

## INTRODUCTION

Germany, the land that had very fast cycles of invention in times of high industrialization has become sedate (Welt, 2019). Especially German family-owned business that generate a large share of wealth in Germany (Statista, 2017b) partially missed the opportunity to use the digital change to generate value. The federal government adjusted its infrastructure late in international comparison (Bundesregierung, 2019; FAZ, 2018). China and the US seem to have left the rest of the world behind (Bertelsmann Stiftung, 2019). If you believe the IDC predictions, the world needs to prepare itself for the digital innovation explosion (IDC, 2019). Particularly research-intensive and knowledge-intensive companies are looking for new, collaborative, and holistic approaches increasing their (digital) innovation competencies.

In the following book chapter, the construct of effective innovation leadership is explored from various perspectives, enriching the groundwork from Crawford and Kelder (2019), Scharmer (2019), as well as Kaudela-Baum et al. (2014) and adopted in a digital innovation project.

In detail, the procedure follows six steps: First, there is a historical overview of the concept of innovation leadership. Second, the author presents the EIL-Model and explains its emergence. Third, the significance of medium-sized and family-run enterprises in Germany is worked out. Fourth the reason why a case study as the methodology was adopted and a paper-industry case study executed. Fifth, after compiling the findings from the case study, these are compared with related entrepreneurial theories (sixth).

Finally, the findings are summarized, critically discussed, and limitations and future research efforts are listed.

## INNOVATION LEADERSHIP

In order to provide a reasonable basis for effective innovation leadership, the main definitions follow.

Amabile (1983) defines **creativity** as the ability of an individual or group to think and act in an imaginative and shaping way to generate novel and useful ideas or solutions to problems.

**Inventions** are creative achievements based on the application of technical knowledge. **Innovations** in economics are associated with technical, social, or economic change (Gabler, 2019a).

While **innovations** are improvements of the existing without claiming uniqueness or intelligence, **inventions**, on the other hand, produce something new, which is the result of intelligence and goes beyond the obvious. Another criterion of the invention is "surprise" (Potts, 1943).

**Innovation Management** is a core business activity that is primarily geared to the characteristics of an innovation and thus combines management aspects. Operational innovation management aims at increasing the value of a company. This purpose is achieved by a novel combination of means and purposes, which is expressed in designing new products, process, service, or organization such as a corporate network. The Austrian economist Schumpeter (1883-1950) already pointed to most of the purposes, who also characterized the purpose of innovation management as "creative destruction," i.e., the replacement of an existing one with something better (Gabler, 2019c). The scientists Adams et al. (2006) synthesized a framework of the innovation management process consisting of seven categories: inputs management, knowledge management, innovation strategy, organizational culture and structure, portfolio management, project management and commercialization.

While **innovation management** looks at and addresses several levels of an organization, **innovation leadership** refers to the space of action of an individual who is involved in an organizational context.

Taking a closer look at the term «**innovation leadership**», we note that it was first named in 1995 (Rogers 1995) and defined in 2000: Murphy & Murphy (2002), Bossink (2004), Gliddon (2006), Carmeli et. al (2010), Hunter & Cushenbery (2011), Rosing et al. (2011), O`Reilly and Tushman (2013), Kaudela-Baum et al. (2014), Gliddon (2018). The following Table 1 aggregates the spectrum of varying definitions.

*Table 1. Aggregation of various Innovation Leadership Definitions*

<b>Definition</b>	<b>Publication</b>	<b>Topic</b>	<b>Category</b>
Innovation leaders are innovators, early adopters, opinion leaders, and change agents	Rogers (1995)	People	Values Strengths Practices
Innovation leaders can support the success of the economy and the organizations, products, and employees	Murphy & Murphy (2002)	Context	Practices
Innovation leaders are managers, executives or entrepreneurs who successfully initiate, sponsor, and steer innovation in their organizations	DesChamps (2003)	People	Practices
Innovation leaders are managers driving innovation	Bossink (2004)	People	Practices
Innovation leaders manage people or processes. They are leading the diffusion of innovation within an organization's social system. They hold the following competencies: learning, leading teams, motivation, management, and delegation	Gliddon (2006)	System	Strengths Practices
Innovation leadership is a process of creating direction, alignment, and commitment that is needed to create and implement something new that adds value to an organization. Hence, innovation leadership is about being able to form an integrated overview of innovation and, at the same time, lead the components of innovation in a strategic manner	Ailin & Lindgren (2008)	System	Strengths Practices
Innovation leaders are shaping a working space increasing the learning and absorption capacity in a highly volatile context (system), they 1) encourage individual initiative; 2) clarify individual responsibilities; 3) provide clear and complete performance evaluation feedback; 4) Maintain a strong task orientation, 5) Emphasize group relationships and, 6) Demonstrate trust in organizational members	Carmeli et. al (2010)	System	Values Strengths Practices

<b>Definition</b>	<b>Publication</b>	<b>Topic</b>	<b>Category</b>
Innovation leadership is defined as the process of creating the context for innovation to occur; creating and implementing the roles, decision-making structures, physical space, partnerships, networks, and equipment that support innovative thinking and testing	Porter & Malloch (2010)	System	Practices
Innovation leadership includes several behaviors: 1) Embrace a challenge; 2) Drive change through collective creativity and knowledge; 3) Shape the culture of the organization; 4) Establish a professional learning system; 5) Decide and systematize; 6) Ensure digital access and infrastructure; and 7) Demand accountability	Roscorla (2010)	System	Values Strengths Practices
Innovation leaders directly provide creative input, clear work goals derived from an overall vision as well as resources and tools necessary to fulfill job tasks. Additionally, innovation leaders indirectly influence their employees by establishing a supportive climate, acting as a role model, providing rewards, and composing an excellent creative team	Hunter & Cushenbery (2011)	System	Strengths Practices
Innovation leaders integrate “two complementary sets of leadership behavior that foster exploration and exploitation in individuals and teams - opening and closing leader behaviors, respectively”	Rosing et al. (2011)	System	Practices
Innovation leadership is constituted from three broad areas: 1) a toolset, 2) a skillset and 3) a mindset	Horth & Vehar (2012)	People	Values: mindset Strengths: skillset Practices: a toolset
Innovation leaders inspire openness, discovery and the right choices	Stevenson (2012)	People	Values
Innovation leaders competencies are, being a: 1) strategist, 2) capacity builder, 3) matchmaker and 4) achiever	Vlok (2012)	People	Strengths
Innovation leadership is the synthesis of different leadership styles in organizations to influence employees to produce creative ideas, products, services, and solutions	Adjei (2013)	People	Practices
Innovation leaders switch intuitively between open and closed leadership. Open leadership includes chaotic structures, intrinsic motivation, risk-taking, playful, dynamic and creative behaviors, based on autonomy and freedom. Closed leadership focuses on target agreements, power, planned task delivery, extrinsic motivation, and ordered structures	O'Reilly and Tushman (2013)	System	Values Strengths Practices

Definition	Publication	Topic	Category
Innovation leaders honor deviations and focus on cultural, communication as well as related factors. They support self-responsible driven initiatives from individuals. Innovation leadership has a strategy orientation, focusing on the long-term development of innovations and knowledge. They build contexts in which learning, and adaptation to constant changes in the surrounding is possible. Innovation leaders work on the development of incremental and radical business models. They deal with paradoxes and complexity. Innovation leaders see employees as partners and provide freedom as well as reflexion cycles	Kaudela-Baum et al. (2014)	System	Values Practices
Innovation leadership is a practice and an approach to organization development and organizational change. Innovation leadership commonly includes six tasks: data creation, best practice review, choice evaluation, innovation application, team training, and trend establishment	Gliddon (2018)	System	Practices
Managers that want to become innovation leaders should develop group norms, design team strategically, manage interactions with those outside the team, show support, display organizational support & use performance management effectively	Kremer et al. (2018)	System	Practices
Innovation leadership incorporates the strategic transformation of innovation inputs (financial resources, human resources, tools, and knowledge) into innovation outputs (form, magnitude, nature, referent, and type)	Nadkarni (2018)	System	Practices

Source: (own representation, 2019)

There exists no clear and unambiguous definition for the term »innovation leadership«. Innovation leadership was already discussed in the context of leadership style such as ambidextrous, authentic, transactional or transformational leadership (Alsolami et al., 2016) and in the context of diverse management models (Carmeli et al., 2010; Horth & Vehar, 2012; Johannessen et al. 2018; Lindgren & Abdullah, 2013; Nadkarni, 2018; Roscorla, 2010). For this reason, this paper dispenses with a further deepening in this context.

**Effectivity** describes three aspects: (1) doing the right things (effectivity = goals / results), (2) doing the things right (effectiveness = result / expense), (3) including a moral compass (ethics).

**Effective innovation leaders** transform unique ideas (goal) into marketable (digital) innovations by cultivating virtues to strengthen a positive human image (ethics). Some role models in that context are Yves Chouinard or Goetz Werner.

Due to the growing importance of digitization as a differentiating factor in global competition, the EIL-Model is applied in a digital innovation project. Digital innovation can be defined as digitization of processes, goods and services, that destroy established business models and disrupt existing value chains.

They are driven by digital technologies, creating opportunities for new improved business processes, new products or new services. The marginal cost to distribute digital innovation is near zero (OECD, 2016).

## THE EIL-MODEL

The EIL-Model is the result of a doctoral thesis (Schork, 2017), grounded in the iteration of six data sets interpreted from a Grounded Theory Methodology by Corbin & Strauss (2015).

First, a theory was generated based on a literature and journal review enriched with narrative interviews. One result of this is the historical overview of leadership epochs in the context of the innovation leadership construct. These range from person-centered to relationship-oriented, over systemic approaches, value-based approaches, motivation-theoretical approaches to holistic approaches that pay attention to integral theories in which the environment and its effect on individuals and groups are taken into consideration (Schork, 2017).

As a next step, the items grounded in theory are tested in the field (across three case studies), challenged with diverse innovation managers and innovation leaders from different companies as well as researchers from other universities. Finally, each item is compared to fundamental research. As well, the definitions were checked by an economic and sociological researcher.

The EIL-Theory is held against three existing leadership models resembling different perspectives on the economy (i.e., Otto Scharmer's Theory U, O'Reilly and Tushman's Ambidextrous Leadership Theory, and Malik's Management Theory). The elements and its relationships are specified, interrelations explained, sharp definitions of elements given, and semantic relationships with other constructs proposed. In addition to that, the approach follows the best practice proposed by Crawford and Kelder (2017). Content validity is stabilized with ten experts that are involved in a focus group workshop or in one of the narrative interviews. Eighty percent of the scholars are leaders and involved in leadership research and studies.

Finally, the researcher executes an assumption test for the relationship between the subcategory »practices« and »effectivity«. To measure internal consistency reliability, The Cronbach's alpha value is considered per variable and construct. All twelve constructs collected in the quantitative survey have a value greater than .7, five even a value greater than .8. Multicollinearity between variables can be excluded. External validity is ensured by a complete record. Furthermore, the normal distribution of the variables is considered as well as mean and standard deviation. Differences in response behavior can be identified between the employees and managers or learners and expert subgroups. An EFA results in correlation results with a KMO greater than .8. The professionalism construct consists of six variables (common goal, success orientation, best efforts, accuracy, quick problem solving and competitiveness). Highly significant correlations with  $r > .5$  exist between the constructs Focus & Professionalism, Co-Creation & Professionalism, Reflexivity & Professionalism, Entrepreneurship & Professionalism and as well as Co-Creation & Well-being, Entrepreneurship & Well-being and Path making & Well-being.

Research steps are documented in several publications Schork 2014a, Schork 2014b, Schork & Terzidis 2014, Schork & Terzidis 2015, Schork et al. 2016.

Based on the iteration of six data sources, the EIL-Model emerges. The EIL-Model shows the most frequently mentioned properties of an effective innovation leader. It consists of the three categories values, strengths, and practices. Those three categories have twenty sub-categories (see Fig. 1).

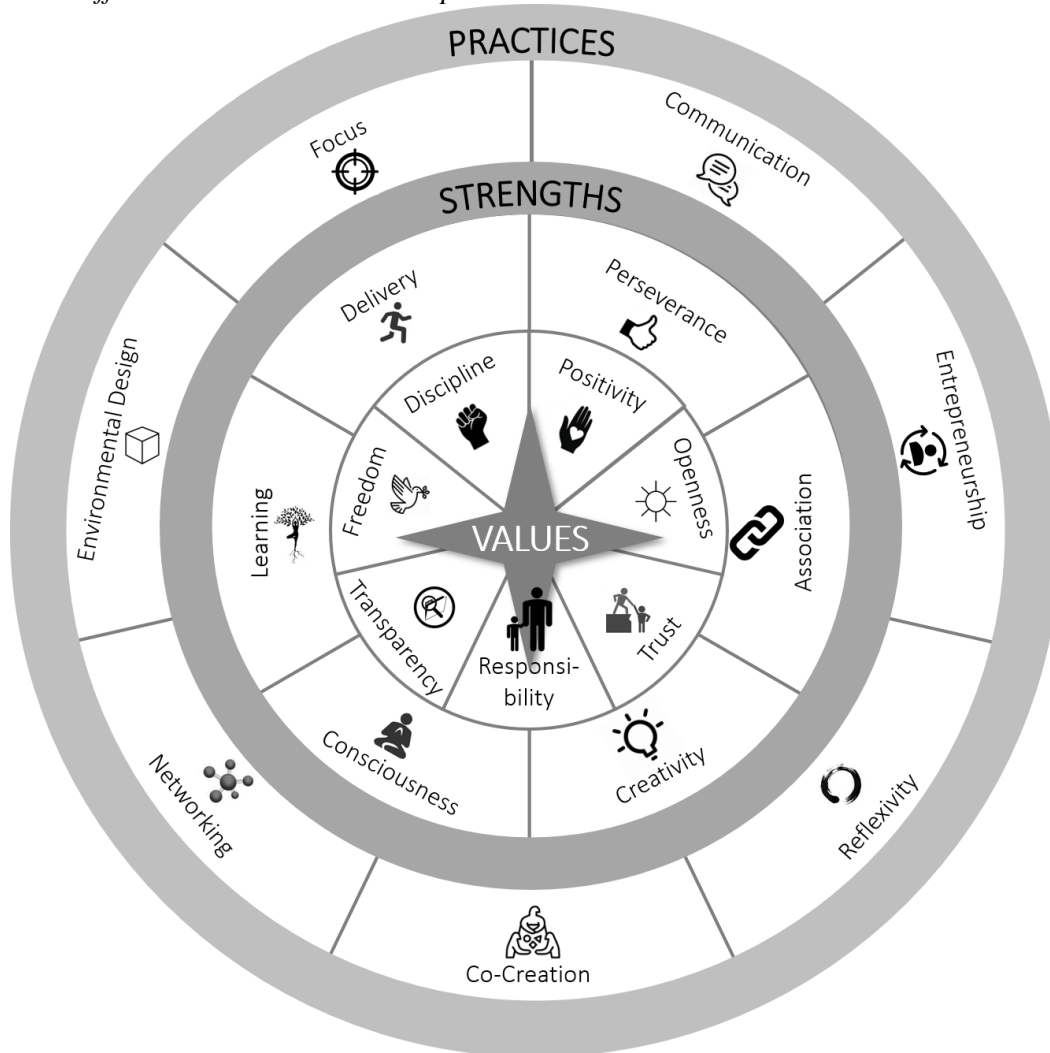
Values are defined as „an enduring belief that a specific mode of conduct or end-state of existence is personally and socially preferable to alternative modes of conduct or end-states of existence" (Rokeach

1973). When specifying values, a person answers the question, "What is important to me?". Because values are guiding principles, providing a direction in decision-making processes, they are symbolized with a compass in Fig. 1.

The second circle in Fig. 1 shows the strengths. Strengths are defined as „the ability to provide consistent, near-perfect performance in a given activity" (Buckingham & Clifton 2001). The underlying assumption of strength theory is that individuals have a unique mixture of talents that filter their thoughts, feelings, and behavioral patterns. There is much potential in talents to be able to provide particularly superior performance. If a person is aware of her/his talents and utilizes them, she/he can develop strengths. When specifying strengths, a person answers the question, "What is easy for me?".

Practices are defined as "specific professional behaviors that a person uses every day to be effective" (Malik 2014). Malik refers to the learned behaviors (also: skills) that a person uses. Tools and methods (such as digital devices, software programs, artificial intelligence, coaching tools, or creativity / business model techniques) can support practices. When specifying practices, a person answers the question, "What I do in my daily practice?".

Figure 1. The Effective Innovation Leadership-Model



Source: (own representation, 2019)

Each category (values, strengths, and practices) are broken down into subcategories, which lead to the following specifications (See Table 2). They answer the question: "what is important to an effective innovation leader, what is (s)he strong in and does (s)he do?". Additionally, the definitions are held against existing definitions.

Table 2. EIL subcategory definitions<sup>1</sup>

Category	Subcategory	Definition	Literature Review
Values	Discipline	It is essential to create something new, despite obstacles.	Innovation leaders are innovators, early adopters, opinion leaders, and change agents (Rogers, 1995)  They 1) encourage individual initiative; 2) clarify individual responsibilities; 3) provide manifest and complete performance evaluation feedback; 4) Maintain a strong task orientation, 5) Emphasize group relationships and, 6) Demonstrate trust in organizational members (Carmeli et al., 2010)  Innovation leadership includes several behaviors: 1) Embrace a challenge; 2) Drive change through collective creativity and knowledge; 3) Shape the culture of the organization; 4) Establish a professional learning system; 5) Decide and systematize; 6) Ensure digital access and infrastructure (Roscorla, 2010)
Values	Freedom	It is essential to make decisions free from specific personal or social ties.	Innovation leaders see employees as partners and provide freedom (Kaudela-Baum et al., 2014)  They encourage individual initiative (Carmeli et al., 2010)  Open leadership includes chaotic structures, intrinsic motivation, risk-taking, playful, dynamic and creative behaviors, based on autonomy and freedom (O'Reilly & Tushman, 2013)
Values	Openness	It is important to perceive the environment without judgment.	Being open in the mind, heart & hand, means not being fearful, an ideologist or ignorant, nor living fanaticism, hate or cynicism (Scharmer, 2019)
Values	Positivity	It is important to believe that life and people mean well with us.	Innovation leaders are competent in motivation (Gliddon, 2006)

<sup>1</sup> The author excluded dimensions such as ethics, tolerance, or wisdom although those three facets can have a high impact on the leadership effectiveness.

Category	Subcategory	Definition	Literature Review
Values	Responsibility	It is important to bring innovations into our world.	<p>Innovation leaders can support the success of the economy (Murphy &amp; Murphy, 2002)</p> <p>They sponsor, steer, and initiate innovation (DesChamps, 2003).</p> <p>They act as a role model (Hunter &amp; Cushenbery, 2011)</p> <p>Innovation leadership is a process of creating direction, alignment, and commitment that is needed to create and implement something new that adds value to an organization (Ailin &amp; Lindgren, 2008)</p>
Values	Transparency	It is important to make decisions visible and traceable.	<p>Innovation leaders directly provide creative input, clear work goals derived from an overall vision as well as resources and tools necessary to fulfil job tasks (Hunter &amp; Cushenbery, 2011)</p> <p>Innovation leaders establish a professional learning system, Decide and systematize and ensure digital access and infrastructure (Roscorla, 2010)</p>
Values	Trust	It is important to trust people unconditionally.	<p>Innovation leaders indirectly influence their employees by establishing a supportive climate (Hunter &amp; Cushenbery, 2011)</p> <p>They demonstrate trust in organizational members (Carmeli et al., 2010)</p>
Strengths	Association	It is easy to link independent concepts in a new way.	<p>Associating or the ability to successfully connect seemingly unrelated questions, problems, or ideas from different fields. It is central to the innovator's DNA an includes the four patterns of action questioning, observing, experimenting, and networking (Dyer et al., 2009)</p> <p>Associating or the ability to successfully connect seemingly unrelated questions, problems, or ideas from different fields. It is central to the innovator's DNA an includes the four patterns of action questioning, observing, experimenting, and networking (Dyer et al., 2009)</p>
Strengths	Consciousness	It is easy to be present, sensing the now.	<p>People-centered innovations need a sense of consciousness also called intentional (Edgeman &amp; Eskildsen, 2012)</p> <p>You cannot change a system unless you transform consciousness (Scharmer, 2019)</p>



Category	Subcategory	Definition	Literature Review
Strengths	Creativity	It is easy to generate useful ideas leading to meaningful innovations.	<p>Creativity is the generation of novel and useful ideas or solutions to problems (Amabile, 1983)</p> <p>According to Guilford (1966), a person's creative behavior is captured by the following basic psychological characteristics:</p> <ol style="list-style-type: none"> <li>1. Problem sensitivity (recognize that and where there is a problem)</li> <li>2. Liquid (produce many ideas in a short time)</li> <li>3. Flexibility (leaving familiar ways of thinking, developing new perspectives)</li> <li>4. Re-definition (reuse known objects, improvise)</li> <li>5. Elaboration (adapting ideas to reality, adding details)</li> <li>6. Originality (creating unusual novel ideas)</li> </ol>
Strengths	Delivery	It is easy to execute self-driven.	<p>Innovation leaders are managers driving innovation (Bossink, 2004)</p> <p>Closed leadership focuses on target agreements, power, planned task delivery, extrinsic motivation, and ordered structures (O'Reilly and Tushman, 2013)</p> <p>They are leading the diffusion of an innovation within an organization's social system (Gliddon, 2006)</p> <p>Innovation leadership is a process of creating direction, alignment, and commitment that is needed to create and implement something new that adds value to an organization (Ailin &amp; Lindgren, 2008; Alsolami et al., 2016)</p>
Strengths	Learning	It is easy to constantly learn by matching personal needs and actions.	<p>Innovation leaders hold the competence to learn (Gliddon, 2006)</p> <p>They build contexts in which learning, and adaptation to constant changes in the surrounding is possible (Kaudela-Baum et al., 2014)</p>
Strengths	Perseverance	It is easy to convince others with to-the-point expressions.	Innovation leaders are role models, provide rewards, and compose a creative team (Hunter & Cushenbery, 2011)
Practices	Co-Creation	In my daily practice, I co-create solutions with non-freeloaders.	<p>Innovation contributes to enterprise excellence through customer-centric collaboration (Edgeman &amp; Eskildsen, 2012)</p> <p>Fundamental change needs co-creation (Scharmer, 2019)</p>
Practices	Communication	In my daily practice, I cultivate (none)verbal understanding of a shared vision.	Innovation leaders honor deviations and focus on cultural, communication as well as relationship factors (Kaudela-Baum et al., 2014)

Category	Subcategory	Definition	Literature Review
Practices	Entrepreneurship	In my daily practice, I generate value through my ownership of actions.	Innovation leaders work on the development of incremental and radical business models. They deal with paradoxes and complexity (Kaudela-Baum et al., 2014) Solve big problems (Abbosh et al. 2019) Innovation leaders are managers, executives or entrepreneurs who successfully initiate, sponsor, and steer innovation in their organizations (DesChamps, 2003) Having an entrepreneurial mindset means recognizing opportunities, translating ideas into action, using resources intelligently, managing risks and creating values together (UIIN 2016).
Practices	Environmental design	In my daily practice, I create inspirational maker spaces.	Innovation leaders are shaping a working space increasing the learning and absorption capacity in a highly volatile context (Carmeli et al., 2010) Innovation leadership is defined as the process of creating the context for innovation to occur; creating and implementing the roles, decision-making structures, physical space, partnerships, networks, and equipment that support innovative thinking and testing (Porter & Malloch, 2010)
Practices	Focus	In my daily practice, I focus my actions on the enterprise purpose and goals.	Innovation leaders are leading the diffusion of innovation within an organization's social system (Gliddon, 2006) They clarify individual responsibilities; provide clear and complete performance evaluation feedback; and maintain a strong task orientation (Carmeli et al., 2010) For being creative, a state of perfect focus must be achieved. persons in this flow did not get any more of their environment with and go completely in the task on (Csíkszentmihályi, 1996)
Practices	Networking	In my daily practice, I integrate qualified people to increase market knowledge.	Networking supports the creative flow (Csíkszentmihályi, 1996) Innovation leaders implement networks (Porter & Malloch, 2010)
Practices	Reflexivity	In my daily practice, I adapt my thoughts through diverse dialogues.	Innovation leaders provide reflexion cycles (Kaudela-Baum et al., 2014)

Source: (own representation, 2019)

## THE GERMAN MIDDLE-CLASS

Most small and medium-sized enterprises (SMEs) fulfil the qualitative criteria of the concept of SMEs. However, large enterprises can also belong to the SME category, and the terms "small and medium-sized enterprises" and "small and medium-sized enterprises (SMEs)" are not synonyms (IfM Bonn, 2019).

According to the Institute for SME Research (IfM) in Bonn, around 3.7 million companies belong to the German SME sector. That is 99.6 percent of all private sector companies in Germany. Many medium-sized companies are at the same time family businesses: Around 95 percent of all companies in Germany are family-owned. Their unique way of doing business - long-term, stable, and independent - cannot be captured with a quantitative definition. These companies are characterized by shareholder loyalty and capital commitment. Of the family businesses with an annual turnover of at least 50 million euros, far more than half are in the hands of at least the second or third generation (Bundesverband der Deutschen Industrie e.V., 2015). The German top-selling family-owned companies in 2017 are listed in the following Table 3.

*Table 3. Top-selling family-owned businesses in Germany*

Rank	Company Name	Turnover in millions of euros
1	Volkswagen	230.682
2	BMW	98.678
3	Schwarz-Gruppe	90.200
4	Aldi Nord/Süd	72.125
5	Continental	44.010
6	Metro	37.140
7	Fresenius	33.886
8	Phoenix Pharmahandel	24.437
9	Ceconomy	22.155
10	Heraeus	21.844
11	Henkel	20.029
12	Boehringer Ingelheim	18.056
13	HeidelbergCement	17.226
14	Bertelsmann	17.190
15	Merck	15.327
16	Schaeffler	14.021
17	Marquard & Bahls	13.509
18	Mahle	12.788
19	Würth	12.722
20	Otto	12.512

*Source: (Statista, 2017a)*

Especially in times of crisis, when the economy is weak, family businesses have a stabilizing effect. From 2007 to 2016, German family businesses increased their headcount by 23%. At the same time, Dax companies increased their workforce by 4%. What family businesses have in common is that they are firmly rooted in their home region. It is precisely this economic structure that distinguishes Germany from other countries and stands for economic strength (Stiftung Familienunternehmen, 2019).

## THE APPLICATION OF THE CASE STUDY METHODOLOGY

*Doing case studies is a preferred method, compared to others such as experiments, surveys or statistical models, in situations when (1) the main research questions are “how” and “why” questions; (2) a researcher has **little or no control over behavioral events**; and (3) the focus of study is a **contemporary phenomenon** (Yin, 2014: 2).*

In this case study the research question "how can an innovation leader become effective in a German family-owned mid-tier company?" is answered. The study focuses on a single case in which one individual is studied in the context of one company.

Due to the complex environment of enterprises, the researcher has **little control** over the behavioral activities of individuals and groups and **no control over the behavioral activities** of competitors or states. All the aspects influence the effectivity of an individual.

Leadership is as many disciplines depending on consciousness states of individuals and their surroundings. If one looks at the leadership research over the last few years, one sees how the focus on the hierarchy of private room for maneuver refers to group approaches with a focus on the purpose or sense of activities (Schork, 2017). Therefore, leadership contexts are a **contemporary phenomenon** driven by needs, beliefs, and values. (Digital) Innovation is also driving the development of the economy. It is continuously tried to optimize existing and create new ones. (Digital) Innovation meet a prevailing Zeitgeist and therefore depend on the time in which they appear. Thus, the effectiveness of the initiatives of an innovation leader depends on the extent to which they meet with resonance in the environment.

*Case studies follow a twofold definition: (1) a case study is an empirical inquiry that **investigates a contemporary phenomenon (the “case”) in depth** and within its real-world context (especially when boundaries between phenomenon and context are not clear) and (2) a case study inquiry copes with the **technically distinctive situation in which there will be many more variables of interest than data points**, and as one result relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result benefits from the prior development of theoretical propositions to guide data collection and analysis (Barkley, 2006; Stjelja, 2013). A case study can include single or multiple cases, can be limited to quantitative evidence and can be a useful method in doing an evaluation. Properly doing case study research means addressing five traditional concerns about case-studies – by conducting the research rigorously, avoiding confusion with teaching cases, knowing how to arrive at generalized conclusions if desired, carefully managing the level of effort, and understanding the comparative advantage of case study research (Yin, 2014: 17).*

In this case study, a phenomenon of our time is examined, namely »innovation leadership«. In the previous paragraphs, the **contemporary aspect** was already presented.

The case study is a one-year study in which there are **many variables of interest than data points**. The observed company was implementing an innovation strategy, adapting structure and culture, and executing a new portfolio. The researchers were involved weekly in meetings, partly as observers, often active.

## CASE STUDY FINDINGS

The EIL-Model was applied for one year in two digital innovation projects of a family-owned medium sized company. The findings from this are listed below.

### Dimensions of the sub-categories

As Table 2 showed, some of the EIL-Model categories match existing innovation leadership definitions. Nevertheless, the existing definitions do not reflect the depth of each subcategory and sometimes focus too much on technocratic aspects. Therefore, in the following chapter, the dimensions of each sub-category are broken down into five dimensions, also called facets.

The dimensions are a result of the grounded theory analysis, which took place in the framework of the doctoral thesis between 2014 and 2016 (Schork, 2017), as well as subsequent findings generated in the field within the framework of the application of the EIL-Model (Schork, 2018).

The logic linking the data to the propositions are a category matrix specifying each of the sub-categories defined in Table 2 into five dimensions.

*Table 4. Operationalization of the EIL sub-categories<sup>2</sup>*

<b>Category</b>	<b>Subcategory</b>	<b>Definition</b>	<b>Operationalization</b>
Values	Discipline	It is essential to create something new, despite obstacles.	Change the existing with power Adopt and learn from new tech Rule by the will to innovate Express personal opinions Clarity about goals
Values	Freedom	It is essential to make decisions free from specific personal or social ties.	No felt restrictions Independence Unboundedness Right to do something Possibility to move freely and unhindered
Values	Openness	It is important to perceive the environment without judgment.	Outspoken nature Unreserved honesty Foster autonomy Integrate other perspectives Adopt and test the new
Values	Positivity	It is important to believe that life and people mean well with us.	See the good sides Act with love Attention to positive intentions Courage to withstand headwind Be positive without being naïve
Values	Responsibility	It is important to bring (digital) innovations into our world.	Active search for new opportunities Proactive communication Vouch for what has happened Change the status-quo Constant value creation activation

<sup>2</sup> The author excluded dimensions such as ethics, tolerance, or wisdom although those three facets can have a high impact on the leadership effectiveness.

<b>Category</b>	<b>Subcategory</b>	<b>Definition</b>	<b>Operationalization</b>
Values	Transparency	It is important to make decisions visible and traceable.	Establish traceable infrastructure Ask for sincerity Act transparent Be honest Provide access
Values	Trust	It is important to trust people unconditionally.	Instill confidence in others High uncertainty tolerance Give support Belief in life Act loyal
Strengths	Association	It is easy to link independent concepts in a new way.	Connect unrelated ideas Integrate different fields Question the existing Break away from the status-quo Constantly observe
Strengths	Consciousness	It is easy to be present, sensing the now.	Observe without judgment Predictive action in order to prevent dangers The activity of all senses Perceiving reality (i.e., feelings of others) Real interest in the surrounding
Strengths	Creativity	It is easy to generate useful ideas leading to meaningful (digital) innovations.	Recognize that and where there is a problem Leaving familiar ways of thinking, developing new perspectives Creating many unusual novel ideas Adapting ideas to reality Reuse known objects
Strengths	Delivery	It is easy to execute self-driven.	Blazing inner power Effective conception Self-responsibly initiate projects Ability to bring initiatives forward Urge to finish things
Strengths	Learning	It is easy to constantly learn by matching personal needs and actions.	Search for new information about a problem Reflect until new information is understood Enrich new knowledge with new perspectives Share new knowledge about patterns Share wisdom about principles
Strengths	Perseverance	It is easy to convince others with to-the-point expressions.	Provide plausible arguments The simple explanation for complicated things Ability to persevere Using a clear language Meeting the expectations of others
Practices	Co-Creation	In my daily practice, I co-create solutions with non-freeloaders.	Working together in a particular field Meet expectations of a group Co-creation of solutions Participation at eye level Exclusion of freeloaders
Practices	Communication	In my daily practice, I cultivate (none)verbal understanding of a shared vision.	Empathic listening Awareness of needs Allow feelings Name facts Express a vision

Category	Subcategory	Definition	Operationalization
Practices	Entrepreneurship	In my daily practice, I generate value through my ownership of actions.	Being self-reliant Solve big problems Taking risks Focus on generating value Investing energy to deal with complexity
Practices	Environmental Design	In my daily practice, I create inspirational maker spaces.	Hire creative people Establish agile processes and structures Build a self-organizing system Provide essential tools and methods Offer facilities/opportunities for autonomous and teamwork
Practices	Focus	In my daily practice, I focus my actions on the enterprise purpose and goals.	Articulate a clear vision Drive individual tasks Act towards a shared purpose Adopt priorities to continuous changes Provide feedback according to a shared purpose
Practices	Networking	In my daily practice, I integrate qualified people to increase market knowledge.	Development of a qualitative network Maintenance of a qualitative network Creation of a deep understanding Focus on an individual's knowledge Focus on people with a market overview
Practices	Reflexivity	In my daily practice, I adapt my thoughts through diverse dialogues.	Active search for diverse dialogue Execution of dialogues with friction Thinking practices through Examining constant considerations Taking time to reflect

Source: (own representation, 2019)

## Comparison with (rival) theory

In the following sub-chapter, a comparison of contemporary entrepreneurial management approaches and the EIL-Model takes place. Germany promotes Entrepreneurship, especially in companies and in science. Similarities between the EIL-Model and entrepreneurial approach will be deepened.

Due to the breadth of leadership theories, many researched approaches such as servant leadership, transformational leadership, or authentic leadership, all of which have been put into focus in the context of the doctoral thesis in epochal contemplation, gain no attention in this publication.

## Entrepreneurial Leadership (EL)

*“On the surface, one can associate entrepreneurs with leadership functions such as providing vision to the development of a new product, service, or organization. A leader must be entrepreneurial as well. It has been written that entrepreneurial leadership deals with concepts and ideas, and these are often related to problems that are not of an organizational nature” (El-Namaki 1992).*

Innovation leaders are responsible for the **creation of unique ideas** and the development of product, service, or process innovations. They struggle but need to **provide a vision**, so that employees know what their functions along the process are.

*“In summary, based on the literature, both leaders and entrepreneurs are successful<sup>1</sup> largely to the extent that they provide (1) strategic leadership (vision and long-term goals), (2) problem-solving skills, (3) timely decision-making, (4) a willingness to accept risks, and (5) good negotiation skills.” (Fernald et al., 2005)*

Because effective innovation leaders create **new solutions for existing problems**, they always need to **make decisions** on how to solve problems and **negotiate with stakeholders** so that they can deliver something new. Since the new is unpredictable, they **must take risks**.

By comparing a common definition of entrepreneurial leadership, it becomes visible that subcategories such as discipline, freedom, creativity, communication and entrepreneurship of the EIL-Model are related.

There are two fundamental differences between the two constructs. Entrepreneurs do not necessarily have to offer (digital) innovation in the market in order to create value. They can also copy existing business models (i.e., franchising systems) or consciously applying a follower strategy. Innovation leaders, on the other hand, do not have to be the owner of a company, they can be employed like Steve Jobs, or own their shares in a company without being the CEO, like Elon Musk. They develop something new in each case and thus lead the market.

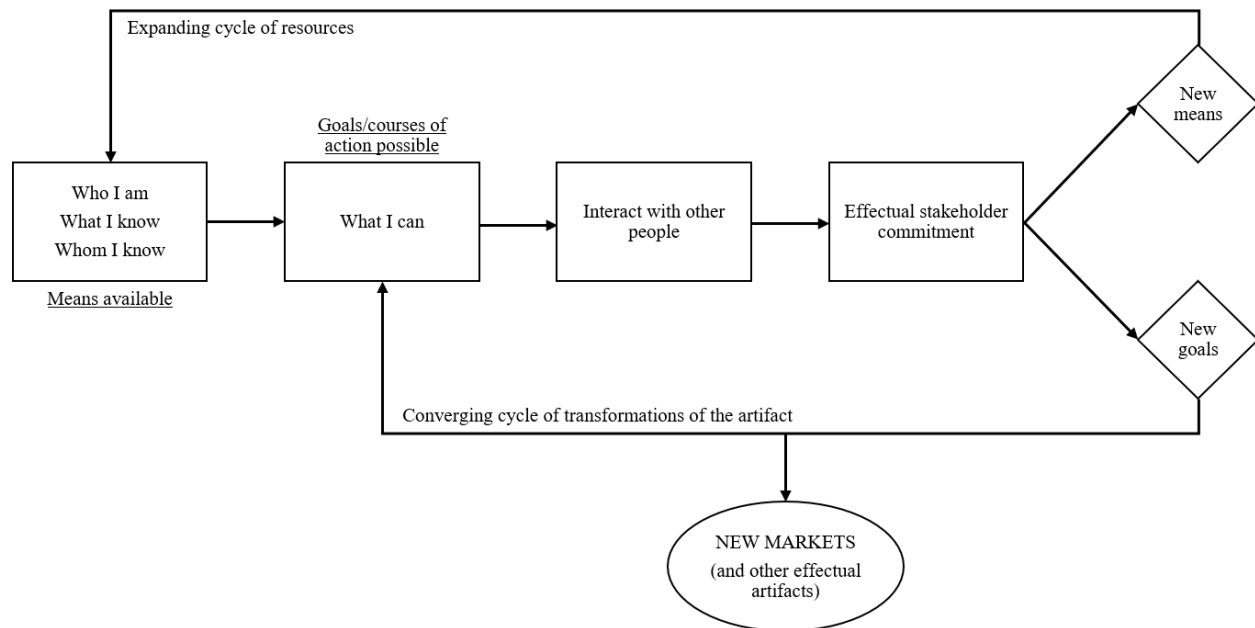
### **Effectuation (EF)**

*Effectuation is a term that Saras D. Sarasvathy researched on in her Ph.D. thesis, answering the question “how do entrepreneurs take decisions and take action?”. The effectuation approach describes an approach used by (experienced) entrepreneurs to solve problems and make decisions. Does an entrepreneur a) offer new products in a new market, or (b) a new product in an established market; or c) an established product in a new market, it can shape or control the market. The effectuation approach assumes that market forecasts cannot be made for the scenarios described in a) to c) because the future is not predictable but can be shaped. Effectuation describes a **dynamic and interactive process that allows the creation of new artefacts** (artificially induced changes or conditions). Further features of the effectuation approach are that **the entrepreneur makes his decisions based on the resources available to him and specifically tries to enter into partnerships with stakeholders to implement his business idea. He does not make decisions about an expected return but depending on his loss expectations within the framework of a predefined individual limit. He does not try to avoid imponderability by strict planning, but to use them profitably for himself and his business idea and reacts accordingly flexible to changes** (Gabler, 2019b).*

The dynamic model of effectuation assumes that new objectives are directly related to the sphere of action of an entrepreneur (See Fig. 2).



Figure 2. Dynamic model of effectuation



Source: (Sarasvathy, 2008: 101)

The statement "Who I am" is an expression of a person's identity, which includes, among other things, their values. Therefore, this statement is closely linked to "What is important to me," which stands for values in the EIL-Model.

The statement "Who / Whom I know" can be understood as a network with relevant decision-makers, which is expressed in the subcategory "Networking" in the EIL-Model.

The effectuation statement "What I can" connects to the statement "What is easy for me," which resembles the strengths in the EIL-Model.

New markets are one of the strategies innovation leaders can follow on but do not have to. Thus, this can be regarded as one of the distinguishing features of the two models Effectuation and EIL-Model.

The flexible reaction of entrepreneurs to changes is closely linked to the EIL subcategory "openness" and "freedom." As well, the creation of new artefacts is one aspect of the EIL subcategory "association," and the dynamic and interactive process is an aspect of the EIL subcategory "delivery."

The use of imponderability has an interrelation to "learning." The statement "an entrepreneur engages his environment" is related to "environmental design." Moreover, the statement "tries to enter into partnerships" with "networking."

### Social Entrepreneurial Leadership (SE)

*"Social entrepreneurial leaders are persons who create and manage innovative entrepreneurial organizations or ventures whose primary mission is the social change and development of their client group. The social enterprise's activities and its client group's activities can primarily be either economic or non-economic, but the mission is social change and development."* (Prabhu, 1999)

In Germany, non-profit organizations include associations, federations, self-governing bodies, non-profit organizations (gGmbH, gUG or gAG), cooperatives, or foundations, which are run by elected volunteers and can be supported in their work by volunteers. Non-profit organizations pursue the promotion of: science and research, education and training, art and culture, international understanding, help from politically, racially or religiously persecuted, for refugees, displaced persons, repatriates, late repatriates and others, monument protection and preservation, nature conservation and landscape conservation, local history and geography, traditional customs, animal protection, sports, development cooperation, civic engagement in favor of charitable, charitable and ecclesiastical purposes.

Few companies in Germany operate on a non-profit basis, e.g., Robert Bosch AG (92% non-profit), the consulting company PHINEO or research-oriented tech startups.

Motivations of social entrepreneurs are (McClelland, 1967):

- A deep feeling of uneasiness with the status quo
- Altruism
- Be true to one's values and beliefs
- Social responsibility

In brackets, related EIL-Model sub-categories are added to the upcoming motivators and abilities.

Swamy (1990) is writing about the following motivators:

- Urge to experiment (learning)
- Urge to fight injustice (responsibility)
- Ability and will to take high risks (entrepreneurship)
- High uncertainty tolerance (trust)
- Value the lifestyle from both the client group and society (openness)

As well, the researcher refers to certain abilities of a social entrepreneur (in brackets related EIL subcategories are added):

- Courage to withstand social censure (positivity)
- Sensitivity to feelings of others (consciousness)
- Ability to persevere (perseverance)
- Ability to develop and articulate a clear vision (focus)
- Ability to instill confidence in others (trust)
- Ability to think creatively (association)
- Ability to identify and meet the needs of the client group (co-creation)
- Ability to put in long hours of work (discipline)

(Prabhu, 1999)

By comparing the EIL-Model with the construct social entrepreneurial leadership, it becomes transparent that the category "value" seems to be of great importance for social entrepreneurs.

The following table shows the overlaps of the entrepreneurial approaches and the EIL-Model.

Table 5. Operationalization of the EIL sub-categories<sup>3</sup>

<b>Subcategory</b>	<b>Definition</b>	<b>Entrepreneurial Approaches</b>
Values	Values are guiding principles providing a direction in decision-making processes	EF: Who I am SE: Be true to one's values and beliefs
Discipline	It is essential to create something new, despite obstacles.	SE: Ability to put in long hours of work
Freedom	It is important to take decisions free from certain personal or social ties.	EF: Reacts flexible to changes
Openness	It is important to perceive the environment without judgment.	SE: Values the lifestyle from both the client group and society  EF: Reacts to changes in the outside world
Positivity	It is important to believe that life and people mean well with us.	SE: Courage to withstand social censure
Responsibility	It is important to bring (digital) innovations into our world.	SE: Urge to fight injustice
Transparency	It is important to make decisions visible and traceable.	
Trust	It is important to trust people unconditionally.	SE: Ability to instil confidence in others SE: High uncertainty tolerance
Strengths	If a person is aware of her/his talents and utilizes them, she/he can develop strengths.	EF: What I know
Association	It is easy to link independent concepts in a new way.	EF: Creation of new artefacts
Consciousness	It is easy to be present, sensing the now.	SE: Sensitivity to feelings of others
Creativity	It is easy to generate useful ideas leading to meaningful (digital) innovations.	SE: Ability to think creatively
Delivery	It is easy to execute self-driven.	EF: dynamic and interactive process
Learning	It is easy to constantly learn by matching personal needs and actions.	SE: Urge to experiment  EF: uses imponderability his/her business idea
Perseverance	It is easy to convince others with to-the-point expressions.	SE: Ability to persevere
Practices	Learned behaviors that a person uses	
Co-Creation	In my daily practice, I co-create solutions with non-free-loaders.	SE: Ability to identify and meet the needs of the client group
Communication	In my daily practice, I cultivate (none)verbal understanding.	EL: Providing vision

<sup>3</sup> The author excluded dimensions such as ethics, tolerance, or wisdom although those three facets can have an indirect impact on the leadership effectiveness.

<b>Subcategory</b>	<b>Definition</b>	<b>Entrepreneurial Approaches</b>
Entrepreneurship	In my daily practice, I generate value through my ownership of actions.	EL: strategic leadership, problem-solving skills, timely decision-making, willingness to accept risks, good negotiation skills  SE: Ability and will to take high risks, makes his decisions based on the resources available  SE: A deep feeling of uneasiness with the status quo
Environmental design	In my daily practice, I create inspirational maker spaces.	EF: An entrepreneur engages his environment
Focus	In my daily practice, I focus my actions on the enterprise purpose and goals.	SE: Ability to develop and articulate a clear vision
Networking	In my daily practice, I integrate qualified people to increase market knowledge.	EF: Tries to enter into partnerships with stakeholders
Reflexivity	In my daily practice, I adapt my thoughts through diverse dialogues.	

*Source: (own representation, 2019)*

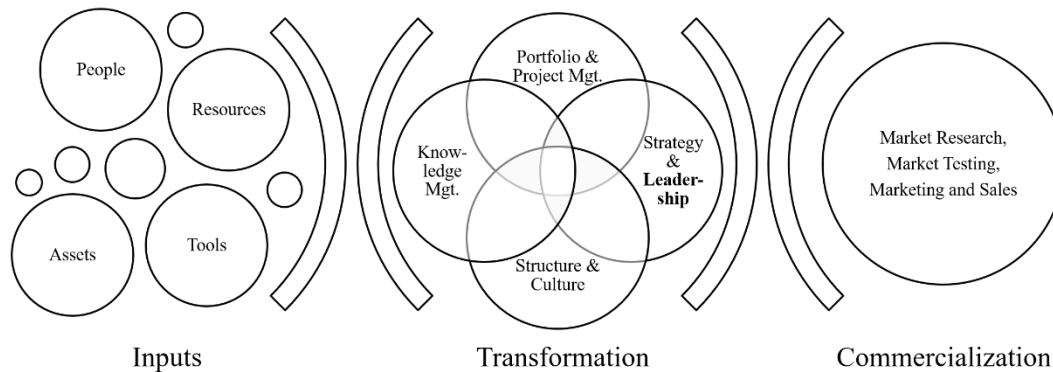
The category practices, as well as the subcategories reflexivity and transparency are not reflected in the entrepreneurial models.

### **Innovation Management**

Adams et al. (2004) and several other researchers such as Burgelman et al. (2004), Chiesa et al. (1996), Cooper & Kleinschmidt (1995), Cormican & O'Sullivan (2004), Goffin & Pfeiffer (1999), Verhaeghe & Kfir (2002) see in innovation management a conceptual framework of process that provides the basis for a general measurement framework which aims to assess the successful exploitation of new ideas within an organization (Alsolami et al., 2016). The authors propose a seven-dimensional conceptualization of the innovation management phenomenon: (1) inputs (people, physical and financial resources, tools), (2) knowledge management (idea generation, knowledge repository, information flows), (3) innovation strategy (strategic orientation, strategic leadership), (4) organization & culture (culture, structure), (5) portfolio management (risk/return balance, optimization tool use), (6) project management (project efficiency, tools, communication, collaboration), and (7) commercialization (market research, market testing, marketing and sales).

LEADERSHIP in the innovation management framework is part of the dimension "innovation strategy." This insight leads to the assumption that leadership must always be thought of in the context of the organizational set-up (See Fig. 3).

Figure 3. Innovation Management based on Adams et al. (2004)



Source: (own representation, 2019)

## SOLUTIONS AND RECOMMENDATIONS

If innovation management is seen as an organizational model, innovation leadership is part of the design of an innovation strategy. Behavior and ways of thinking of individuals must therefore always be thought and understood in the system as well as context. Innovation leadership approaches still need to catch up in this context and could, for example, orientate themselves on holistic approaches such as the Theory U from Otto Scharmer (2019) or the AQAL Model from Ken Wilber (2005).

Single leaders can only be successful if they have peer or top management support on a broad basis. If no one recognizes the leader decision space or if (s)he is overruled by higher hierarchies, the person is not able to act.

As well, the creative team around the innovation leader must be open-minded, flexible instead of being dogmatically or compulsively. Graduates of schools and universities rarely bring these properties. Ego and inflexible or fixed mindsets are large troubles.

Especially power and performance systems have an impact on innovation leader's initiatives. Often, they have grown historically and are therefore difficult to break through, especially because networks try to prevent this.

Effective innovation leaders know how to adopt methodologies when needed to increase the association skills of their team. Here they often must act against the creativity-minimizing consequences of education systems and false beliefs.

Still, innovation leadership needs to be understood as an individual task. Individuals can only control their own and not the behavior of others. To some extent, they may influence others. Manipulation is not allowed from an ethical and moral point of view. In a work environment based on freedom and not compulsion, which is indispensable for digital innovation projects, the decision ultimately rests with the individual.

Finally, the unifying element of a working group based on autonomy is a common vision or purpose which is indispensable for an effective interrelationship. That is why telling the "why" behind activities is so relevant. In order to gain clarity in this area, the ikigai model can be recommended (Lemke, 2017).

In order to enable new forms of entrepreneurship, ego models must be replaced by community models. Existing companies often find themselves in crisis, making new forms of economic management inevitable. Unfortunately, these approaches are still in the minority and are not understood by the broad mass or ironed out as hocus-pocus.

On a meta-level, we can summarize the following about effective innovation leadership: people with a positive image of the human being are taking responsibility for innovation and are doing meaningful jobs to transform unique ideas into marketable (digital) innovations by cultivating virtues in order to achieve a shared higher goal (purpose). Therefore, they interact with internal and external stakeholders. The combination of all activities in the system creates new meaningful solutions generating market share and revenues without bypassing social and environmental factors.

## **FUTURE RESEARCH DIRECTIONS**

Future research should:

- integrate sense of life - what it is worth living for.
- relate more to the relationship of the individual with its environment.
- focus more on proximity and the distinction between innovation and entrepreneurial models and embed the insights in a contextual model.
- establish new economic models taking both capitalism and socialism into account.
- understand how far the degree of individual leaders can be in an innovation management system.

## **CONCLUSION**

The economic importance of thinking about new forms of leadership and economics is undisputed.

However, reality shows how difficult it is for established businesses in Germany to break out of old patterns and to find fruitful co-creation processes.

It is promising to build a group of leaders who together advance a vision for the company and provide their colleagues with security in difficult times through, for example, personality development or methodological support or mentoring.

The environment and its support are crucial to the success of an enterprise. Neither Greta Thunberg, Steve Jobs nor Elon Musk did it alone. They had supporters, door openers, and gatekeepers believing in and supporting their vision.

In order to be effective, the meaning of one's own sphere of action must be clear, and a co-creative environment must be created, in which people meet not in the EGO, but with a holistic openness. Once this is the case, processes can help increase the effectiveness of the group and facilitate coexistence. Leaders are not there to control or cynically evaluate or to incite fear or ignorance, but to inflame curiosity, courage and commitment. Toxic companies moving in the drama triangle will not make the leap into the future.

## **LIMITATIONS**

This book chapter focuses on digital innovation projects in one German case study. Cultural characteristics and market events thus influence the results.



## **OUTLOOK**

In this paper, from the iteration of the qualitative data already collected and newly added, each construct with five dimensions was operationalized in Table 2. These dimensions become the basis of a later focus group pre-test with minimum thirty leadership scholars covering three to five different perspectives. The insights generated from the focus groups build the basis for a quantitative survey that will be adopted in Germany enterprises and analyzed with a CFA. The empirical study will take note of the seven recommended steps of Crawford & Kelder (2017): (1) Report on, and factor in, assumptions of normality; (2) Test internal reliability using tests designed for the model specification; (3) Use factor analysis appropriately, (4) Report on, at least, SRMR, Chi-square test, RMSEA, and CFI; (5) Demonstrate, at minimum, predictive validity that equals or exceeds existing leadership theories; (6) Consider sample size based on the tests to be used, with 150 being the bare minimum responses; and (7) Report methods and justify assumptions clearly.

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## KEY TERMS AND DEFINITIONS

**Digital innovation:** digitization of processes, goods and services, that destroy established business models and disrupt existing value chains.

**Effectivity:** Relevant jobs are done correctly in an ethical manner.

**Effective innovation leadership:** Transformation of unique ideas into marketable (digital) innovations by cultivating virtues to strengthen a positive human image.

**Innovation Leadership:** Power bringing innovation into the world.

**Innovation:** The creation of new forms of solutions (such as products, services or processes).

**Leadership:** Point of orientation that drives itself and others.

**Practices:** Methods, tools, and instruments adopted in daily practice.

**Purpose:** The intention of why jobs are done.

**Resilience:** The ability to cushion problems.

**Strengths:** Potentials that have been trained and thus developed into excellence.

**Values:** Belief systems are driving decisions and actions.

## ENDNOTES

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<sup>1</sup> “Successful” is a key adverb and a vital factor in this review. Many leaders and entrepreneurs fail. Whenever possible, the authors have tried to include only those behavioral characteristics shared by leaders and entrepreneurs that lead to successful attainment of visions and goals.