

WHY METALLICA CHANGED MUSIC WORLD. EFFECTUATION PERSPECTIVE

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Abstract

The purpose of this article is to understand the underlying factors why Metallica was capable of creating radical changes in the music industry and conquering the world. Metallica's history is examined during the period of 1981-1991 when Metallica advanced from a garage band into one of the world's biggest bands. Metallica also played a remarkable role in the generation of new thrash metal genre. The effectuation theory is utilized in analyzing how this happened. This study provides knowledge on what is needed in creating this kind of success and progress. Prior to this, the effectuation theory has not been connected to the operations of any band or even other artists.

Keywords: *effectuation, entrepreneurship, Metallica, effectual logic, market creation, renewal, thrash metal, music industry, heavy metal.*

1. Introduction

When starting Metallica, the primary goal of its founders, Lars Ulrich and James Hetfield, was learned to play, build a band, play to an audience, and make their first own song and album. They did not dream of becoming rock stars (Brannigan & Winwood, 2013a). At the beginning of the 1980s, Metallica stood out clearly from glam metal, which was the heavy metal phenomenon of that time in the US. Whereas Mötley Crue and other similar bands put on makeup, dressed colorfully and enjoyed the status of being rock stars, the members of Metallica looked ragged and modest (Halfin, Hammett & Uet, 2010; McIver, 2009). To many, Metallica's appearance was as disgusting as their music. However, Ulrich and Hetfield believed in what they were doing and took it forward with passion. In 1986, five years after starting the band, they still earned only \$30 a day. At the time, it was enough to live on and got to do what they loved. During 1987-1988, the situation began to change rapidly. Their efforts began to show also as property (Brannigan & Winwood, 2013a).

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Nowadays, Metallica is one of the most commercially successful bands of all time, with estimated sales of almost 93 million albums worldwide (Metallica Album Sales Statistics, 2016). Metallica also created a new music genre of thrash metal (Brannigan & Winwood, 2013a; McIver, 2009). The band culminated in the *Black* album released in 1991, ten years after the band was founded. Today, the *Black* has sold about 23 million copies (Metallica Album Sales Statistics, 2016; Brannigan & Winwood, 2013b). The *Black* was Metallica's artistic and financial highlight after which Metallica lost its best creative capability (Brannigan & Winwood, 2013a,b; McIver, 2009).

The first research objective is to analyze why Metallica was capable of creating radical changes in the music industry during the period 1981-1991. Besides Metallica, some other bands from different genres have same kind of achievements. Studying those bands would be as valuable as studying Metallica. However, this research was restricted to one case to focus on it profoundly.

Entrepreneurial behavior has played an important role in Metallica's history. New market creation, renewal of band and growth are good indications about that. The band's success has especially been based on a duo of Ulrich and Hetfield who acted in accordance with their values and identities (Brannigan & Winwood, 2013a; Wall, 2011). Sarasvathy (2009), Sveningsson and Alvensson (2003) and Leppänen (2013) emphasize the role of identity in entrepreneurship. Furthermore, Ulrich and Hetfield were able to build a network around them, which was crucial to their success (McIver, 2009). Networking is seen one of the most important success factors in entrepreneurship (Furr and Dyer, 2014; Sarasvathy, 2009; Sims, 2011). Metallica's courageous seizing of opportunities, dedication, determination, and hard work enabled the creation of one of the most famous success stories of the music world (Wall, 2011; McIver, 2009). These characteristics are often connected to entrepreneurship (e.g. Sims, 2013; Sarasvathy, 2009; Leppänen, 2013; McGrath & MacMillan, 2000).

Ulrich and Hetfield were trial-and-error-orientated (Berlinger & Sinofsky, 2014; Brannigan & Winwood, 2013a). Ries (2011) and Sarasvathy (2009) write that entrepreneurs create new things under the uncertainty. Planning in advance does not work in the environment of uncertainty, but do experiments and learning from them is more crucial (Furr & Dyer, 2014; Sims, 2011). Ulrich and Hetfield did not follow the trends of the music industry and predicted the future, but they created with their preferences and actions an environment they liked (Brannigan & Winwood, 2013a). Finally, Metallica created a new music genre of thrash metal by combining earlier music genres (Brannigan & Winwood, 2013a; McIver, 2009). According to Schumpeter

(1976), entrepreneurship results in new industries and products by connecting existing things.

Making money was not the primary concern of Ulrich and Hetfield at the beginning of their career (Brannigan & Winwood, 2013a). That is why the entrepreneurial mindset (e.g. McGrath and MacMillan 2002) describes better Metallica's behavior than more monetary-oriented entrepreneurship concepts. According to Financial Times Lexicon (2016), the entrepreneurial mindset refers to a specific state of mind which orientates human conduct towards entrepreneurial activities and outcomes. Individuals with entrepreneurial mindsets are often drawn to opportunities, innovation, and new value creation.

Entrepreneurial behavior can be approached from different perspectives. Through theoretical mapping two promising theoretical frameworks were found to analyze Metallica case: *bootstrapping* (Bhide, 1992; Christiansen & Porter, 2009) and *effectuation* (Sarasvathy, 2001). These approaches have many similarities but also some differences. Effectuation was chosen as a theoretical framework for this study because it focused more on human and social capital than bootstrapping that emphasizes more on the financial aspect. The story of Metallica is above all a story about human and social assets. Second reason for selecting effectuation was its emphasis on new market creation. In bootstrapping, the emphasis is on developing products that target market actually wants and likes (Rojas, 2010). Metallica did not penetrate to current market but created a new market and changed consumer behavior.

The effectuation has been studied in start-ups and matured companies in several fields such as health care, biotechnology, winemaking, and cosmetics (Effectuation website, 2016). Case study seems to be a dominant research method in studies of effectuation. So far, the creation of new bands and their markets has not been examined scientifically or practically from the viewpoint of effectuation. In fact, it seems that effectuation has not been studied in any area of art. This is surprising because many artists are entrepreneurs. On the other hand, artists also have problems to make money with their art. This possibly results from a lack of their entrepreneurial mindset (Lepore, 2015).

Related to first research objective, the following working hypothesis was set: Metallica's capability of creating radical changes in the music industry and conquering the world may result from their effectual activity. The second research objective is to find out how the effectuation theory applies to the music band and above all to an art context.

The article proceeds so that the next chapter presents the effectuation, after which Chapter 3 describes the case of Metallica. In Chapter 4, the case is analyzed with the help of the effectual logic. Chapter 5 discusses the results of the research. The article is concluded by the summary and needs for further research.

2. Effectuation

Effectual logic/entrepreneurial thinking is especially suited for creating new when the future is difficult to predict. In this case, the goal or outcome is uncertain. Effectual logic starts with the available means and resources, which can be used to create a new product or a company as well as new markets. Vice versa, *causal logic/managerial thinking* is suitable for such situations where there is a clear goal which is aimed at finding the best available means. The causal logic begins with the impact we wish to make. The differences between effectual and causal logic are presented in Figure 1. The differences can also describe from the viewpoint of controlling:

- ◆ Effectual logic: The more you can control the future, the less you have to predict it.
- ◆ Causal logic: The more you can predict the future, the more you can control it (Sarasvathy, 2001; 2009)

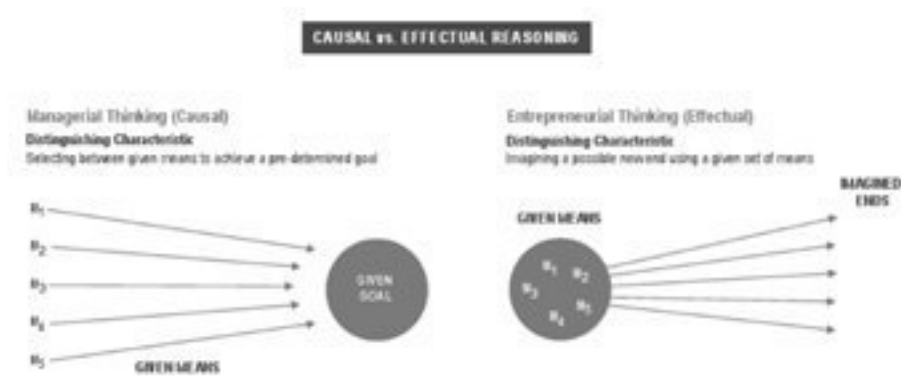


Figure 1. The difference between effectual and causal logic

Source: Effectuation website (2014).

2.1 Innovation matrix and suicide quadrant

Means-based effectual logic indicates higher growth potential than causal logic (Nienhuis, 2010). The use of effectual logic is especially suitable for the start-up phase of an organization or innovation. Entrepreneurs utilize this logic especially in the so-called suicide quadrant of innovation, where a new product is created for new markets (Figure 2). In fact, entrepreneurs do not see this as a suicide quadrant, but as a possibility to create new business operations by controlling the unpredictable future of their own activities. They see uncertainty as an opportunity (Sarasvathy, 2009).

	<i>Existing market</i>	<i>New market</i>
<i>Existing product</i>		
<i>New product</i>		<i>Suicide quadrant</i>

Figure 2. Innovation matrix and the suicide quadrant

Source: Sarasvathy (2009).

Effectual problem space

Entrepreneurs face uncertainty on three levels, which form the effectual problem space (Sarasvathy, 2009):

- 1) *Knighitian uncertainty:* It is impossible to measure the probability of results from actions that are carried out. In effectual logic, probabilities are not considered as given constants.
- 2) *Ambiguity of goals:* The goals and preferences of entrepreneurs are not entirely clear. In effectual logic, goals and preferences may change along the way.
- 3) *Isotropy:* Uncertainty of where attention should and should not be paid in an environment – what information is relevant and what is not. In effectual logic, the environment is not taken as something given that must be adjusted to, but it is possible to impact the environment

Due to the uncertainties, action and experimenting are more important matters than planning in effectual logic. Effectual actors inevitably face failures along the way. They are an integral part of the journey. Learning from the failures and keeping them small is crucial. On the other hand, small successes recurring are important in creating something new (Sarasvathy, 2001; 2009).

Principles of effectuation consists of (Sarasvathy, 2009):

- 1) *Bird-in-hand:* When entrepreneurs set out to build a new venture, they start with their means: who I am, what I know, and whom I know.
- 2) *Affordable-loss:* Entrepreneurs limit risk by understanding what they can afford to lose at each step, instead of seeking large all-or-nothing opportunities.
- 3) *Crazy/patchwork-guilt:* Entrepreneurs build partnerships with self-selecting stakeholders. By obtaining pre-commitments from these

key partners early on in the venture, they reduce uncertainty and co-create the new market with its interested participants.

- 4) *Lemonade*: Entrepreneurs invite the surprise factor. Instead of making “what-if” scenarios to deal with worst-case scenarios, they interpret bad news and surprises as potential clues to create new.
- 5) *Pilot-in-the-plane*: By focusing on activities within their control, entrepreneurs know their actions will result in the desired outcomes. An effectual worldview is rooted in the belief that the future is neither found nor predicted, but rather made.

Dynamic process model of effectuation

Effectuation is not a static, one-time exercise. It is a logic and process that can be used as the organization develops in the early start-up phase of growth. The dynamic process model of effectuation (Figure 3) includes the following phases (Sarasvathy, 2009):

- 1) The entrepreneur owns the means, i.e. who I am (identity), what I know/can do (human capital) as well as whom I know and what can they do (social capital).
- 2) Focus is on what it is possible to do and aspire to – i.e. what can be influenced by one’s own actions. Focus is not primarily on what should be done.
- 3) Some of the people involved in the interaction are committed to the idea and the company. Partners can be, for instance, potential customers.
- 4) Each commitment, activity, and experiment results in new means and goals for the company. Each cycle shapes the idea, the company, and the markets.
- 5) Due to the growing network, restrictions begin to increase. Restrictions limit the possibilities to change the goals. Thus, restrictions also define who will be included in the network.
- 6) Changes in the environment offer new means, but also create restrictions.

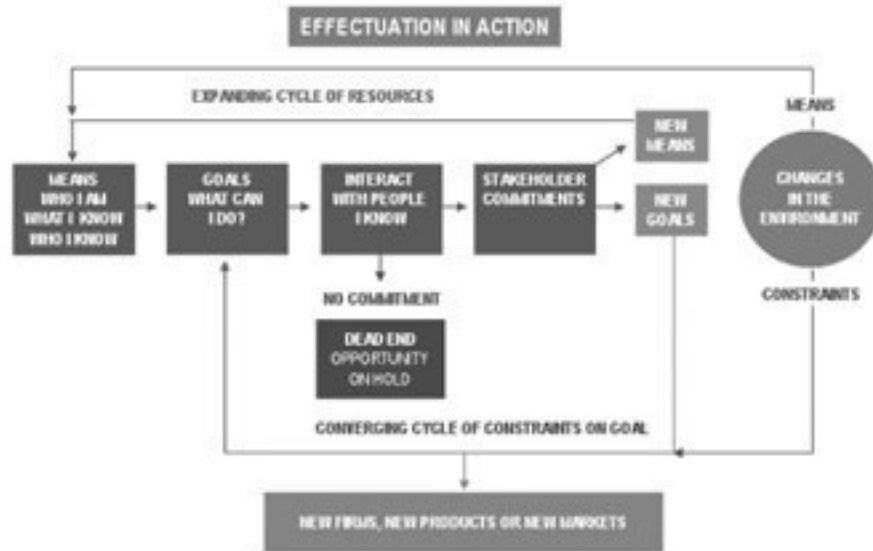


Figure 3. Dynamic process model of effectuation
Source: Sarasvathy (2009).

3. Description of case Metallica

Metallica’s capability of creating radical changes in the music industry and conquering the world are related to entrepreneurial behavior, new market creation, and renewal and growth of the band. In consequence, gathering of research data about Metallica focused on these elements. Research data was collected from existent documentary material about Metallica. Data was gathered as long as saturation point was achieved. The following case description is based on this data.

3.1 Ulrich and Hetfield – Founders of Metallica

Let us look first at the backgrounds of Ulrich and Hetfield, since Metallica’s success is based especially on their dreams and personalities. Ulrich wanted to create the world’s biggest band, and Hetfield pursued to get rich by making music. In the beginning, these were only distant dreams. Ulrich and Hetfield did not establish exact goals or plans, such as making music in a specific genre, in order to achieve their dreams (Brannigan & Winwood, 2013a). They played and composed the kind of music they liked and were capable to play. On the other hand, they were ambitious and wanted to differ from the others

musically by making new kind of music that didn't yet exist in the world (Brannigan & Winwood, 2013a; McIver, 2009). However, no one could have predicted that Metallica would make the kind of music they did in the *Black* album, which would make the dreams of Ulrich and Hetfield come true. Their goals were sharpened along the way, and preferences related to music style were transformed (Brannigan & Winwood, 2013a; 2013b).

Ulrich and Hetfield were very strong and stubborn personalities, who have also been called control freaks. The reigns were then tightly in their hands. They always had the last word in decisions. There was no room for compromises (Brannigan & Winwood, 2013a; McIver, 2009). On the other hand, they were different kinds of people. Hetfield was good at composing music and charismatic on the stage, while Ulrich excels networking and creating relationships (Eglinton, 2010; Halfin et al., 2010). They knew how to utilize each other's strengths and complete weaknesses (Brannigan & Winwood, 2013a; Wall, 2011).

During the early days, the members of Metallica's members had nothing to lose. Music was a way of life for them (McIver and Hammett, 2011; McIver, 2009). For Hetfield, music even meant so much that he believed it had saved him from either death or jail (Berlinger & Sinofsky, 2014, Eglinton, 2010). At first, they did not think about any possible profits. It was enough for them to get to play and be able to buy food and drinks. The dream of getting rich and creating the world's biggest band was still far away, and they did not think about it in their daily lives (Brannigan & Winwood, 2013a).

New thrash metal genre

At the beginning of the 1980s, glam metal was big in the US, and many record labels stood behind it. However, the Metallica was determined to take their endeavor to another direction. Metallica offered a new alternative to the hidden needs of the music audience (Brannigan & Winwood, 2013a; McIver, 2009). Most people did not believe in Metallica and its music. The band got its energy and confidence from enthusiastic underground fans during gigs. For Metallica, the full support of a small fan group revealed they were on the right path. Metallica even moved from Los Angeles to San Francisco, where the audience was considerably more tolerant with regard to experimental music. In San Francisco, they also found other thrash bands, with whom it was easier to build a new music scene. Metallica did not adjust to the prevailing general environment but started to change the prevailing state of music and consumers' preferences for their activities (Wall, 2011; McIver, 2009).

Although Metallica was not specifically restricted to certain music genres, the music and attitude of the band greatly influenced the creation of the thrash metal genre. When *Kill'em All* debut album was released in 1983; it

created the standards for thrash metal (Wall, 2011; McIver, 2009). The band got influences especially from the New Wave of British Heavy Metal (e.g., Diamond Head and Iron Maiden), Motörhead and the nihilistic American punk. Combining these genres was essential in the creation of thrash metal (Brannigan & Winwood, 2013a). Metallica found its own style through experiments, the most important of which were their numerous gigs. At first, the band played its songs slower but gradually the tempo increased (Brannigan & Winwood, 2013a; McIver, 2009).

Renewal of music, band and network

Metallica differed considerably from typical heavy metal bands due to their wide taste in music – from Ennio Morricone to Simon & Garfunkel (Brannigan & Winwood, 2013a). This was a reason why Metallica renewed its music for every new album. Maybe the most significant change occurred after the album ...*And Justice for All* when Metallica tired of complex song structures. For the *Black* album, the songs were considerably simplified and simultaneously the tempo was slowed down. In 10 years, the thrash metal band transformed as a hard rock band. The *Black* album was their real breakthrough into the mainstream (Brannigan & Winwood, 2013a; McIver, 2009).

Networking played an important role in Metallica's renewal and rise to the top. Especially Ulrich created networks effectively. This way Metallica found suitable musicians, managers, record labels, and producers. In the beginning, the band members' friends were committed in Metallica, but Metallica networked with anyone. In this context, we cannot belittle the significance of the "social media" of the 1980s. Fanzines and trading cassettes played an important role in creating networks and spreading the word over the US and the world (Brannigan & Winwood, 2013a; McIver, 2009).

After a few early bad choices regarding band members, Ulrich and Hetfield started to pay more attention to their choices in musicians and partners. New arrivals were often put to a hard mental and physical test in order to prove their abilities and suitability to Metallica. For instance, the bass player Jason Newstedt and the producer Bob Rock got to experience this first-hand. Ulrich and Hetfield did not trust talks and promises. In their opinion, only actions revealed the true state of matters. In this way, they were able to effectively get rid of opportunists and retards (Brannigan & Winwood, 2013a; 2013b; McIver & Hammet, 2011).

Metallica had a core, an inner and an outer circle of people. The core of the band was formed by Ulrich and Hetfield. The first inner circle is formed by the bass player and second guitar player (Berlinger & Sinofsky, 2014; Brannigan & Winwood, 2013a; McIver, 2009). Also, Bob Rock, who produced the *Black*, reached the first inner circle or even the core of the Metallica. When

composing, Metallica did not listen to outside people's advice before Bob Rock (Berlinger & Sinofsky, 2014; Brannigan & Winwood, 2013b). The second inner circle is formed by managers and record label representatives. The press and fans can be thought to form the outer circle. The inner and outer circles were constantly changing. Each new album release and tour meant some change in the network. The network offered new means for making better albums, tours, and marketing (Brannigan & Winwood, 2013a).

Courageous grabbing coincidences and opportunities separated Metallica from many other bands. Especially Ulrich was strong in this area. A good example of this is when Ulrich reserved a spot for a song in the *Metal Massacre* collection even before he had a band or any song. With regard to creating Metallica, this was a very significant event since it offered Ulrich an opportunity to work together with Hetfield (Brannigan & Winwood, 2013a; McIver, 2009).

Metallica also faced numerous failures. Especially, commercial experiments made against Metallica's instinct usually failed. Examples of these are the song "Escape" in the *Ride the Lightning* album and choosing the producer of the hit album *Appetite for Destruction* by Guns 'n' Roses to produce the album *...And Justice for All*. On the other hand, without experiments, Metallica would not have developed to the mega band. The audience liked Metallica's changes during the period 1981-1991, and sales grew in leaps (Brannigan & Winwood, 2013a). Some of the early thrash metal fans disappeared, but they were multiplied by the new audience (McIver, 2009).

Metallica's growth

In early days, Metallica did not have the money to release albums or go on extensive tours, so the band inevitably needed external resources (Brannigan & Winwood, 2013a). Their first manager, Jon Zazula, found Metallica via their 's *No. Life 'til Leather* demo (McIver, 2009). Zazula saw so much potential in Metallica that borrowed money to cover the recording budget of debut *Kill'em all*. A few years later he had to step down when a larger caliber manager stepped in. Metallica made this decision because they saw it as a crucial step in securing the band's growth (Brannigan & Winwood, 2013a).

Indicative of the band's commercial growth is that in its release year 1983, *Kill'em All* sold a few tens of thousands of copies. Eight years later the *Black* sold 650,000 copies in the US during the first week. Today it has sold about 23 million copies globally (Brannigan & Winwood, 2013a; Metallica Album Sales Statistics, 2016). The budget for making the *Kill'em All* debut album was \$15,000 and making it took only a couple of weeks in the studio.

The budget of the *Black* was \$1 million, and the band was at the studio nine months (Brannigan & Winwood, 2013a).

At the beginning of Metallica’s career, neither the band nor anyone else could predict, how much the forthcoming album would sell and how much audience would be on the tour. Thus, consequences of the actions could only be seen in the real world (Brannigan & Winwood, 2013a; McIver, 2009). Only after Metallica’s third album, *Master of Puppets* released in 1986, the audience numbers started to increase considerably. During this time, also music magazines, managers, and record labels started to become interested in the band. At this time, the resources of Metallica reached a professional level (Brannigan & Winwood, 2013a; Halfin et al., 2010; McIver, 2009).

Gradually, the band built its global Metallica market, so-called Metallica family. The Metallica machine advanced so adamantly that it was as if there had been some strategic master plan guiding it. However, this was not the case but hard work and living in the moment (Brannigan & Winwood, 2013a, b; McIver, 2009). Nowadays, Metallica is one of the most commercially successful bands of all time, with estimated sales of almost 93 million albums worldwide (Metallica Album Sales Statistics, 2016). Global sales of Metallica albums are presented in Table 1 (live/cover albums are not included). Metallica has ranked at place 22 on top selling artist ever. In comparison, The Beatles is number 1, and it has sold almost 270 million albums (List of best-selling music artists, 2016).

Table 1. Global sales quantity of Metallica albums

Period of 1981-1991 examined in this study	Kill 'Em All	1983	5,500,000	↑ Thrash metal Change in Metallica's music genre ↓ Hard rock
	Ride the Lightning	1984	7,125,000	
	Master of Puppets	1986	7,750,000	
	...And Justice for All	1988	9,000,000	
	Black/Metallica	1991	23,000,000	
	Load	1996	8,500,000	
	Reload	1997	7,000,000	
	St. Anger	2003	4,250,000	
	Death Magnetic	2008	2,250,000	

Source: Metallica Album Sales Statistics (2016).

Metallica’s album and tour cycle

During the first ten years, Metallica had seven significant releases: “Hit the lights” song in the *Metal Massacre* collection, *No. life ‘til Leather* demo – and the following albums: *Kill’em all*, *Ride the Lightning*, *Master of Puppets*,

...*And Justice for All*, and *Black* (Brannigan & Winwood, 2013a; McIver, 2009). Metallica had quite a similar cycle for each of these releases.

The band members, especially Hetfield, developed riffs independently and recorded them on tapes during the tour following the release of the album. After the tour, Hetfield and Ulrich listened to the tapes and began to develop the riffs further as well as combine them. After this, the band made demos of a few songs and experimented them on insiders and sometimes at gigs. The songs were improved based on the feedback and feelings from people. During the demo phase of the album, also the guidelines, i.e. what sort of an album they wished to make, began to take shape (Brannigan & Winwood, 2013a; Eglinton, 2010).

After this Metallica began the search for a suitable studio, sound engineer, and producer, if they did not believe that the partners of the previous album would achieve the desired outcome. Also, the record label, manager, and band members could change at this phase. In practice, for each album some person changes occurred. In the early releases, the changes were more extensive than later on. Depending on the partner, the commitment meant a different investment of resources to the band. When the newly committed partners were gathered, a studio period for recordings was booked. At that point, also a target schedule was set for the release of the new album. Making the songs continued at the same time as the network took shape and the studio period came closer. Usually, Metallica's songs were quite ready by the time they went to the studio. A notable exception was the *Black* album, for which they spent considerably more time in the studio than before (Brannigan & Winwood, 2013a; Wall, 2011; McIver, 2009).

After recording an album, the band started a new tour which simultaneously also kicked off a next album composing cycle. Each cycle produced a new album, new fans, and new partners for Metallica. Notable musical development occurred between the different albums, although they were released quite frequently in the beginning (Brannigan & Winwood, 2013a). Metallica's musical preferences changed between the release cycles. New band members and other partners made possible to develop music, tour, and marketing to a new level. For example, with a new record label and manager marketing of the albums improved and the tours became bigger (Brannigan & Winwood, 2013a; McIver, 2009).

4. Metallica as effectual actor

This chapter analyses the first ten years of Metallica with the help of the effectuation framework. Like all entrepreneurship stories, also the Metallica possesses characteristics of causal logic. However, the focus is not on

causation in the following analysis. The purpose is not to belittle causal logic since without causal activities, Metallica would not have become the mega band it is today. Metallica and its partners utilized causation during every album release cycle. Without planning and goal-orientation, albums and tours would not have been succeeded. It seems that Metallica's partners had more important role in causation activities while the band itself focused more on creating new by operating effectually.

Metallica case related to the philosophy of effectuation

- The more you can control the future, the less you have to predict it: Metallica did not predict but made suitable future for it by controlling the change. Metallica founders have been even said to be control freaks.
- Instead of specific goals, the starting point is are the available means – one's own identity as well as human and social capital: Metallica founders recognized their own strengths as means to create together something new. Furthermore, they utilized successfully social networks.
- Instead of following trends, the focus was on own actions: Metallica proceeded against trends (e.g. glam metal and music videos) and trusted their own dreams and actions.

Metallica case related to innovation matrix

In the innovation matrix, Metallica operated in the suicide quadrant by creating new product/band and new market/musical genre. Effectual logic is especially suited for the suicide quadrant at an early phase of an organization/team or innovation.

Metallica case related to effectual problem space

- *Knighthian uncertainty*: At the beginning of Metallica's career, neither the band nor anyone else could predict the consequences of their actions – for instance, how much the following album would sell and how much audience the tour would have.
- *Ambiguity of goals*: The goals of Metallica were not concrete – for instance, with what type of music their dreams would be achieved. The goals were sharpened along the way, and preferences related to music style were transformed.
- *Isotropy*: Metallica got its energy and confidence from enthusiastic underground fans during gigs. The intense support of a small fan group was relevant information for Metallica. It revealed that the band was on the right path.

Metallica case related to principles of effectuation

- *Bird-in-hand*: Means were more important for Metallica than the goal. The most important thing was to make the kind of music they liked and were able to make. They knew what they were good at and utilized their own strengths. The focus was just on doing things as good as possible – at least when measured on a rock band scale.
- *Affordable-loss*: During the early years of Metallica, the members of Metallica had nothing to lose. Music was a way of life for them. On the other hand, the first manager's investment in the band was not a small thing. He invested to Metallica everything he owned – against to the principle of affordable-loss.
- *Lemonade*: Courageous grabbing coincidences and opportunities separated Metallica from many other bands.
- *Crazy quilt principle*: Open minded networking played an important role in Metallica's rise to the top. Metallica found suitable musicians, managers, record labels, producers, etc. with the help of active networking.
- *Pilot-in-the-plane principle*: Metallica holds the reigns tightly in its hands. The band often had the last word in critical decisions. Metallica did what it wanted to without listening to others. There was no room for compromises.

Metallica case related to dynamic process model of effectuation

During 1981-1991 for each new album or another release, a new network and resources were built around Metallica, as a result of which new means and goals were created for the band. Metallica had quite a similar cycle for each of their album release and tour. A notable exception was the *Black* album, for which they spent considerably more time in the studio than before. Metallica also decided to simplify and slow down their music in *Black*. Furthermore, the band listened to a producer much more than before. This resulted in a commercial masterpiece. Dynamic effectuation process was remarkable to Metallica because continuous and ambitious renewal was important for the band.

5. Discussion

The *first objective* of the research was to explain Metallica's success in the music industry. Working hypothesis was that success results from the effectual activity of Metallica founders. The research revealed that effectual actions played an essential role during the Metallica's first decade when its biggest development leaps happened. The following elements of the effectuation theory were utilized in analyzing Metallica's success: the innovation matrix,

the effectual problem space, the principles of effectuation, and the dynamic process model of effectuation.

Firstly, Metallica mainly acted in the suicide quadrant on innovation matrix by creating a new product (new band and music) and markets (new thrash metal genre). Most of the bands are exploiters who compose their own music by slightly shaping music made earlier by others. Metallica took lessons from other bands, as well, but it was able to combine different genres seamlessly in a more innovative manner than average bands. *Secondly*, Metallica had all three types of uncertainties in an effectual problem space. The band's strength was to transform uncertainties to opportunities and utilize opportunities. *Thirdly*, Metallica utilized all the principles of effectuation effectively. The principle of pilot-in-the-plane was extremely strong within Metallica. Metallica's core persons kept major decisions strictly in their own hands. They did what they wanted – not what they were told or expected to. The principle of affordable-loss was not so important than other principles. In fact, Metallica had nothing to lose at the beginning of the career. *Fourthly*, a dynamic process model of effectuation played an important role for Metallica because of its renewal will. This may be a fundamental factor why Metallica succeeded in changing music world – “a rolling stone gathers no moss”.

The *second objective* of the research was to illustrate effectuation theory in a band and art context, which has not been done before. On the basis of empirical research, the effectuation theory helped in analyzing and revealing Metallica's success factors. Money is often strongly connected to entrepreneurship, but effectuation theory does not emphasize money. Therefore, it can be applied to explain success factors of intrapreneurship. Metallica story in this article was also primarily an intrapreneurship case, in which entrepreneurial mindset was more crucial than money.

The study have the following limitations: 1) No. explicit measures that indicate causal connection between the effectual activity and Metallica's success, 2) No. knowledge about relationship of effectual and causal logic in Metallica case, 3) Because of one case study, the results cannot be generalized to other bands that have created new kind of music and new market, 4) Metallica band's partners were not profoundly analyzed, how effectual or casual they were, and 5) Critics towards effectuation have not been considered.

Practical implications – What young bands and other artists could learn from Metallica?

In the 1980s, many other rock bands worked with the cycle typical to Metallica – created riffs, built songs from riffs, made demos, recorded and released an album and went on tour. But what separated Metallica from most of the other bands? Was Metallica more effectual than average bands? *Firstly*,

Metallica was not satisfied with reinventing the wheel. It had a desire to make different kind of music, in which talent and a wide taste in music helped. Where the influences of Metallica's debut album were NWBHM, Motörhead, and punk, the second album contained nuance of Ennio Morricone and H. P. Lovecraft. Metallica's musical framework changed constantly. *The second factor* was their exceptionally strong desire to improve – not just music but also everything else. *The third factor* was the courage to find and utilize possibilities and coincidences – and they also went outside their comfort zone. Many other bands have said that Metallica got lucky. In reality, however, coincidences favor the active doers. *Fourthly*, band chemistry and dynamics were exceptional within Metallica. If someone started to become high and mighty, the band members quickly put a stop to it. Furthermore, Metallica got mercilessly rid of cruel and useless persons. *The fifth factor* was active networking, which is also closely related to the creation of the previously mentioned coincidences. *The sixth factor* was a working morale. Although the members of Metallica drank and fooled around, usually the situation was in control. For them, music came first – being a rock star and having fun came after it.

6. Conclusions and further study

This article provided an illustration of effectuation theory in music band context. Effectual logic is especially suited for creating new. This creation also regards to creating new kind of music as the studied Metallica case indicated, considered with the help of the following imaginary example. Let us give ten new bands the task to create new kind of music by combining different music genres, which also Metallica did in the early 80's. How different would these bands' debut albums be? What if, after each debut album, different bands would be asked to combine influences from some no-heavy bands in their next album? When this cycle would be repeated a couple of times, how far away would the albums of these bands be from each other? When we add matters related to the record label, producer, manager, etc., there would be even more dispersion between the bands. For instance, could another popular thrash band of the '80s, Slayer, have made at some point in their career a release such as the *Black* album and markets such as the Metallica family? Probably not. As effectuation theory tells us, people make the future with their own activities. And since people and their networks are different, also the end results are inevitably different.

The research generated some new research ideas. It would be useful to study in the Metallica case the relationship between effectual and causal logic and how those logics changed and alternated over time. Also studying

Metallica from 1991 to the present day might also be rewarding as the band started to head into a more peculiar direction and also lose fans as a result of these musical changes. It would be interesting to carry out research to other bands that have also created new music genres and vast global markets. From the heavy genre come to mind, for example, Iron Maiden, Black Sabbath, and Judas Priest. It would also be worthwhile to study pioneer bands of other genres, for instance, jazz, punk, and blues. In addition, an interesting research area of effectual logic would be artists created calculatedly – in other words, born big/global with the power of money. Although, these bands are based on causal logic per se (or are they?), probably they would also exhibit several characteristics of effectual logic.

Finally, is it worthwhile considering whether it is sensible to analyze band cases of the 1980s today? However, the same principles pretty much matter even today. In the music world, the biggest change has occurred due to the Internet. These days everything happens faster and, in principle, all artists are one click away. Bands are not nearly as distant to fans as they were before. Thus, transparency is on a completely different level than in the 1980s, due to which also markets can develop considerably faster. However, the Internet will not change the basics. The actions of bands and their stakeholders have an impact on whether the band will be successful or not. In any case, it would be worthwhile to study profoundly some new generation band, which has been created and lived during the Internet era.

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