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Printing Industry Center
An Alfred P. Sloan Foundation Center

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Introduction

The printing industry is undergoing numerous changes. The advancement of digital technologies has profoundly impacted the ways in which information is conveyed to consumers and has given people the ability to produce documents on their own, thereby limiting reliance on traditional print companies. As an example of this phenomenon, Freeman and Rothenberg (2006) report on decreasing demand for traditional print products, citing statistics from the Newspaper Association of America that mark a decrease in newsprint consumption of 14%.

As a result of these changes, printer device manufacturers are developing new technology that would make printing more efficient and cost-effective. Similarly, in response to these changing market trends, print suppliers are attempting to reposition themselves as a communications or marketing partner/service provider as opposed to solely a print or commodity supplier. Becoming a marketing partner or communications company involves going beyond taking print jobs to offering a wide range of print products and marketing solutions to consumers. Thus, printing companies—manufacturers and suppliers alike—are striving to grow and sustain creativity and innovation to keep their competitive advantage in an industry faced with many challenges. The chairman of the board of one of the companies studied described the environment in this way:

> It becomes a challenge as you define your role as something more than providing a product or service where a decision has already been made for it. Our industry, the printing industry, the graphic communication industry—you almost can't read an article anymore that doesn't state how important it is that you become a strategic partner with your customer. You need to be available to properly represent your product or service… and modify it to meet the needs of the customer.

Organizations routinely use mergers and acquisitions to both grow and enhance innovation. Not surprisingly, merger and acquisition activities within the printing industry have increased dramatically in recent years. In the first half of 2004 alone, there were 275 mergers and acquisitions within the industry. A number of the high-profile merger and acquisitions were aimed at providing service or product innovations. Thus, one of the ways printer device manufacturers can develop new printing technology is through merging with or acquiring companies that have a desired printing technology or the knowledge base to develop one. An example of this is Xerox's acquisition of XMPie. XMPie is a software company, and the acquisition allows Xerox to "deliver to customers software that addresses even the smallest niche without ever having to develop software itself" (Zipper, 2006, p. 4). Another example is Hewlett Packard's 2005 acquisition of Scitex, which was conducted (at least in part) to gain a propriety ink jet delivery technology (Beals, 2005).

Similarly, print suppliers also rely on mergers and acquisitions to acquire the ability to provide wide range of print solutions, related products, and other marketing solutions

across various printing mediums. For example, RR Donnelly purchased Moore Wallace, a Canadian-U.S. printer, in 2003, creating the largest printing company in the world. Donnelly's portfolio is enhanced by Moore Wallace's business documentation, forms, and direct mail offerings, and will help provide the company with the opportunity to "offer the world's leading companies a comprehensive suite of print and related products and solutions" (Printing World, 2003, p. 4).

In summary, changes in market demands within the printing industry have made mergers and acquisitions an attractive option for top-line growth by spawning innovation and creativity. However, there is little research that helps us understand how mergers and acquisitions influence creative processes within the firm after the merger or acquisition occurs.

Mergers and Acquisitions and Firm Innovation

A number of researchers have suggested that organizational innovativeness is a function of knowledge acquired (Cohen & Levinthal, 1989; Huber, 1991). In reality, however, mergers and acquisitions as a means of increasing organizational innovativeness have proven to be a strategy of mixed success. Research by Hitt, Hoskisson, Ireland, and Harrison (1991) reported a substantial drop in the acquiring firm's innovativeness (as measured through a decrease in patents), as the acquiring firm tends to spend less on research and development following an acquisition. Similarly, Laurie, Doz, and Sheer (2006) showed a decrease in the acquiring firm's value post-acquisition. They explain the decline in value as a combination of paying too much for the acquisition and failing to have integration systems that can effectively deliver the promised performance.

In comparison, Ahuja and Katila (2001) demonstrate that the absolute size of the acquired firm's knowledge base (measured in patents) has a positive effect on innovative output of the acquiring firm. That is, the larger the knowledge base, the more likely the acquiring firm will experience gains in innovation. However, they also found that the relative size of the knowledge base acquired was negatively related to innovation. The relative size of the knowledge base is measured as the ratio of the knowledge base of the acquiring firm versus that of the acquired firm. Thus, when both the acquiring and acquired companies must engage in significant amounts of expensive and time-consuming teaching and learning activities due to the size and disparity of their knowledge bases, innovation is diminished. Moreover, organizational structures must be revamped to facilitate the transfer and assimilation of learning throughout the new combined organization, including "pathways of communication, routing of work and authority, and formal and informal organizational structures" (Ahuja & Katila, 2001, p. 200). However, when there is only a relatively small amount of knowledge to be transferred in the merger or acquisition, the disruption in these structures is minimal.

Valentini (2006) also found that mergers and acquisitions had a positive effect on the quantity of patents generated by firms post-acquisition; however, there was a negative impact on the quality of patents in terms of importance and originality. Specifically, Valentini suggests that a better knowledge base and better technological capabilities improve the quality of innovations. However, quality is reduced after a merger or acquisition because firms migrate from strategies of high-risk radical innovations to lower risk incremental innovations, as the acquiring firms often must focus on short-term goals (such as short-term earnings) to appease shareholders and industry analysts.

Finally, Hitt, Hoskisson, Johnson, and Moesel (1996) found that acquiring firms often emphasize financial controls, and that this emphasis has a negative effect on innovation and creative outcomes. This is due to the fact that mergers and acquisitions are often expensive transactions that may result in significant debt loads. Shareholders also may

have high expectations for the realization of increased earnings that are often promised before a merger or acquisition. As a result, organizational leaders become more risk averse and unwilling to pursue innovations that might be unsuccessful or take a long time to realize a return on investment.

All in all, past research seems to suggest that the firm's innovativeness might depend on the intentions with which companies are merged or acquired (Ahuja & Katila, 2006).

Mergers and Acquisitions and the Creative Process

While existing research provides valuable insights into the conditions under which mergers and acquisitions can influence acquiring firm's innovativeness, less is known about the dynamics underlying the creative processes after the companies have been merged or acquired. While many define creativity in terms of the outcomes or product, others emphasize the processes or mechanisms that result in creative outcomes. For our study, we focused on creative processes, defined as the extent to which an individual behaviorally, cognitively, and emotionally attempts to produce creative outcomes (Drazin, Glynn, & Kazanjian, 1999).

The creative process occurs when employees are *cognitively* engaged through divergent thinking or brainstorming ideas, *behaviorally* engaged through idea- and information-sharing and collaboration, and *emotionally* invested in creative acts (Drazin et al., 1999). For example, in order to develop a new product, employees should formulate alternative design options (cognitive engagement), share and communicate ideas and design options with others in order to receive feedback (behavioral engagement), and finally, feel passionate about and be emotionally invested in the product (emotional engagement). Therefore, creative engagement – cognitive, behavioral, and emotional – represents a creative process that is necessary to obtain and likely to result in creative outcomes such as new products and services. Much of the previous research neglects the impact of organizational changes on individual-level creative processes. This is an important omission, given that creative outcomes or products are unlikely unless employees are cognitively, behaviorally, and emotionally engaged.

Therefore, the notion of creative engagement is especially important to explore if we are to understand when mergers and acquisitions make logical sense. While employees are being influenced and shaped by the environment imposed during the merger or acquisition, researchers would contend that employees are also shaping the environment (i.e., organizational innovation) through their actions (Giddens, 1994; Drazin et al., 1999). Specifically, individuals engage in sense-making processes or create meanings associated with the merger or acquisition that guide their behavior and determine the type and level of their creative engagement. For example, the 2005 merger by software producers Veritas and Symantic was a touted as "a different merger…to build a capability for the future" (Business Week, 2005). However, employees may have seen the merger as an attempt to create "cost synergies" (as was suggested by some shareholders), which could lead to downsizing. The anxiety associated with downsizing could lead to reduced creative engagement (Amabile & Conti, 1999). Through sense-making, employees interpret organizational events and situations and take actions based on their interpretation of their events. Thus, employees' creative engagement is likely to be dependent on their interpretation of organizational events and situations (Drazin et al., 1999).

Major organizational changes such as mergers and acquisitions are likely to be perceived by employees as "profound organizational circumstances" (Whetten, 2006, p. 226), and are likely to be salient and bring to light any influence such a change might have on creative processes. Employee interpretations of change events such as mergers and acquisitions can alter what it means to be creative, thereby shaping the nature and direction of creative actions, as well as determining the extent to which employees engage in creative versus habitual actions (Drazin et al., 1999). For example, it is likely that there are differences in the perspectives of the members of an organization being acquired and the parent company, given that the members of the different groups are likely to use different frameworks for understanding or defining creativity. Furthermore, during mergers and acquisitions, organizational identity often undergoes a major change as new beliefs, values, and identity attributes are imposed by the acquiring organization (Dutton & Dukerich, 1991; Nag, Corley & Gioia, 2007; Reger, Barney, Bunderson, Foreman, Gastafson, Huff, Martens, Sarason & Stimpert, 1998), which can alter expectations or directions for creative engagement.

Despite the fact that many organizations in the printing industry are undergoing such major organizational changes, creativity during an organizational change is an understudied phenomenon empirically. To address this gap, our research seeks to answer the following question: How does organizational change, such as a merger or acquisition, influence employees' creative engagement? Specifically, our study focuses on employees' creative engagement during two such organizational changes – a firm being acquired and a firm undergoing repositioning efforts following acquisitions of several smaller firms.

Thus, given a limited understanding about the impact of mergers and acquisitions on creative processes—specifically, creative engagement—and given the industry trend to merge with or acquire companies in order to gain new printing technology capabilities and/or the ability to offer print products and solutions across different print mediums, our aim is to understand the impact of mergers and acquisitions in the context of the printing industry. This research project involves a case study of two very different organizations from the industry—a printer manufacturer and a traditional printer or print supplier—both of whom are striving to sustain creativity and innovation while undergoing major organizational changes. Due to limited theory and research on understanding the impact of mergers and acquisition on creative engagement, we adopt a specific qualitative methodology called the grounded theory approach (Glaser & Strauss, 1967) for this study. In the next section, we describe our methodology, including data collection, analysis, research context, findings and, finally, conclusions and recommendations.

Research Methodology

Research Setting

In order to study creative processes following mergers and acquisitions, we required a research setting of companies that were undergoing or had undergone a merger and/or acquisition in recent years. The printer manufacturer, which will be referred to as Company A (name withheld for confidentiality purposes), was poised for acquisition by a larger company. We had the unique opportunity to study the creative process immediately following the change because Company A was undergoing acquisition at the start of the study. Thus, Company A served as an "extreme case" (Eisenhardt, 1998) in which creative engagement after acquisition was more likely to be visible, making it a suitable sample for the purpose of the study. In order to eliminate potential biases in the findings—given that the data collection was immediately following the acquisition—we collected data at another organization, which will be referred to as Company B (name withheld due to confidentiality reasons). Unlike Company A, Company B is a print supplier that had acquired several smaller print suppliers several years ago with the intention to offer print products and solutions across various print mediums. This will improve the ability to generalize and apply our study findings to the broader printing industry.

Research Design

We adopted longitudinal case study design, where data was collected at different points of time over a period of one year. In addition, we collected data from multiple sources, including archival information and, in the case of Company B, through the observation of corporate meetings. Data collection at Company A began with a meeting between the top management and research teams. The purpose of the meeting was to identify those issues that the top management team considered relevant in understanding creative processes during this change. Based on this meeting, we developed an interview protocol that was used to interview all members of the top management team. The protocol was then discussed with one member of the top management team to ensure that we were capturing the relevant issues (please see the Appendices for relevant interview questions). These initial interviews were read and re-read for identifying common themes that seemed relevant and needed to be pursued. Subsequently, the interview protocol was revised to pursue some of the common themes identified in these early interviews. We initially conducted forty-six interviews ranging from sixty to ninety minutes in length. These were followed by five additional interviews with five key informants approximately eleven months after the change had taken place. The follow-up interviews ranged from twenty to thirty-five minutes in length. All interviews were semi-structured to allow the interviewers freedom to pursue interesting comments and themes. However, a protocol of "required" questions was also included. Each interview was tape-recorded and professionally transcribed.

For Company B, we followed a data collection process similar to the one used at Company A. First, we met with the top management team to identify issues relevant

to the study of creative processes. It is important to note that the company is a result of several acquisitions over a period of time, and, like other print suppliers, was in the process of repositioning itself as a communications/marketing consultant. As a part of these repositioning efforts, Company B was trying to integrate the different companies that were acquired several years ago. With the help of the management team, we identified the initial set of interviewees. Subsequently, we identified and interviewed those individuals who were thought to be in the best position to help understand some of the emerging themes. While the interview protocol for Company B had questions specific to the context of a print supplier company, it also included some of the questions designed for Company A. This was done to enable future cross-case comparison between the two printing firms. In all, we interviewed twenty-five individuals at Company B, including top management executives—such as the vice president and director of creative services—and employees at a lower level, such as account executives and business development executives. Follow-up interviews were conducted with two key informants. The interviews averaged from forty-five to sixty minutes in length.

Archival information was collected for each company regarding the mission, goals and changing direction of the company. We also observed a day long meeting (six hours in length) for Company B.

Data Analysis

Data analysis will involve two stages: (1) deriving codes inductively from the interview transcripts and (2) assigning codes to categories based on similarities in the codes. We are in the first stage of the analysis, which includes deriving codes inductively or assigning first order codes (Strauss & Corbin, 1998). In this stage, two of the authors read each transcript line-by-line and independently code the transcript. Codes are assigned based on the phenomena observed in the data. For example, if a respondent describes that goals are shifting or changing, the coder might assign the code "shifting goals". The two coding authors then meet in joint coding meetings and compare the codes each has assigned. In cases in which the codes match, the codes are entered on a "master" transcript, as well as into a dictionary, along with a code description. In cases in which the codes do not match, the two coding authors attempt to resolve the difference through negotiation and, in some cases, reformulation. Coded text length ranged from one sentence to multiple pages. So far, we have accumulated 331 codes.

In the "Findings" section, we present and explain some of the first-order codes that provide some initial insights into the changes in the printing industry and their impact on micro-creative processes in the context of organizations within the printing industry.

Once the first order coding is complete, we will then analyze the coded passages for second-level categories, a process that has been referred to as "meaning condensation" (Lee, 1999). In the second stage of the data analysis, we will look at commonalities among codes that could be parsimoniously represented by a category label to arrive at the second-level categories. Our goal in assigning categories will be to minimize the differences between codes within a category and maximize the differences between the

categories themselves (Butterfield, Trevino, & Ball, 1996). This process will ensure that our categories have explanatory power in allowing us to see how mergers and acquisitions might affect creative engagement. For our data analysis, we used the NVivo 7.0 software program to aid us in entering codes, examining passages of text in which codes appeared, and counting the frequency of codes.

The findings to-date are also presented graphically in the form of summary models, one to summarize the analysis for Company A (Figure 1) and another for Company B (Figure 2).
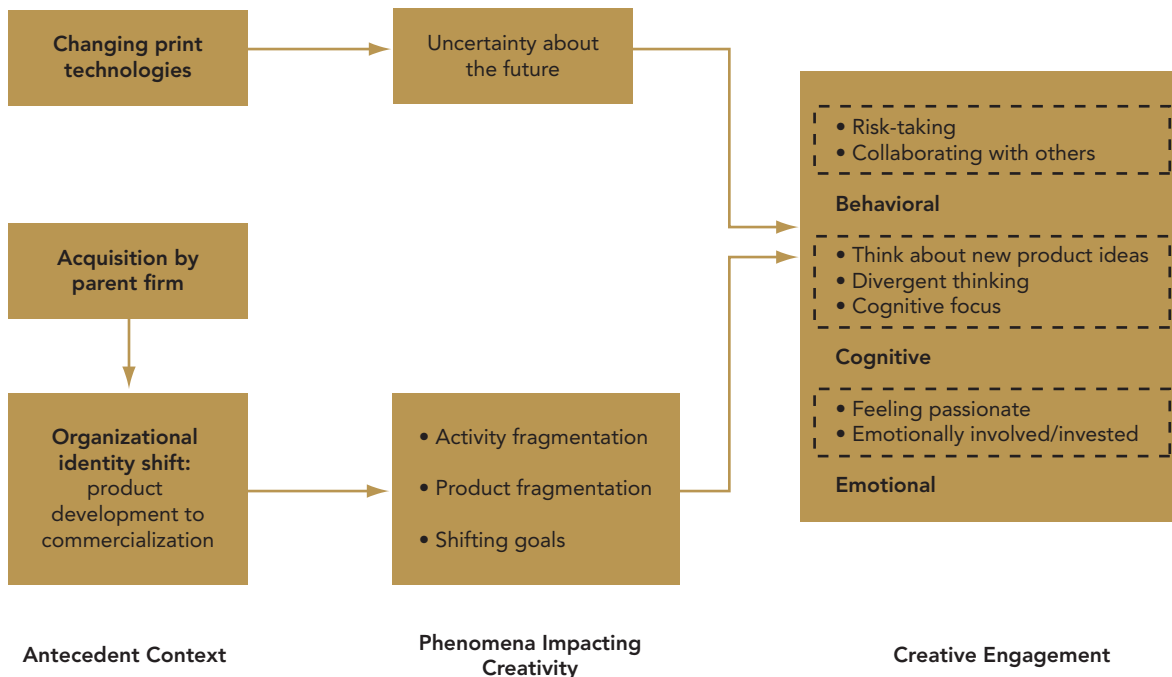

Figure 1. Proposed model for Company A: Reacquisition of a spin-off by the parent firm
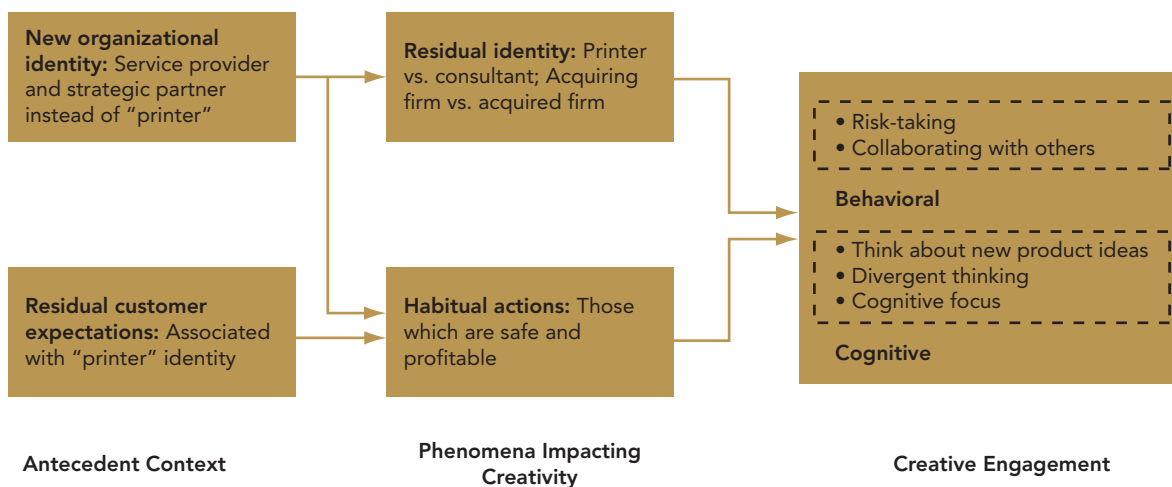

Figure 2. Proposed model for Company B: Acquisitions of smaller firms by the parent firm

Findings

Company A: Printer Device Manufacturer

Changing Print Technologies and the Impact of these Changes on Creative Engagement

In most cases, printer device manufacturers simultaneously work on various printing technologies, such as inkjet and electrophotography. Depending on the market trends and forecasts, manufacturers emphasize (and, therefore, invest more) in some technologies than others. While this might make strategic sense, doing so creates an environment of uncertainty for individuals working on those technologies that seem less important and receive fewer resources. This uncertainty about the future of their technology results in employees feeling that their ideas are not pertinent and/or valued, causing them to withhold ideas and limit idea- and information-sharing, thereby influencing creative engagement. In the following quote, an engineer voices his struggle to understand the future of printing technologies:

> The ink jet business formally known as [name of the division] has tremendous speed capability. Thousands of feet an hour of output, but its image quality today is not sufficient for commercial printers. So the question is, over time is there going to be one or the other or both or some third technology. I mean, from an engineering perspective, that is the kind of question that I ask.

Another employee goes on explain how the focus on another technology might influence their creative engagement:

> Another thing is, in general, the company seems to be very, very focused on ink jet and they paint less of a future for electrophotography…if they have that focus on that other technology, they don't mention any long-term plans for [our division] or whatever, it makes people kind of pull back [their creative ideas]. They don't really feel that their creativity is going to be noticed or rewarded or even valued or even used.

While some printer manufacturers rely on internal capabilities to develop new technologies in order to keep up with the technological changes in the printing industry, others merge with and/or acquire companies that have the desired technology or the knowledge base to develop them. In this case, acquisition to acquire new printing technology resulted in differentiation and internal competition amongst different divisions focused on different printing technologies. Internal competition between different printing technologies within the firm was reported as affecting the extent to which employees engaged in creative behavior such as collaborating and sharing ideas with others. For example, this respondent reports on different printing technologies competing with each other and creating internal competition not conducive to creativity:

It would be nice if it was success for one is viewed as success for all. We don't have that feeling right now. It is more like these guys are going to beat you and digital direct to plate offset. It is going to be taking over such and such an area. They don't mention all the parts of the company as if they all contribute value. So that of course makes people want to hold back on their creative ideas and think what is going to happen here.

Commercializing the "Printer Device:" Identity-shift and Creative Engagement

After acquisition, the acquiring companies emphasize the need to *commercialize* the new technology on a large scale and to make profits. In other words, there is pressure from the acquiring company to be profitable or, as reported by many respondents from Company A, the need to be "a sustainable business." It is important to note that the companies are acquired because they have been successful in developing a new printer or printing technology. Now they are faced with a new challenge of managing creativity while undergoing a profound organizational change: an identity-shift from a product development company to a commercialization or sustainable business organization. Below, we describe and explain how identity-shift might influence employees' creative engagement.

From development to commercialization of a printer device. With commercialization, employees reported a shift in organization priorities to a focus on being more cost-effective and on improving the current product as opposed to developing a new technology or product. Often, such a shift was seen as a natural progression associated with a change in the nature of what it means to be creative. At other times, the shift was seen as constraining creativity. For example, in the quotes below, one participant reports his experience of identity-shift as changing the nature of creativity, and another describes the challenge associated with trying to manage different types of creativity.

> We were very R&D focused when we first started. We now need to be a company delivering on a product portfolio and all aspects of it. Now we have to come back and redefine operational excellence.

> I think the nature of thing that we are trying to be creative about can be different. So whereas before it was more product [oriented] – now there is a need for many of us to be creative with solving business or financial challenges and problems as opposed to technical product featured type challenges. So, I think that is distracting us from maybe doing the types of creative things that we might have been able to enter before.

Additionally, employees characterized the "growing-up" process as involving less investment, less risk and experimentation, and more focus on being profitable – signifying constraints on engagement in creative behaviors such as risk-taking. For example, in the quote below, a participant used a metaphor about becoming an adult to describe the impact of change on creative behavior:

Now it is very obvious that kids are creative and you know why? Because they have room for failure. They grow. They get pretty much supported with what they do from their parents. If you lose that support and get punished for risks taken that is when you become conservative. That is when you don't take any risks. That is when you lose creativity. The problem now is that if we only focus on the business aspects which is really focus on just revenues and make sure the numbers are met….we [will] lose that creativity.

Fragmentation challenge. An identity-shift to being a "sustainable business" raises two types of challenges. There is an increase in the number of activities that need to be undertaken in order to successfully commercialize the newly developed printer device. We refer to the increase in the amount of activities as *activity fragmentation*. For example, one respondent reported the increase in activities as influencing employees' ability to focus on a given problem, thereby affecting the level of cognitive engagement.

…that is another part of our problem today obviously as the business has become more complex. We do have a large amount of activities that we need to focus on. It is hard to motivate a group to be as creative if you give them too much where they feel overwhelmed.

The second challenge is referred to as *product fragmentation*. In an attempt to become a sustainable business, print device manufacturers increase product lines by making incremental changes to the newly developed printer, then releasing them as new versions. It is important to note that an increase in product line is not same as developing a new product. This strategy is often used to get the maximum mileage out of the investments made in developing a product. The increases in product lines or versions, however, was reported as influencing the extent to which employees can cognitively focus and/or identify with their work, thereby affecting both cognitive and emotional creative engagement. For example, in the vignette below, a respondent describes product fragmentation as negatively affecting passion and emotional investment in the product and thus, emotional creative engagement.

Interviewer: "Does that have any impact on the passion? Does it help to spread it around or do you find that people are not able to get as passionate because they have a number of projects?"

Respondent: "You raise an excellent point. Passion also comes from, I think, people's intensity comes from not being worn down. If you are trying to take on ten projects all at the same time and you can't possibly get them all done and it becomes like a crash unit where I stop the bleeding on this victim and I move on to the next one. Then that crushes creativity. People don't have time enough to think about [things]. You need time to think. This is true across all companies these days. This is one of the most important points and I didn't even think about this. When people are pressed real thin they will do basically what they have to do to get through the day. They don't really

spend a lot of time thinking about extra or other items. They also won't challenge things because there is no time. They just have to get the job done. So I think that is a real threat.

Back in the days – there was a time when [Company A pre-acquisition] was focused on one product and one product only. Getting it out the door. Now [the company] has a plethora of products that it is working on to expand its portfolio. When you have a matrix, they seem like they are not dedicated. It seems that they are matrixed around and so they may spend two hours a day working on one project and then two hours a day working on another project. When you do that, you don't get any creativity. People are just punching the ticket and moving on."

Shifting goals. As a result of mergers and acquisitions, goals often change or are influenced by the acquiring company. The identity-shift from being a product development company to a sustainable business also creates a challenge of shifting goals wherein priorities and goals continually change, resulting in limited cognitive, behavioral, and emotional engagement in producing creative outcomes. When the company defined itself as a product development company, the goal was clear, singular, and driven by the motto, 'Doing everything it takes to produce this high end printer device.' Post-acquisition, the company was reported as being driven predominantly by the need to be profitable and as being short-sighted, short-term goals oriented, and less patient. Often, the goals and actions were driven by the motto, 'We cannot fail.'

How do goal changes of this type impact creativity? Due to continuously shifting goals and priorities, employees reported not being able to stay focused on a given problem for a sustainable amount of time necessary for creativity, which can ultimately influence cognitive engagement. Employees also reported experiencing reduced passion, as they now cannot identify with a specific product and do not know what they are working towards. For example, in the following quote, a respondent reported not being able to cognitively focus on a problem due to shifting goals:

What I wanted to say is that if you have to shuffle too many resources on a constant basis back and forth, you lose that creativity. So you have to have people that are focused on certain elements. … if you shuffle people around too much you lose creativity.

Another respondent explains not being able to see the direction of the newly formed company as affecting his emotional creative engagement:

I think that it will [affect creative engagement] to the extent that we are able to kind of bring order out of the chaos. What I mean by that is the pressure that the business feels right now from a financial performance point of view are an expression of [the acquiring company]. [Company A] has demanding financial goals to meet and [the acquiring company] have as well very demanding goals for growth. As market

pressures change, then priorities tend to be changing almost on a weekly basis… so, I think the technical rank and file, there can tend to lose confidence or kind of lose heart. Do we really have a continuing direction or are we just blowing around in the storm?

Company B: Print Supplier

Residual Identity and Creative Engagement

As discussed previously, Company B has always been known as a printer and, at the time of the study, was trying to reposition itself as a communications/marketing consultant. In an effort to be a "one stop print shop," Company B had acquired several print suppliers that would allow the company to offer wide-ranging print products and solutions across various mediums. The company had been engaged in repositioning itself as a communications/marketing consultant for the two years prior to the start of the study. Many employees clearly explained how their perceptions of who they think they are as a company (what they perceived as the organizational identity) shaped the nature and the extent of their creative actions. Perceptions of organizational identity were found to serve as a frame of reference for employees' creative actions.

Organizational identity also sets boundaries around what is acceptable or desirable behavior. Interestingly, some employees viewed the "printer company" identity as facilitating engagement in certain types of creative action, while others reported it as constraining creativity. For example, employees reported that being a printer implied offering creative ideas around press and how to "how to fold a paper in a better way," but not around new promotion ideas for their customers. In the following quote, a respondent describes how being a printer facilitates a certain type of creativity while setting limits or boundaries around others:

> … [T]he fact that we are a printer first and foremost limits us to some degree because we tend to try to think within the parameter of our presses rather than all things. You know if you could do anything, what would you do? Instead it is if you could do anything on our press, what would you do? So that probably limits us to some degree as well.

Yet another respondent explains the need to continue to engage in habitual actions that were considered creative and successful in the past:

> We just have so much more to offer companies from a print standpoint and how we can take that whole print process and position ourselves as experts in creative there? We have done so well with that.

Furthermore, we also found that one of the challenges consistently reported was the desire to hold on to the printer identity (often associated with a pre-acquisition iden-

tity) and continue taking print orders as opposed to being a consultant. While internal resistance from employees was an issue in identity change, customer expectations also influenced acceptance of the new identity. For example, one respondent explained how customer expectations inhibit creativity and adoption of new identity:

> So the more you go out of "I am a printer" and "I am going to go take orders for print from people who place print [orders]" which is the commodity provider going to the commodity buyer. There are a lot of printers who are in that mode…they [the customers] say, "You are just a printer. Why should I listen to you." "I have McCann Erickson" or whatever. So they – This is the difficulty that you find yourself in. You get categorized and relegated to being a supplier of a commodity.

Often employees reported resisting the new identity of being a service provider and, in contrast, expressed the desire to continue to engage in habitual actions – the ones that have proven to be safe and profitable. However, habitual actions limit risk-taking and developing new ideas – critical components of creativity and successful repositioning. Different divisions (originally, distinct companies that were acquired) within the company seemed to identify more with their respective divisions, print platforms, or original company and less with the company as whole. This presents a challenge for behavioral creative engagement in the form of collaboration. Individual divisions or print platforms seemed to be focused on their particular business and unwilling to collaborate with other divisions, although collaboration is necessary for enhancing creativity. One respondent described the self-centered focus on individual divisions that affects the degree of collaboration:

> So, because of that, you have people that associate themselves often more with where they came from [i.e., their respective division] than with [the overall company]. So you have this potential for silo-ing where people are very focused on their particular business and they don't even know what the rest of [the company] does. … [I]n terms of innovations and particularly as it relates to products, what that meant is that you had a lot of people that were out there developing new products for their particular area and in some instances we have actually had situations where essentially the same product was developed two or three different times.

Conclusions

Because our research and analysis is ongoing, we are not yet in a position to propose new theory or to prescribe new methods for managing creativity during organizational change per se. However, our research does illustrate the importance of diagnosing (and thereby helping managers to avert) factors that impede creativity during major organizational events such as mergers and acquisitions. We then offer remedies provided within existing research, where appropriate. In the following section, we review our findings and offer recommendations based on existing research.

From our coding and analysis of the interviews, we uncovered important factors relating creativity and organizational change. Specifically, our study addresses contextual antecedents that constrain creative engagement, discusses types of creative engagement that are constrained, and provides specific descriptions of activities that are diminished due to lower levels of creative engagement. Our initial results for both Company A and Company B are summarized in Figures 1 and 2 and explained in the prior sections. Therefore, in this section we will discuss the implications of three strong initial indications from our data analysis and elaborate on the recommendations provided by previous research.

First, based on our research, major organizational changes such as mergers and acquisitions may have an effect on cognitive, behavioral, and emotional creative engagement. Thus, in order to better understand the impact of mergers and acquisitions on creativity, firms within the printing industry should consider defining creativity in terms of three types of creative engagement—cognitive, behavioral, and emotional—that are likely to result in creative outcomes such as new ideas or process innovation. By understanding the multi-dimensional nature of creativity, managers may look for signs that employees are disengaging and take appropriate actions (discussed in more detail below) to re-engage people.

Second, because of changes in the competitive environment—such as the rising use of Internet and other digital media—firms within the printing industry often develop new technologies or acquire firms to gain new technological capabilities. However, this kind of organizational change breeds uncertainty among employees as the focus of the organization moves away from familiar technology and hard-won expertise to new technologies. Employees may experience cognitive disengagement as they perceive internal competition for resources and a decrease in the value assigned to existing technologies (and to those engaged in working on these technologies). As a result, they may collaborate less with others (behavior disengagement) and withhold their ideas for innovation (cognitive disengagement).

However, based on prior research, we believe that disengagement may be avoided if companies develop a shared understanding of the future of the firm and articulate how both new and old technologies fit in the new strategy. It may also be possible to facili-

tate creative engagement even during times of uncertainty and change by developing a deep level of identification with the organization whereby employees feel connected to the firm undergoing the change (Rousseau, 1998). They must sense that they (and the technology they work on) are a part of the future organizational "we." Rousseau suggests a number of ways to achieve this. First, organizations should ensure that consequential events, such as awards or bonuses, are shared. Moreover, organizations must emphasize organizational membership and how everyone is "in it together." During organizational change, companies often discontinue small events (such as company picnics, etc.) that emphasize unity. However, this may be the time when such activities are crucially important. Second, organizations may create relationships with employees that are more personal in nature, offering, for example, "status, personal support, and concern for one's family" (p. 222). Finally, organizations experiencing significant transformations should engage in intensive socialization activities where the turbulence within the competitive landscape is articulated, the new direction is made clear, and the future vision is presented as inspiring, exciting, and achievable.

Finally, organizations are not simply changing technologies. They are often changing and merging their identities. That is, what has been central, enduring, and distinct about the company is being questioned and redesigned to fit the new competitive context or a new merged entity. As discussed in the Findings section, our results show that fragmentation and shifting goals as a result of identity-shifts can influence all the three types of creative engagement. In a similar vein, identity-shift may not always result in a new and shared identity. In fact, employees often reported residual identity (pre-acquisition identity) as frame of reference for their creative behavior that would affect both cognitive (e.g., offering ideas from the mind-set of being a printer) and behavioral creative engagement (e.g., collaborating with other print platforms). Our findings show that employees not only resisted the new identity of being a service provider, but engaged in actions/behaviors consistent with the original identity (pre-acquisition) that were proven to be safe and profitable.

Thus, creating a shared identity is important for encouraging creative engagement. While organizational identities are resistant to change, several studies provide insights that may allow organizations to shift identities. For example, Fiol (2002) studied a high technology firm morphing from one that was focused on hardware storage to one focused on "information management [including software] and storage solutions" (p. 654). Fiol suggested that organizations should use language in identity transformation. Specifically, firms must help employees disengage from the "old" identity or identities associated with merged or acquired firms. Fiol also suggests that negating language, emphasizing what the old identity is *not*, may help to loosen attachment to the identity. In her study, she found "the rhetoric at Tech-Co reflected what was *not* meaningful, *not* growing, and *not* profitable" (p. 659).

Next, organizational leaders may help people identity with the new vision by experimenting with group members and using "inclusive and exclusive" referents (p. 661). This is especially important, as once people dis-identify, leaders must provide a mean-

ingful group with which *to* identify. For example, at Tech-Co, people from different groups were included in projects consistent with the new organizational vision. In this setting, the idea of the whole "we" was used in referring to the group and the value of the problem they were solving for the firm.

Finally, Fiol states that leaders must provide employees with a core and unifying ideology. She suggests building consensus around the vision by using abstract language such as "industry leadership" and "customer focus" and moving away from limiting and concrete language such as "data storage." All these steps can help employees navigate their way through identity-shift and develop a new shared identity that will help them overcome challenges and facilitate creative engagement.

Continuing Research and Implications for Managers

Our research follows the method of grounded theory, in which data-driven theory generation (rather than theory testing) is the goal. The grounded theory method (described in the "Research Methodology" section) is an iterative process involving data collection, several rounds of analysis, and generation of a proposed, testable theory (Eisenhardt, 1989; Glaser & Strauss, 1967; Strauss & Corbin, 1998). We have completed the first stage of our project. Specifically, we have collected all of the interview data and are in the ongoing process of progressively coding the data until categories and themes have emerged in the form of a model or series of testable propositions. Therefore, the summaries in Figures 1 and 2 are first steps toward identifying patterns that will contribute a greater explanatory and predictive power for management scholars and practitioners who want to minimize disruption to the creative engagement of their employees during times of organizational change. Once the study is finished, a full model and testable propositions will be provided.

Once the study is complete, our hope is that this research will offer managers a powerful tool to increase the various types of creative engagement by their employees. Indeed, it is our contention that, by providing managers with information on how organizational change may influence employees' creative engagement, they will be empowered to act to reduce any constraints and realize innovation and creativity throughout the process of substantial organizational change. At present, perhaps the study is best viewed as cautionary tales of two corporations who have undergone major changes with impacts on employee creativity. Thus, it is hoped that the completed study will help managers, particularly those in highly innovative industries, to avert such pitfalls in future implementations of change, and to sustain and perhaps even increase the level of creative energies, synergies, and momentum that are so important to the sustainability of their competitive edge.

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Appendix A: Protocol Questions - Company A

Employee Background: Some initial background questions.

1. I would like to start with your job profile. Could you briefly describe for me what your position is and what does your job entail?

2. How long have you been at the company? Did you work at [the company name] prior to working at [the company name]? [If yes, were there reasons for the switch, happy with the change?]

These questions will be regarding the mission and goals of [the company name] as you see it:

1. How would you describe the mission and goals of [the company name]? Have they changed recently, particularly since its transition into [the company name]?

a. How do you think they are (or it is) similar to or different from that of [the company name]? In what ways? Alternatively, how do they fit with those of [the company name]?

b. How do you see [the company name] in the near future? [what direction do you see [the company name] moving in the near future]

c. What role do you see [the company name] playing in the future of [the company name]?

2. If I were to ask you to define [the company name] using adjectives that reflect how you see or envision [the company name] today? What kind of company is [the company name]?

a. Do you view [the company name] as a creative company?

b. Do these adjectives have anything to do with creativity at [the company name]? In what ways?

c. What makes you believe that [the company name] is a creative (or not) company? Anything within [the company name] and outside [the company name] is responsible for your belief that it is a creative company? So, besides the awards, what do you see both within and outside the organization that leads you to believe that [the company name] is a creative (or uncreative) company?

d. So, do you think others outside the [the company name] view it as a creative company? What implications does others view of [the company name] as a

creative (or non-creative) company have for you and others within the [the company name]?

3. In view of recent transition,

a. In your opinion, How do you see that this transition as affecting creativity at [the company name]?

b. So, do you think, [the company name] will be able to sustain its creativity or continue to remain creative? What about both its history and present leads you to believe that [the company name] will sustain its creativity? What role is leadership playing is sustaining creativity- what messages are you getting from the leadership? Have there been any challenges, particularly due to this transition, in terms of fostering creativity? What is your biggest concern in terms of sustaining its (organizational) creativity? Are there other factors besides this one?

c. So, was the environment more supportive or nurturing of creativity earlier than now?

   i) What/who was responsible for creativity at [the company name] or [the company name] becoming a creative company? [Factors contributed to [the company name] becoming a creative company]. In some sense, what has contributed to [the company name] becoming a creative company?

   ii) Describe for me the role of [the company name] history in making [the company name]' creativity?

   iii) Probe on the softer stuff such as socialization and other informal practices. How did these affect overall creativity at [the company name]? How did it influence your own individual creativity?

   iv) What about informal social relationships? How, if they, did affect creativity at [the company name]?

   v) Does having a separate building influence organizational creativity at [the company name]? How?

   vi) What about the size? How, if it, did affect creativity?

   vii) Anything else about the environment at [the company name] that was particularly conducive for organizational creativity?

   viii) What about the current situation or environment is not so supportive of creativity both at the organizational and individual level for you personally?

   ix) Finally, are there specific practices in place with the aim to nurture creativity such as rewards, performance appraisals, and training? How do you explain highly creative environment when such practices are discretionary or even absent in some cases?

Appendix B: Protocol Questions - Company B

1. Can you please also tell me a bit about your job profile?

2. How long have you been at [the company name]? And prior to [the company name]?

3. How would you describe the mission and goals of [the company name]? Have they changed recently?

4. Where do you see the future of the [the company name]? What role do you see [the company name] playing in the future of [the company name]?

5. Can you talk a bit about where your business platform or division (e.g., inserts, direct-mail, premedia, and media)? How does it fit in the over [the company name]? History about your division, (try to get some information if they were acquired and when)

6. What factors facilitate creativity at [the company name]? What constrain organizational creativity at [the company name]? Again, ask for both external (such as alliances –with [the company name]) and internal (such as leadership, employees etc).

7. How would you describe/define [the company name] as a company within the Printing Industry? Printer, Communication, manufacturing or marketing? Other words besides the ones we used? Has it changed from being one type to another? What, if any thing, does it mean to creativity

8. What are some changes that you think are happening within [the company name] that might affect creativity? Biggest concerns or challenge for fostering creativity? Biggest advantage in terms of fostering creativity/innovation? How are constraints being "overcome" or "resisted"?

9. If acquired company, tell me more about your company before it was acquired by [the company name]? More or less creative than [the company name]? Why more or less creative after the transition? How is [the company name] influencing creativity within your division?

R·I·T

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