

**THE RE-EMERGENCE OF AN INSTITUTIONAL FIELD:
SWISS WATCHMAKING**

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January 5, 2015

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ABSTRACT

In this qualitative study, I examine the factors that influence the re-emergence of market demand for a legacy technology in a mature institutional field. I extend previous work related to field emergence and institutions (e.g., Hargadon & Douglas, 2001; Holm, 1995; Leblebici, Salancik, Copay, & King, 1991), offering support for a theoretical model of field re-emergence. In addition, I offer data and analysis to illustrate that re-emergence is a viable empirical phenomenon. Focusing on Swiss watchmaking from 1970 to 2008, I present various institutionalization processes, inflection points, and focal constructs associated with the field's emergence, decline, and eventual re-emergence. I find that re-emergence requires components that, paradoxically, facilitate both field transformation and field preservation. Although these processes appear to be at odds with one another, during a period of re-emergence they serve as necessary counterweights, encouraging the preservation of some valued elements of the old institutional order alongside new elements that allow for change and survival.

Key words: re-emergence, fields, institutions, technology evolution

INTRODUCTION

“I don't know how it happened.

I don't think anybody really knows.

But suddenly, these mechanical watches were back.”

– Interview with the CEO of a Swiss watch company

A common feature across field emergence studies is a concern for describing patterns of diffusion within a focal area and explaining the adoption and spread of specific organizational forms or practice variants among organizations within a particular industry or sector (Ansari, Fiss, & Zajac, 2010). Empirical studies related to the emergence of nascent fields¹ have examined the role of organizational boundaries in the emergence of the computing, electronics, and telecom industries (Santos & Eisenhardt, 2005), the impact of social movements on the introduction of the wind energy sector (Sine & Lee, 2009), the sociocognitive dynamics underlying the launch of the minivan product category (Rosa, Porac, Runser-Spanjol, & Saxon, 1999), the salience of CEO attention in the burgeoning fiber-optics market (Eggers, 2012) and the diffusion of employee volunteering practices across the Fortune 500 (Raffaelli & Glynn, 2014). These and related studies highlight the relevance of legitimacy and isomorphism (DiMaggio & Powell, 1983), the role of labels in shaping early stage conceptions of new organizational forms (Grodal, Granqvist, & Woolley, Forthcoming), and the function of identity claiming and granting actions by internal (Navis & Glynn, 2010) and external (Zuckerman, 1999) actors within new fields or market categories.

And while there has been a significant amount of work conducted on the factors that influence field emergence, the concept re-emergence has been largely unaccounted for in organization studies. Scott (2008) argues that scholars have historically privileged studies of

¹ For the purpose of this paper, I define a “field” as a community of actors and organizations within an industry who “partake in a common meaning system and whose participants interact more frequently and fatefully with one another than with actors outside of the field.” (see Scott, 1994: 207-208).

emergence, issuing a call for work that more fully uncovers the processes of de-structuration and re-structuration. To date there is little evidence to suggest that the conditions that influence field emergence will also apply to re-emergence. Relatedly, it is ironic that institutional theory – a theory so concerned with permanence and durability – has not fully recognized the possibility of such a change, particularly as the residues of previous institutional orders may re-emerge as field members rediscover the value of their past.

The efficacy of exploring re-emergence, particularly from a phenomenological perspective, is also important. Whether it be mechanical watches, sailing ships, freight locomotives, vinyl records, piston aircraft engines, or fountain pens, as technology life cycles evolve, the institutional field that houses the old technological order may not completely dissipate (Adner & Snow, 2010). Empirically, one could imagine, for example, that the factors inducing an emerging field to adopt a nascent technology might be quite different for a field that is re-emerging, especially if the actors in the re-emerging field still carry the residue of standards and norms that were once considered acceptable but may no longer be appropriate under a new technological order. Thus, in this paper I ask “*What factors influence the re-emergence of market demand for a legacy technology in a mature institutional field?*”

Researchers have shown that the institutional environment can play a significant role in preserving or extending the life of a legacy technology (Henderson, 1995; Kaplan & Tripsas, 2008) because technological orders can leave behind *institutional residues* (Burt, 1995; Kaghan & Lounsbury, 2006). However, these claims have not been fully considered either theoretically or empirically in the context of a field or technology’s re-emergence. By anchoring my examination in the field of Swiss watchmaking from 1970-2008, I capture the rise, fall, and surprising re-emergence of market demand for the Swiss mechanical watch. Thus, this paper

extends previous work related to field emergence and institutions (e.g., Hargadon & Douglas, 2001; Holm, 1995; Leblebici et al., 1991), offering empirical evidence to advance a theoretical model of field *re*-emergence.

I begin with an overview of the literature related to institutional fields, field emergence and change. Next, I outline the data sources and qualitative methods. I then present my findings, highlighting how shifts in various institutional processes, changes in structural configurations, and the actions of important focal actors surfaced as key factors related to the re-emergence of the Swiss watchmaking industry. Finally, I move from a description of Swiss watchmaking toward a discussion of a more general model of field re-emergence. I conclude with contributions, limitations, and areas for future research.

FIELD EMERGENCE, PRESERVATION, AND TRANSFORMATION

Processes of field emergence and institutionalization are critical aspects of institutional theory (Scott & Meyer, 1994; Zucker, 1977). The very definition of an institution is tied to the notion of persistence, preservation and stability (Hughes, 1936). Yet, the notion of field re-emergence infers some amount of change and transformation. The tension between preservation and transformation is a topic widely addressed by scholars of institutional change and field emergence (Dacin, Goodstein, & Scott, 2002; Greenwood & Hinings, 1996; Greenwood, Suddaby, & Hinings, 2002; Leblebici et al., 1991). One of the early critiques of institutional theory was that it did not adequately address how changes at the level of the field, or the organizations within a field, emerged and unfolded over time (Davis & Marquis, 2005; Greenwood et al., 2002; Seo & Creed, 2002). As a result, researchers responded with a number of investigations into field level change. For example, Powell (1991: 197) points out that field change is “neither frequent nor routine because it is costly and difficult...it is likely to be

episodic, highlighted by a brief period of crisis or critical intervention, and followed by longer periods of stability or path-dependent development.” He identifies several factors enhancing field change, including: changes at the periphery of a field, such as innovations coming from marginal organizations in the network; “the ineffectiveness – or the effectiveness only in the short run – of isomorphic pressures” to shape organizational choices; and “the re-arrangement of field boundaries” due to deep political or legal upheavals, especially as fields are recomposed and either split into sub-fields or merge with other field. Models of field change tend to depict it as occurring in two critical stages, following DiMaggio and Powell (1983): the first stage is that of field “youth,” in which changes driven by economic and competitive forces are likely to be implemented, while in the second stage, field “maturity,” institutional isomorphism paves the way to field stability. The notion of re-emergence – from legacy technologies, for instance – is not inconsistent with Powell’s (1991) definition but it is not explicitly acknowledged, either.

Subsequently, scholars have identified multiple factors, processes, and mechanisms associated with field level change. For example, in their study of the healthcare industry, Scott and colleagues (2000:24-25) identify processes resulting from alterations in relations among existing organizations, changes in boundaries of existing organizations, the emergence of new populations, transformations in field boundaries, and shifts in governance structures. Fligstein (1991) hypothesizes that “external shocks” – provided by macroeconomic conditions, the state, or other organizations – may provoke change in an otherwise stable field. In such cases, field dynamics among the actors and institutionalization forces following from the shocks will shape the direction of change. Others have shown that field change is often precipitated by actions from peripheral actors or innovations, ineffective isomorphic pressures, field boundary re-composition (e.g., Leblebici et al., 1991), unstable power relations or power shifts (e.g., Russo,

2001), or shifting field logics that facilitate the introduction of new political processes or the environmental selection of firms within the field (e.g., Fligstein, 1990; Thornton & Ocasio, 1999).

While researchers have devoted a great deal of effort to exploring the factors that influence the early stages of field emergence, there have been recent calls for greater attention on how fields de-institutionalize, or possibly re-institutionalize (e.g., Scott, 2008). Institutional scholars have suggested that institutional and field change models have relied too heavily on “arational mimicry and stability” and should be amended to include a “new emphases on institutional rationality and ongoing struggle and change” (Lounsbury, 2008: 349). Such models place greater weight on the micro-level activities that impact the field, focusing on identifying links between action and institution (Barley & Tolbert, 1997). Scott argues (2008: 195-196), using Giddens’s language, “institutionalists have focused attention on structuration processes, but have neglected processes leading to deinstitutionalization and restructuration.” Similarly, DiMaggio and Powell (1991:30) contend that “little attention has been focused on how incumbents maintain their dominant positions or respond to threats during periods of crisis or instability.”

This study attempts to address these calls by considering the factors that lead institutional fields to *re-emerge* by exploring the trajectory of a displaced technology (i.e., the Swiss mechanical watch), which I conceptualize as part of the residue lingering from earlier phases of field evolution. One critical aspect that I examine is that of agency and leadership (DiMaggio, 1988), a factor that institutionalists have associated with field-level change.

Institutional Leadership & Guardianship

The link connecting leaders to field level change has been supported by a number of different researchers working in different fields (e.g., Glynn & Navis, 2010; Kraatz & Zajac,

1996; Oliver, 1991; Weaver, Trevino, & Cochran, 1999; Zajac & Westphal, 2004). As institutional theory has matured (Scott, 2008), scholars have exhibited a renewed interest in leadership (e.g., Kraatz, 2009; Washington, Boal, & Davis, 2008), reclaiming the work of early institutionalists and particularly that of Selznick. Selznick (1957: 27) theorized that the leader is critical to processes of institutionalization, as “an agent...offering a guiding hand to a process that would otherwise occur more haphazardly.” He viewed leadership, organizations, and institutions so intertwined that “a theory of leadership is dependent on a theory of social organization” (Selznick, 1957: 23). Selznick’s view of leadership addressed an important role that leaders play in shaping an organization’s values during periods of institutional change and emergence.

More recently, scholars have extended Selznick’s work and examined how leaders influence institutional change within an organization or across an industry. Building on DiMaggio’s (1988) early work, Battilana, Leca, and Boxenbaum (2009: 66) explicate that such leaders become *institutional entrepreneurs*, i.e., “actors who initiate changes that contribute to transforming existing, or creating new, institutions.” Similarly, Washington, Boal, and Davis (2008) theorize that leaders play many roles in the institutionalization process, including: orchestrating the internal consistency of the organization, developing supporting mechanisms that legitimate the organization, and engaging in actions to overcome external enemies. Such characterizations of leaders focus on the important role they play in shaping new processes or managing change within organizations or groups of organizations (Fligstein, 1997).

Guardianship. Conceptions of leadership, however, need not be associated only with radical field-level change. Leaders also actively promote stability and maintenance in organizations and shape the social order that constitutes and contextualizes broader institutions

(Fligstein, 1997). While attention to institutional leadership has burgeoned over the past decade (Glynn & Raffaelli, 2010), few studies have explored how actors preserve (or guard) an established institutional field (for exceptions see DeJordy, 2010; Walsh & Bartunek, 2011; Walsh & Glynn, 2008). Scott (2008: 129) claims that scholars have devoted “little attention to the issue of institutional persistence.” In response, DeJordy (2010: 6) offers a definition of institutional guardianship, i.e., an action “intentionally and consciously engaging the institutional environment in an effort to preserve it in the face of perceived potential change.” A leadership role as institutional guardian (DeJordy, 2010; Fligstein, 1997) or legacy custodian (Walsh & Glynn, 2008) seems critical if legacy technologies, and the associated organizational values and character, are to re-emerge.

In this study, I seek to explore the role of agentic leadership in field re-emergence because it presents a theoretical puzzle, pitting the work of institutional entrepreneurship (concerned with changing the institutional order) against that of institutional guardianship (protecting and preserving the legacy institutional order). I explore the tension between the leadership roles of institutional entrepreneur and guardian, as actors attempting to simultaneously change and preserve technological and institutional orders, whereby enabling field re-emergence. I examine how both types of actors serve as important social actors in organizations and communities, involved in meaning-making (Pfeffer, 1977: 110) and the social construction of organizational reality (Meindl, Ehrlich, & Dukerich, 1985:78) that serve as the basis for establishing, maintaining, and perhaps re-establishing legacy values and organizational attributes in a re-emerging field.

To summarize, institutional theory has been an important construct for examining the nature, conditions, and mechanisms related to field-level emergence and change. Moreover, it

hints at the implications of field-level change for organizations and their leadership by explicating the role of context; such context becomes particularly important when the past is reclaimed and legacy technologies re-emerge to redefine a field.

METHODS

This study aims for “theoretical extension,” a term used to describe qualitative studies focused on “broadening the relevance of a particular concept or theoretical system to a range of empirical contexts other than those in which they were first developed or intended to be used” (Snow, Morrill, & Anderson, 2003: 187). Given that there is little scholarly empirical research on the theoretical tenets associated with field re-emergence (Scott, 2008), I conducted a qualitative case study of a specific community of actors within an industry (Yin, 2008), a method proven to be well suited for elaborating on existing theories of field, institutional, and technology change (e.g., Greenwood & Suddaby, 2006; Khaire & Wadhvani, 2010; Navis & Glynn, 2010; Tripsas & Gavetti, 2000). Although constraining my focus to one community within a global industry (i.e., Swiss watchmaking) limited the generalizability of my findings, it allowed me to develop much richer insights into the market conditions, processes, structural components, and actors within my empirical setting. My primary goal is not replicability, but to demonstrate the *plausibility* of field re-emergence and its related constructs.

Empirical Setting

The field of Swiss watchmaking provides fertile ground to explore the phenomenon and theoretical underpinnings of field re-emergence. In the 1970s, the Swiss went from holding 55% of the world’s export market (in monetary value) to roughly 30% a decade later; in export volume, the decline was also staggering, decreasing from 45% to 10% of watches produced globally (Glasmeier, 1991: 477). Surprisingly, Swiss watchmaking, led by the production of

mechanical watches, resurged and by 2008, re-emerged as the world's leading exporter of watches, reclaiming 55% of the total export value in the global watch industry.

This study spans the years 1970 to 2008. The year 1970 was selected because it marked the year after the first quartz timepiece was introduced on the market, providing a baseline to examine how quartz technology impacted the field of watchmaking from its inception. The year 2008 was chosen as the ending point of the study because it marked the beginning of a global financial system downturn, an exogenous shock that led to shifts in consumer buying patterns that extend beyond the scope of this study.

Data

The primary data source for this study was 122 semi-structured interviews conducted with Swiss watch executives and industry experts. The purpose of these interviews was to gather information from actors in different positions about the perceived field evolution. Given that this study is a historical review of a field over time, my goal was to sample respondents based on their involvement in the industry at different stages of its evolution. My interview protocol focused on what they perceived was occurring from their vantage point.

I developed my sample of interviewees by relying on a theoretical sampling technique (Glaser & Strauss, 1999), continually narrowing my sample of various actors in the field based on the theoretical trends that I saw emerging from my data. I began by visiting the *National Association of Watch and Clock Collectors* (NAWCC), one of the largest horological archives in the world, and contacting the *Federation of the Swiss Watch Industry* to ask for a list of influential people and companies during the 38-year timeframe of my study. The Federation, dating back to 1876, is a private, professional, and non-profit association, with over 500 members representing more than 90% of all Swiss watch manufacturers. Representatives from

the NAWCC and the Federation provided me with lists of the companies and individuals whom they believed were most salient to my research questions.

In general, privacy and secrecy shrouds the Swiss watch industry. As one senior executive commented: “It is a small and *very* private community.” [Interview: Swiss watch company senior executive, 2011]. To overcome such access challenges, I followed a snowball approach, asking respondents to suggest other individuals or company representatives I should speak to whom they believed were influential. I found individuals were more willing to participate in my study if they knew that others had also agreed to do so, thereby making the snowball approach the most appropriate way to gain access to this closed community. My final sample included interviews with representatives of companies representing approximately three-fourths of all Swiss watch export sales from 1970 to 2008.

In addition to watch company executives, I interviewed industry representatives, watchmakers, union representatives, company historians, retailers, archivists, museum curators, fashion and luxury brand executives, auction house representatives, heads of vintage collector associations, and Swiss government officials who experienced the “quartz crisis” and the years that followed. To validate some of the general trends that emerged in my interviews, I also gained access to archival interviews conducted by other sources, including a series of 27 printed interviews with Swiss watch CEOs conducted by *TimeZone*, a leading industry news source, as well as 145 interview transcripts of CEOs who experienced the quartz crisis, conducted by the industry’s leading watch reporter.

Finally, I relied on archival data to triangulate and to search for commonalities and differences in my findings across sources (Creswell, 2003). These included Swiss watch production and employment figures, government regulatory documents on “Swissness”

trademark protection policies, industry certification standards issued each year, auction house vintage watch prices, and influential historical accounts of the Swiss watchmaking industry (e.g., Donze, 2011; Glasmeier, 2000; Landes, 1983; Pasquier, 2008; Trueb, 2005). To account for some of the key exogenous factors that several respondents thought may have influenced the Swiss watch industry's historical evolution, I obtained macroeconomic data on currency valuations, global household discretionary spending patterns, as well as several other important economic indicators. Each data source was used to examine how the Swiss responded in the years immediately following the near demise of mechanical watches (Donze, 2011) after the introduction of quartz technology (Landes, 1983; Tushman & O'Reilly, 2006).

Analysis

The analytic approach I used can be described as analytic abduction (Peirce, 1955), which iterates between empirical data and preexisting theoretical constructs (Weber, Heinze, & DeSoucey, 2008: 537) with the purpose of facilitating “dialogue across fields and methods...to connote the dynamic processes by which theories emerge, change, and grow” (Snow et al., 2003: 185). The process I followed to analyze data consisted of two separate steps. First, I began by familiarizing myself with the constructs and mechanisms most commonly associated with theories of field emergence and institutionalization. My pilot codebook included several components that Scott (2008: , 121-147) identified in his seminal overview of the literature on field structuration and the processes and mechanisms related to institutionalization and deinstitutionalization. See Table 1. These included, but were not limited to, structuration processes that involve the interchange of top-down and bottom-up processes (Scott, 2008: 191).

Second, in addition to identifying these pre-established codes, I searched for other constructs that emerged from the data that I believed would inform a theory of field re-

emergence. Using a content analysis software package (NVivo 10) to organize and examine my archival data and field interview transcripts, I analyzed data in an iterative process of going back and forth between conducting interviews in the field, analyzing data, and searching for emerging themes (Locke, 2001; Miles & Huberman, 1994; Strauss & Corbin). The goal of the data analysis process was to create a “chain of evidence” that linked descriptive codes found within the data with more abstract and theoretical constructs. This process is described in detail below.

To begin, I used a constant comparative method to create codes and compare data (Locke, 2001). During the first review, I assigned first-order descriptive codes to help sort the data that did not appear to fall into one of the preexisting codes in my codebook. I then assigned inferential codes to identify my interpretations of the data.

Next, I organized my provisional first order codes into broader emerging themes. During this step I evaluated which categories came together to form theoretical categories. By developing theoretical categories, I identified and refined the variables of interest. I revisited the data to see whether the categories fit or not (Becker, 1970; Glaser & Strauss; Locke, 2001) in a process best described as moving from open to axial coding (Locke, 2001). In tandem with this process, I compared my descriptive evidence with the pre-determined conceptual categories previously identified in the literature by Scott (2008: 190) related to field emergence and institutionalization processes. At the end of this stage, I re-evaluated my preliminary codebook that had helped me keep track of the possible potential associations that had begun to emerge as potential theoretical constructs. See Table 1 for my pilot codebook with initial sensitizing codes. I also designed several preliminary conceptual frameworks to help identify potential relationships and to explore more specific boundary conditions for the study. These conceptual

frameworks served as a useful tool to help evaluate “what variables [were] the most important, and which relationships [were] likely to be most meaningful” (Miles & Huberman, 1994:18).

Finally, I moved from analyzing specific data to developing more abstract and theoretical concepts. The goal of this step was to settle on the theoretical concepts, variables, and relationships that advanced a model of field re-emergence. In this stage, I decided on which themes related to each other and were most germane to my conceptual framework. I finalized which codes were used and reexamined the data’s fit with my codebook and emerging theoretical framework. Figure 1 summarizes the process that I followed, which shows my first-order codes, theoretical categories, and aggregate theoretical dimensions.

Insert Table 1 & Figure 1 Here

FINDINGS

My study revealed several factors influencing the re-emergence of the Swiss watchmaking industry. By definition, field re-emergence is preceded by a period of field emergence (i.e., institutionalization) and a period of dissipation (i.e., de-institutionalization). Here, these initial periods can be described as 1) the emergence and near collapse of the Swiss mechanical watchmaking industry (1560-1983) and, 2) the dissipation and replacement of its taken-for-granted mechanical watchmaking traditions (1983-1989). However, within each of the first two periods, I identify specific elements that did not fully dissipate and later influenced 3) the re-emergence (i.e., re-institutionalization) of Swiss mechanical watchmaking (1990-2008). In each of the following subsections, I offer a detailed account of the field’s emergence, dissipation, and re-emergence; more specifically, I identify and analyze the institutional processes, structural patterns, and the role of agency germane to each period. See Figure 2.

Insert Figure 2 Here

Emergence and Near Collapse: 1560-1983

Focal Institutionalization Processes - Imprinting and Conformity

Watchmaking first became popular in 16th century Geneva, but Switzerland did not become a global leader in watch production until a century later. Daniel JeanRichard, the son of a Swiss farmer and a self-taught watchmaker, was the first to introduce the craft to other peasant farmers in the Jura mountain region looking to fill their idle hands with a secondary source of income during the cold winters. Given their location along important trading routes, a lack of adherence to the inefficient production guidelines maintained by the exclusive watch guilds in other countries, and having access to expert training from the expelled French Huguenots who had migrated to the area, the Swiss Jura workforce proved to be well positioned. They posed a serious threat to the dominant watchmaking regimes in Britain and France, eventually claiming the largest share of global mechanical watch production in the 18th century, a title they held for nearly two hundred years.

During this period of emergence, the Swiss engaged in several activities to formally institutionalize the craft of mechanical watchmaking in the region. They established horological libraries, museums, scientific societies, standardized tests, annual exhibitions, and their own watchmaking schools. Each year the societies hosted competitions and offered rewards for new designs, innovative new functions, and most importantly, for greater accuracy (c.f., Rao, 1994). “Beginning in 1907 Swiss watches took 1st prize in the pocket watch category every year. [The Swiss producers] were rich enough and ready to pay for the finest talent and the latest and best in testing equipment, quick to turn each prize into an advertisement” (Landes, 1983: 299). The

community that emerged was tied together by an intricate system of small family-owned businesses that all benefitted from participation in the Swiss schools and society events that reinforced and perpetuated a distinct culture of Swiss watch production and innovation.

Early institutionalization of the Swiss watch industry was reinforced by a strong sense of organizational imprinting. Several core principles, norms, and watchmaking techniques that still exist in the 21st century Swiss watch community can be traced back to these early years when the industry was founded. For example, in an interview with a prominent Swiss watch CEO, the salience of imprinting is illustrated:

You have two separate entries into the market; first you have the originals. If you take my company, we've been doing business since the 1800s. You can add the big brother's, like Patek. We all represent the originals. Being an 'original' means you have been in this business since the beginning, the origins. And then you have the 'newcomers.'
[Interview: Swiss watch CEO: March, 2012].

The CEO draws a clear distinction between those firms that he believes were part of the early days of the Swiss watchmaking tradition: the “originals” and the “newcomers.” Additionally, his use of the term “big brother” alludes to the difference between his company, a Jura-based company founded in 1832, and the Geneva-based Patek Philippe, founded in 1851. While his company is older, he calls Patek “big brother,” tipping his hat to the tradition of Geneva-based watchmaking (and the continued importance of Patek Philippe in today’s market), and acknowledging the centuries-old tradition that first took hold outside the Jura mountain region. While the distinction is subtle, the gap between them is far less than the one that exists between the ‘originals’ and ‘newcomers.’ The newcomers did not become salient until the next period (1983-1989), when fashion-oriented brands such as *Gucci* and *Hermes* actively started promoting watches under a very different set of core principles than the “originals” (e.g., a primary focus on brand marketing over mechanical watchmaking competence). Thus, founding date, a critical

component of organizational *imprinting* (Stinchcombe, 1965), became an important way for companies to legitimize and preserve their link to a certain standard of watchmaking rooted in a centuries-old tradition.

Structure: A System of Family-Owned Enterprises

The structure of the Swiss watch industry from 1934 to 1971 can be defined by two distinct characteristics. First, prior to World War I, the industry was made up of hundreds of family-owned enterprises, each independently engaged in one aspect of production. While this model, based on Adam Smith's division of labor theory, served them well in the 18th century (Blanchard, 2008), it had made them increasingly vulnerable to the American watch industry a century later. The Americans were able to capture significant market share from the Swiss because of their early adoption of manufacturing practices rooted in industrialization. However, while the rest of the globe, including the United States, turned its focus to fighting World War I, the Swiss used this period to retool and invest in production facilities, effectively responding to the U.S. manufacturing challenge (Glasmeier, 2000) and recapturing the global market.

The Great Depression that followed led to a 48% decrease in demand for watches, which facilitated unprecedented price wars and opportunism among the Swiss system of family-owned manufacturers. "Now that the industry was awfully subdivided, there were hundreds of little companies that were fighting toe and nail against each other and bringing down prices to the point where everybody was broke" [Interview: industry journalist and technical historian, 2012]. In response, the Swiss watch industry in the early 20th century introduced a government cartel. The cartel was established to preserve the intricate system of small and medium sized family-owned firms (Pasquier, 2008), and given the watch industry's substantial share of national GDP, the government stepped in and forced greater coordination of one of its most profitable

industries. The government bought a majority share of all the major producers of Swiss watch movements and their component parts, instituting a statute that supported a watch cartel carrying the authority of law. The cartel forced prices be set by industry-wide agreement, all exports required official permits, and “no changes in the composition operations without prior approval of a federal commission composed largely of other watchmakers” (Landes, 1983: 328).

Conformity was another critical factor that promoted the preservation of the field during this period of emergence. For several decades, the cartel, composed of nearly 400 companies, was considered one of the strongest and most efficient in modern economic history (Glasmeier, 2000; Landes, 1983; Trueb, 2005). Its structure required strict conformity to cartel policies, making it impossible for new companies to enter the Swiss market. As the CEO of a watch company recalled, “The government had absorbed all the manufacturers in order to maintain the industry. It would not have survived. However, my father had to buy a very small company which had a license just so he could gain access to the market.” [Interview: Swiss watch CEO, 2012]. While the system established by the government was highly successful at re-establishing the Swiss as global leaders in watch production, it stifled innovation; all Swiss watchmaking companies had to gain permission to introduce new products. Nonetheless, the years that followed World War II were some of the most successful and profitable for the Swiss, especially as many companies turned their attention to fulfilling an unprecedented global demand for lower priced watches (Donze, 2011).

Technological change and near collapse (1962-1982). The system of control and conformity that made the cartel so effective and profitable had later left its members extremely vulnerable to outside competition. The late 1960s and 1970s ushered in a discontinuous technology that fundamentally changed the global watch industry: the quartz timepiece

(Tushman & Anderson, 1997). Ironically, the Swiss were the first to introduce the new technology. With some support from the cartel system, a centralized R&D center, the CEH (*Centre Electronique Horloger*) was formed in 1962 to encourage the development of electronic timekeeping devices for the industry (although several companies such as Omega, Heuer, Longines, and Girard-Perregaux also began to explore possibilities for the new technology independently). In 1968, the Swiss introduced their first quartz timepiece, a watch that was nearly twenty times more accurate than the most sophisticated mechanical chronometer movement. The problem, however, was that the early quartz watches “cost as much as a compact car” [Interview: Swiss industry expert, 2012] and more importantly, the Swiss craftsmen “were not interested” in pursuing an electronic device that they believed had little to do with their centuries-long tradition of precision watchmaking and craftsmanship (Landes, 1983: 346). The Swiss also failed to foresee that the Japanese, capitalizing on a burgeoning knowledge in electronics, would be able to cut the average cost of a quartz timepiece by a factor of 100 (Trueb, 2005), thereby making the quartz watch both cheaper and far more precise than the mechanical watch. These issues were further exasperated by a weakening of the US dollar compared to the Swiss Franc during the 1970s. Since the value of the Japanese yen closely followed the US dollar, Swiss watches were comparatively even more expensive in the United States, the Swiss’ largest export market.

The Swiss’ inability to compete with lower-cost Japanese quartz timepieces was so disastrous that the period is still referred to as the “watch crisis” (*crise horlogere*) or “quartz crisis” in Switzerland (Donze, 2011).² Nearly 60,000 jobs were lost in a decade, accounting for

² The managerial factors that contributed to the “Quartz Crisis” within the Swiss watch industry has been well documented. See Donze, 2011; Glasmeier, 2000; Trueb, 2005; Tushman and Anderson, 1997.

almost one-half of those employed by the sector; two-thirds of all Swiss watch companies disappeared. See Figure 3 and Figure 4.

Insert Figures 3 & 4 About Here

A senior executive who worked in several leading Swiss watch companies and served as a foreign trade liaison for the industry during this period explained the impact:

We saw ourselves on a pedestal for so long. When you said watches, everyone knew you meant Swiss, nothing else. No other country had *really* challenged us. Basically, watches meant Switzerland. The crisis was really difficult. We didn't see it coming and we were so shocked by what happened. The fact that we had to lay off thousands of people, we were 90,000 and then we were 33,000, it was enormous. There was no future. [Interview: Swiss watch senior executive, 2012].

The institutionalized practices, routines, values, and taken-for-granted assumptions that had held for over two centuries had become a serious threat and potential liability for the Swiss. The low cost and highly accurate Japanese quartz technology had disproved a fundamental assumption about traditional mechanical watchmaking: increased accuracy = higher cost. In short, “Swiss companies had failed to understand that the rules of the game had changed” (Brieding, 2013: 43). The old institutional order associated with traditional mechanical watchmaking would have to be dismantled if the field was going to survive.

In sum, I find two institutionalization processes were salient during this period of field emergence: *imprinting* (based on founding date) and *conformity* (based on a field structure that imposed highly coordinated production and distribution systems). The conditions associated with the founding of the Swiss industry, both in Geneva and the Jura, impacted several cultural and normative expectations watchmakers held about their profession nearly 200 years later. Additionally, after years of cartel management, the role of conformity revealed itself as an

important structural characteristic of the field during this period. Both factors served as institutionalization processes that promoted field preservation and stasis.

Response and Adaptation: 1983-1989

Focal De-Institutionalization Processes - Innovation and Defiance

The period between 1983 and 1989 marked an unprecedented break from the traditions and methods previously employed by the Swiss watch industry. During this period, the field's norms, values, and taken-for-granted assumptions about watchmaking were reassessed and altered, resulting in a period of de-institutionalization (Dacin & Dacin, 2008; Davis, Diekmann, & Tinsley, 1994). Two important processes emerged from my data that appear to have catalyzed these changes. First, several product and process *innovations* were introduced during this period. Second, underlying these changes was an element of institutional change Scott (2008) labels as *defiance*. The emergent role of both innovation and defiance effectively brought an end to the old mechanical watchmaking institutional order and paved the way for a set of new norms and practices, described below.

By the early 1980's, the quartz crisis in Switzerland had reached its pinnacle. Nicolas G. Hayek, a Lebanese-born CEO of a management consultancy in Zurich, was hired by a several Swiss bankers to examine several failing watch companies that had become insolvent; at the time, the market for mechanical watches had become so dire that many companies were requesting more bank loans to pay their employee salaries and annual bonuses. Hayek issued a report with a recommendation for massive industry consolidation, restructuring, and new senior leadership. He suggested merging two of the industry's largest watchmaking holding companies, ASUAG and SSIH, which owned several well-known Swiss brands (e.g., Omega, Tissot, Longines, RADO) and accounted for approximately one-half of all Swiss watch employment.

After having funded nearly a decade of bailout loans to watch companies, the banks had no interest in overseeing a lengthy restructuring effort. They wanted out. However, Hayek recognized the industry's growth potential and sensed the banks were ripe to cut a deal.

Defying the advice of most financial analysts at the time, Hayek entered into several negotiations with the banks to purchase the dying holding companies himself (Breiding, 2013). After orchestrating negotiations with over different 30 banks, the parties all agreed to sell Hayek a majority share of ASUAG and SSIH, forgoing some of their owed debt in exchange for shares in the new company. Hayek invested much of his own personal capital in the deal (approximately SFr20m, USD\$11m) and proved to be adept at raising additional funds from outside investors. He formed a new board of directors, composed of individuals whom he knew trusted his vision, and named the new holding company *Société de Microélectronique et d'Horlogerie* (SMH, which he later renamed "The Swatch Group" in 1998). Hayek appointed Dr. Ernst Thomke the first CEO of SMH, a well-known executive in the industry who had previously served as chief executive for two of the watch movement manufacturing companies (ETA and Ebauches SA) that were part of the ASUAG and SSIH purchase. Between 1983 and 1989, Hayek and Thomke led a massive restructuring effort that introduced several product and process innovations to the field of Swiss watchmaking, as well as implementing many painful cost-cutting measures, which I discuss next.

Structure: Consolidation of Production Systems

Under Hayek's vision, production facilities, operations, and management of ASUAG and SSIH were merged under SMH to achieve greater economies of scale for the entire Swiss watch industry. He also made significant capital investments to update badly needed production systems that he hoped would eventually produce quartz watches on 24 hour cycles. The new

production lines would eventually be able to develop watch movements that other companies could buy from SMH and then assemble under their own brand names, providing yet another source of revenue. The changes Hayek had proposed were intended to impact the industry, not just SMH, and thus he worked to gain support from many of the struggling brands. One prominent industry representative noted how Hayek attempted to convince the other CEOs of his vision: “Mr. Hayek at some point brought together many of the watch makers in a series of meetings where he said, ‘Look we have to band together and change some of the rules if we’re going to survive.’” [Interview: Swiss watch industry representative: 2011]

In addition to the consolidation processes, Hayek and Thomke believed SMH and the Swiss watch industry needed a new strategy to reclaim a portion of the mid and low end segments of the market that the Swiss had forfeited to the Japanese. The changes Hayek was proposing would transform the nature of Swiss watchmaking by making it possible to effectively produce quartz watches for the low to mid segment while still preserving brands targeted at the high-end consumer. He was adamant that the strategy could prove successful; regardless of numerous naysayers (inside and outside Switzerland) who disagreed with his goal to produce watches at multiple price points. Shortly after Hayek formed SMH, he recalled a meeting: “One day the president of a Japanese watch company said to me: ‘You cannot manufacture watches. Switzerland can make cheese but not watches. Why don’t you sell us Omega for 400 million francs?’ I told him ‘Only after I’m dead!’” (Clerizo, 2010). During this period, other higher-end brands that had traditionally been associated with status (e.g., Rolex and Patek Philippe) held firm in their belief that they could survive by producing mechanical watches. As one reporter noted, “A number of factors kept the upper end of the mechanical market alive. One was stubbornness” (Passell, 1995).

Nonetheless, in order to preserve several near bankrupt brands in Switzerland, Hayek and Thomke were convinced the Swiss had to rebuild the “base” of the industry, making low price Swiss watches available to the masses. As one CEO explained, “If you don't have a base, you cannot have a top. A pyramid has a base. The larger its base, the higher you can build the top.” [Interview: Swiss watch CEO, 2012]. An answer to this dilemma eventually came in the form of the Swatch watch.

The Swatch Revolution. The Swatch required several innovations that ultimately transformed the entire Swiss watch industry. First, several new technologies that deviated from the norms of traditional mechanical watchmaking had to be developed. In the late 1970s, Thomke had overseen the development of a watch called the “Delirium,” which was aimed at fulfilling market demand for thinner quartz watches. While the Delirium was plagued with design challenges (e.g., its metal body was so thin it often bent when strapped on a wrist), the basic architecture laid the groundwork for the Swatch. Thomke appointed two young engineers, Jacque Muller and Elmar Mock to develop something similar, but encased in an innovative plastic body that would be sturdier and offer more design options to compete with the ascetically unpleasing Japanese quartz models. Swatch production costs were 80% less and used 55% fewer parts than the typical mechanical watch.

Beyond the technology, a second form of innovation was introduced through the artistic design and marketing of the Swatch. Swiss watch historian, Donze (2011: 133) posits:

[SMH] had the opportunity to carry out an innovative industrial policy which largely contributed to the rebirth of the Swiss watch industry. The principle of the new policy was the primacy of marketing over production: as the quartz revolution made it possible for anyone to manufacture watches, the issue was no longer how to make them, but how to sell them.

A novel marketing strategy to sell the Swatch to consumers would be critical. Thomke enlisted the assistance of independent Swiss designer Jean Robert, who had previously transformed the woman's underwear manufacturer *Fogal* into a designer of "elegant and sexy lingerie...whose pantyhose came in a mind-boggling array of designs and colors and sold at massive margins because women were willing to pay high prices to look like the stylish mannequins appearing in show windows" (Breiding, 2013: 66). Jean Robert brought the same design and retail marketing sensibilities to the Swatch watch. He and Thomke determined that the Swatch would be sold in higher-end retail boutiques, like Bloomingdales, and the styles should change every season.

After several years of prototyping new designs and methods, the first Swatches were sold in a Texas department store in 1982 and then formally rolled out across Europe and the United States in 1983. Driven by quartz technology, Swatches sold at prices low enough so that consumers were encouraged to treat them as fashion accessories. Swatch was first advertised to convey the idea that consumers could buy a watch for every outfit or activity: "Swatch = second watch." The colorful Swatch plastic case designs shifted the focus of the Swiss watchmaking industry away from accuracy and towards fashion. SMH invested approximately 25% of its budget on marketing the Swatch, a percentage unheard of in the watch industry prior to that point. The distribution network and market positioning were quite different than those employed by the Japanese, who continued to market their quartz watches as affordable timepieces that kept extremely accurate time and sold in drug stores and discount department stores.

By 1988, 50 million Swatches had been produced and sold. The product provided evidence that Swiss watchmakers could still compete on the global market; Swatch's popularity had injected significant liquidity, and more importantly, confidence (e.g., Kanter, 2006) back into the Swiss watch industry. Other brands quickly followed Swatch's lead, releasing other

fashion-oriented products such as Tissot's "Rock Watch." One senior executive recalled the atmosphere in Switzerland late 1980s: "These watches were cheap, they were fun, and they were precise. There was a lot of dust on the Swiss watch industry. The Swatch 'revolution' shook all that dust away." [Interview: former watch executive, 2012]. In 2013, Hayek's son, who replaced his father as CEO of Swatch Group, recounted the strategy in a press conference celebrating the 30th anniversary of Swatch:

And then came Swatch. It was an incredible strategy to regain the lower market share. To attack there. [It allowed us] to be able to maintain the creativity and innovation of the upper market segment. To give the possibility to all these other wonderful [Swiss] brands, that you see are full of innovation, that to continue to develop and be successful. This is what Swatch has done. So thanks to Swatch, all these brands exist. [Press Conference: Swiss watch CEO: 2013].

In her book, Glasmeier (2000: 25) highlights the importance of Swatch to the re-emergence of the Swiss watchmaking industry: "Swatch was a Swiss savior in terms of the Swiss industry's return to the low-priced end of the industry and in terms of industry image and morale. Its importance was as much in saving face as in saving the industry itself." Hayek's defiance of industry norms and traditions had been scoffed at by other watchmaking executives, but it seemed to be paying off.

Although the success of Swatch provided renewed hope to the Swiss watch industry, it also exposed vulnerabilities that were embedded in the region's traditional mechanical watch production methods. The inefficient methods of mass producing mechanical watches by hand through a complex system of multiple family-owned businesses was no longer a viable business model and had to be disbanded. In fact, the Swatch had proven successful because it could be produced by a single company on an automated factory line, without the need for any human assembly. Thus, this period brought an end to many of the traditional mechanical watchmaking practices and structures that had defined the Swiss watch industry for nearly 200 years: the old

cartel system had been dismantled, banks had sold off most of their remaining interests in the industry, and many of the family-owned mechanical watchmaking businesses had either collapsed, had been acquired by outsiders, or were still struggling to adapt to quartz technology.

However, entrepreneurs such as Hayek and Thomke were willing to defy centuries of institutionalized norms so they could introduce several innovative structural, cultural, technological, and organizational changes to the field of Swiss watchmaking. The quartz crisis eventually prompted an industry-wide restructuring, led by Hayek and SMH, that de-institutionalized many of the old mechanical watchmaking production systems and norms. Ironically, these actions laid the groundwork for the next period (Donze, 2011): an unexpected re-emergence of Swiss *mechanical* watch industry.

Re-emergence: 1990-2008

Focal Re-Institutionalization Processes - Identity Construction, Interpretation and Translation, and the Reproduction of Patterns

By 1990, the Swiss watch industry was beginning to reclaim low-end market share and the industry was exuding a newfound confidence for the first time since the early 1970s. One industry expert noted: “Things started to look up in Switzerland. It was absolutely amazing. The Swatch did an enormous amount of good for the rest of Swiss watch industry, putting it back on the map.” [Interview with former industry representative, 2012]. In the early 1990s, Swiss producers also noticed that mechanical watches were beginning to attract attention, particularly from collectors and high-end consumers looking to purchase these watches again. Here I focus on three elements that emerged from my interviews and data that were salient to this period of re-emergence: identity construction, interpretation and translation, and the reproduction of patterns.

The introduction of the Swatch watch as a fashion accessory convinced the Swiss that they no longer needed to compete with the Japanese solely on dimensions related to precision and accuracy. The Swatch had proved to be effective because it was marketed as an “emotional” product (i.e., an extension of the consumer’s unique personality); in short, Swiss quartz watches could also be identity markers (Pratt & Rafaeli, 1997). But a question remained: could the same strategy apply to more expensive watches, particularly the mechanical watch? Several factors signaled that the future of mechanical watch technology would be tied to reconstructing the identity of the Swiss watch industry and translating this message to the consumer.

An early sign that mechanical watches still held value came from an unexpected source: the watch collector community. In the late-1980s a small group of collectors of mechanical watches started purchasing timepieces at auction because they were concerned the technology would vanish in the wake of quartz technology. According to one auction house executive, these collectors were referred to as, “the ‘purebreds.’ They’re in it because they can take apart a movement and to them it’s a heaven on earth. It’s as good as it gets.” [Interview: auction house executive, 2013]. For them, the identity of the watch was far more than a precise timekeeper, but a symbol of craftsmanship.

Starting in the late 1980s and early 1990s, a new type of collector was enticed to enter the vintage market. An Italian entrepreneur by the name of the Osvaldo Patrizzi started auctioning mechanical watches and antique clocks to a growing base of people interested in mechanical watch technology. His auction house, *Antiquorum*, published full-color catalogues with in-depth technical descriptions, historical backgrounds, and documented provenances similar to those found in the high-end art market.

Auction prices for their vintage pieces continued to rise,³ sending a signal to the Swiss watch producers that there might still be value associated with the dying technology. And many brands began to take notice. A notable collector recalled the unexpected rise in value for a vintage mechanical Patek Philippe he had bought as frugal young man and later sold at auction:

You cannot collect quartz watches. The heartbeat of a mechanical watch is the heartbeat of human culture. I bought my first [mechanical] Patek in the early 1980s with one paycheck, but I sold it in 1989 for \$430,000. Managers in every watch company noticed this trend and couldn't believe people still wanted mechanical watches. [Interview: Watch Industry Historian, Author, and Collector, 2012]

Heading into the 1990s and 2000s, the vintage market continued to attract new buyers, and many brands such as Patek, Rolex, Breguet, and Omega partnered with Antiquorum, Sotheby's, and Christie's to sponsor special auctions for their pieces. Several brands also began re-issuing versions of the vintage pieces sold at auction; in fact, the high prices of the vintage pieces often justified the increased prices they could charge for the re-issued models. In contrast to the "purebred" collector-buyers described above, another auctioneer described the influx of new buyers as "'Armani suit' people. Not only did they have an interest in the watches, but they had the money to buy them." [Interview: auction house executive, 2013]. For this group of collectors, the identity of the watch was a symbol of status, prestige, and exclusivity. (It was also an identity that the brands were simultaneously attempting to spread beyond the vintage market to the retail market, discussed below).

³ For example, Patek Philippe wristwatch Ref. 2499, No. 868747, chronograph with perpetual calendar sold three times between 1992 and 2006. Current version is Ref. 5270: 1) Antiquorum Hong Kong 5/25/1992 lot 208 sold for HK\$420,000; 2) Antiquorum Geneva 11/16/2002 lot 362 sold for 641,500CHF; 3) Christie's Geneva 11/13/2006 lot 45, sold for 832,000CHF. One auction executive stated the vintage market depends to a large extent on the power of persuasion of the auctioneer and the one who writes the descriptions. An example of an auction catalogue description illustrates the point: "To so many long time aficionados of vintage and contemporary wristwatches, it is the legendary reference 2499 by Patek Philippe which displays the most perfect combination of mechanical complexity, dial design and case proportions. And the one and only ever released example in platinum is the holy grail per se to a large community of collectors." Source: Christie's November 12, 2012 note to lot 151.

The role of the collector continued to expand. Companies invited expert collectors to sit in on focus groups, asking for advice about whether they thought their new designs adhered to the brand's historical heritage. Beginning in the late 1990s, many companies hired notable collectors to write biographies on the history of their brands, hoping these individuals might be able to recover some of the information that was lost when many companies had thrown out their archival records during the quartz crisis. In short, the collectors served as guardians of mechanical watchmaking because their interest helped bring attention back to the technology.

While the vintage mechanical watch market may have been an initial indicator that mechanical watches still held value, the vast majority of work that led to the re-emergence of the mechanical watch was done by the brands themselves. Several watch manufacturers, such as Omega and Tag Heuer, believed that they could reposition the identity of the watch as a luxury good. To do so, extensive marketing efforts were launched to re-interpret and translate the value of owning a Swiss mechanical watch for the consumer. Several brands turned to marketing strategies used in the early days of Geneva watchmaking, when watches were seen primarily as status symbols, jewelry, and luxury goods for the elites who could afford them. By essentially ignoring the fact that the mechanical watches were not as accurate as quartz, the brands aimed to shift the identity of Swiss watchmaking toward luxury, beauty, and craftsmanship.

Several "dormant" watch brands (i.e., old watch brands that had gone bankrupt during the quartz crisis) were re-launched during this period. One notable example was Blancpain. Its CEO, Jean Claude-Biver, was a former Omega executive who bought the rights to the Blancpain name for SFr16,000 (USD\$9000) in the 1980s (Breiding, 2013). The project was based primarily on changing the identity of the watch, and linking it to the craft of watchmaking. Biver re-launched the brand, stating that it was Switzerland's oldest watch company and offered an

ironic advertising slogan that captured the zeitgeist of the period: “Since 1735 there has never been a Blancpain quartz watch, and never will be.” The reproduction of the old watchmaking patterns was meant to be celebrated rather than disregarded. In interviews, Biver explained the importance of identity construction, translation, and interpretation that he employed to reintroduce the mechanical watch to the consumer:

We re-invented the culture of a watch, the art of a watch, the soul of a watch. Your watch lives with you and so don't look for accuracy. You look for the soul, the beauty, the art. You look to the watch as a communicating instrument of your personality. Your watch is part of you. The watch belongs to you. The watch is you. [Interview: CEO of Swiss watch company, 2012]

This is why we may consider Blancpain today as the ‘guardian,’ the curator of the most marvelous culture, a true Swiss patrimony: the Art of traditional watchmaking. We want to give life to the fabulous heritage of the art of traditional watchmaking, to enlarge it thanks to the possibility of today and of tomorrow. [Archival interview: CEO of Swiss watch company, 1999] (Friedberg, 1999)

Both were strong statements of identity, alluding that the watch could serve as extension of a buyer's personality (c.f., Belk, 1987). The strategy worked. In 2000, Biver's success lured Hayek to purchase Blancpain for SFr50million (USD\$30m).

Structure: The Introduction of the “Group”

The success of the Swatch watch in the mid to late 1980s provided the liquidity Hayek needed to carry out his broader vision. During the 1990s, he used the revenues from Swatch sales to acquire several more Swiss brands, bringing them under the roof of one single “Group” (i.e., SMH/Swatch Group). Under the “Group” model, each brand would represent a specific price point to vertically segment the market. Brand CEOs reported directly to Hayek, who served as Chairman and CEO of the Group and coordinated the production figures, budgets, and revenue targets for all the brands. Seeing the success of this strategy, the 1990s and 2000s led to the creation of several more groups across the industry (Donze, 2011). For instance, several

foreign investment groups in the luxury industry capitalized on the shift toward luxury and began to acquire Swiss watch brands. They believed they were well positioned to use their marketing expertise to reposition the brands for the high-end consumer (e.g., LVMH, the French multinational luxury goods conglomerate known for its Louis Vuitton handbags and several other prestigious brands, purchased the Tag Heuer and Zenith watch brands).

The introduction of groups into the Swiss watch industry also brought different expectations about profit margins. One former CEO stated that after his company was purchased by a luxury group, they quickly raised prices and re-invested a significant amount of cash into marketing. Their goal, he said “was getting the company out of the mass market margins and into luxury market margins” [Interview: former CEO of Swiss watch company, 2012].

The shifting structure of the industry was also influenced by the supply of watch movements, which are the mechanical or quartz components inside a watch responsible for keeping time. Since the largest independent movement manufactures had been dissolved or acquired by SMH in the 1980s, its movement factory (known as *ETA*) supplied 80% to 85% of all watch movements to other brands during this period. Companies would purchase the movement from ETA, add new features (i.e., ‘complications’ such as annual calendar functions, chronograph timing functions), assemble the watches, and sell them independently. Finally, a remaining subset of companies continued to make their own movements, most notably Rolex and Patek Philippe. A prominent collector, author, and watch brand historian explained the shift in industry structure that occurred in the late 1990s and 2000s, particularly as many of the traditional mechanical brands no longer made the mechanical movements that were back in demand:

From that time, the scenery divided. You had companies on the one hand who developed their own movements, and on the other hand you had companies that used ETA

movements and building complications on the ETA movements. [Interview: Watch historian and author, 2012].

Thus, the advantage of the “group” structure was that several watch brands could benefit from several aspects of group membership, including: stronger negotiating power with suppliers and distributors; capital investments that came from overall group profits; diffusion of new technical and business methods from other brands in the same group that facilitated organizational learning; and, revenues from other products in the group (e.g., liquors, clothing, handbags) could sustain the watch brands if demand decreased or currency shifts effected Swiss watchmaking. Since most groups owed more than one watch brand, a core principle of the group structure was to avoid encroaching on the price segment of their other brands. The CEO of a mid-range brand situated within a group quipped about the importance of selling watches at a specific price point: “I always want to stay in my league. Never forget. I try to preach this message the whole damn day to my executives – stay in your [expletive] league!” [Interview: CEO Swiss watch company, 2012]. The purpose of the group was to coordinate how the brands would translate the unique values of their watches to a diverse market of consumers at multiple price points. In addition, the groups facilitated a reproduction of patterns, practices, and institutional norms by centralizing many decisions related to production and distribution.

By 2008, the Swiss watch industry had recorded 19 quarters of consecutive growth, achieving 67% growth over the previous five years. The export value of Swiss watches was approximately US\$15.8 billion, estimated to comprise 55% to 60% of the global watch industry. The group model appeared to be a successful means of rescuing numerous almost defunct brands, including the 18 brands that sat under Hayek’s Swatch Group and made up 40% of all the Swiss watch export value. When Hayek had produced his initial recommendations for banks in the early 1980s, he estimated the SMH/Swatch Group was valued at SFr328 million

(USD\$180m) – thirty years later his group reported revenues of SFr6.44 billion (USD\$6.22b), 70 times the original investment (Breiding, 2013: 43).

However, by 2008 the Swiss watch industry was now one primarily anchored in the luxury segment of the global watch market. Enthusiasm for the Swatch watch had subsided in the 1990s, and Swiss production numbers for quartz technology never came near the 1 trillion quartz watches produced annually in Hong Kong and China. The Swiss could no longer compete on overall production units (Glasmeier, 2000); in 2008, they produced 26.1 million watches, of which only 4.3 million were mechanical. The average price of the Swiss watch was US\$563, compared to the average price of a Chinese quartz watch at US\$2 (Federation of the Swiss Watch Industry, 2009). Nonetheless, a re-emergence of the Swiss field of watchmaking had been achieved: the industry was seeing unprecedented growth rates, mechanical watchmaking schools in Switzerland were again flourishing, and many old brands were being re-launched every year. As a company historian employed by a Swiss watch company iterated: “We had to communicate that [Swiss watchmaking] was not about precision anymore, it's about a dream, it's about heritage, it's about the past. In fact, it is not rational at all, this re-emergence.” [Interview: Swiss watch company historian, 2012].

The re-emergence of the Swiss watch industry suggests a complementary, but somewhat nuanced, perspective on the role of legitimacy during periods of market re-formation. During this period of re-emergence (1990-2008), Swiss watch companies had to cross multiple legitimacy thresholds (Navis & Glynn, 2010) simultaneously. The first was associated with re-legitimizing themselves as traditional Swiss watchmakers with roots in early days of mechanical watch craftsmanship; as a result, numerous companies hired full-time company historians with PhDs in history to search for archives, patents, and other sources that could validate the

companies' claims to the past. Alternatively, during this period many brands also joined "groups" which enforced many of the strict guidelines related to budgeting, operations, and profitability that had initially been introduced into the field during the prior period (1983-1989); as a result, these companies were now held accountable to outside financial analysts who legitimized their claims for profitability to the broader investor community. In this case, the two legitimacy hurdles were associated with practices and patterns that had been instituted in the past, but were also important for their future.

To summarize, I find that identity construction, interpretation and translation, and the production of patterns characterized this period of re-institutionalization. As the industry moved toward selling mechanical watches as luxury goods, these factors shifted market demand and consumer buying patterns. Concurrently, the period also gave rise to the institutional guardian: actors who served to preserve the old technology, signaling market demand for the old technology still existed, and also acting as historians and "truth-tellers" (Stinchcombe, 2002) for the field. In the following section, I discuss how each of the salient factors that emerged across the three periods contributed to a general model of field re-emergence.

TOWARDS A MODEL OF FIELD RE-EMERGENCE

In this section, I advance a model of field re-emergence that summarizes and generalizes my findings. Figure 5 illustrates how institutional processes of field transformation and preservation serve as complementary forces that enable field re-emergence. The Figure also highlights how actors representing change (i.e., institutional entrepreneurs) and stability (i.e., institutional guardians) counterbalance each other during periods of re-emergence. Together, these processes and actors create a unique set of conditions that simultaneously facilitate transformation and preservation.

The arrows on the left and right sides of the Figure illustrate how re-emergence occurs through a complex balance of field transformation and field preservation, represented by the top and bottom boxes. The middle box represents the mechanisms that facilitate this balance (e.g., identity construction, interpretation and translation, and the preproduction of patterns); and, as illustrated, re-emergence consists of elements associated with both field transformation and change. This process is managed through the actions and behaviors of institutional entrepreneurs and guardians, represented by the two opposing circles, who employ the mechanisms of re-emergence to infuse both the old and the new values into the institutional field. Next, I describe each of the constructs in Figure 5 in more detail.

Insert Figure 5 About Here

Institutionalization Processes

Elements associated with a field's emergence (i.e., institutionalization: pre-1983) and dissipation (i.e., de-institutionalization: 1983-1989) do not completely dissipate, and consequently remain salient during periods of field re-emergence (e.g., 1990-2008). As Kaghan and Lounsbury (2006) show in their study of technology transfer, "institutional residue" from an old technological order is often left behind and can manifest itself later in artifacts, professional norms, standards, and communities of practice. Likewise, the mechanical watchmaking schools, industry associations, accuracy competitions, certification boards, and the mechanical watchmaking machinery and tools all became forms of institutional residue that were left behind in the late 1970s, but they eventually became important again in the 1990s.

For instance, during the 1990s and 2000s most Swiss companies were focused on validating to the consumer that they were founded during the early days of watchmaking, which

they believed would help legitimize their claim to the origins of Swiss mechanical watchmaking. Additionally, during the re-emergence period several CEOs reported that their companies agreed to industry-wide standards set by the Swatch Group largely because they had been successful under highly coordinated supply systems before, a mentality that harkened back to the days when the industry production was coordinated by a cartel. Thus, processes of imprinting and conformity – which served to solidify field-level norms, habitual patterns, and values during the field's emergence – laid dormant for several years, but later came back during the period of the re-emergence.

Conversely, elements that forced field level change can also linger and influence actors during a subsequent period of re-emergence. For instance, many of the process and product innovations that were introduced during a period of transformation (1983-1989) (e.g., the Swatch watch, automated production systems, fashion marketing) defied the accepted practices, norms, and logics associated with the early days of Swiss mechanical watchmaking. One could argue that this period introduced a market logic (i.e., focused on the accumulation and commodification of wealth) to a field that traditionally been one based primarily on a family logic (i.e., focused on reciprocity and unconditional loyalty) (Friedland & Alford, 1991; Thornton, Ocasio, & Lounsbury, 2012). Yet, during the same period, when firms were re-embracing the old mechanical technology (1990-2007), they continued to employ strategies that led to stricter and more disciplined business practices (e.g., tighter financial controls, automated production systems, and greater accountability measures) that were introduced during the 1990s. I found that the innovations grounded in a market logic that Hayek and others introduced in the 1980s were also reconstituted and became a form of institutional residue that provided the seeds for change that subsequently occurred during the years marked by re-emergence.

Finally, the Figure depicts how re-institutionalization and re-emergence is facilitated via mechanisms (Davis & Marquis, 2005) of identity construction, interpretation and translation, and the reproduction of patterns. For instance, during the re-emergence period, many of the CEOs I interviewed argued that they actively attempted to redefine their company's identities, the identity of the watch, and more broadly, the identity of the community of Swiss watchmaking (i.e., "who we are" and "what we do" (Navis & Glynn, 2011)). To do so, patterns associated with the previous two periods were reproduced (e.g., elements of handmade mechanical watchmaking were combined with automated production systems). Such norms and practices were re-institutionalized via the group structure, the re-establishment of schools, festivals and fairs devoted exclusively to Swiss luxury watches, and chronometer certifications that measured accuracy differently for mechanical watches than quartz timepieces.

Institutional Entrepreneurship and Guardianship

Processes of re-emergence are enacted by two types of leadership: institutional entrepreneurs and institutional guardians.⁴ Selznick (1957) explicitly defined institutional leaders as carriers of values who could infuse those values in organizations so as to develop the organization's character and identity, transforming them from a tool of efficiency to a value proposition. As he (1957: 17) famously intoned: "To institutionalize is to infuse with value beyond the technical requirements of the task at hand." Because they reflect the beliefs of the collective about what is right and appropriate, he argued that values create social order, govern competing or political interests by offering a transcendent ideology or mission, and thus serve as a form of social integration. Moreover, social values can fix and codify meanings associated with the institution and enable its endurance over time.

⁴ The notions of institutional entrepreneurship and guardianship are not limited to individuals, but also to organizations, professional associations, or events that can promote the infusion of values.

Figure 5 illustrates how, during periods of re-emergence, institutional entrepreneurs (Battilana et al., 2009; DiMaggio, 1988) diffuse values that aim to transform the field, while institutional guardians (DeJordy, 2010; Fligstein, 1997) diffuse values that aim to preserve elements of the field associated with the old institutional order. Yet, I find both are necessary for re-emergence. If the institutional entrepreneur pushes the field too far askance by introducing innovations that defy all acceptable norms, guardians will react and argue the practices are no longer legitimate. Alternatively, if institutional guardians refuse to adapt to any changes proposed by the institutional entrepreneur, the entrepreneur will highlight that some level of change is necessary in order for the field to survive. Thus, the inherent tension between these two types of actors shapes the conditions for re-emergence.

For example, after the quartz crisis in the Swiss watch industry, many experts credited Hayek with introducing the consolidation strategy that influenced sweeping changes in the watch production systems across the region, transforming the Swiss watch industry by making it more competitive with other nations (Donze, 2011). Simultaneously, during this same period when the Swiss struggled to define themselves in the years following the quartz crisis, Hayek and other CEOs were surprised to find that collectors were purchasing vintage mechanical watches at auction for record prices, publishing books about mechanical watches and the Swiss companies that produced them, and forming local and online communities devoted to the preservation of the craft of fine mechanical watchmaking. In a sense, these collectors were acting as guardians of the tradition of Swiss mechanical watchmaking. Quickly, CEOs such as Hayek realized that the collectors were influential actors in the industry, and played an important role in signaling consumer demand for handmade watch components that could only be manufactured by expert craftsmen and women in the old tradition. The example suggests that institutional entrepreneurs

were able to introduce new innovations that facilitated necessary field level change, while guardians actively protected the organization and institution's historical heritage (Walsh & Glynn, 2008), particularly when under threat of change (DeJordy, 2010). In re-emergence, the collectors played an important role by making visible the value of mechanical watches, providing an impetus for a return of mechanical watchmaking.

Overall, I find that processes of re-emergence draw on the institutional residues of the past, but also connect them to the present. Just as the old technology is not fully displaced by the new, the then-new technology (e.g., quartz) is not fully displaced by the return of the old technology (e.g., mechanical). Thus, the elements of old and new technological orders exist and sit side by side, providing richness and complexity to the field.

DISCUSSION

This study demonstrates several key factors that contribute to, and influence, the re-emergence of market demand for a legacy technology in a mature institutional field, answering calls by organization scholars for further research related to field-level persistence (Scott, 2008) and change (Davis & Marquis, 2005). I advance a model of field re-emergence, which combines multiple processes associated with institutionalization and de-institutionalization. By examining the field of Swiss mechanical watchmaking, I find that field re-emergence requires the recombination of elements left behind from a prior technological order, but also requires novel elements to be introduced. Thus, field re-emergence requires components that facilitate field transformation and, likewise, also elements that facilitate field preservation. And while these dual-processes appear to be at odds with one another, during a period of re-emergence they serve as necessary counterweights, encouraging the preservation of some elements associated with the old institution field, while also allowing new elements to enter the field that allow it to change

and survive. Finally, I expose how these dual processes are supported by actors serving as institutional entrepreneurs (promoting change and transformation) and institutional guardians (promoting stasis and preservation).

This study has several theoretical implications. First, it offers new insights relevant to research on fields, and institutional and technology change. For example, institutional scholars have long been interested in the role of legitimacy during these the early stages of field and market category creation. Navis and Glynn (2010: 462) show that the emergence of satellite radio was predicated on achieving a *legitimacy threshold*, “marking the onset of institutionalization and the taken-for-grantedness of the new market category.” Dacin, Goodstein, and Scott (2002: 47) posit that legitimacy is an important force in institutionalization, as “The creation, transformation, and diffusion of institutions require legitimacy, a condition whereby other alternatives are seen as less appropriate, desirable, or viable.” I find that during periods of re-emergence, the field requires legitimation of its past practices and traditions, but also needs legitimation of its current practices under the new institutional order. This balance was often achieved through the actions of individuals who served as “carriers” of values, ideas, routines, and artifacts over time (Scott, 2003), especially institutional entrepreneurs and guardians.

Second, I expose an unlikely relationship between the institutional leader and guardian. Where prior studies have largely focused on the role of the institutional entrepreneur as an agent for field level change (Garud, Jain, & Kumaraswamy, 2002; Hardy & Maguire, 2008; Maguire, Hardy, & Lawrence, 2004; Rao & Giorgi, 2006), I find equal importance for the institutional guardian (DeJordy, 2010; DiMaggio, 1988; Fligstein, 1997). In the case of the Swiss watch industry, both serve as counterbalances to the other; institutional entrepreneurs (e.g., Hayek)

introduced innovations that ultimately drove field-level changes necessary for survival, but alternatively, institutional guardians (e.g., collectors) ensured that companies preserved the norms and values associated with mechanical watchmaking. Thus, this study may provide new applications for Selznick's view of institutional leadership: the notion of "value infusion" appears to be just as important for entrepreneurs as it is for guardians. Interestingly, during a period of re-emergence, both sets of actors infuse values that push and pull the field until it achieves a hybrid-like value system that provides equilibrium. Unpacking this relationship more fully holds promise for future researchers.

Finally, I identify several mechanisms that are critical processes for field re-emergence, including the role of identity construction, interpretation and translation, and the reproduction of patterns. While institutionalists have devoted significant energy to exposing the cognitive factors that impact field level change, (Greenwood & Hinings, 1996; Scott, 2008), such factors remain relatively unexplored in the literature on technology change (Kaplan & Tripsas, 2008). Not only do these cognitive factors appear to be important for understanding changes in the technology of the watch, they may also lend greater insight into the identity changes that the organizations underwent, as well as the broader community of Swiss watchmaking. Further exploration on *how* these mechanisms effect field-level change would be a welcome extension of this study.

To conclude, I find that re-emergence is not only a "real" phenomenon, but one that serves as an important extension of research previously conducted on field emergence and institutionalization. As is the nature of any inductive study, however, it is not without its limitations. A single case does not make a theory, but does provide promise for future research that explores the mechanisms underlying field level change, and in this case, re-emergence.

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Table 1: Pilot Codebook with Preliminary Sensitizing Codes

Article	Code	Theoretical Explanation	Description
<i>Identifier</i>	<i>ID</i>	<i>Explanation</i>	<i>Coding Guidelines</i>
Field Emergence Processes	<ul style="list-style-type: none"> - Compromise - Defiance - Diffusion - Identity construction - Conformity - Reproduction of patterns - Imprinting - Innovation - Interpretation and sensemaking - Socialization - Translation 	Field emergence and change processes allow high level (more encompassing) structures to shape, constrain and empower the structure and actions of lower level actors. Counter processes allow lower level actors and structures to shape, reproduce and change, the contexts within which they operate. (Oliver, 1991; Scott, 2008)	<p>0= does not make reference to the specified process</p> <p>1= makes reference to the specified process</p>
Changes in Institutional Processes	<ul style="list-style-type: none"> - Functional Processes - Political Processes - Social Processes 	Institutional change will induce changes in: regulatory systems, norms, obligatory expectations, cultural beliefs. It encourages increased questioning of what is taken for granted. (Scott, 2008)	<p>0= does not make reference to specified process</p> <p>1=Functional: Changes in in performance levels associated with institutionalized practices; Changing consumer preferences</p> <p>2= Political: Shifts in interests; Shifts in underlying power distributions</p> <p>3= Social: Differentiation of groups; increased fragmentation of normative consensus; diverging beliefs or practices; presence of multiple competing and overlapping institutional frameworks undermines the stability of each; outright abandonment of an institutionalized practice</p>
Agency	<ul style="list-style-type: none"> - Institutional Leadership 	Leaders who define purpose, values, and enduring meanings. “To infuse with value beyond the technical requirements of the task at hand.” (Selznick, 1957)	<p>0= does not make reference to institutional leadership tasks</p> <p>1= makes reference to institutional leadership tasks: the definition of institutional mission and role; the institutional embodiment of purpose; the sense of institutional integrity; the ordering of conflict (Selznick, 1957: 62)</p>

Note: this codebook is meant to serve as an illustration of the preliminary sensitizing codes that I used to begin my initial analysis. Over time, as I iterated between theory and data, several more codes emerged.

Figure 1: Overview of Data Structure

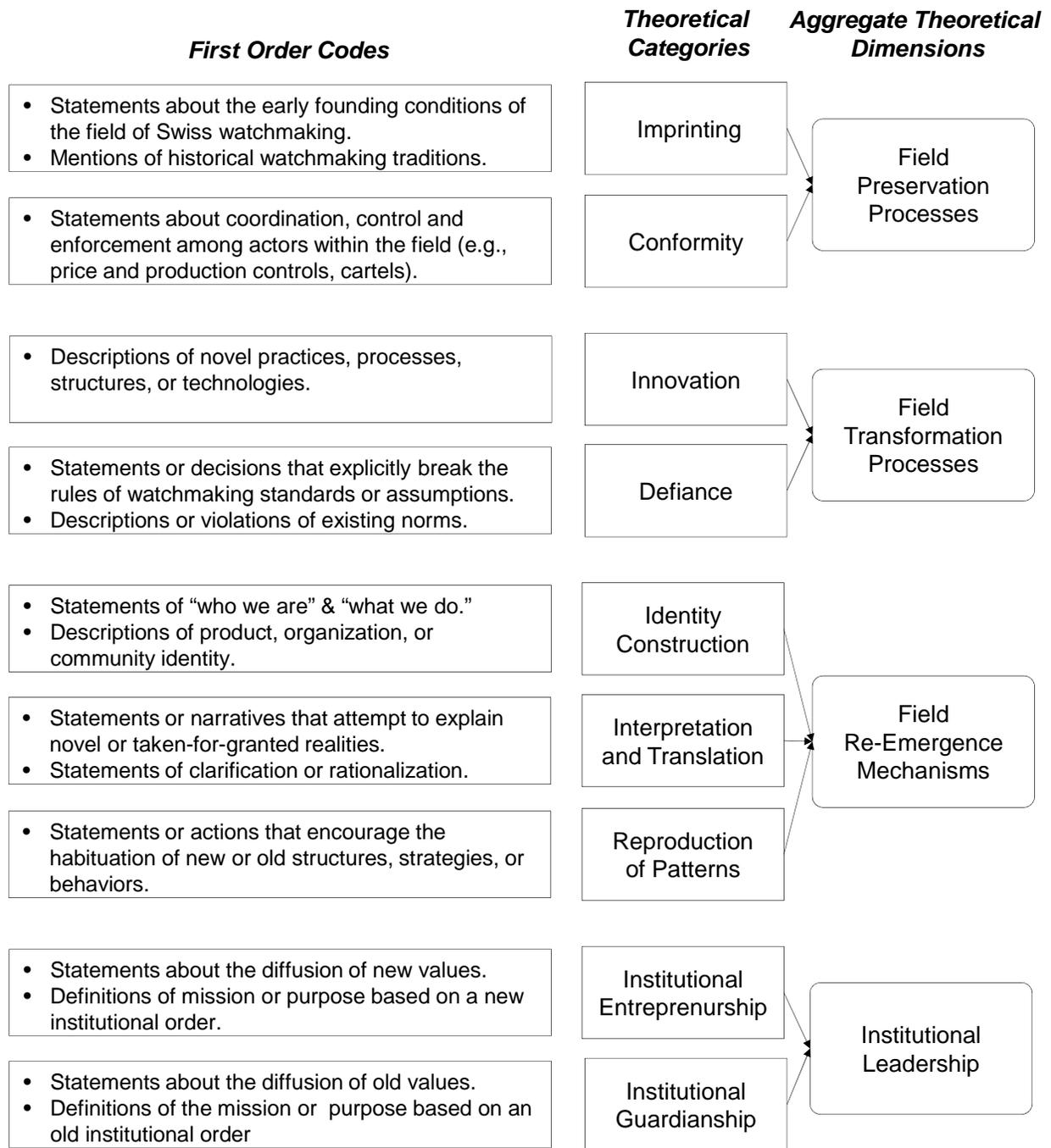


Figure 2: Overview of Field-Level Changes in Swiss Watchmaking Industry

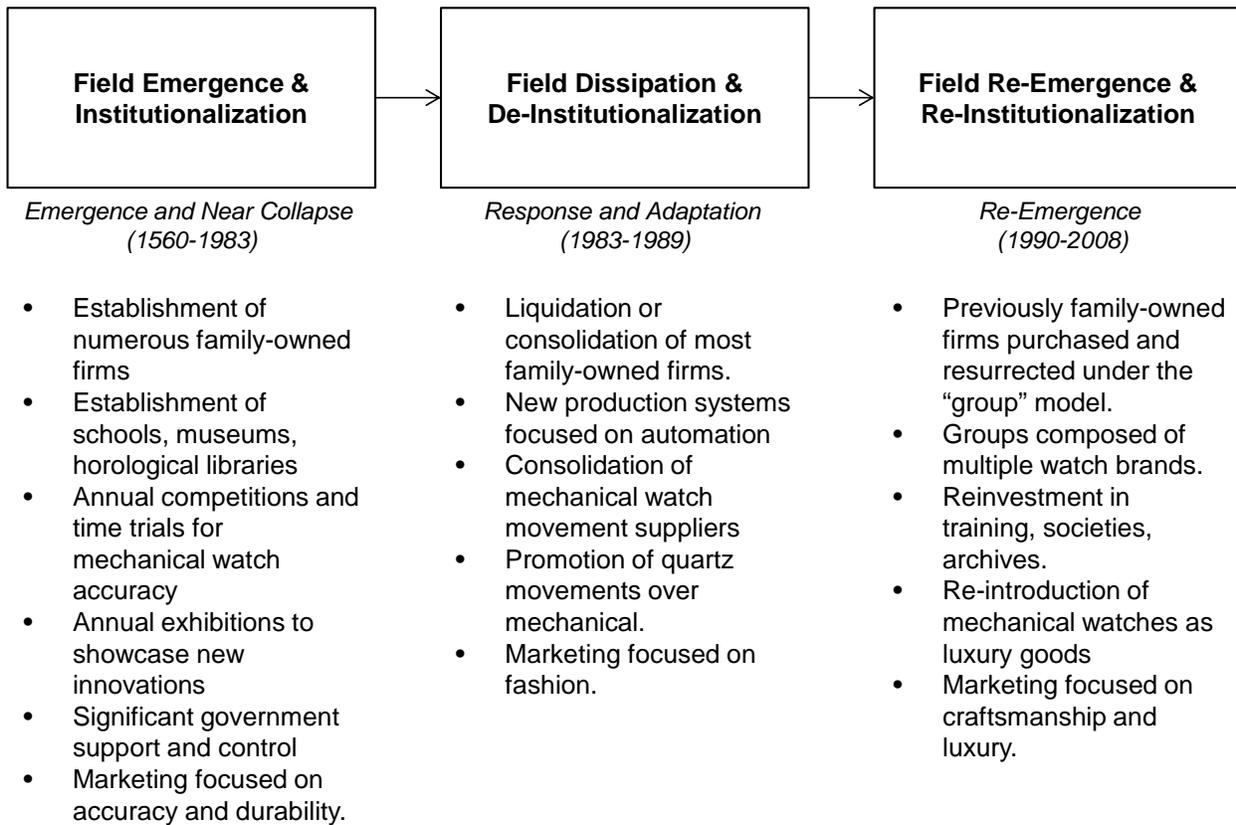
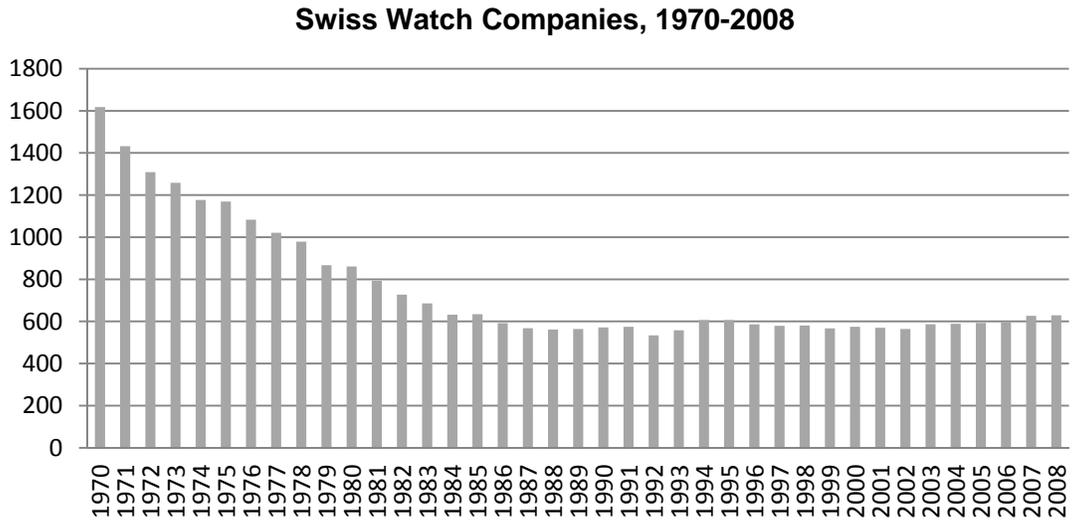
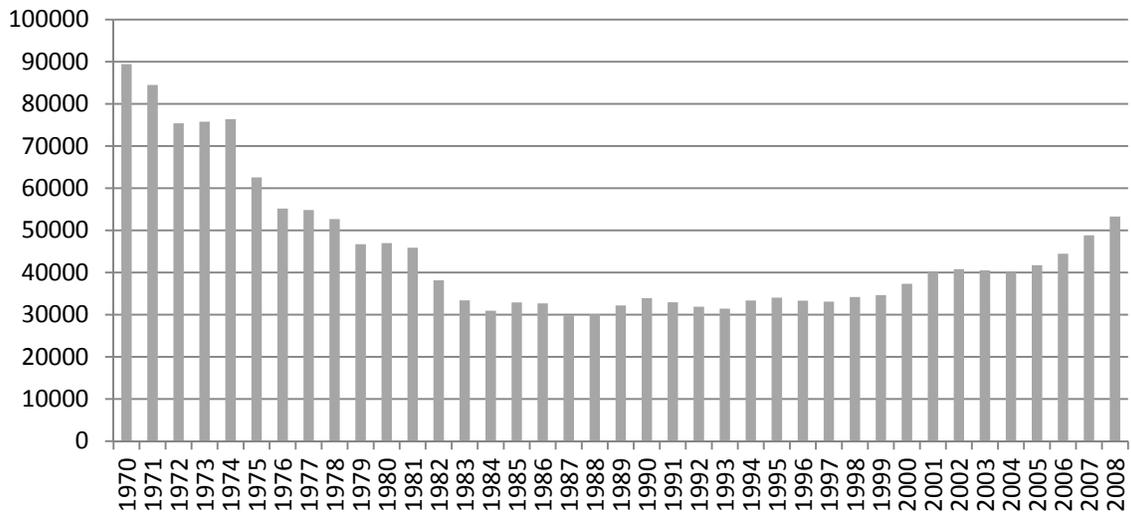


Figure 3: Number of Swiss Watch Companies, 1970-2008



Source: La Convention patronale de l'industrie horlogère Suisse

Figure 4: Employees in Swiss Watch Industry, 1970-2008



Source: La Convention patronale de l'industrie horlogère Suisse

Figure 5: Towards a Model of Field Re-emergence

