institutions, and religions. Going beyond the archaic phase, society in the traditional era has established several to plenty of labor divisions and hence organizational structures first became apparent in the traditional phase. People operating in the traditional paradigm are striving for acknowledgement and inclusion within a group of similar characteristics. This is due to the fact that they are now capable of differentiating own and people's perspectives, for example managers and frontlines. While the managers contemplate planning approaches, the frontlines execute the plans. They also like to stay in their own environment creating silos between different departments. People in this time are skeptical toward cross-silo collaboration since they believe strongly in their independence. Yet, such suspicious behavior results in blaming others for problems and failures. They need guiding principles of living the life which are internalized as norms and able to handle suspicion across silos. Beliefs in reward for following the rules and in punishment for disobeying the standards exist in this stage. Furthermore, breaking the rules prompts guilt and shame. Instead of participatory management, command-and-control management is nurtured in the traditional phase. In contrast to associating personality with authority in tribal organizations, authority is represented through role assumed by individuals in this era. This leads to social stratification and caste system with each level exercising different sets of behaviors and receiving inconsistent treatments. Parallel to social stratification, hierarchical stratification does exist and can be detected through different topics of discussions and jokes among employees with different job titles. Lifelong employment is taken for granted by humankind with traditional paradigm. Strong correlation between social and hierarchical stratifications makes them not want to lose their identity. Only those who are bewildered and accused of disloyalty resign from the job. Proficiency in cause-and-effect relationships at this phase has advanced remarkably compared to the magical stage, in a way that humans can utilize past and present occurrences as a process invention to forecast the future. Any person can learn such process and knowledge from others and transfer them to others, too. This precedes to scaling up the organization globally and planting the mindset of "one right way of doing things". As a result, traditional organizational structure is characterized with dominance, monopoly, and suspicion toward changes and competition. Such structure works best in a well-predicted environment with less or even no changes because it

gives ability to expand itself and be stable through formal titles, fixed hierarchies, and organizational chart. Its main advantage is the implementation of unprecedented aftermaths. Organizational structure with traditional paradigm is still dispersed in the current time, e.g. government agencies, public schools, and military (ibid.).

Traditional organizational structure is, indeed, the structure that was deployed by the first great enterprises during the Industrial Revolution (ibid.). Since the 1700s, the steam engine invention has ushered Great Britain from agricultural business to industrial era by enabling goods' transportation to all citizens and across continents, eventually. Business people faced a new challenge from this mass expansion and production (Dawson and Andriopoulos, 2014). They needed to find an approach that can facilitate management system to fulfill increasing demand of commodities. The foremost father of management, Henri Fayol, postulates an organizational structure with a single command and authority aiming at organizational goals rather than individual goals (Nickels et al., 2014). The structure was called **line** or also named as **"entrepreneurial" organization** (Dawson and Andriopoulos, 2014, p. 328; Lampel et al., 2013, p. 212; Nickels et al., 2014, p. 227). Yet, such structure can only be applied to some extent. For a larger scale, Frederick Winslow Taylor and Max Weber suggest **line-and-staff** or also known as **"machine" organization** (Certo and Certo, 2016, p. 235; Dawson and Andriopoulos, 2014, p. 18; Lampel et al., 2013, p. 213; Nickels et al., 2014, p. 228). Line personnel are responsible for attaining company's targets by giving command to staff personnel to support and execute their plans. During this time, bureaucracy or layers of management are built up to impose guidance, make decision, and supervise workers (Certo and Certo, 2016; Nickels et al., 2014).

Through globalization, companies expand by enriching their product portfolio and/or penetrating into markets in different countries. Consequently, repetitive workloads are doubled or overlapping each other. Since traditional organizations mainly pursue efficiency and profitability through economies of scale, which means purchasing raw materials in bulk so that production cost lowers while at the same time output increases (Dawson and Andriopoulos, 2014; Lampel et al., 2013; Nickels et al., 2014), these organizations group common workloads together into separate departments, whose process is called departmentalization (Certo and Certo, 2016; Dawson and Andriopoulos, 2014; Nickels et al., 2014). Departmentalization can be further broken down into two categories: 1) grouping similar or related tasks/processes into **functions** or also known as **"professional" organization**; and 2) grouping products, markets, and geographies into distinct **divisions** or also known as **"diversified" organization** (Certo and Certo,

2016; Dawson and Andriopoulos, 2014; Deresky, 2017; Lampel et al., 2013, p. 214; Nickels et al., 2014). Figure 6 illustrates different traditional organizational structures.

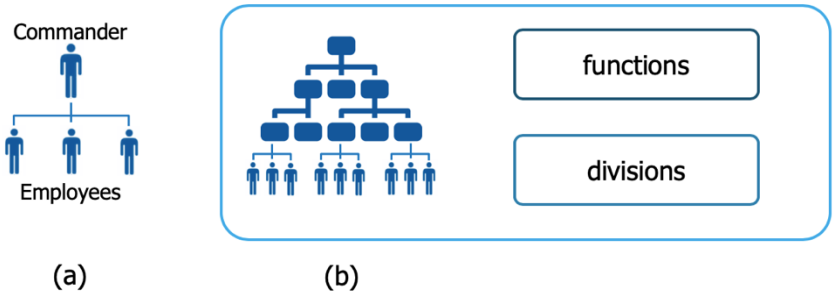

Figure 6. Various Traditional Organizational Structures: (a) Line Organization and (b) Line-and-staff Organization along with Departmentalization, Source: own depiction

2.2.5. Modern

After the Second World War, humans have developed an increasing cognitive capacity and begun to raise doubt about authority, group norms, and the existing state. Instead of being suspicious toward changes like in the traditional organizational structure, humankind in this stage sees changes and innovation as an opportunity to improve the situation. As a result, new areas of sciences are discovered, state-of-the-art technologies are invented, more diseases are eradicated, higher life expectancy is achieved, and many social welfares take place in different parts of the world. Whereas tribal is egocentric and traditional is ethnocentric, modern phase emphasizes world-centric. Futurism dominates this stage and in the organizational context this results in the management process with full of objectives and their measurements going from the top management to the lower-level employees. Leadership takes "an engineering perspective" and focuses more on delivering the outcomes rather than interpersonal relationships. Through goal alignments, all employees are freed to chase their targets, give their best performance, and eventually, climb up the career's ladder. The personal ego has reached its maximum and yearns for more competencies and successes for the following promotion. Incentives in modern organizations are performance appraisals, bonuses, awards, and opportunities to buy some company's stocks. Similar to traditional organizations, decision making is based on effectiveness. Modern organizations are identified as machine organizations, too. Together with consultants, managers configure the organization and employees are gathered to function as "cogs in a machine". If things do not work out, it signals team-building activities so that objectives can still be met. Modern organizations work best in a complex but known environment, where its causal relationship can be examined and interpreted. However, such structure is soulless in a way that one focuses on crunching numbers to achieve targets. Moreover, modern organizations have disadvantages of "corporate greed, political short-termism, overleverage, overconsumption, and the reckless exploitation of the planet's resources and ecosystems". Even though employees are

freed to achieve their targets, managers are, in fact, still not able to give away trust to their subordinates. Most business organizations are unsurprisingly operating under mechanistic organizational structures (Laloux, 2014).

As mentioned in the previous paragraph, companies with modern structure orient themselves toward innovations. While traditional organizations operate based on processes, modern organizations are driven to optimize processes and deliver innovations through projects. Still inheriting the pyramid hierarchical structure, modern organizations open up departmental boundaries and encourage working across functions (ibid.). In addition to departmentalization from traditional phase, business organizations with modern structure add a secondary line to indicate employees with overlapping/additional responsibilities. Such structure is termed as **matrix organization** (Certo and Certo, 2016; Deresky, 2017; Egelhoff and Wolf, 2017; Nickels et al., 2014). Matrix organization structure was first introduced in the aerospace industry 70 years ago and 10 years later adopted by MNCs (Egelhoff and Wolf, 2017). Even though the basic building blocks of a matrix structure are processes and projects, a further breakdown regarding their composition can be identified. For companies who organize themselves mainly around their business processes with less projects, these companies can adopt **process-based organization** (Hernaus, 2008). On the other hand, enterprises with executing projects as their main activity can adopt **project-based** (Turner, 2014) or a so-called **"innovative" organization** (Lampel et al., 2013, p. 215). If the companies share a more or less equal amount of processes and projects, then a **process- and project-based organization** is more suitable. Matrix structures can be advantageous to foster innovations and knowledge sharing between workers, as well as allocate resources efficiently (Deresky, 2017; Laloux, 2014; Nickels et al., 2014). However, matrix structure poses challenges, such as confusion in responsibilities, communication among related people, and conflicts between two superiors as both exert power (Deresky, 2017; Egelhoff and Wolf, 2017; Nickels et al., 2014).

2.3. Description of Approaches from Companies and Consultants in Meeting the Challenges

As discussed in the Sub-subchapter 2.1.7, six challenges mentioned in the Subchapter 2.1 contribute to the VUCA environment experienced by many business organizations in these days. When the business environment changes, companies need to revisit their strategy to know necessary actions with regards to their opportunities and threats (Andrews, 1997). Although, strategy gives a big picture of the direction aimed by companies, they also need to consider their organizational architecture to accommodate their organization as a whole moving toward the desired outcomes (Anthony et al., 2017; Deresky, 2017; Lampel et al., 2013; McChrystal et al.,

2015). Organizational structures described in the Subchapter 2.2 are unfortunately not capable of facilitating business organizations with the current challenges. Häusling (2018) argues that silo structures hinder companies to satisfy customers in the VUCA environment. Whereas McChrystal et al. (2015) reveal from their experience in the U.S. Army that rules imposed by institutions inhibit team's creativity. According to many literatures, business organizations are seeking for a more flexible, flattened, and responsive organizational structure to meet current challenges in the business environment (Anthony et al., 2017; Deresky, 2017; Häusling, 2018; Laloux, 2014; Lampel et al., 2013; Luo et al., 2018; McChrystal et al., 2015; O'Reilly III and Tushman, 2004; Rohrbeck, 2010; Smith et al., 2017). Such structure is usually related to the term "agility" which is "the ability to thrive in an environment of continuous and often unanticipated change" (Dove, 1999, p. 19). Approaches to design an agile organizational structure that can overcome challenges in today's business environment are gathered from various sources and presented in this subchapter. At first, ground principles of an agile organization are introduced. Then, proposed organizational structures from consultants and agile enterprises are demonstrated. And lastly, some best practices from companies that have embarked on a journey toward the agile enterprise are given.

2.3.1. Suggested Principles

As depicted in the Figure 7, **customers** are in the heart of an agile company and thus every business activity should orient toward customer value generation (Burchardi et al., 2016; Häusling, 2018; Jeruchimowitz et al., 2017; Nickels et al., 2014). Furthermore, **trust** is the fundamental building block in an agile organization (Bovis et al., 2017; Dove, 1999; Häusling, 2018; Laloux, 2014; McChrystal et al., 2015; Nickels et al., 2014; Reeves et al., 2017).

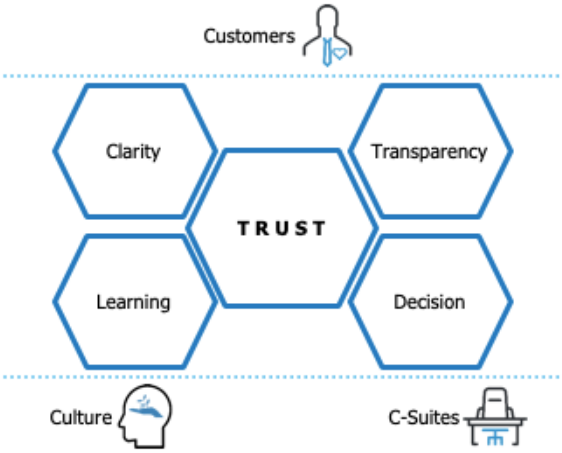

Figure 7. Suggested Principles, Source: own depiction based on (Anthony et al., 2017; Bovis et al., 2017; Burchardi et al., 2016; Häusling, 2018; Laloux, 2014; Page et al., 2016)

When there is trust among employees and between people with different roles, a higher degree of **transparency** in communication and information flows can be achieved (Bovis et al., 2017;

Häusling, 2018; Laloux, 2014; McChrystal et al., 2015). Building trust takes a great investment in time, and so does transparency (Schwaber and Sutherland, 2017). However, the return on investment will be higher. As an example, transparent companies provide a conducive environment for **customers to be engaged** in the business. Patagonia, a U.S. outdoor apparel, releases a video about its manufacturing process to the public including the good and bad aspects. Instead of losing customers, Patagonia receives improvement ideas along with appraisals from its customers and other viewers (Laloux, 2014, p. 217). In the organization itself, by providing transparent data availability and allowing workers to fully access it, workers are encouraged to work **collaboratively and autonomously**. This then leads the self-organized teams to fulfil customer demands by delivering more innovations (Agrafioti, 2018; Anthony et al., 2017; Dawson and Andriopoulos, 2014; Dove, 1999; Häusling, 2018; Laloux, 2014; McChrystal et al., 2015; Page et al., 2016; Reeves et al., 2017; Sherman et al., 2017).

Employees, who are in the position closest to the problems, put forward their capability in giving best decisions to solve the problems (McChrystal et al., 2015; Reeves et al., 2017). By giving up management mentality of "control", leaders give trust to their teams to have their own **decision** (Bovis et al., 2017; McChrystal et al., 2015). As a result, less managerial layers are needed, the organizational structure becomes **flat**, and decision making speeds up (Certo and Certo, 2016; Deresky, 2017; Dove, 1999; McChrystal et al., 2015; Nickels et al., 2014; Page et al., 2016). Furthermore, by promoting a decentralized decision-making authority, employees feel engaged in the process and encouraged to be **participative** in achieving the targets (Anthony et al., 2017; Certo and Certo, 2016; Dawson and Andriopoulos, 2014; Dove, 1999; McChrystal et al., 2015; Rohrbeck, 2010). Instead of setting a target on the number of patients being served with the top-down approach, a Dutch healthcare organization named Buurtzorg lets its teams of nurses decide the target on their own. Nurses choose to spend more time deepening relationship with patients and corresponding relatives. Despite that, they actually use only 40% of working hours because they invest more time in the initial care to help patients be independent and thus spend fewer time in the total care (Monsen and de Blok, 2013).

By trusting their teams, leaders apply "servant" leadership style, which is characterized to promote personal and professional **learning** among team members in giving solutions for the customers (Häusling, 2018; Laloux, 2014; McKinsey Agile Tribe, 2018; Sherman et al., 2017; Wrona et al., 2017). Instead of giving a perfect solution with a long duration to accomplish, individuals or teams in an agile organization execute tasks **incrementally or iteratively**. They are encouraged to be open to changes and any feedbacks, **embrace failures**, and approach things with trial-and-error method to achieve the best solution step-by-step (Anthony et al.,

2017; Burchardi et al., 2016; Certo and Certo, 2016; Dawson and Andriopoulos, 2014; Deresky, 2017; Dove, 1999; Häusling, 2018; Laloux, 2014; McChrystal et al., 2015; Schwaber and Sutherland, 2017). As a consequence, further improvements in current capabilities and new breakthroughs can be attained. For instance, MarketPlace developed by Amazon after two previous failures is the result of its investment in projects that are high likely to fail and yet have a high potential payoff (Reeves et al., 2017, pp. 28–29). Unlike Amazon in taking big bets, 3M implements the 15% rule, with which its employees are allowed to spend 15% of their working time to do any interesting project for themselves (Dawson and Andriopoulos, 2014; Franken, 2016). This approach marks the invention of Post-it Note (Snowden and Boone, 2007, p. 6).

A trustful working environment results in more **clarity** toward the goal every company is aiming at (Anthony et al., 2017; Häusling, 2018; Laloux, 2014; Schwaber and Sutherland, 2017). Leaders, who trust their teams, are able to communicate the meaning and purpose of **big picture** required by each team to be on board (Certo and Certo, 2016; Dove, 1999; Häusling, 2018; Inderscience Publishers, 2011). With a purpose the teams can relate to, team members develop their intrinsic motivation, align their activities toward the goal, and take the **full accountability** of their jobs (Burchardi et al., 2016; Certo and Certo, 2016; Häusling, 2018; Page et al., 2016). Having no specific supporting functions, an American energy provider called Applied Energy Services (AES), introduces the “80-20” rule with which employees commit 80% to their primary task and use the other 20% to do task forces existing in the companies such as auditing which happens for a certain time annually. Based on their understanding of corporate’s purpose and their own motivation, employees choose task forces voluntarily and accomplish them successfully. A benefit of such system is that employees can explore other interesting fields and develop their personal and professional skills (Laloux, 2014, pp. 89–90).

Looking back to the Figure 7, **culture** and support from **C-suites**, e.g. CEO and CFO, are indispensable to operate a sustainable organization with the aforementioned principles (Anthony et al., 2017; Burchardi et al., 2016; Dove, 1999; Keller and Meaney, 2018; Nickels et al., 2014; Page et al., 2016; Reeves et al., 2017). Dove (1999, p. 13) explains culture as “a set of values and beliefs that give context and perspective”. Furthermore, Reeves et al. (2017, pp. 9–10) are in the opinion that culture is “an emergent outcome of the behaviors and interactions of employees—their actions and words, and the way they treat one another—rather than what leaders and managers declare it to be”. Even though any initiative can start from the lower level, support and commitment of the board management are necessary to institutionalize and spread the initiative as well as ensure the cultural change in the whole enterprise. Having these in mind, more people are willingly on board and thus its impact can be transmitted to the whole organization

(Agrafioti, 2018; Anthony et al., 2017; Bovis et al., 2017; Burchardi et al., 2016; Häusling, 2018; Keller and Meaney, 2018; Laloux, 2014; McChrystal et al., 2015; Page et al., 2016; Reeves et al., 2017).

2.3.2. Proposed Organizational Structures

Proposed organizational structures from various literatures are refined to four types as seen in the Figure 8. It can be inferred that if the potential of human—organization's main resource—is unlocked, they are able to innovate things swiftly and meet customer demands as expected, which gives an essence for businesses to sustain in the VUCA environment (Anthony et al., 2017; Häusling et al., 2018; Schotkamp and Danoesastro, 2018; Slogar, 2018). In addition, the performance of firms mentioned in this sub-subchapter are outlined in the Appendix.

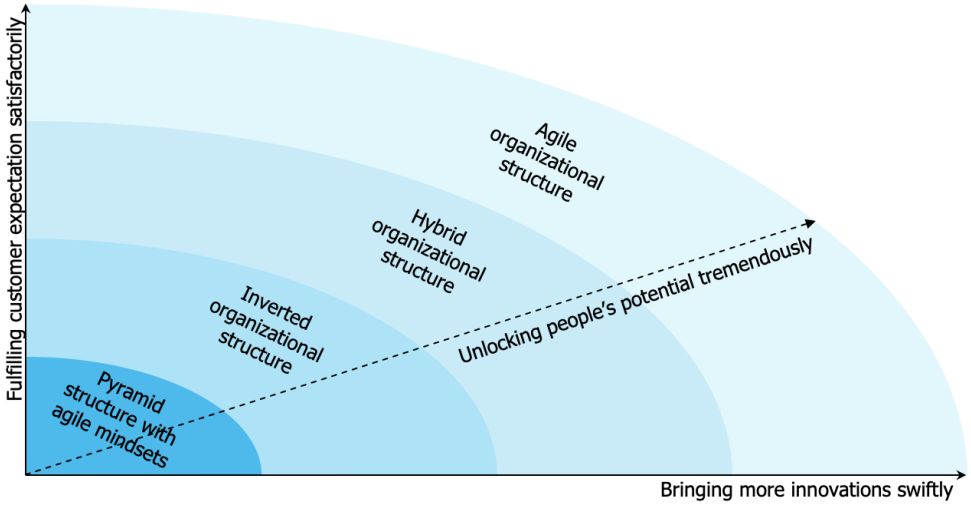

Figure 8. Proposed Organizational Structures, Source: own depiction

As human consciousness becomes mature, people are looking for the meaning and purpose of life, appreciating relationships rather than outcomes, and emphasizing egalitarianism more. On the other hand, companies are being more aware of the current challenges and the benefits of agile values. Therefore, some enterprises start to live by agile principles and adopt agile methods within its matrix structure (Häusling and Kahl, 2018a; Laloux, 2014). A **pyramid structure with agile mindsets**, which is referred by Laloux (2014, p. 31) as "green organization" and classified by Häusling and Kahl (2018a, p. 98, own translation) in the "experimental phase", becomes apparent and is depicted in the Figure 9. Similar to modern organizational structure in the Sub-subchapter 2.2.5, top management is still exercising higher authority and businesses are departmentalized. Yet, agile methods are applied on some processes and projects, especially relating to digitalization, since agile methodology emerges from software development (Beedle et al., 2001; Häusling and Kahl, 2018a). In the context of agile project management, servant leaders encourage team members to be autonomous and scrum framework is implemented (Laloux, 2014; Schwaber and Sutherland, 2017). Agile teams in this structure enable employees

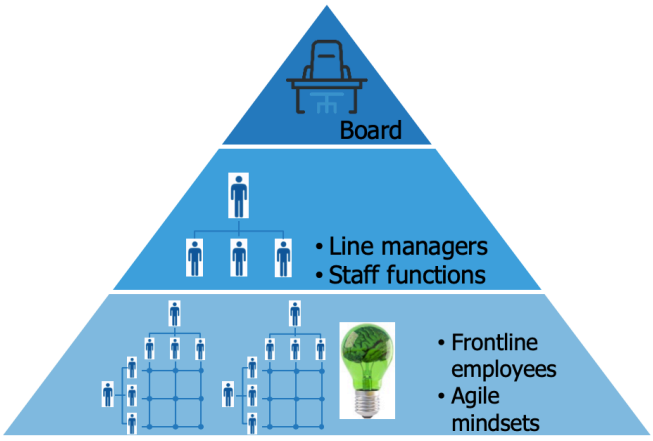

Figure 9. Pyramid Structure with Agile Mindsets, Source: own depiction based on (Häusling and Kahl, 2018; Laloux, 2014; Nickels et al., 2014, p. 235)

to be motivated intrinsically, bring more innovations, and adapt to changes (Laloux, 2014). However, companies with such structure face other issues, such as communication between departments with traditional and agile way of working, unclear role definition and expectations among employees, as well as implementation of new HR tools, e.g. compensation benefits and training models. Dealing with these obstacles necessitates managers to be well informed about agile organization through visits and discussions with companies who have been in the similar situation. Establishing an agile community or an agile office within the organization clarifies the role confusion, too (Häusling and Kahl, 2018a). Firms operating with this kind of structure are, for example, Southwest Airlines, Ben & Jerry's, and The Container Store (Laloux, 2014).

Focusing more attention on delivering values to customers, other business entities flip their pyramid structure as shown in the Figure 10. Literatures refer to this structure as an **inverted organizational structure** (Herber et al., 2004; Luo et al., 2018; Meyer et al., 2017; Nickels et al., 2014; Quinn et al., 2013; Reeves et al., 2017). While Häusling and Kahl (2018a, p. 103, own translation) consider this structure in the "probation phase" of agile maturity level. Departments having direct contact with customers, such as production, aftermarket, and sales, are organized into cross-functional self-managed teams and positioned at the top of diagram (Häusling and Kahl, 2018a; Nickels et al., 2014). Supporting functions are placed in the middle of diagram and provide teams with resources based on demand. Board management as the strategic unit assists teams and staff functions above, for instance, through corporate's goals. Instead

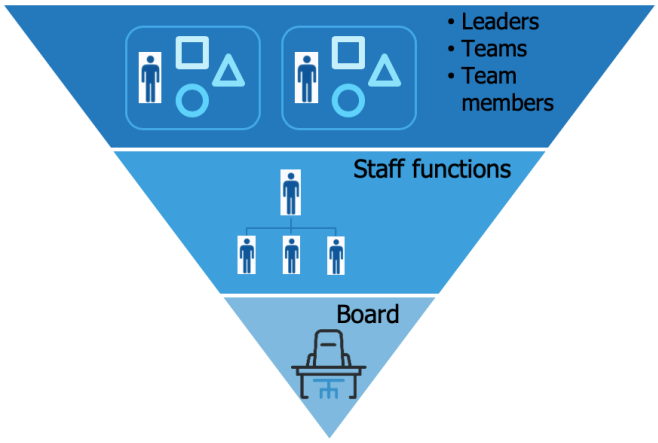

Figure 10. Inverted Organizational Structure, Source: adapted from (Luo et al., 2018; Meyer et al., 2017; Nickels et al., 2014, p. 235)

of supervising many stakeholders for various business functions, the board in this structure trusts teams to coordinate themselves to achieve the goals. Each business process orients toward end-to-end value generation for both internal and external customers. Similar to agile project management, each team works autonomously and is accountable for its own decisions, targets, and performance reflecting corporate's vision (Häusling and Kahl, 2018a; Herber et al., 2004; Luo et al., 2018; Meyer et al., 2017). Unlike the previous organizational structure, employees are seeking for information, instead of instructions, from their leaders (Lampel et al., 2013). Thus, servant leadership style dominates this structure (Häusling and Kahl, 2018a). Besides, intrapreneurial spirit is cultivated in this structure encouraging employees to take risks and embrace area of improvements (Luo et al., 2018). The advantages of this structure, which is adopted by the Chinese home appliance Haier since 2014, are quick responds to customer demands, innovative breakthroughs, and appealing company growth (Luo et al., 2018; Meyer et al., 2017; Quinn et al., 2013). Yet, Luo et al. (2018) during their research on Haier's transformation journey, indicate three challenges, i.e. role confusion between teams and supporting functions, lack in intrapreneurial skills, as well as staffing mismatches. Flipping the hierarchical structure also means that some line managers lose their jobs and triggers them to find new orientation (Häusling and Kahl, 2018a; Lampel et al., 2013; Quinn et al., 2013). Again, Luo et al. (2018) suggest to pinpoint clearly roles and expectations between teams and staff functions, introduce another appraisal system, and enhance employee capability and organizational culture. Management consulting firms such as McKinsey & Company and Accenture—previously known as Andersen Consulting (Bing, 2009)—have this structure (Herber et al., 2004).

Another proposed organizational structure in the VUCA environment is the **hybrid organizational structure**, which operates with dualism or ambidexterity concept. It emphasizes to focus on the existing business with core competencies—also referred by some literatures with the term *exploitation*—while simultaneously develop another new business—also referred by some literatures with the term *exploration*—(Anthony et al., 2017; Dawson and Andriopoulos, 2014; Deresky, 2017; Dove, 1999; Egelhoff and Wolf, 2017; Häusling and Kahl, 2018a; He and Wong, 2004; Herber et al., 2004; Keller and Meaney, 2018; McChrystal et al., 2015; McKinsey Agile Tribe, 2018; O'Reilly III and Tushman, 2004; Raisch and Birkinshaw, 2008; Smith et al., 2017; Wrona et al., 2017). In this case, exploration is meant as "finding a new way to solve a different problem" (Anthony et al., 2017, p. 59). According to the agile maturity level introduced by Häusling and Kahl (2018a, p. 106, own translation), such structure exists in the "establishment phase". It can be inferred from Figure 11 that exploitive business units use the

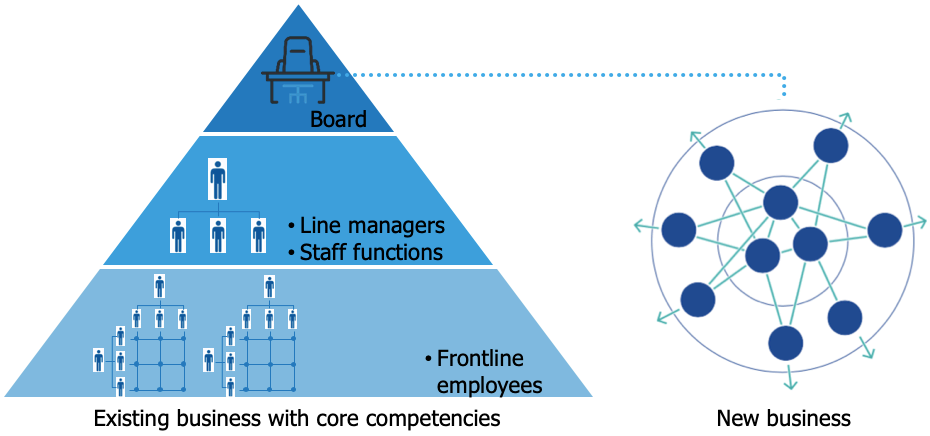

Figure 11. Hybrid Organizational Structure, Source: adapted from (Häusling and Kahl, 2018, p. 108)

modern or matrix organizational structure while explorative businesses deploy the network organizational structure (ibid., p. 108). Network organizational structure is defined as "autonomous or semi-autonomous work units for delivering a complete product or service to a customer" (Herber et al., 2004, p. 382). Consequently, the board management needs to treat both structures differently and be able to resolve conflicts between both of them. While the exploitation team needs assurance that their business is important to give stability and support the other teams, exploration requires trust that they can bring flexibility to the firms and high return on investment (Dawson and Andriopoulos, 2014; Egelhoff and Wolf, 2017; O'Reilly III and Tushman, 2004; Wrona et al., 2017). Staff functions are bundled for both approaches, but their resource allocation is different. Staff functions often command and control frontline employees in the matrix structure. Meanwhile, supporting functions are either shared among team members or offered based on demand in the network structure (Häusling and Kahl, 2018a; Laloux, 2014; McKinsey Agile Tribe, 2018; O'Reilly III and Tushman, 2004; Page et al., 2016). Explorative business units take processes to another level, i.e. processes are considered to deliver

value for customers fully (Häusling and Kahl, 2018a; Laloux, 2014; O'Reilly III and Tushman, 2004; Wrona et al., 2017). A robust project portfolio management is indispensable for both structures. While network structure implements agile project management, exploitive business units use waterfall approach in some areas and agile approach in other areas (Anthony et al., 2017; O'Reilly III and Tushman, 2004). A closed leadership style fits better for the exploitation team because leaders with this style set deadlines, stick to their plans, and control target achievement. Whereas the exploration team prefers open leaders who can trust their teams and encourage learning culture (Dawson and Andriopoulos, 2014). Enterprises with hybrid operating model perform best in "mature technologies and markets where efficiency, control, and incremental improvement are prized and […] in new technologies and markets where flexibility, autonomy, and experimentation are needed" (O'Reilly and Tushman, 2013, p. 2). Furthermore, they also have competitive advantages, such as overcoming innovator's dilemma, maintaining efficiency and responsiveness toward customers simultaneously, and attracting talents who prefer to work in either structure (Anthony et al., 2017; Deresky, 2017; Herber et al., 2004; O'Reilly III and Tushman, 2004; Wrona et al., 2017). However, in addition to conflict between these two structures, Anthony et al. (2017) point other challenges such as conflict between leaders and their stakeholders, lack in commitment occurring in both structures, and possibility that the established hybrid structure might fall back again in the modern organizational structure. They also propose to reassure the exploitation team while inspire the exploration team, have a neutral tendency toward both structures, along with highlight reasons and results of the transformation journey. Enterprises who have adopted the hybrid structure are, for example Apple, Alcoa, Hewlett-Packard (HP), Janssen Pharmaceuticals, and Procter & Gamble (P&G) Company (Anthony et al., 2017; Dawson and Andriopoulos, 2014; Deresky, 2017; Herber et al., 2004).

Once firms embarked on the hybrid structure, they might as well transform into **agile organizational structure** in the future to both focus more intensely on customer demands and unlock the potential of organization's main resource—human (Herber et al., 2004; Laloux, 2014; McChrystal et al., 2015). Häusling and Kahl (2018a, p. 109) consider this as the most mature state of an agile organization. As depicted in the Figure 12, the basic building blocks of this structure are agile teams, community, and board management (Burchardi et al., 2016; Laloux, 2014; Schotkamp and Danoesastro, 2018; Slogar, 2018; von Bittenfeld et al., 2018; Wegner et al., 2018). Agile teams or squads working autonomously are bundled to resolve a specific business issue within related areas in a so-called "tribe". Communities are established for people across squads with similar competencies in a group named "chapter" or with similar interests in a group named "guild" (Burchardi et al., 2016; Schotkamp and Danoesastro, 2018).

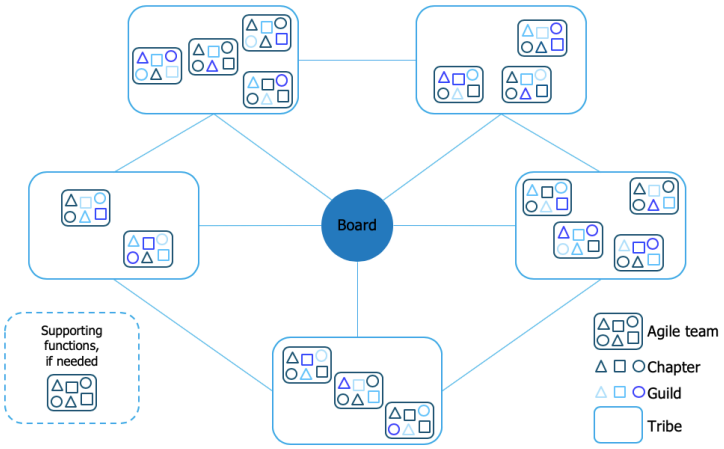

Figure 12. Agile Organizational Structure, Source: own depiction based on (Burchardi et al., 2016, p. 5; Laloux, 2014; Schotkamp and Danoesastro, 2018, p. 3)

Agile principles are truly lived in this structure. Board management trusts teams to execute projects and processes aligned to the corporate's vision. Management layers are abolished significantly since the command-and-control management approach is not anymore exercised in this structure and managerial tasks are performed by team members themselves (Glaub et al., 2018; Häusling and Kahl, 2018a; Laloux, 2014). Similar to the explorative business units, tasks of supporting functions are either shared among team members or requested as necessary (Häusling and Kahl, 2018a; Laloux, 2014). As mentioned previously, processes in this structure are designed to deliver end-to-end solution for customers (Wegner et al., 2018; Wrona et al., 2017). Any process improvement through projects and usual development projects are executed agilely with most of the time using scrum framework (Schwaber and Sutherland, 2017). All projects occur with people from various departments. People in this structure are evaluated by peers (Laloux, 2014). According to Häusling and Kahl (2018a), leaders in the agile organization have responsibilities to give the target picture clearly but not the detailed steps, to sustain environment for self-organization, and to consider their, teams', and other people's developments. Additionally, leadership is shared (McChrystal et al., 2015; Nickels et al., 2014). One person is responsible as a product/process owner allocating tasks with team members. Another person is an agile coach or a scrum master ensuring that agile values are flourished (Häusling and Kahl, 2018a). Not only discussing about the targets team wants to achieve, but also personal development is assessed and tracked in the feedback sessions. A distinct aspect in this structure is that learning culture is promoted through reflective spaces (Laloux, 2014; Sögtrop, 2018; Wegner et al., 2018). Workers are motivated intrinsically as they understand clearly and can align themselves with the corporate's purpose. Information flow is made transparent to all employees regardless their roles (Glaub et al., 2018; Häusling and Kahl, 2018a; Laloux, 2014; von Bittenfeld et al., 2018; Wrona et al., 2017). Business organizations with the agile organizational structure can adapt to changes well, gain speed-to-market, improve productivity thrice, increase

employee engagement, and appeal labor markets dominated by millennials (Burchardi et al., 2016; Häusling and Kahl, 2018a; Herber et al., 2004; Laloux, 2014; Moretti, 2017; Schotkamp and Danoesastro, 2018). Yet, the drawbacks of this structure mentioned by researchers are scaling up in larger conventional firms, changing work contents urging employees to reapply or resign, training workers with new sets of skills and attitudes, overlapping functional tasks performed, and requiring high budget for initiation (Burchardi et al., 2016; Lampel et al., 2013; Schotkamp and Danoesastro, 2018; Wegner et al., 2018). Firms adopting the agile organizational structure are Buurtzorg, DB Vertrieb GmbH, ING, Netflix, and Spotify (Burchardi et al., 2016; Glaub et al., 2018; Laloux, 2014; Schotkamp and Danoesastro, 2018; von Bittenfeld et al., 2018).

2.3.3. Thorough Practices in Several Aspects

Business organizations—profit and non-profit—have a board whose interest is to ensure the positive growth of the organization. Based on the transformation journey of BSO Origin and AES, aligning agile paradigm with the boards is indispensable because they are authorized to hire and fire the CEO. Instead of ownership, a stewardship mindset should be planted within boards. It is the mindset to support financially organizations with similar purpose as the stewardship holders have. In return, both sides help each other in time of a crisis, too. In the context of the legal framework, agile enterprises can register themselves as a constitution whose board has no rights in the strategy, or a B-corporation which is a profit organization with social or environmental purposes (Laloux, 2014). Such mindset can be initiated through some workshops regarding awareness of VUCA environment and own necessity toward transformation. Subsequently, board and top managers are invited to gain insights from startups and technology innovation hubs as well as first-hand knowledge by going to the customers just like Singtel and DBS Bank do it (Anthony et al., 2017; Wegner et al., 2018).

As mentioned previously, managerial and administrative tasks in agile organizations to carry out business processes and projects are either shared among team members, executed through voluntary task forces, or consumed as necessary. Managerial tasks performed by self-managed teams include setting targets, analyzing problems, prioritizing deliverables, making decisions from simple to the tough ones, and evaluating team's performance (Laloux, 2014). ista International GmbH, for instance, establish company-wide targets annually through release planning event (Gülich and Espeter, 2018). By means of scrum framework, each team cascades these targets to the granularity that can be done in one sprint by itself and thus defines stories or episodes that are put initially in the backlog (Anthony et al., 2017; du Toit et al., 2018; Häusling, 2018; Häusling et al., 2018; Schwaber and Sutherland, 2017; Sherman et al., 2017). Firms can

better understand what customers want and engage them in a process/project by working with externs—e.g. crowd sourcing, hackathons, product reviews, and online forums—(McKinsey Agile Tribe, 2018) and/or working internally—e.g. customer empathy map, design thinking, Kano model, and sweet-spot method—(Häusling et al., 2018). A Kanban or task board gives teams an overview of tasks that are done, in progress, starting, and in backlog. In the meetings taking place in a short cadence with a short time allocation, teams discuss what has been done since the last meeting, decide what to do until the next meeting, and what hinders them to accomplish it (Meyer et al., 2017; Schwaber and Sutherland, 2017). Decisions in autonomous teams can be reached through good dialogues (Anthony et al., 2017) with tools of planning poker and systematic consensus (Häusling et al., 2018) and/or advice processes exemplified by //SEIBERT/Media GmbH, 1&1 Internet SE, and AES. During the advice process, the person or team, who has to decide, is requested to ask for advice from experts or other impacted units to be considered in the decision-making process (Laloux, 2014; Ritter, 2018; von Bittenfeld et al., 2018). In times of a crisis, the CEO of a small company FAVI seeks for advice in front of his employees. On the other hand, the CEO of Buurtzorg posts the crisis on firm's intranet so that his employees can express their opinions to be considered. AES as a rather big enterprise takes decisions in crisis time by appointing a general counsel with no desire for power to execute top-down decision making for limited critical decisions within a certain time, yet, its process is posted on the company's intranet so that others can follow it up (Laloux, 2014). For the performance evaluation, Manila Water relates it to the business instead of individual performance (Anthony et al., 2017; Burchardi et al., 2016). Furthermore, Singtel adopts objectives and key results that have been planned for one to three years but are adjustable (Anthony et al., 2017; du Toit et al., 2018; McKinsey Agile Tribe, 2018). Scrum framework along with Kanban board can serve performance evaluation as well (Häusling et al., 2018; McKinsey Agile Tribe, 2018; Schwaber and Sutherland, 2017). 1&1 Internet SE, Buurtzorg, FAVI, and Haier post this performance evaluation on the firm's intranet so that anyone can see others' progress and have a fruitful discussion on improvement ideas (Laloux, 2014; Meyer et al., 2017; Ritter, 2018). Another interesting way to evaluate performance is by playing "storypointopoly", in which each team tracks its stories using a monopoly board game (Häusling et al., 2018, p. 98). Furthermore, joint processes and projects can be realized either through mandate (Aghina et al., 2016) or a contract agreement used by Haier (Meyer et al., 2017) and Morning Star (Laloux, 2014).

Throughout processes and projects, people's mood, which affects success and failure of an accomplishment, is fluctuating. Detecting one's motivation can be done using lean coffee format allowing members to express their feeling toward the goal (Laloux, 2014) and/or visualized through retrospective timeline or moving motivators (Häusling et al., 2018). While a German

bank uses sociometric badge data to notice its employees' motivation (de Smet et al., 2016), TUI.com installs mood barometer in its office (Reitz et al., 2018). Peer support taking place in the community of interest or competency helps people to be motivated (Dove, 1999; du Toit et al., 2018; Meyer et al., 2017). Celebratory events serve the purpose of boosting colleagues' motivation (Birkinshaw and Ridderstråle, 2015), such as expressing gratitude with plaque for outstanding contribution at Costa Coffee (ibid., p. 9), "*Lobdusche*" method (Häusling et al., 2018, p. 137), Ozvision's "day of thanking" (Laloux, 2014, p. 218), and "Party-Powerpoint" at PTV Group (Felten, 2018, p. 179). Another alternative for increasing people's motivation is through incentives, such as determining budget based on resource allocation (du Toit et al., 2018), deciding own team for salary check at //SEIBERT/Media GmbH (von Bittenfeld et al., 2018), "Lean Salary Framework" at Sipgate GmbH (Wilhelms, 2018, p. 261), "0-0-30" compensation system (no fixed salary but enough for basic living, no fund until a business process is formed, and 30% of salaries goes to risk capital pool), and five categories of team's appraisal system (win-win, bonus, money earning, debt, and bankruptcy) at Haier (Meyer et al., 2017). Deciding on flexible working hours by oneself motivates people to contribute to the firm, too. Such approach is introduced at PTV Group (Felten, 2018) and Zappos (Sherman et al., 2017). Besides celebrating success stories in the company, agile enterprises are open to share any feedback. Some examples are Otto Group with 360° feedback (Kiwitt, 2018), moovel Group GmbH with one's-self-perspective (Heilig, 2018), and retrospectives and reflections at Heiligenfeld, Sun Hydraulics, and Sounds True (Laloux, 2014; Sherman et al., 2017). Other tools are Johari window, Plus/Delta, start-keep-stop method, and Return on Time Invested (ROTI) (Häusling et al., 2018).

To embark on a journey toward an agile enterprise, employees also need to be aware of agile topics and find their own reason to be onboard. FAVI, for instance, organizes a weekly meeting to deepen knowledge about agility in an organization (Laloux, 2014). PTV and other organizations hold several workshops and invite external speakers occupied with agile topics (Felten, 2018). Establishing a compelling story of firm's strategy (Anthony et al., 2017) and a craftmanship (Häusling et al., 2018; Laloux, 2014; McKinsey Agile Tribe, 2018; Ritter, 2018; Schotkamp and Danoesastro, 2018) covering corporate's values and ground rules in the VUCA environment that are collected from the whole organization are steps to nourish trust in the business entity. Additionally, a tool of "kill a stupid rule" can be used to refine which rules stay and leave (Häusling et al., 2018, p. 171). The learning culture itself can be cultivated through company-wide award, such as Singtel's Learning Fiesta. Tata Sons take this award to another level, in a way that it gives award to both successful and fail projects (Anthony et al., 2017). People need to be encouraged to do A/B testing and test-and-learn approach (Sherman et al.,

2017). For example, Adobe gives its employees a Kickbox containing financial support and a starting kit for prototyping their ideas (Anthony et al., 2017). Furthermore, budgets should be provided for employees to participate voluntarily in various trainings for their personal and professional developments (Bock, 2018). Peer training and coaching are alternatives for external training workshops (Laloux, 2014; Reitz et al., 2018). As a coach (Aghina et al., 2016; de Smet et al., 2016; Laloux, 2014) and role model (Sögtrop, 2018), leaders manage teams with an inspect-and-adapt approach (Ritter, 2018), encourage teams to find their own solution (Laloux, 2014), and adjust their leadership style using Cynefin framework (Snowden and Boone, 2007). Other tools for leaders to train their trust ability are agile challenge for one year, blind leading, blue ocean leadership, boss-worker game, and Palme (Häusling et al., 2018). In addition to forward-looking strategy, leaders should allow their people to move flexibly within the organization (Tushman et al., 2011) through trade roles (Laloux, 2014) and execution of joint projects. As an example, Valve installs desks with wheels so that its colleagues can move freely according to projects and develops an application to locate colleagues (Laloux, 2014). Thanks to the digitalization, agile enterprises can put everything online (Bock, 2018) starting from task boards, teams' performance (Ritter, 2018), until people's profile along with their competencies and improvement's wishes (de Smet et al., 2016; Häusling et al., 2018; Laloux, 2014; McKinsey Agile Tribe, 2018). An innovative working environment allows collaboration among employees (Anthony et al., 2017). As an example, ING (Schotkamp and Danoesastro, 2018), Singtel (Anthony et al., 2017), and Sun Hydraulics have open space offices. Additionally, Sun Hydraulics build high-waist cubicles (Laloux, 2014). These enhance trust and collaboration within agile organizational structure.

References

1&1 Internet SE, n.d. About 1&1 [WWW Document]. Jobs & Careers at 1&1. URL https://jobs.1und1.de/en/company/ (accessed 1.29.19).

Accenture, 2017. Annual Report 2017: Leading in the New. Accenture, Dublin.

Accenture, 2016. Organization De-layering: Do you Have the Agility to Compete? Accenture, Dublin.

Accenture, n.d. Timeline | Accenture [WWW Document]. Accent. New Insights Tangible Outcomes New Appl. Now. URL https://www.accenture.com/us-en/accenture-timeline (accessed 1.29.19).

Acharya, A., Lieber, R., Seem, E., Welchman, T., 2017. How to Identify the Right "Spans of Control" for your Organization. McKinsey & Company, New York.

Adobe Inc., 2018. Adobe Fast Facts.

Aghina, W., de Smet, A., Weerda, K., 2016. Agility: It Rhymes with Stability, in: McKinsey & Company (Ed.), Agility and Organization Design, McKinsey on Organization. McKinsey & Company, New York, pp. 8–17.

Agrafioti, F., 2018. How to Set Up an AI R&D Lab. Harv. Bus. Rev.

Aguinis, H., 2013. Performance Management, 3rd ed. Pearson, Boston.

Alcoa Corporation, 2018. 2017 Annual Report. Alcoa Corporation, Pittsburgh.

Alcoa Corporation, n.d. Alcoa: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/alcoa/about/ (accessed 1.29.19).

Amazon Inc., 2018. Amazon.com Announces Third Quarter Sales up 29% to $56.6 Billion [WWW Document]. Amaz. Inc - IR. URL https://ir.aboutamazon.com/news-releases/news-release-details/amazoncom-announces-third-quarter-sales-29-566-billion (accessed 1.29.19).

Amazon Inc., n.d. Amazon: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/amazon/about/ (accessed 1.29.19).

Andrews, K.R., 1997. The Concept of Corporate Strategy, in: Foss, N.J. (Ed.), Resources, Firms, and Strategies: A Reader in the Resource-based Perspective, Oxford Management Readers. Oxford University Press, Oxford, New York, pp. 52–59.

Anthony, S.D., Gilbert, C.G., Johnson, M.W., 2017. Dual Transformation: How to Reposition Today's Business and Create the Future. Harvard Business Review Press, Boston, Massachusetts.

Anthony, S.D., Viguerie, S.P., Schwartz, E.I., Landeghem, J. van, 2018. 2018 Corporate Longevity Forecast: Creative Destruction is Accelerating. Innosight Holdings LLC., Lausanne, Lexington, Singapore.

Apple Inc., 2018. Form 10-K: For the Fiscal Year Ended September 29, 2018. Apple Inc., Cupertino.

Apple Inc., n.d. Apple: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/apple/about/ (accessed 1.29.19).

Atos SE, 2016. Company Profile [WWW Document]. Home - Atos. URL https://atos.net/en/about-us/company-profile (accessed 1.29.19).

Bailey, D., de Ruyter, A., Michie, J., Tyler, P., 2010. Global Restructuring and the Auto Industry. Camb. J. Reg. Econ. Soc. 3, 311–318. https://doi.org/10.1093/cjres/rsq029

Bauer, G., 2018. DG 05-11 EN, Project Management at ZF (ZF Internal).

Beedle, M., Van Bennekum, A., Cockburn, A., Cunningham, W., Fowler, M., Highsmith, J., Hunt, A., Jeffries, R., Kern, J., Marick, B., Martin, R.C., Schwaber, K., Sutherland, J., Thomas, D., 2001. Manifesto for Agile Software Development.

Ben & Jerry's Homemade Inc., n.d. How We're Structured | Ben & Jerry's [WWW Document]. http://www.benjerry.com. URL http://www.benjerry.com/about-us/how-were-structured (accessed 1.29.19a).

Ben & Jerry's Homemade Inc., n.d. Ben & Jerry's: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/ben-&-jerry's/about/ (accessed 1.29.19b).

Bennett, N., Lemoine, G.J., 2014. What a Difference a Word Makes: Understanding Threats to Performance in a VUCA World. Bus. Horiz. 57, 311–317. https://doi.org/10.1016/j.bushor.2014.01.001

Berenson, M., Duan, L., de Smet, A., McGinty, D., 2014. The Secrets of Successful Organizational Redesigns. McKinsey & Company, New York.

Bergmann, M., 2018. ZF Dual Operating System (ZF Internal).

Berkup, S.B., 2014. Working with Generations X and Y in Generation Z Period: Management of Different Generations in Business Life. Mediterr. J. Soc. Sci. 5, 218–229. https://doi.org/10.5901/mjss.2014.v5n19p218

Bing, S., 2009. Sorry, Accenture! [WWW Document]. Fortune. URL http://fortune.com/2009/12/15/sorry-accenture/ (accessed 1.29.19).

Birkinshaw, J., Ridderstråle, J., 2015. Adhocracy for an Agile Age, McKinsey Quarterly. McKinsey & Company, New York.

Blakely, L., 2018. Patagonia's Unapologetically Political Strategy and the Massive Business it Has Built [WWW Document]. Inc.com. URL https://www.inc.com/lindsay-blakely/patagonia-2018-company-of-the-year-nominee.html (accessed 2.1.19).

Bloom, Z., n.d. A Quick History of Digital Communication Before the Internet - Eager Blog [WWW Document]. Eager. URL https://eager.io/blog/communication-pre-internet/ (accessed 1.6.19).

Bock, J., 2018. AOE GmbH – die agile Organisation, in: Häusling, A. (Ed.), Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere. Haufe Gruppe, Freiburg, Munich, Stuttgart, pp. 281–293.

Bohlander, G.W., Snell, S., 2013. Principles of Human Resource Management, 16th ed. South-Western, Mason, Ohio.

Bovis, B., Dembkowski, S., Hastenteufel, H.G., Kurtz, J., MacKenzie, D., 2017. Getting Engaged: The Art and Science of Improving Board Performance. A.T. Kearney Inc., Chicago.

Briemle, M., 2018. ZF Digital Convention: The Congress for Digital Innovators (ZF Internal) [WWW Document]. URL https://zoom.zf-world.com/sites/inet/news/Pages/Stories/4NtA8mEIsXcxYJMSxy1A/ca15df08-ec73-41bd-a31d-f73a780cc91f.aspx (accessed 1.2.19).

Bücheler, M., n.d. Purchasing-relevant Market and Price Information (ZF Internal) [WWW Document]. ZF World EN. URL http://www.zf-world.com/en/Z/S/S_Informationen/Markt_Preis_Info/index.html (accessed 1.31.19).

Burchardi, K., Hildebrandt, P., Lenhard, E., Moreau, J., Rehberg, B., 2016. Five Secrets to Scaling Up Agile, BCG Perspectives. Boston Consulting Group, Boston.

Buurtzorg, n.d. Buurtzorg Nederland: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/buurtzorg/about/ (accessed 1.29.19a).

Buurtzorg, n.d. Buurtzorg Nederland [WWW Document]. Buurtzorg Int. URL https://www.buurtzorg.com/ (accessed 1.29.19b).

Certo, S.C., Certo, S.T., 2016. Modern Management: Concepts and Skills, 14th ed. Pearson, Boston.

Chalk, A., 2016. Valve Denies Wrongdoing in Skin Gambling Legal Rumblings: "No Factual or Legal Support for These Accusations". PC Gamer. URL https://www.pcgamer.com/valve-misses-deadline-to-respond-to-washington-state-gambling-regulator-but-says-its-coming-soon/ (accessed 1.30.19).

Chander, S., Raza, M., 2015. Consumer Buying Behaviour: A Comparative Study of Male and Female Users of Electronics. Abasyn Univ. J. Soc. Sci. 8, 47–61.

Chandler, Alfred Dupont, Hikino, T., Chandler, Alfred D., 2009. Scale and Scope: The Dynamics of Industrial Capitalism. Harvard University Press, Cambridge, London.

Companies History, 2013. TUI. Co. Hist. - Biggest Co. World. URL http://www.companieshistory.com/tui/ (accessed 1.30.19).

Conway, E., Monks, K., 2017. Designing a HR System for Managing an Age-diverse Workforce: Challenges and Opportunities, in: Parry, E., McCarthy, J. (Eds.), The Palgrave Handbook of Age Diversity and Work. Palgrave Macmillan UK, London, pp. 585–606. https://doi.org/10.1057/978-1-137-46781-2

Cook, V., n.d. Lean Principles (ZF Internal) [WWW Document]. ZF World EN. URL http://www.zf-world.com/en/Z/O/fkst8121/OPZ/ZF_Production_System/Gestaltungsprinzipien_Lean_principles/index.html (accessed 1.15.19).

Costa Coffee, n.d. A Drop of History in Every Cup [WWW Document]. Costa Coffee. URL https://www.costacoffee.ae/costa-coffee/a-drop-of-history/ (accessed 1.29.19).

Daimler AG, 2017. Annual Report 2017. Daimler AG, Stuttgart.

Dawson, P., Andriopoulos, C., 2014. Managing Change, Creativity & Innovation, 2nd ed. SAGE, Los Angeles.

DB Vertrieb GmbH, n.d. DB Vertrieb: Über uns [WWW Document]. DB Vertrieb Ihr Partn. Für Prof. Vertriebsdienstleistungen Im Nahverk. URL https://www.db-vertrieb.com/db_vertrieb/view/wir/firmenprofil.shtml (accessed 1.29.19).

DBS Group Holdings Ltd., 2018. Digital Bank of Singapore. DBS Group Holdings Ltd., Singapore.

de Smet, A., Lund, S., Schaninger, B., 2016. Organizing for the Future, in: McKinsey & Company (Ed.), Agility and Organization Design, McKinsey on Organization. McKinsey & Company, New York, pp. 34–45.

Deloitte, 2017. Rewriting the Rules for the Digital Age. Deloitte, London.

Deloitte, 2016. The New Organization: Different by Design. Deloitte, London.

Deresky, H., 2017. International Management: Managing Across Borders and Cultures, 9th ed. Pearson Higher Education, Boston.

Deutsche Bahn AG, 2018a. Deutsche Bahn 2017 Integrated Report: Departure into a New Era! Deutsche Bahn AG, Berlin.

Deutsche Bahn AG, 2018b. Deutsche Bahn Facts & Figures 2017. Deutsche Bahn AG, Berlin.

Deutsche Bahn AG, n.d. DB Vertrieb: Professional Sales Management for Passenger Transport | Deutsche Bahn AG [WWW Document]. Dtsch. Bahn Dtsch. Bahn AG. URL https://www.deutschebahn.com/en/group/business_units/db_vertrieb_en-1212400 (accessed 1.29.19).

Dove, R., 1999. Knowledge Management, Response Ability, and the Agile Enterprise. J. Knowl. Manag. 3, 18–35. https://doi.org/10.1108/13673279910259367

Downes, L., Nunes, P., 2018. Finding your Company's Second Act. Harv. Bus. Rev.

du Plessis, J.J., Großfeld, B., Luttermann, C., Saenger, I., Sandrock, O., Casper, M., 2017. German Corporate Governance in International and European Context, 3rd ed. Springer, Berlin.

du Toit, G., Engelhardt, J., Sager, P., Fruechtl, K., 2018. Experience is the New Product; Here's How to Manage It. Bain & Company, Boston.

Egelhoff, W.G., Wolf, J., 2017. Understanding Matrix Structures and their Alternatives. Palgrave Macmillan UK, London. https://doi.org/10.1057/978-1-137-57975-1

European Commission, 2018. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions. European Commission, Brussels.

Farah, M.F., Ramadan, Z.B., 2017. Disruptions versus more Disruptions: How the Amazon Dash Button is Altering Consumer Buying Patterns. J. Retail. Consum. Serv. 39, 54–61. https://doi.org/10.1016/j.jretconser.2017.07.005

FAVI S.A., n.d. About FAVI | FAVI [WWW Document]. Brass Copp. Alum. Cast. - FAVI. URL http://www.favi.com/en/about-favi/ (accessed 1.10.19a).

FAVI S.A., n.d. Brass, Copper, and Aluminum Die Casting [WWW Document]. FAVI. URL http://www.favi.com/en/ (accessed 1.29.19b).

FAVI S.A., n.d. FAVI: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/favi/about/ (accessed 1.29.19c).

Felten, F., 2018. PTV Group – Menschen bewegen, um Menschen und Güter besser zu bewegen, in: Häusling, A. (Ed.), Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere. Haufe Gruppe, Freiburg, Munich, Stuttgart, pp. 175–186.

Feulner, P., Wolff, M., 2018a. Agile@ZF Transformation (ZF Internal).

Feulner, P., Wolff, M., 2018b. Agile Transformation (ZF Internal).

Feulner, P., Wolff, M., n.d. Agile@ZF (ZF Internal) [WWW Document]. Agil. - Home. URL https://trw1.sharepoint.com/sites/site3733/SitePages/Home.aspx (accessed 1.20.19).

Forbes, 2018a. 3M on the Forbes Best Employers for Diversity List [WWW Document]. Forbes. URL https://www.forbes.com/companies/3m/ (accessed 1.29.19).

Forbes, 2018b. McKinsey & Company on the Forbes Best Employers for Diversity List [WWW Document]. Forbes. URL https://www.forbes.com/companies/mckinsey-company/ (accessed 1.30.19).

Franken, S., 2016. Führen in der Arbeitswelt der Zukunft: Instrumente, Techniken und Best-Practice-Beispiele, Lehrbuch. Springer Gabler, Wiesbaden.

Geissler, C., Krys, C., 2013. The Challenges of Strategic Management in the Twenty-first Century, in: Schwenker, B., Wulf, T. (Eds.), Scenario-based Strategic Planning: Developing Strategies in an Uncertain World. Springer Gabler, Wiesbaden, pp. 21–41.

GEM, 2018. Global Report 2017/18. The Global Entrepreneurship Monitor, London.

Glassdoor, n.d. Arbeiten bei Sounds True [WWW Document]. Glassdoor. URL https://www.glassdoor.de/Überblick/Arbeit-bei-Sounds-True-EI_IE508036.11,22.htm (accessed 1.30.19).

Glaub, M., Sturm, S., Baake, I., 2018. DB Vertrieb GmbH – das neue HR: HR als Treiber der agilen Transformation bei DB Vertrieb, in: Häusling, A. (Ed.), Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere. Haufe Gruppe, Freiburg, Munich, Stuttgart, pp. 307–317.

Grail Insights, 2010. Consumers of Tomorrow: Insights and Observations about Generation Z. Grail Insights, New York.

Gülich, A., Espeter, M., 2018. Schritt für Schritt – Der ista Weg zur Agilität, in: Häusling, A. (Ed.), Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere. Haufe Gruppe, Freiburg, Munich, Stuttgart, pp. 159–174.

Gupta, A., 2013. Environment & PEST Analysis: An Approach to External Business Environment. Int. J. Mod. Soc. Sci. 2, 34–43.

Gupta, D., Gupta, V., 2018. Effective Policing in a VUCA Environment: Lessons from a Dark Network, in: Dhir, S., Sushil (Eds.), Flexible Strategies in VUCA Markets, Flexible Systems Management. Springer Singapore, Singapore, pp. 89–111. https://doi.org/10.1007/978-981-10-8926-8

Haier, n.d. Über Haier Group | Haier Germany [WWW Document]. Haier Haushaltsgeräte Kuhlschränke Waschmaschinen TV. URL http://www.haier.com/de/mergepage/about_haier/ (accessed 1.10.19).

Haier Group, 2018. About Haier | Haier Group [WWW Document]. Homepage Haier Group. URL http://www.haier.net/en/about_haier/ (accessed 1.29.19).

Haier Group, n.d. Company Overview | Qingdao Haier | Investor Relations | Haier Group [WWW Document]. Homepage Haier Group. URL http://www.haier.net/en/investor_relations/haier/Business/ (accessed 1.29.19).

Harjanti, S.S., Gustomo, A., 2017. Organizational Health Index and Organizational Agility Maturity Criteria as Measurement Tools of Organizational Transformation Effectiveness. J. Manaj. Teknol. 16, 92–107. https://doi.org/10.12695/jmt.2017.16.1.7

Harrison, K., 2018. Can't Go Paperless? Try This "Paper-light" Approach and Save A Fortune [WWW Document]. Forbes. URL https://www.forbes.com/sites/kateharrison/2018/08/27/cant-go-paperless-try-this-paper-light-approach-and-save-a-fortune/ (accessed 2.2.19).

Häusling, A. (Ed.), 2018. Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere, 1st ed. Haufe Gruppe, Freiburg, Munich, Stuttgart.

Häusling, A., Kahl, M., 2018a. Die fünf Level auf dem Weg zu einer agilen Organisation, in: Häusling, A. (Ed.), Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere. Haufe Gruppe, Freiburg, Munich, Stuttgart, pp. 95–115.

Häusling, A., Kahl, M., 2018b. Das TRAFO-Modell zur agilen Organisationsentwicklung, in: Häusling, A. (Ed.), Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere. Haufe Gruppe, Freiburg, Munich, Stuttgart, pp. 47–94.

Häusling, A., Römer, E., Zeppenfeld, N., 2018. Praxisbuch Agilität: Tools für Personal- und Organisationsentwicklung, 1st ed. Haufe Gruppe, Freiburg, Munich, Stuttgart.

Hawk, S., 2016. How to Build a Better Startup Team [WWW Document]. Stanf. Grad. Sch. Bus. URL https://www.gsb.stanford.edu/insights/how-build-better-startup-team (accessed 1.6.19).

He, Z.-L., Wong, P.-K., 2004. Exploration vs. Exploitation: An Empirical Test of the Ambidexterity Hypothesis. Organ. Sci. 15, 481–494. https://doi.org/10.1287/orsc.1040.0078

Heilig, T., 2018. moovel Group GmbH: How moovel works – agiles Arbeiten in einem corporate Start-up, in: Häusling, A. (Ed.), Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere. Haufe Gruppe, Freiburg, Munich, Stuttgart, pp. 265–280.

Heiligenfeld GmbH, 2015. Wissensbilanz 2015: 3. Folgebilanz. Heiligenfeld GmbH.

Heiligenfeld GmbH, n.d. Heiligenfeld Kliniken [WWW Document]. Heiligenfeld Klin. URL https://www.heiligenfeld.de/ (accessed 1.30.19).

Henke, N., Bughin, J., Chui, M., Manyika, J., Saleh, T., Wiseman, B., Sethupathy, G., 2016. The Age of Analytics: Competing in a Data-driven World. McKinsey & Company, New York.

Herber, J., Singh, J.V., Useem, M., 2004. The Design of New Organizational Forms, in: Day, G.S., Schoemaker, P.J.H., Gunther, R.E. (Eds.), Wharton on Managing Emerging Technologies. John Wiley & Sons, Hoboken, pp. 376–392.

Hernaus, T., 2008. Process-based Organization Design Model: Theoretical Review and Model Conceptualization. EFZG Work. Pap. Ser. 1–17.

Heugens, P.P.M.A.R., Lander, M.W., 2009. Structure! Agency! (and Other Quarrels): A Meta-analysis of Institutional Theories of Organization. Acad. Manage. J. 52, 61–85. https://doi.org/10.5465/amj.2009.36461835

Hofstede, G.H., Hofstede, G.J., Minkov, M., 2010. Cultures and Organizations: Software of the Mind: Intercultural Cooperation and its Importance for Survival, 3rd ed. McGraw-Hill, New York.

Horn, C., Wenzel, T., Scherbaum, S., Weber, N., n.d. Strategy - No Rocket Science - Home (ZF Internal) [WWW Document]. Zoom Communities - Start. URL https://zoom.zf-world.com/sites/com01/groups/6407/SitePages/Home.aspx (accessed 1.28.19).

House, R.J., Hanges, P.J., Ruiz-Quintanilla, S.A., Dorfman, P.W., Falkus, S.A., Ashkanasy, N.M., 1999. Cultural Influences on Leadership and Organizations: Project Globe, in: Gessner, M.J., Arnold, V., Mobley, W.H. (Eds.), Advances in Global Leadership. JAI, Stamford, pp. 171–233.

HP Inc., 2018. 2018 Annual Report. HP Inc., Palo Alto.

HP Inc., n.d. HP: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/hp/about/ (accessed 1.30.19a).

HP Inc., n.d. HP - Why HP [WWW Document]. HP - Home. URL https://investor.hp.com/why-hp/default.aspx (accessed 1.30.19b).

Hruska, J., 2018. Steam Earned an Estimated $4.3B in 2017, but Benefits Flow to Handful of Titles - ExtremeTech [WWW Document]. ExtremeTech. URL https://www.extremetech.com/gaming/266323-steam-earned-estimated-4-3b-2017-benefits-flow-handful-titles (accessed 2.1.19).

Hughes, F., 2018. Zappos CEO Shows Exactly Why "Doing Good is Good Business". D!gitalist Mag.

IHS Markit, 2015. Five Critical Challenges Facing the Automotive Industry: A Guide for Strategic Planners. IHS Markit, Rockville.

Inderscience Publishers, 2011. Trust, Clarity and Openness in the Workplace [WWW Document]. Sci. Your Source Latest Res. News. URL https://www.sciencedaily.com/releases/2011/03/110302101654.htm (accessed 1.9.19).

ING Group N.V., 2018. ING Group Annual Report 2017: Empowering People. ING Group N.V., Amsterdam.

ING Group N.V., n.d. History of ING [WWW Document]. ING.com. URL https://www.ing.com/About-us/Profile/History.htm (accessed 1.30.19).

ista International GmbH, n.d. ista International GmbH: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/ista/about/ (accessed 1.30.19a).

ista International GmbH, n.d. Facts & Figures | ista [WWW Document]. URL https://www.ista.com/corporate/company/facts-figures/ (accessed 1.30.19b).

Janssen Pharmaceutical Companies, n.d. The Janssen Pharmaceutical Companies of Johnson & Johnson: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/janssen-pharmaceutical-companies-of-johnson-and-johnson/about/ (accessed 1.30.19).

Janssen Pharmaceutical Companies - Australia, n.d. A History of Innovation [WWW Document]. Janssen Aust. URL https://www.janssen.com/australia/about-us/our-history (accessed 1.30.19).

Jaques, E., 1990. In Praise of Hierarchy. Harv. Bus. Rev. 68, 127–133.

Jeruchimowitz, P., Colwill, E., Hudson, N., McMillan, K., 2017. Zeroing Out the Past. Accenture, Dublin.

Keller, S., Meaney, M., 2018. Reorganizing to Capture Maximum Value Quickly. McKinsey Co. 8.

Kellner, D., n.d. DIP Intellectual Property ZF Group (ZF Internal) [WWW Document]. ZF World EN. URL http://www.zf-world.com/en/Z/V/fkst460/fkst815/index.html (accessed 1.31.19).

Khan, A., Turowski, K., 2016. A Survey of Current Challenges in Manufacturing Industry and Preparation for Industry 4.0, in: Abraham, A., Kovalev, S., Tarassov, V., Snášel, V. (Eds.), Proceedings of the First International Scientific Conference "Intelligent Information Technologies for Industry" (IITI'16). Springer International Publishing, Cham, pp. 15–26. https://doi.org/10.1007/978-3-319-33609-1_2

Kienbaum Consultants International GmbH, 2015. MultiGEN – 2020. Kienbaum Consultants International GmbH, Köln.

Kinsinger, P., Walch, K., 2012. Living and Leading in a VUCA World. Thunderbird Univ. 1–4.

Kiwitt, K., 2018. Otto Group – Kulturwandel und Empowerment, in: Häusling, A. (Ed.), Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere. Haufe Gruppe, Freiburg, Munich, Stuttgart, pp. 199–209.

Köth, C.-P., 2018. „Sound.AI“: ZF will Fahrzeuge hören lassen. Automob. Ind. - Vogel.

KPMG, 2012. Creating an Optimized Organisation: Key Opportunities and Challenges. KPMG, Amstelveen.

Laloux, F., 2014. Reinventing Organizations: A Guide to Creating Organizations Inspired by the Next Stage of Human Consciousness, 1st ed. Nelson Parker, Millis.

Lampel, J., Mintzberg, H., Quinn, J.B., Ghoshal, S. (Eds.), 2013. The Strategy Process: Concepts, Contexts, Cases, 5th ed. Pearson Education, New York.

Laßmann, S., 2018. Why Enterprises Need to Change: Analysis of the Critical Success Factors of Organizational Change, Taking ZF Friedrichshafen AG as an Example. Zeppelin University, Friedrichshafen.

Lawrence, K., 2013. Developing Leaders in a VUCA Environment. UNC Exec. Dev. 1–15.

Legner, C., Eymann, T., Hess, T., Matt, C., Böhmann, T., Drews, P., Mädche, A., Urbach, N., Ahlemann, F., 2017. Digitalization: Opportunity and Challenge for the Business and Information Systems Engineering Community. Bus. Inf. Syst. Eng. 59, 301–308. https://doi.org/10.1007/s12599-017-0484-2

Luo, J., Van de Ven, A.H., Jing, R., Jiang, Y., 2018. Transitioning from a Hierarchical Product Organization to an Open Platform Organization: A Chinese Case Study. J. Organ. Des. 7, 1–14. https://doi.org/10.1186/s41469-017-0026-x

Maahn, P., 2018. Elektromobilität: ZF will Busse mit E-Motoren aufrüsten und autonomen Kleinbus produzieren [WWW Document]. Handel. - Nachrichten Aus Wirtsch. Finanz. Polit. URL https://www.handelsblatt.com/auto/nachrichten/elektromobilitaet-zf-will-busse-mit-e-motoren-aufruesten-und-autonomen-kleinbus-produzieren/22755288.html?ticket=ST-747445-A4IMDABSecWZdt5cndDQ-ap3 (accessed 1.21.19).

Mack, O., Khare, A., 2016. Perspectives on a VUCA World, in: Mack, O., Khare, A., Krämer, A., Burgartz, T. (Eds.), Managing in a VUCA World. Springer International Publishing, Cham, pp. 3–19. https://doi.org/10.1007/978-3-319-16889-0

Mallette, F., Goddard, J., 2018. Why Companies are Using M&A to Transform Themselves, not just to Grow. Harv. Bus. Rev.

Manila Water Companies Inc., 2018. 2017 Integrated Report. Manila Water Companies Inc., Quezon City.

Manila Water Companies Inc., n.d. Manila Water: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/manilawater/about/ (accessed 1.30.19).

Manyika, J., Chui, M., Brown, B., Bughin, J., Dobbs, R., Roxburgh, C., Hung Byers, A., 2011. Big Data: The Next Frontier for Innovation, Competition, and Productivity. McKinsey & Company, New York.

Martin, B., 2018. No Managers, No Bureaucracy: How the Netherlands Improved Care for Less [WWW Document]. Apolitical. URL https://apolitical.co/solution_article/no-managers-no-bureaucracy-how-the-netherlands-improved-care-for-less/ (accessed 2.1.19).

McChrystal, S.A., Collins, T., Silverman, D., Fussell, C., 2015. Team of Teams: New Rules of Engagement for a Complex World. Portfolio/Penguin, New York.

McKinsey & Company, 2018. Disruptive Forces in the Industrial Sectors, Global Executive Survey. McKinsey & Company, New York.

McKinsey Agile Tribe, 2018. The 5 Trademarks of Agile Organizations. McKinsey & Company, New York.

Meier, J.-M.A., Servaes, H., 2015. The Bright Side of Fire Sales, in: SSRN Electronic Journal, ECGI Working Paper Series in Finance. pp. 1–68. https://doi.org/10.2139/ssrn.2473123

Mertens, F., 2018. Into the Future of Mobility – With the People Mover. Vision.

Meyer, M.W., Lu, L., Peng, J., Tsui, A.S., 2017. Microdivisionalization: Using Teams for Competitive Advantage. Acad. Manag. Discov. 3, 3–20. https://doi.org/10.5465/amd.2015.0088

Milliken, F.J., 1987. Three Types of Perceived Uncertainty About the Environment: State, Effect, and Response Uncertainty. Acad. Manage. Rev. 12, 133–143. https://doi.org/10.5465/amr.1987.4306502

Möhrle, R., 2013. Directive Structure ZF Group (ZF Internal) [WWW Document]. ZF World EN. URL http://www.zf-world.com/en/Z/H_G/GL/GLL/GLLP_-_Compliance_Prevention_Management/ZF-Directives/Directive-Structure-ZF-Group/index.html (accessed 1.15.19).

Mokyr, J., 2018. Technology, in: Macmillan Publishers Ltd. (Ed.), The New Palgrave Dictionary of Economics. Palgrave Macmillan UK, London, pp. 13536–13544. https://doi.org/10.1057/978-1-349-95189-5

Monsen, K.A., de Blok, J., 2013. Buurtzorg: Nurse-led Community Care. Creat. Nurs. 19, 122–127. https://doi.org/10.1891/1078-4535.19.3.122

moovel Group GmbH, 2017. moovel Group Acquires Hamburg-based Provider of Location Messenger App Familonet, Familonet GmbH.

moovel Group GmbH, n.d. moovel Group: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/moovelgroup/about/ (accessed 1.30.19).

Moratz, B., 2018. Agiles Projektmanagement (ZF Internal).

Moreira, M.E., 2017. The Agile Enterprise. Apress, Berkeley. https://doi.org/10.1007/978-1-4842-2391-8

Moretti, A., 2017. The Network Organization. Springer International Publishing, Cham. https://doi.org/10.1007/978-3-319-52093-3

Navya, B., 2016. Difference between Policy and Regulations | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/pulse/difference-between-policy-regulations-navya-b/ (accessed 1.7.19).

Netflix Inc., 2018. 2017 Annual Report. Netflix Inc., Los Gatos.

Netflix Inc., n.d. Netflix: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/netflix/about/ (accessed 1.30.19).

NextInteractive, n.d. Société FAVI-le Laiton Injecte à Hallencourt (Chiffre D'affaires, Bilans, Résultat) Avec Verif.com - Siren 778151563 [WWW Document]. Enterp. Siren Siret RCS Vérif. Santé Enterp. Avec Verifcom. URL https://www.verif.com/societe/FAVI-LE-LAITON-INJECTE-778151563/ (accessed 2.1.19).

Nickels, W.G., McHugh, J.M., McHugh, S.M., 2014. Business: Connecting Principles to Practice, 2nd ed. McGraw-Hill/Irwin, New York.

Nold, H., Michel, L., 2016. The Performance Triangle: A Model for Corporate Agility. Leadersh. Organ. Dev. J. 37, 341–356. https://doi.org/10.1108/LODJ-07-2014-0123

Oakland, J.S., Tanner, S.J., 2007. A New Framework for Managing Change. TQM Mag. 19, 572–589. https://doi.org/10.1108/09544780710828421

O'Reilly, C.A., Tushman, M.L., 2013. Organizational Ambidexterity: Past, Present, and Future. Acad. Manag. Perspect. 27, 324–338. https://doi.org/10.5465/amp.2013.0025

O'Reilly III, C.A., Tushman, M.L., 2004. The Ambidextrous Organization. Harv. Bus. Rev.

Otto GmbH & Co KG, 2018. Annual Report 2017/18: Hello Values: Why Business Needs Values. Otto GmbH & Co KG, Hamburg.

Otto GmbH & Co KG, n.d. Otto Group: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/ottogroup/about/ (accessed 1.30.19).

Oxford University Press, n.d. Technology Noun - Definition, Pictures, Pronunciation and Usage Notes | Oxford Advanced American Dictionary at OxfordLearnersDictionaries.com. Oxf. Learn. Dictionaries.

Page, T., Rahnema, A., Murphy, T., Mcdowell, T., 2016. Unlocking the Flexible Organization: Organizational Design for an Uncertain Future. Deloitte, London.

Patagonia Inc., 2018. Annual Benefit Corporation Report. Patagonia, Ventura.

Patagonia Inc., n.d. Patagonia: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/patagonia_2/about/ (accessed 1.29.19a).

Patagonia Inc., n.d. Corporate & Social Responsibility History - Patagonia [WWW Document]. Patagon. Outdoor Cloth. Gear. URL https://eu.patagonia.com/de/en/corporate-responsibility-history.html (accessed 1.29.19b).

Peters, T.J., Waterman, R.H., 2006. In Search of Excellence: Lessons from America's Best-run Companies, 1st ed. Harper Collins, New York.

Poczter, S.L., Jankovic, L.M., 2014. The Google Car: Driving Toward a Better Future? J. Bus. Case Stud. JBCS 10, 7–14. https://doi.org/10.19030/jbcs.v10i1.8324

Porter, M.E., 1989. How Competitive Forces Shape Strategy, in: Asch, D., Bowman, C. (Eds.), Readings in Strategic Management. Macmillan Education UK, London, pp. 133–143. https://doi.org/10.1007/978-1-349-20317-8_10

Project Management Institute (Ed.), 2017. A Guide to the Project Management Body of Knowledge, 6th ed, PMBOK Guide. Project Management Institute, Newtown Square.

Pryor, M.G., Taneja, S., Humphreys, J., Anderson, D., Singleton, L., 2008. Challenges Facing Change Management Theories and Research. Delhi Bus. Rev. 9, 1–20.

PTV Planung Transport Verkehr AG, 2016. The Mind of Movement.

PwC, 2015. Reimagining Operations. PwC, London.

PwC, 2014. How to be No. 1: Facing Future Challenges in the Automotive Industry. PwC, London.

Quinn, J.B., Anderson, P., Finkelstein, S., 2013. Managing Intellect, in: Lampel, J., Mintzberg, H., Quinn, J.B., Ghoshal, S. (Eds.), The Strategy Process: Concepts, Contexts, Cases. Pearson Education, New York, pp. 373–379.

Radović-Marković, M., 2008a. Effective Organizational Change Management. Serbian J. Manag. 3, 119–125.

Radović-Marković, M., 2008b. Managing the Organizational Change and Culture in the Age of Globalization. J. Bus. Econ. Manag. 9, 3–11. https://doi.org/10.3846/1611-1699.2008.9.3-11

Raisch, S., Birkinshaw, J., 2008. Organizational Ambidexterity: Antecedents, Outcomes, and Moderators. J. Manag. 34, 375–409. https://doi.org/10.1177/0149206308316058

Rapp, J., 2018. Reisen leicht(er) gemacht (ZF Internal) [WWW Document]. URL https://zoom.zf-world.com/sites/inet/news/Pages/Stories/KXM7uD9NbfFsiIViZExTBA/20a81532-f7cf-4a5a-9d62-4e825dcc1a0b.aspx (accessed 1.21.19).

Reeves, M., Levin, S., Ueda, D., 2017. Think Biologically: Messy Management for a Complex World. Boston Consulting Group, Boston.

Reitz et al., T., 2018. TUI.com – die Erlebnisse auf der agilen Reise, in: Häusling, A. (Ed.), Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere. Haufe Gruppe, Freiburg, Munich, Stuttgart, pp. 147–158.

Ritter, J., 2018. 1&1 Internet SE – Durch Agilität zu einem neuen Führungs-verständnis, in: Häusling, A. (Ed.), Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere. Haufe Gruppe, Freiburg, Munich, Stuttgart, pp. 230–246.

Rohrbeck, R., 2010. Towards a Maturity Model for Organizational Future Orientation. Acad. Manag. Proc. 2010, 1–6. https://doi.org/10.5465/ambpp.2010.54493637

Rolle, J., 2018. Das Vorgehen – den Weg der agilen Transformation gestalten, in: Häusling, A. (Ed.), Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere. Haufe Gruppe, Freiburg, Munich, Stuttgart, pp. 117–144.

Rosewich, F., 2018. iTaP - Evaluation of Individual Performance (ZF Internal).

Ruef, M., 2003. Innovators Navigate around Cliques. Stanf. Bus. Mag.

Scheider, W.-H., 2018a. Next Generation Mobility (ZF Internal).

Scheider, W.-H., 2018b. Team Beats Silo - Key Findings from the EMG Meeting (ZF Internal). #CEO. URL https://zoom.zf-world.com/sites/blog01/groups/2384/Pages/Blog/Team%20Beats%20Silo%20-%20Key%20Findings%20from%20the%20EMG%20Meeting.aspx (accessed 1.31.19).

Scheider, W.-H., 2018c. 2018 Draws to a Close (ZF Internal). #CEO. URL https://zoom.zf-world.com/sites/blog01/groups/2384/Pages/Blog/2018%20Draws%20to%20a%20Close.aspx (accessed 1.31.19).

Scheider, W.-H., 2018d. Corporate Culture in Times of Change (ZF Internal). #CEO. URL https://zoom.zf-world.com/sites/blog01/groups/2384/Pages/Blog/Corporate%20Culture%20in%20Times%20of%20Change.aspx (accessed 1.31.19).

Scheider, W.-H., 2018e. Change at ZF: Post your Question (ZF Internal). #CEO. URL https://zoom.zf-world.com/sites/blog01/groups/2384/Pages/Blog/Change%20at%20ZF%20%20Post%20Your%20Question_20181025150547.aspx (accessed 1.31.19).

Schneider, J., Hall, J., 2011. Why Most Product Launches Fail. Harv. Bus. Rev. 89, 21–23.

Schoenbohm, R., 2015. Building an Agile "Hybrid" Organization | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/pulse/building-agile-hybrid-organization-ruediger-schoenbohm/ (accessed 1.27.19).

Schotkamp, T., Danoesastro, M., 2018. HR's Pioneering Role in Agile at ING. Boston Consulting Group, Boston.

Schwaber, K., Sutherland, J., 2017. The Scrum Guide.

//SEIBERT/Media GmbH, n.d. //SEIBERT/MEDIA - Company Information - //SEIBERT/MEDIA - Confluence [WWW Document]. Dashboard - Conflu. URL https://info.seibert-media.net/pages/viewpage.action?pageId=11109128 (accessed 1.29.19).

Senghaas-Knobloch, E., 2014. Mindfulness: A Politically Sensitizing Concept. Care and Social Sustainability as Issues, in: Becke, G. (Ed.), Mindful Change in Times of Permanent Reorganization, CSR, Sustainability, Ethics & Governance. Springer Berlin Heidelberg, Berlin, Heidelberg, pp. 191–224. https://doi.org/10.1007/978-3-642-38694-7

Sherman, M., Edison, S., Rehberg, B., Danoesastro, M., 2017. Taking Agile Way Beyond Software. Boston Consulting Group, Boston.

Singapore Telecommunications Ltd., 2018. Annual Report 2018: Ready, Set, Digital! Singapore Telecommunications Ltd., Singapore.

Singapore Telecommunications Ltd., n.d. Company Profile [WWW Document]. Personal. URL https://www.singtel.com/about-Us/company/company-profile.html (accessed 1.30.19).

sipgate GmbH, n.d. sipgate: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/sipgate-gmbh/about/ (accessed 1.30.19).

Slogar, A., 2018. Die agile Organisation. Hanser, Munich.

Smith, A.C.T., Sutherland, F., Gilbert, D.H., 2017. Reinventing Innovation. Springer International Publishing, Cham. https://doi.org/10.1007/978-3-319-57213-0

Snowden, D.J., Boone, M.E., 2007. A Leader's Framework for Decision Making. Harv. Bus. Rev. 85, 68–76.

Sögtrop, C., 2018. mcs promotion GmbH – vom klassischen Werbemittelhändler zum Marketing Supply Chain Specialist, in: Häusling, A. (Ed.), Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere. Haufe Gruppe, Freiburg, Munich, Stuttgart, pp. 187–198.

SolutionsIQ, 2017. Unlocking Business Agility. Accenture | SolutionsIQ, Redmond.

Sounds True, n.d. Sounds True: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/sounds-true/about/ (accessed 1.30.19).

Southwest Airlines Co., 2018. Southwest Airlines Co. 2017 Annual Report to Shareholders. Southwest Airlines Co., Dallas.

Southwest Airlines Co., n.d. Southwest Airlines: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/southwest-airlines/about/ (accessed 1.29.19).

Spotify Technology S.A., 2018. Spotify Form F-1 2018. Spotify Technology S.A., Stockholm.

Staykova, K.S., Damsgaard, J., 2019. Dual-track's Strategy for Incumbent's Transformation: The Case of Danske Bank Adopting a Platform Business Model, in: Urbach, N., Röglinger, M. (Eds.), Digitalization Cases: How Organizations Rethink Their Business for the Digital Age, Management for Professionals. Springer International Publishing, Cham, pp. 119–137. https://doi.org/10.1007/978-3-319-95273-4

Stepper, J., 2019. John Stepper — Working Out Loud [WWW Document]. Work. Loud. URL https://workingoutloud.com/en/about/ (accessed 1.21.19).

Strittmatter, B., Weber, J., 2018. Future Leading is Digital – What About You? (ZF Internal).

StudyMalaysia, 2018. The Fourth Industrial Revolution (IR 4.0) and What it Means for Students like You [WWW Document]. StudyMalaysia.com. URL https://www.studymalaysia.com/education/top-stories/the-fourth-industrial-revolution-ir-4.0-and-what-it-means-for-students-like-you (accessed 1.20.19).

Sun Hydraulics Corporation, 2018. // Vision 2025: Technology Leadership // Superior Profitability // Financial Strength. Sun Hydraulics Corporation, Sarasota.

Sun Hydraulics Corporation, n.d. Sun Hydraulics: Overview | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/sun-hydraulics/ (accessed 1.10.19).

swissinfo.ch, 2018. Switzerland Adopts EU Rules on Electric Car Noise [WWW Document]. SWI Swissinfoch. URL https://www.swissinfo.ch/eng/sci-tech/safety-for-the-blind_switzerland-adopts-eu-rules-on-electric-car-noise/44520458 (accessed 1.19.19).

Tata Group, n.d. Tata Group | Investors [WWW Document]. Homepage Tata Group. URL https://www.tata.com/investors (accessed 1.30.19).

The AES Corporation, 2018. 2017 Annual Report. The AES Corporation, Arlington.

The AES Corporation, n.d. The AES Corporation: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/aes/about/ (accessed 1.29.19).

The Container Store Group Inc., 2018. Annual Report 2017. The Container Store Group Inc., Coppell.

The Economist, 2018. America and China are in a Proper Trade War - Tit for Tat [WWW Document]. Econ. - World News Polit. Econ. Bus. Finance. URL https://www.economist.com/finance-and-economics/2018/09/20/america-and-china-are-in-a-proper-trade-war (accessed 1.7.19).

The Economist Intelligence Unit, 2018a. Business Views vs. Market Data [WWW Document]. Bus. Real. Check - Econ. Intell. Unit. URL https://businessrealities.eiu.com/views-vs-realities?currentTheme=all&currentCountry=all&currentFilterNumber=1 (accessed 1.6.19).

The Economist Intelligence Unit, 2018b. In Brief: Operational Complexity [WWW Document]. Bus. Real. Check - Econ. Intell. Unit. URL https://businessrealities.eiu.com/in-brief-operational-complexity (accessed 1.6.19).

The Economist Intelligence Unit, 2016. Creating Growth in a Flat World: How to Identify, Quantify, and Capture New Growth Opportunities. The Economist Intelligence Unit Ltd., London.

The Economist Intelligence Unit, 2006. Foresight 2020: Economic, Industry and Corporate Trends. The Economist Intelligence Unit, London.

The Economist Intelligence Unit, 2005. Business 2010: Embracing the Challenge of Change. The Economist Intelligence Unit, London.

The Johnson & Johnson, 2018. Annual Report 2017. The Johnson & Johnson, New Brunswick.

The Maryland Department of Information Technology, n.d. Agile Maturity Matrix for Organizations.

The Morning Star Company, n.d. The Morning Star Company: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/the-morning-star-company/about/ (accessed 1.30.19a).

The Morning Star Company, n.d. Morning Star :: Company History [WWW Document]. Morning Star Home Page. URL http://morningstarco.com/index.cgi?Page=About%20Us/Company%20History (accessed 1.30.19b).

The Procter & Gamble Company, 2018. 2018 Annual Report. The Procter & Gamble Company, Cincinnati.

Tsai, W., 2002. Social Structure of "Coopetition" Within a Multiunit Organization: Coordination, Competition, and Intraorganizational Knowledge Sharing. Organ. Sci. 13, 179–190. https://doi.org/10.1287/orsc.13.2.179.536

TUI Group, 2018. 2018 Annual Report of the TUI Group. TUI Group, Hannover.

Turner, J.R., 2014. The Handbook of Project-based Management: Leading Strategic Change in Organizations, 4th ed. McGraw-Hill Education, New York.

Tushman, M.L., Smith, W.K., Binns, A., 2011. The Ambidextrous CEO. Harv. Bus. Rev.

Unilever N.V., 2018. Unilever Annual Report and Accounts 2017. Unilever N.V., Rotterdam.

United Internet AG, 2018. Annual Financial Statements 2017. United Internet AG, Montabaur.

Urbach, N., Röglinger, M. (Eds.), 2019. Digitalization Cases: How Organizations Rethink their Business for the Digital Age, Management for Professionals. Springer International Publishing, Cham. https://doi.org/10.1007/978-3-319-95273-4

Valve Corporation, n.d. Valve Corporation: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/valve-corporation/about/ (accessed 1.30.19).

Vielhaber, M., Stoffels, P., 2014. Product Development vs. Production Development. Procedia CIRP 21, 252–257. https://doi.org/10.1016/j.procir.2014.03.141

von Bittenfeld, P.H., Boost, S., Rödiger, K., Seibert, J., 2018. //SEIBERT/MEDIA GmbH – Kickass Software, Rock'n'Roll Teams, in: Häusling, A. (Ed.), Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere. Haufe Gruppe, Freiburg, Munich, Stuttgart, pp. 218–229.

von Zepelin, J., 2017. Tim Mois über seine erste Million [WWW Document]. Capital.de. URL https://www.capital.de/wirtschaft-politik/tim-mois-ueber-seine-erste-million (accessed 1.30.19).

Ward, M., 2018. How Today's Tech Giants are Beating Startups at their own Game [WWW Document]. ThinkGrowth.org. URL https://thinkgrowth.org/the-innovators-surfing-dilemma-skipping-a-paradigm-56a0bd98cf08 (accessed 1.6.19).

we>move, 2018a. Ready for the Future of Mobility (ZF Internal). ZF Friedrichshaf. AG 2–3.

we>move, 2018b. Nothing Like a Strong Convoy (ZF Internal). we>move 5.

we>move, 2018c. Maximum Suspense – like Being at the Oscars (ZF Internal). we>move 10–11.

we>move, 2018d. Platform for Good Ideas (ZF Internal). we>move 6.

we>move, 2018e. Think Creatively (ZF Internal). we>move 14.

we>move, 2018f. The Zoom Era at ZF has Begun (ZF Internal). we>move 13.

we>move, 2018g. 32 Percent (ZF Internal). we>move 2.

we>move, 2018h. The Forklift Truck of The Future (ZF Internal). we>move.

we>move, 2017a. Supervisory Board and Works Council: Vote Twice in 2018 (ZF Internal). we>move 3.

we>move, 2017b. Joining Forces to Build a Great Future (ZF Internal). we>move 8–9.

we>move, 2017c. Smart Partnership (ZF Internal). we>move 14.

we>move, 2017d. Ideas from Inside and Out: New Pathways to Innovation (ZF Internal). we>move 10.

we>move, 2017e. “Great Chances for Employees” (ZF Internal). we>move 12.

we>move, 2017f. Knowing What We Know (ZF Internal). we>move 7.

we>move, 2017g. The New, Company-wide Intranet: More Than Just Communicating (ZF Internal). we>move 7.

we>move, 2017h. Fit for the Future (ZF Internal). we>move 6.

we>move, 2017i. Turbocharging Production Data (ZF Internal). we>move 9.

we>move, 2016a. Special Supplement: ZF Excellence Award 2016 (ZF Internal). we>move 1–16.

we>move, 2016b. The Quest to Add Digital Value (ZF Internal). we>move 15.

Wegner, K., Van der Pijl, H., Groß, F., 2018. Yello Strom GmbH: Mehr als du denkst – das Yello-Zusammenarbeitsmodell, in: Häusling, A. (Ed.), Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere. Haufe Gruppe, Freiburg, Munich, Stuttgart, pp. 318–325.

Wendler, R., 2014. Development of the Organizational Agility Maturity Model. Presented at the 2014 Federated Conference on Computer Science and Information Systems, pp. 1197–1206. https://doi.org/10.15439/2014F79

Westerhoff, M., 2019. Robo-taxis – the Clever Way to Get a Ride. Vision.

Whitbread PLC, 2018. Annual Report and Accounts 2017/18. Whitbread PLC, Dunstable.

Wilhelms, B., 2018. Sipgate GmbH – Telefonie neu erfinden, in: Häusling, A. (Ed.), Agile Organisationen: Transformationen erfolgreich gestalten - Beispiele agiler Pioniere. Haufe Gruppe, Freiburg, Munich, Stuttgart, pp. 247–264.

Wrona, K., Heppelmann, S., Nenning, G., Pertl, M., 2017. NextGenCorp. Stern Stewart & Co., Munich.

Yin, R.K., 2018. Case Study Research and Applications: Design and Methods, 6th ed. SAGE, Los Angeles.

Zappos, n.d. Zappos Family of Companies: About | LinkedIn [WWW Document]. LinkedIn. URL https://www.linkedin.com/company/zappos.com/about/ (accessed 1.30.19).

ZF Friedrichshafen AG, 2019. Corporate Structure [WWW Document]. Homepage ZF Friedrichshaf. AG. URL https://www.zf.com/mobile/en/company/company_profile_zf/divisions_business_units/divisions_business_units.html (accessed 1.9.19).

ZF Friedrichshafen AG, 2018a. ZF Annual Report 2017. ZF Friedrichshafen AG, Friedrichshafen.

ZF Friedrichshafen AG, 2018b. Handling the Distribution Volume: ZF’s Intelligent Technology Supports Increasing Delivery Demand [WWW Document]. ZF Press Cent. - ZF Friedrichshaf. AG. URL https://press.zf.com/site/press/en_de/microsites/press/list/release/release_46080.html (accessed 1.21.19).

ZF Friedrichshafen AG, 2017a. Handbook Organization Management: Principles and Guidelines Structural Organization (ZF Internal).

ZF Friedrichshafen AG, 2017b. ZF Charter (ZF Internal).

ZF Friedrichshafen AG, n.d. Company Profile [WWW Document]. Homepage ZF Friedrichshaf. AG. URL https://www.zf.com/mobile/en/company/company_profile_zf/company_profile_zf_new.html (accessed 1.9.19a).

ZF Friedrichshafen AG, n.d. Leadership Principles at ZF [WWW Document]. Homepage ZF Friedrichshaf. AG. URL https://www.zf.com/mobile/en/company/corporate_governance/leadership_principles/leadership_principles_1.html (accessed 1.20.19b).

ZF Friedrichshafen AG - BFP, 2018. Project XXX Kick-off Milestone (ZF Internal).

ZF Friedrichshafen AG - F, 2017. Introduction to ZF Process Management (ZF Internal).

ZF Friedrichshafen AG - GL, 2017. New ZF Board Composition Rules (ZF Internal).

ZF Friedrichshafen AG - MK & VP, 2018. Unified & Agile Sales Organization Project Kick-off (ZF Internal).

ZF Friedrichshafen AG - TC, 2018. Chassis - Safe and Comfortable: For Trucks, Buses, Agricultural Machinery, Construction Machinery and Special Vehicles.

ZF Friedrichshafen AG - VHO, 2017. VHO Corporate Structures & Organization, PMI: Global Key Organization Principles (ZF Internal).

ZF Friedrichshafen AG - VI, 2017. North Star: Digital Vision and Strategy (ZF Internal).

Zukunft Ventures GmbH, n.d. Zukunft Ventures [WWW Document]. Zuk. Ventur. URL https://zukunft-ventures.zf.com/site/zukunft_ventures/en/zukunft_ventures.html (accessed 1.30.19).

Appendix

The following paragraphs give companies' profile that are mentioned in the Subchapter 2.3.

//SEIBERT/Media GmbH is a private stock corporation and offers professional internet and intranet services. Founded in 1996, it employs 140 people in its headquarter, Wiesbaden, and San Diego. In 2015, it generates revenue of $10.8 million (around €9.4 million) (//SEIBERT/Media GmbH, n.d.).

1&1 Internet SE is an internet and hosting service provider that belongs to United Internet AG. It was founded in 1998 and is headquartered in Montabaur (United Internet AG, 2018). More than 9,000 labor forces work for this publicly traded company and its annual revenue is more than $4.6 billion (around €4 billion) (1&1 Internet SE, n.d.).

3M is a public stock company and focuses its technology in industrial, safety, and consumer goods. Founded in 1902 and headquartered in St. Paul, Minnesota, 3M currently employs 91,536 workers worldwide and yields $32.3 billion (around €28.2 billion) (Forbes, 2018a).

Accenture is a publicly traded company and provides services in strategy, consulting, digital, technology, and operations (Accenture, 2017). The company was founded in 1951 and has its headquarter in Dublin. As of 2018, it had 459,000 employees and generated revenue of $39.6 billion (around €34.6 billion) (Accenture, n.d.).

Adobe is a public stock corporation and offers computer software. It was founded in 1982 and is headquartered in San Jose, California. Its employees are 91,000 worldwide and its revenue is $10.3 billion (around €9 billion) (Adobe Inc., 2018).

Aluminum Company of America (Alcoa) is a public stock corporation and manufactures bauxite, alumina, and aluminum products. Founded in 1888 and headquartered in Pittsburgh (Alcoa Corporation, n.d.), it employs 14,600 labor forces and generates revenue of $11.7 billion (around €10.2 billion) (Alcoa Corporation, 2018).

Amazon is a publicly traded online retail store since 1994 and has its headquarter in Seattle (Amazon Inc., n.d.). More than 560,000 people worked for Amazon worldwide and generated sales of $56.6 billion (around €50 billion) as of September, 2018 (Amazon Inc., 2018).

Apple is a public stock corporation and operates in consumer electronics segment. It was founded in 1976 and has headquarter in Cupertino (Apple Inc., n.d.). 132,000 people work for Apple and generate revenue of $265.6 billion (around €232.1 billion) (Apple Inc., 2018).

Applied Energy Services (The AES Corporation) is a publicly traded energy provider and exists since 1981 (The AES Corporation, n.d.). Headquartered in Arlington, Virginia, The AES Corporation operates with around 10,500 employees and generates sales of $10.5 billion (around €9.2 billion) (The AES Corporation, 2018).

Ben & Jerry's is an ice cream manufacturer and a wholly-owned subsidiary of Unilever (Ben & Jerry's Homemade Inc., n.d.). It was founded in 1978 and its headquarter is located in South Burlington (Ben & Jerry's Homemade Inc., n.d.). According to Unilever's Annual Report in 2017, the refreshment category, to which Ben & Jerry's belongs, yields revenue of $11.3 billion (around €9.9 billion) (Unilever N.V., 2018).

BSO Origin or registered as **Atos SE** is a public stock corporation and provides services in digital transformation. Founded in 1997 and headquartered in Bezons, it has 120,000 employees and yields revenue of $14.9 billion (around €13 billion) (Atos SE, 2016).

Buurtzorg is a non-profit healthcare organization and headquartered in Almelo, the Netherlands (Buurtzorg, n.d.). It is established in 2006 and currently has more than 10,000 nurses and assistants (Buurtzorg, n.d.). In 2017 alone, its revenue was $455 million (around €400 million) (Martin, 2018).

Costa Coffee is a coffee shop that belongs to Whitbread PLC. Originated from London since 1971 (Costa Coffee, n.d.), this coffee shop is now employing 18,412 workforces in 3,821 stores worldwide and generates sales of £1.3 billion (around €1.5 billion) (Whitbread PLC, 2018).

Deutsche Bahn (DB) Vertrieb GmbH is part of Deutsche Bahn AG—German railways company—that is headquartered in Frankfurt am Main and focuses on ticket sales for DB and other transport operators (Deutsche Bahn AG, 2018a, n.d.). With 5,000 employees German-wide (DB Vertrieb GmbH, n.d.), DB Vertrieb GmbH contributes to volume sales of 103,074 million passenger kilometers in trains and busses (Deutsche Bahn AG, 2018b).

FAVI is an automotive supplier that has been established since 1957 and focuses on the brass, aluminum, and copper die casting (FAVI S.A., n.d.). It is headquartered in Hallencourt with its 400 employees and operates with partnership structure (FAVI S.A., n.d., n.d.). In 2017, FAVI generated sales of $69.1 million (around €60.4 million) (NextInteractive, n.d.).

DBS Bank is a public stock corporation and since its establishment in 1968 provides financial services with its headquarter in Singapore. Its 2017 annual report reveals income of S$11.9 billion (around €7.7 billion) and 24,000 people work for DBS Bank (DBS Group Holdings Ltd., 2018).

Haier Group is a Chinese white goods manufacturer that was founded in 1984 and whose shares are publicly traded (Haier Group, 2018). It is headquartered in Qingdao. With 76,896 employees worldwide, it generates sales of ¥159 billion (around €20.7 billion) (Haier Group, n.d.).

Heiligenfeld GmbH is a clinic for psychosomatic treatment and operates as a German limited liability company. Headquartered in Bad Kissingen since its foundation in 1990, it runs with more than 950 employees (Heiligenfeld GmbH, n.d.) and had return of sales of 15.7% in 2015 (Heiligenfeld GmbH, 2015).

Hewlett-Packard (HP) is a public stock corporation and focuses on printing and personal systems technology. Headquartered in Palo Alto, it was founded in 1939 and reinvented in 2015 (HP Inc., n.d., n.d.). It has 55,000 employees and yields sales of $58.5 billion (around €51.1 billion) (HP Inc., 2018).

Internationale Nederlande Groep (ING) Group N.V. is a publicly traded company and runs its business in financial services since 1991 (ING Group N.V., n.d.). Headquartered in Amsterdam, ING operates in over 40 countries with more than 54,000 employees and its net revenue in 2017 is 5% more than that in 2016 (ING Group N.V., 2018).

ista International GmbH is a private stock corporation and provides services in energy sector. It was founded in 1902 and has its headquarter in Essen (ista International GmbH, n.d.). With 5,500 employees in 24 countries, it generates revenue of $1 billion (around €0.9 billion) (ista International GmbH, n.d.).

Janssen Pharmaceutical Companies is part of Johnson & Johnson publicly traded company that focuses on pharmaceutical products. Founded in 1953 (Janssen Pharmaceutical Companies - Australia, n.d.) and headquartered in Raritan (Janssen Pharmaceutical Companies, n.d.), it has more than 35,000 employees in more than 150 countries and yields revenue of $36.3 billion (around €31.7 billion) (The Johnson & Johnson, 2018).

Manila Water is a public stock company and provides services in water, sewage, and sanitation. Founded in 1997 and headquartered in Quezon City (Manila Water Companies Inc., n.d.), it employs 2,022 people and gains sales of ₱18.5 billion (around €309.5 million) (Manila Water Companies Inc., 2018).

McKinsey & Company is an incorporated partnership company and provides services in management consulting. Founded in 1926 and headquartered in New York, it has 27,000 workforces and generates sales of $10 billion (around €8.8 billion) (Forbes, 2018b).

moovel Group GmbH is a wholly owned subsidiary of Daimler AG and offers mobility platforms. It was founded in 2015 and is headquartered in Stuttgart (moovel Group GmbH, n.d.). With 250 people work for this company in Germany and the U.S. (moovel Group GmbH, 2017), it carried out more than 22.3 million transactions in 2017 (Daimler AG, 2017).

Netflix is a public stock corporation and provides services in entertainment industry. Founded in 1997 and headquartered in Los Gatos (Netflix Inc., n.d.), it has 5,500 employees and gains revenue of $11.7 billion (around €10.2 billion) (Netflix Inc., 2018).

Otto Group is a private stock corporation and operates its business in retail industry. Founded in 1949 (Otto GmbH & Co KG, n.d.) and headquartered in Hamburg, it employs an average of 51,785 people and yields sales of $15.7 billion (around €13.7 billion) (Otto GmbH & Co KG, 2018).

Patagonia is a California-based outdoor apparel that was founded in 1973 (Patagonia Inc., n.d.). It is certified as a privately held benefit corporation in the retail business (Patagonia Inc., 2018) and employs almost 2,000 people (Patagonia Inc., n.d.). In 2017 itself, Patagonia reached almost $1 billion (around €0.9 billion) in sales (Blakely, 2018).

Procter & Gambler (P&G) Company is a public stock corporation and manufactures consumer goods. It was founded in 1837 and is headquartered in Cincinnati. With 92,000 employees, it gains revenue of $66.8 billion (around €58.5 billion) (The Procter & Gamble Company, 2018).

Planung Transport Verkehr (PTV) AG provides software for logistics industry and its shares are publicly traded. Founded in 1979 and headquartered in Karlsruhe, it has more than 700 employees worldwide and yields sales of more than $114.2 million (more than €100 million) (PTV Planung Transport Verkehr AG, 2016).

Singtel is a public stock corporation and provides telecommunication services. Founded in 1979 (Singapore Telecommunications Ltd., n.d.) and headquartered in Singapore, it employs 25,000 people and generates sales of S$17.5 billion (around €11.3 billion) (Singapore Telecommunications Ltd., 2018).

sipgate GmbH is a private stock corporation and offers internet and telephone services. It was founded in 2004 and has its headquarter in Düsseldorf. More than 140 people work for this company (sipgate GmbH, n.d.) and its revenue is $34.3 million (around €30 million) (von Zepelin, 2017).

Sounds True is a private company and publishes media for spiritual journey. It was established in 1985 and is headquartered in Louisville. It has over 80 employees (Sounds True, n.d.) and an annual revenue of $5-10 million (around €4.4-8.8 million) (Glassdoor, n.d.).

Southwest Airlines is a flight company, whose shares are publicly traded. It was established in 1971 and is headquartered in Dallas (Southwest Airlines Co., n.d.). According to its annual report in 2017, Southwest Airlines Co. generated revenues of $21.2 billion (around €18.5 billion) and had 56,110 workers (Southwest Airlines Co., 2018).

Spotify Technology S.A. is a publicly traded company and offers music streaming service. Founded in 2006 and headquartered in Stockholm, it employs 2,960 people and generates sales of $4.7 billion (around €4.1 billion) (Spotify Technology S.A., 2018).

Sun Hydraulics Corporation is a public stock corporation and produces technologies for hydraulic and electronic markets. It was founded in 1970 and is headquartered in Sarasota. With 1,150 employees worldwide, it gains sales of $1 billion (around €0.9 billion) (Sun Hydraulics Corporation, 2018).

Tata Sons is the principal investment holding company of Tata Group which was founded in 1868 and is headquartered in Mumbai. It employs 702,454 people and yields sales of $110.7 billion (around €96.7 billion) (Tata Group, n.d.).

The Container Store manufactures storage and organization products. Its shares are traded publicly. It was founded in 1978 and is headquartered in Coppell. With its 4,950 employees, it generates sales of $857.2 million (around €749.9 million) (The Container Store Group Inc., 2018).

The Morning Star Company is a private company and manufactures tomato products. Headquartered in Woodland and established in 1970, it generates sales of $350 million (around €306.3 million) and employs around 200-500 people (The Morning Star Company, n.d., n.d.).

TUI Group is a publicly traded company and provides services in tourism sector. Founded in 1923 and headquartered in Hannover, it has 69,546 employees and yields sales of $19.5 billion (around €17.1 billion) (Companies History, 2013; TUI Group, 2018).

Valve is a private company and builds software within the gaming industry. It was founded in 1996 and has headquarter in Bellevue (Valve Corporation, n.d.). It employs around 360 people (Chalk, 2016) and gains revenue of $4.3 billion (around €3.8 billion) only from its subsidiary Steam, which accounts the majority of Valve's sales (Hruska, 2018).

Zappos is part of Amazon Inc. Its shares are traded publicly, too. Its business is mainly online apparel and footwear. Founded in 1999 and headquartered in Las Vegas, it has around 1,500 employees (Zappos, n.d.) and generates revenue of $1 billion (around €0.9 billion) (Hughes, 2018).

Declaration of Authorship

I hereby declare on my word of honor

1. that I prepared this final thesis independently and without any outside help.
2. that I marked any verbatim quotes and paraphrased text by other authors within the work where they appear.

I am fully aware that a false declaration will have legal consequences.

Ehrenwörtliche Erklärung

Ich erkläre hiermit ehrenwörtlich,

1. dass ich diese Bachelorarbeit ohne fremde Hilfe angefertigt habe,
2. dass ich die Übernahme wörtlicher Zitate aus der Literatur sowie die Verwendung der Gedanken anderer Autoren an den entsprechenden Stellen innerhalb der Arbeit gekennzeichnet habe.

Ich bin mir bewusst, dass eine falsche Erklärung rechtliche Folgen haben wird.

Schweinfurt, 28th February 2019

Betharie Cendera Arrahmani