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Pandemonium jolts everyday creativity – a case study analysis

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Abstract
This article addresses everyday creativity, which will be interpreted as a phenomenon that a certain reference group finds original and novel. Quantitative meta-studies of Torrance (1972), Rose, and Lin (1984) as well as Scott, Leritz and Mumford (2004) indicate that creativity training has a clear and notable effect on people. Research shows that everyday creativity, or Small-c creativity, makes people "feel happy and enlivened" (Silvia et al. 2014). Creativity also improves people's well-being and helps them maintain or improve both physical and mental health (Richards, 2007). Zhu, Chen, Tang, Cao, Hou, and Qiu (2016) enable us to understand certain brain activities in terms of cognitive processes connected with everyday creativity. However, despite the plethora of knowledge available on creativity and the positive effect creativity training has on people only scant research is available about everyday creativity produced by common people at work (Amabile, 2017; Zhu, Chen, Tang, Cao, Hou, and Qiu, 2016). This article presents a comparative analysis of three cases to find common and essential elements in everyday creativity and to determine whether it will benefit managers to provide common people in ordinary jobs creativity training.

Keywords: Creativity, assessment of creativity, everyday creativity, work and qualitative case studies

1 Introduction

This article addresses everyday creativity at work which we interpret as something being both original and novel with a certain reference group (Barron, 1969). In addition, Richards (2011) claims everyday creativity serves as the foundation for common life-skills and as the essential behavior for creative achievement, which ultimately propels economic growth (McLellan and Nicholl, 2009). The concept of creativity can be divided into at least four categories. The first category, occupied by Mini-c creativity (Richards et al. 1988) can be viewed as the genesis of creativity. It describes an individual's creativity through their own meaningful insights and interpretations from experiencing or tinkering with something new (Kaufman and Beghetto, 2009). The second category encompasses what Csikszentmihalyi (Richards, 2007, p. xi) calls Small-c, or everyday creativity exercised by non-experts. These laypersons and early scholars may show creative acts in their everyday work through asking questions, using unconventional methods, imagining new constructs, and practicing active observation as well as discovery (Kaufman and Beghetto, 2009). Yet, Richards (2007) states that everyday creativity follows the three U's, which include being under-recognized, under-developed, and under- rewarded at school, work and home. For instance, researchers place the publics' daily work and leisure activities in this category such as counseling a friend, planning a fundraising event (Richards, 2007), cooking or arranging flowers (Zhu, Chen, Tang, Cao, Hou, and Qiu, 2016). Meanwhile Pro-c creativity occupies the third category. Kaufman and Beghetto (2009) explain that professional creativity, or Pro-c, is reserved for professional creators in any creative area who are beyond Small-c but have not achieved eminent status. The final category houses Large-c, or eminent-level creativity (cf. Richards, 2011, p. 469), which characterizes the creativity of genius and leaves behind a legacy in the field. Examples of these rare cases include Helen Keller, Albert Einstein, Isaac Newton and Pulitzer Prize winners (Kaufman and Beghetto, 2009). Adults and children may possess Mini-c and Small-c creativity in multiple areas such as cooking, mowing the lawn, or coloring. But, the likelihood of one person reaching Pro-c or Large-c creativity in more than one field is extremely uncommon. As the person acquires more expertise and becomes a specialist in their field, they approach the higher levels of creativity. While four types of creativity exist, people may skip categories on their way to self-actualizing their creative potential. For instance, Einstein made Large-c contributions to the field of Physics when employed in a patent office rather than working as a professional physicist (Kaufman and Beghetto, 2009). See Fig. 1.

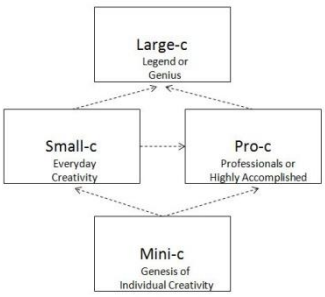

Figure 1. Interrelatedness of 4 Types of Creativity.

Several new levels of creativity could plausibly be added to show creativity produced or connected within a specific culture. Later, we will discuss and develop the concept of everyday creativity in everyday work. Quantitative meta-studies of Torrance (1972), Rose, and Lin (1984) as well as Scott, Leritz and Mumford (2004) indicate that creativity training offers a clear and notable positive effect on people. The meta-studies support the notion of investing time and money to develop people's creativity. Everyday creativity, or Small-c, (cf. Csikszentmihalyi in Richards, 2007, p. xi) makes people "feel happy and enlivened" (Silvia et al. 2014). Also, Richards (2007) shows that creativity helps people maintain physical and mental health, advance personal development, appreciate other's creative acts, and enhance people's well-being such as improved health. Zhu, Chen, Tang, Cao, Hou, and Qiu, (2016) helps scientists understand the brain activities in terms of cognitive processes associated with everyday creativity.

A rich repository of creativity studies exist that focuses on individual characteristics, geniuses, socio-cultural environments, and more as well as the effects of creativity training. Yet, everyday creativity produced by ordinary people at work has been relatively unexplored (Amabile, 2017; Zhu, Chen, Tang, Cao, Hou, and Qiu, 2016). Furthermore, little has been studied about whether the processes producing everyday creativity also yield creative achievement (Zhu, Chen, Tang, Cao, Hou, and Qiu, 2016). Thus, we lack knowledge about the characteristics of everyday organizational creativity that common people produce at work and knowledge about the possible effect of creativity training for common people in ordinary jobs.

This article conducts a comparative analysis of three cases in three different regions throughout the world. The first case addresses the topic in greater detail while the other two cases are used for comparison. The first case occurs in Denmark. The setting is a food factory involving laborers working in ordinary jobs. The cleaning crew is forced to produce creative solutions to clean the facility on time. The second case happened during a natural disaster, Hurricane Harvey in Houston, Texas. Ordinary people were forced to produce creative solutions to rescue hurricane victims, offer shelter, as well as provide supplies and care. In total, the team established nine programs in four days. Finally, the third case involves another natural disaster, Hurricane Maria on St. Croix, U.S. Virgin Islands. The case describes how a successful businessman employs everyday creativity to rebuild his business after it was destroyed by a Category 5 hurricane. Material for the first case is produced though participatory observation combined with qualitative interviews. Meanwhile the other two cases use qualitative research interviews (Kvale, 2007) with key informants.

The study serves three purposes. First, the study attempts to discover common yet essential elements of everyday creativity. Second, the research aims to provide insight to help managers determine whether they will benefit from offering creativity training for common people performing ordinary jobs. Third, contribute knowledge to advance the general understanding of everyday creativity at work.

2 Literature review

This section centers on developing a new definition of creativity. See Hertel & Wicmandy (2017) for a literature review on creativity, specifically everyday creativity. Before defining creativity, it is necessary to pay tribute to Richards (2006, 2007, 2011) known as one of the first researchers to highlight the importance of everyday creativity. According to Richards (2006) is Barron (1969) one of the founders of research on creativity and Barron's comprehension of creativity is, according to Richards (2006, p. 359), similar to those developed by key-researchers of creativity such as Guilford, Torrance and others. Both Richards (2006) and Barron (1969) propose that everyday creativity emerged thousands of years ago as a basic human character trait for survival.

Defining the phenomenon "everyday creativity" will use the semiotic square method introduced by Greimas and Courtés (1982). According to the semiotic square, the human mind automatically activates its opposition as part of the learning process to gain a complete meaning whenever a concept is presented (Corso, 2014). According to Corso (2014), the contradictory process is activated because people perceive concepts in terms of their opposite poles such as life and death, or beauty and ugliness (Rossolatos, 2012). Therefore, defining everyday creativity must include its opposition, or nonidentity. Thus, the nonidentity of everyday creativity is non-creativity. Unfortunately, this phenomenon of non-creativity cannot be distinguished from common everyday acts that exist in a dynamic, ever-evolving state. Non-creativity appears common or indistinguishable and is not unique. As a phenomenon, the activity appears ordinary and goes unrecognized. To discover everyday creativity, one needs to expand their thinking and apply curiosity, or exploratory behavior, to daily living (Hunt and Schum, 1999). Koestler (1964) equates creativity to a type of learning process where the teacher and student are one. According to Arthur Koestler (1964), discovery "often means simply the uncovering of something that has always been there but was hidden from the eye by the blinkers of habit."

Best Practices

Lack of creativity partially stems living in a mechanized civilization, or following fixed practices (May, 1975) that have structural connectedness. Ward also refers to this as thinking along the "path-of-least-resistance" (McLellan and Nicholl, 2009). How does this happen? People have been conditioned to complete projects using a pre-established linear sequence of steps instead of taking a holistic approach that could generate novel solutions. Yet, non-creative acts following fixed, systematic schemes play an important role in performing everyday work, guiding the non-specialist, making life more predictable, and planning for future events (McLellan and Nicholl, 2009). For instance, a non-creative act includes an institution's procedures. Customers know general expectations upon entering a bank or a grocery store as people tend to follow set practices (McLellan

and Nicholl, 2009). Non-creative acts also include evidence-based best practices repeated daily by nurses in hospitals since they offer valuable solutions to consistent problems. However, banning or avoiding non-creative acts is not suggested since everyday creativity requires its opposition to create a trajectory of alternative meanings. After vetting these possibilities, a remarkable difference materializes (Corso, 2014; Rossolatos, 2012).

OriginalSolutions

People create original solutions when existing solutions fail, become unsuitable, are forgotten, or the routine becomes repetitious and boring. When existing solutions cannot solve present problems, new solutions can be developed (Peirce, 1998, p. 107). For example, commercial designers may need to enhance a product's design or ergonomic features (McLellan and Nicholl, 2009). Updating these criteria leads to improved ideas, processes, products, and overall creative outcomes (Hunt and Schum, 1999).

The American pragmatist philosopher C.S. Peirce demonstrates that generating new knowledge requires three types of reasoning: abduction (or retroduction), deduction, and induction (Mingers, 2012). He developed abduction for comprehending scientific discoveries. According to Peirce, abduction is the point where novelty, innovation and creativity meet (Mingers, 2102). The abductive process consists of developing a hypothesis using systematic reasoning and a common-sense approach to solve problems and understand everyday creative. Bonfantini and Proni (Eco and Seboek, 1988, p. 133) offer a model for evaluating different types of abductions and show that some abductions are more creative than others. Some of these abduction processes are strictly unconscious while others may be either preconscious or conscious. Next, deduction tests the hypothesis and moves the idea from a prediction to a specific conclusion (Mingers, 2012). Finally, induction provides information or an explanation about the observation. These processes produce novel and original acts and, thus, new knowledge.

Creativity is a dichotomous phenomenon. Characterizing an act or idea as novel or original does not mean that it develops from nothing. We replace this notion that creativity is a reconstruction of something else or a phenomenon generated from something else (Barron, 1969, p. 10). In essence, combining existing ideas together in new ways leads to discovery (Hunt and Schum, 1999; May, 1975). Barron (1969) applies the metaphor of a baby to illustrate creativity. On one hand, a baby represents a new person. On the other hand, the baby is produced from an existing person.

Another important aspect of creativity is that the creative phenomenon may be new to some yet familiar to others. Assessing creativity requires a reference group to determine whether an act or idea is novel and original among people engaged in the domain. This enables us to divide creativity into the following four different categories: Mini-c, Small-c; Pro-c, and Large-c (Kaufman and Beghetto, 2009). While working within a specific domain, we have previously located people exercising different creative abilities, competencies and skills. According to Maslow (in Richards, 2007), ordinary people are intrinsically motivated to catapult their development and reach their human potential. The important point is not the system applied for classification but our latent assumption that people at all levels will apply creativity to reach higher performance levels. The level people choose to aim for is to based one's personality to raise consciousness and operate beyond satisfying basic needs. For example, some professors who become tenured continue exploring new research areas that advance their field. Yet, others mentally withdraw.

We assume that creativity research could benefit from applying Bateson's (2000, p. 287) model for understanding how people advance from one performance level to the next. While having a close look at a person at any level of performance will combine creative acts with noncreative acts during every day work and life. The main argument is not only a matter of creative acts requiring its opposition to exist but also that noncreative acts, just like creative acts, solve life's daily challenges. However, creativity needs to be perceived as a context dependent phenomenon. For instance, creativity developed in one domain such as writing poetry cannot be transferred to creative cooking (Baer 2008, 2011). This is the reason Baer (2008) argues for domain or context dependent assessment methods for testing creativity. While looking at Baer's (2008, 2011) arguments, it seems reasonable to assume that creativity training should relate to the domain or context in which creativity is supposed to be applied.

3 Methods

This study raises two important methodology questions. First, which research methods should be applied to identify everyday creativity in everyday life and work? Second, what empirical material is required to answer the research questions? While the two questions are interconnected, the paper will address each one individually. Barron (1969) states that researchers can study creativity using various approaches to understand social life: a nomothetic approach, an ideographic approach, or a combination approach. According to Hommel and Colzato (2017), the ideographic approach evaluates individual differences whereas the nomothetic approach is concerned with understanding the construct of a community that follows established patterns. Although the introduction incorporates important research on everyday creativity using the nomothetic approach that follows orderly processes (Hommel and Colzato, 2017; Beltz et al., 2016), this study only employs the ideographic approach. The ideographic approach seems well-suited for fulfilling the research aim to examine how intra-individual behavior diverges from predictable acts to accommodate the environment (Hommel and Colzato, 2017). Since this approach assumes the participant will experience changes and evolve over time, each person must be evaluated over time (Beltz et al., 2016).

This ideographic research study uses QUAL-QUAL mixed-methodologies using participatory observation as the main methodology (Ellen, 1984, p. 29) supported by qualitative research interviews. Participatory observation is deeply rooted in applied anthropology and more precisely by the subordinate field of anthropology, organizational anthropology (Garsten and Nyqvist, 2013). The aim of the supplementary formal and informal interviews was to produce data that expanded the perspective of the core methodology and validate findings (Creswell, 2012; Morse and Niehaus, 2009).

Case1

The first case study used an applied participatory observation method to observe the cleaners' behavior individually and while collaborating with co-workers in their work environment (Creswell, 2012). These observations provided insight to the cleaners' methods, cleaning peculiarities, and workers gestures (Easterby-Smith, Thorpe, and Jackson, 2012). In the first case, conducting participatory observation in a dangerous work environment offered challenges. The team leader worried that mixing wandering researchers in the setting containing heavy machine parts, sharp knives, slippery floors and high-pressure water may be a recipe for disaster. Therefore, less observations were conducted than planned.

Informal qualitative interviews and formal qualitative semi-structured research interviews (Kvale and Brinkman, 2009) were conducted. While participatory observations included the team and team leader, the formal and informal interviews mainly included the team leader to access his extensive knowledge and experience (Morse and Niehaus, 2009). Besides the team leader, the research participants included team members with 1 to 10 years of industry experience. During a three-year period, a number of information interviews, participatory observation and 10 formal qualitative interviews were conducted. The data was collected at both the company site and Aalborg University.

All interviews were Semi-structured interviews and were conducted using interview guides (Creswell, 2012; Easterby-Smith, Thorpe, and Jackson, 2012), which e.g. contained the following six themes: 1) Manager's approach, background and education, 2) Cleaning, 3) Challenges: cross-pressure, need for reducing time consumption etc., 4) the team, 5) Everyday challenges for manager/team and 6) just in case. This ensured the researcher moved through each questionnaire systematically and acquired specific information (Kvale and Brinkman, 2009). Interviewers followed guidelines introduced by Kvale and Brinkman (2009), which were intended to peer into and gain a deeper understanding of the interviewee´s world. Introducing themes in the interview guide launched the interviews ranging from 2 to 2.5 hours. After introducing themes, the interviewees were invited to share their personal information and industry experience. Then the interviewer asked specific open-ended questions from each of the six themes to gain a deeper understanding of the cleaners´ approach, cleaning techniques, methods for reducing time consumption, and practices for overcoming obstacles in everyday work routines (Easterby-Smith, Thorpe, and Jackson, 2012). Closed questions were asked to (Kvale and Brinkman, 2009) verify interviewees' explanations as needed. Afterwards, the interviews were analyzed and the content was organized by appropriate themes. The findings combined with our reflections and setting details on e.g. workers schedules, health, attitudes etc. were recorded, which helped produce and verify the analysis (Creswell, 2012). This work produced evidence of everyday creativity.

Case2

The second case study was conducted after the natural disaster, Hurricane Harvey in Houston, Texas. The staff from a Houston-based church responded to the City's request to provide shelter for Hurricane victims. Since it is a retrospective study, the ability to conduct ethnographic field studies (Ellen, 1984) was impossible. However, we combined a semi-structured qualitative research interview (Kvale and Brinkman, 2009) with the church manager and observations of the areas used for shelter, warehousing, prep rooms, rest rooms and more during the hurricane. During the observation, four ethnographic pictures were taken and will be reserved for further analysis in an upcoming article (Wicmandy and Hertel, 2019). The interview lasted 1.5 hours and was based on an organized, six-themed interview guide and followed the guidelines described above by Kvale and Brinkman (2009).

Before the interview, the interviewee received the theme-organized interview guide containing the research questions and purpose (Creswell, 2012; Easterby-Smith, Thorpe, and Jackson, 2012). The interviewee was granted full anonymity and gave permission to digitally record the session, enabling the researchers to transcribe and analyze the interview. The interview was organized into six themes: 1) Introduction, 2) Learning from disaster, 3) Improvising and creative acts, 4) Hurricane-Harvey, 5) Emergency protocol plan and 6) Summing up and just in case. During the first theme, the interviewee stated his name and described his role both at the Church and during the natural disaster. The researchers introduced themselves and reiterated the purpose of the study and interview process. This ensured the interviewee understood the objective of the interview, allowed for questions, and ensured quality voice recognition on the recorder for later analysis and transcription. This theme was the only part of the interview where explicit questions guided the interviewee. The remainder of the interview followed Kvale and Brinkman's (2009) guidelines for conducting a semi-structured qualitative research interview. This means the interviewee talked during the majority of the interview as he reflected on his numerous experiences during Hurricane Harvey and shared the most significant and meaningful events.

Case3

Finally, the third case study involves a businessman applying everyday creativity to rebuild his business in the aftermath of Hurricane Maria, U.S. Virgin Islands. This study employed a 1.5 hour long qualitative research interview (Kvale and Brinkman, 2009) with the businessman. The interview also used a semi-structured interview guide (Creswell, 2012; Easterby-Smith, Thorpe, and Jackson, 2012). Later, additional interviews will be conducted with this resource to collect material in forthcoming articles (Wicmandy and Hertel, 2019). The interview began with a presentation of the research project, which included the research aim and purpose of the interview. The interviewer paraphrased a previous email message that described the reason for inviting the interviewee. The interviewee granted permission to record the interview for transcription purposes and further analysis. The interviewee was offered anonymity and informed about the interviewer's agenda for the interview. At this point, the interviewee stated his name, background and occupation. The intention with these questions is not only to understand the interviewee's background but also to ensure voice recognition which is vital for conducting the transcription. The five themes of the interview are: 1) The business, 2) Hurricane Maria, 3) Post-hurricane strategy, 4) Lessons learned and 5) Just in case. For the first theme, the intention was to gain a deep understanding of the business, including how and when it was established. The second theme aimed at understanding how Hurricane Maria impacted both business on the Virgin Islands and the interviewee's business. The third theme produced to gain an understanding of both how the interviewee handled losing his business and what actions he produced in order to overcome the

great challenges he faces. The fourth theme is intended to get the interviewee's description of what he considers being the most important lessons from his experiences. The final theme offered an opportunity for the interviewer to check the interview guide and seek clarification or get answers to any remaining questions. A qualitative research interview (Kvale and Brinkman, 2009) must reflect the interviewee's life-world and the interviewee is therefore given the opportunity to determine what he thinks is of main importance. Beside from this is the interviewee also allowed to follow line of thoughts instead of being interrupted by a predesigned interview guide which is basically based on the interviewer's presumptions. By the end of the interview is the interviewer's notes evaluated and a few follow-up questions asked. The interview is ended when the interviewer has ensured that all aspects of interests have been discussed with the interviewee.

4 Analysis

From the three cases presented, this section reveals that creativity surfaces from natural disasters to industrial cleaning.

4.1 Industrial Cleaning

The first case study was conducted with an industrial cleaning company serving the food industry in Denmark. The research primarily focused on the team leader and his industrial cleaning crew. The 15-man team had a considerable staff turnover and it consisted of migrant workers mainly from Eastern Europe, about 5 from Asia and Africa, and roughly 6 ethnic Danes holding traditional attitudes. Occasionally, the team leader encountered tension within his diverse team. This likely emerged from members with varied backgrounds holding different values, opinions and attitudes. In addition to personality clashes, the team leader dealt with the challenges of minimizing waste that forced the heterogeneous team to work smarter and faster in a hazardous work environment. This involved using high pressure water; chemical solutions; heavy, clunky machine parts; and sharp knifes in a cold, wet and slippery facility. In addition, the leader and his team were constantly pressured to create novel solutions on the spot to avoid overtime and save cleaning time. This surplus granted them time to deal with non-routine tasks that emerged due to unexpected production line changes and time-intensive cleaning tasks.

In this case, repeating a fixed cleaning scheme can be perceived as a non-reflective behavior. It consumes too much time and tends to produce low-quality cleaning. Cleaning involves not only the act of cleaning but also meeting deadlines and quality standards. Thus, cleaners must perform creative acts. The analysis cannot start from a creative product and afterwards deduce the creative acts involved in producing the product. Instead of starting from a creative product, McCabe and de Waal Malefyt's (2015) suggest viewing creativity as an ongoing process. This means regularly evaluating cleaners' actions. While doing so, we notice isolated creative acts that enable cleaners to meet required cleaning standards while reducing time consumption. Creativity is a process starting the moment the cleaner acknowledges the cleaning task, considers available options, then choosing the best solution rather than act on impulse. Creativity appeared during each shift as quantitative changes occurred in production, which refers to variations in type of dirt produced and requires changing cleaning tasks. This included changes in production volume, number of production hours and the production flow. Thus, as unplanned cleaning tasks and time-intensive challenges appeared, the crew needed to quickly generate new, time-efficient yet reliable solutions.

4.2 Hurricane Harvey

The second case involved a Houston-based church that transformed into a shelter to assist Hurricane Harvey victims from August 29, 2017 to September 1, 2017. The City of Houston contacted the church, which occupies a significant space in a central Houston location. After receiving the City's request, the church's skeleton crew hustled to create and organize an emergency-relief shelter that offered nine programs: supply chain, veterinarian services, medical triage, child care, translation services, home rebuilding, security and crowd control, retailing, and business management.

On the first day, about 12 staff members arrived at the church to organize efforts. The following day, staff increased to 30. By the final two days, 150 staff members and roughly 300 volunteers were available. The work crew started and ended each day with a 30-minute meeting to discuss strategy, objectives, successes and weaknesses.

In the beginning, they created a system to triage hurricane victims and within 60 minutes another system was needed to receive incoming supplies. During this critical time, they disregarded titles to handle immediate needs from directing traffic, mobilizing volunteers and setting up work stations. For the first night, the former athletic practice area was transformed to a makeshift rescue facility that cared for 100 people. On subsequent days, people continued to arrive even after capacity was reached. This required novel solutions to diplomatically handle unrealistic requests, manage the media and redirect the overabundance of stock to other needy shelters.

As hurricane victims arrived with their belongings, they were checked-in. The triage unit directed people according to needs. While some victims lost valuables, others lost family members and arrived in shock. They needed counseling. Others showed up with injuries and health issues that demanded special supplies such as medications, ointments, medical equipment and more. For example, a diabetic person required podiatry care. Another person who was legally blind and deaf needed a translator with American Sign Language (ASL) experience. Veterinarian services were also needed to treat various types of pets.

Many other services were needed. Bathing areas were needed so people could wash and shower. People needed laundry services. While child care was required, only the limited number of church security guards and vetted volunteers were allowed to watch the play areas while parents visited the Federal Emergency Management Agency (FEMA) representatives onsite to complete forms. Meanwhile, staff needed to control outsiders from looting, vandalism, and the like.

Although no one had retail, warehouse management or inventory experience, the crew needed to establish a supply chain system. They reflected

on Walmart's retail and distribution system for inspiration. As supplies arrived, the crew transformed a classroom into a holding “warehouse.” In the warehouse, staff and volunteers itemized, folded and organized the goods. Then, the stock was transported to the store to serve the hurricane victims. The store operated like a traditional retail shop with hours of operation and volunteers served as personal shoppers, helping "customers" create shopping lists and find items. However, when people began stockpiling items in fear of scarcity, the staff established limitations to ensure everyone could access supplies. For instance, "shoppers" were only allowed 15 minutes to shop and take reasonable quantities.

According to the team leader, "The biggest challenges involved caring for the victims in a humane way and coping with the unknown lurking around the corner." Volunteers and staff members had to be prepared to face unexpected challenges and create novel solutions on the spot.

Approximately ten months later, this church continues helping hurricane victims rebuild their damaged homes.

4.3 Hurricane Maria

The third case involved a businessman from St. Croix, U.S. Virgin Islands, re-building his business after the destruction of Hurricane Maria. The businessman holds a degree in computer engineering and masters in computer science. Twenty years ago, he left the U.S. mainland and moved to the tropics on St. Croix, U.S. Virgin Islands, formerly the Danish West-Indies. He started a business, which became a major company on the island with six employees. Until Hurricane Maria hit, the company had a sales office and workshop to repair mechanical items. It relied completely on word-of-mouth and, therefore, focused on providing excellent customer service. The business strategy relied on a strong business ethos, understood as customer trust and satisfaction. Operating the business for over 20 years generated a very robust client database. The businessman’s personal reputation built on years of supporting a large number of customers and local organizations such as the American Red Cross proved invaluable for re-building his business post-Hurricane Maria.

Hurricane Maria hit St. Croix at 2 am on September 21, 2017. Before the Hurricane struck, Governor Mapp declared a state of emergency and announced a 24-hour curfew. While the businessman lived through many level 2- and level 3-category hurricanes, he never experienced the destructive gusts and clashing noises from a Category 5. He claimed neither he nor his family were scared, but Hurricane Maria stirred highly uncomfortable noises for 2 hours when it made landfall. Afterwards, Governor Mapp extended the curfew. This order prevented him from checking his business. Yet, some companies in the same vicinity where the businessman's company resided were robbed and vandalized despite the curfew.

Two days after the Hurricane hit St. Croix, the businessman visited his business. The dilapidated state made it impossible to re-open the workshop. A 6-foot metal item blocked the entrance. Debris packed the yard. The roof was missing along with the generator, which was a vital piece of production equipment. Lack of funds made it impossible to replace the generator. Moreover, even if it were replaced, the destruction of power plants on the island would make it impossible to re-open the workshop. Due to lack of trade, the businessman was forced to terminate his employees. He and his wife had to clear the debris by hand. The evaluation estimated the loss at $600,000 but the insurance company refused to pay more than $100,000. The businessman filed a lawsuit against the insurance company and awaited a verdict from the court. The major damages and the ongoing lawsuit prohibited the businessman from re-opening his business. On top of this, a period greater than 66 days without income force the businessman to pay for daily living expenses using his children's college fund. As a consequence, the disaster forced the businessman to leave his previous business and develop a new venture that provided sustenance.

Void of capital, employees and production gear, the businessman mobilized his creativity. The only possible solution seemed to rebuild his business from home. The businessman still possessed a stellar reputation, experience and a robust customer database. In this case, the everyday creativity observed can be described as the ability to stay flexible and avoid becoming paralyzed by resting on the laurels of yesterday’s business success (McLellan and Nicholl, 2009). This involves having the ability for deep reflection, quiet the mind, and remove all unessential distractions to find space and time for the creative act of visualizing a novel, original and sustainable business. It is also requires being able to improvise while implementing a new business plan (McLellan and Nicholl, 2009). Finally, is it a matter of exercising tenacity and the ability to work hard (Hunt and Schum, 1999).

5 Results

This section returns to the three cases in order to understand the common yet specific patterns of creativity. These patterns of creativity are required for discussing whether or not managers will benefit from offering employees creativity training. In the first case, we noticed industrial cleaners applying non-creative acts to complete cleaning tasks. We also noticed that occasionally they had to move away from non-creative, or routine, cleaning schemes when no precedence existed (McLellan and Nichol, 2009). The cleaners had to be able to produce acts most suitable for the specific situation. In this situation, they were forced to address unexpected tasks, assess the work quickly, generate and implement a novel solution that met quality standards. This case also demonstrated that the cleaners would fail miserably if they relied solely on routine or non-creative acts (McLellan and Nichol, 2009; Hunt and Schum, 1999).

The second case involves the City of Houston commissioning a local church to help establish a shelter to care for 400 Hurricane Harvey victims. While the church had no experience and no emergency protocol to reference while dealing with a disaster of this magnitude, they were held responsible for providing shelter, protection and care. Decision-making was two-fold. First, it was complex. The crew needed to evaluate potential actions and outcomes to ensure the safety of people, pets, equipment and other resources on the spot. But, decision making also needed to be adaptive to meet the victims' unexpected needs. Creative acts enabled staff members and trusted volunteers to deal with the challenges of hurricane victims that were constantly arriving and staying briefly until more suitable and better equipped facilities opened. Past experiences from being a project organization setting up services in new locations both home and abroad clearly provided the non-creative foundation for developing the

great number of creative acts required for handling the emergency situation.

In the third and final case, a businessman caught in a no-win situation. Hurricane Maria destroyed his company and the insurance company refused to pay the necessary insurance premium to fix the business. The lack of customers and lack of commerce after the devastation forced the businessman to close the business and terminate all employees. Instead of reviving the unrepairable business, the businessman re-assessed his options and moved the salvageable parts to his home to re-invent his business. In this case, we claim he applied creativity while slowly developing a new sustainable business plan. However, we also noticed that the businessman leveraged important non-creative acts, such as revisiting historical knowledge (McLellan and Nichol, 2009; May 1975). Using the experiences, wisdom and imagination gained from 20 years in business, he quickly identified key areas of success and weakness. Valuable insights were gleaned to start the business (McLellan and Nichol, 2009; Hunt and Schum, 1999).

All three cases demonstrate that the current problem facing one cannot be solved in the same manner that solved past problems. Precedence or previous outcomes to help make complex decisions in a timely manner may not exist (Hunt and Schum, 1999).

Creative acts will implicitly produce the foreground of our study of everyday creativity. However, a foreground cannot exist without its background (Corso, 2014; Rossolatos, 2012). The analysis presented shows that everyday creativity cannot be understood without including its contradiction, which in this research project is produced by the countless and quite often unnoticeable non-creative acts. In many cases, these unnoticeable acts are simply activities that no longer generate an awareness (McLellan and Nichol, 2009; May, 1975; Koestler, 1964). Awareness exists in various degrees along a continuum containing two diametrically opposing poles. At one extreme of the continuum is unconsciousness (e.g. unawareness). At the other end is extra-consciousness, or focal consciousness (e.g. full attention). Awareness of an activity tends to fall at various grades along the continuum. For example, inspiration and excitement that center on learning a new skill or technique are typically observed towards the extra-consciousness pole. But after performing the new activity (e.g. driving a car or tying shoe laces) repeatedly, it becomes habit forming and moves down the continuum towards the unconsciousness, or unawareness, pole (Koestler, 1964).

Furthermore, Baer (2008, 2011) indicates that creativity is context, or domain, specific. This suggests that we cannot comprehend the common and essential aspects of everyday creativity just by analyzing, identifying and categorizing creative and/or non-creative acts in a work setting. However, in a work setting everyday creativity cannot only been perceived as a phenomenon produced by or bound to a specific person. It is rather a matter of the interplay between subjects and thereby a truly matter of inter-subjectivity in a work setting (Zhu, Chen, Tang, Cao, Hou, and Qiu, 2016). The study of creativity therefore requires the ability to understand the interplay between people engaged in a specific work setting (Zhu, Chen, Tang, Cao, Hou, and Qiu, 2016; Richards, 2011). It also requires the ability to go beyond creativity in order to uncover the non-creative acts being essential for the definition of creativity in the specific work setting and for fully understanding the work context or domain of creativity (McLellan and Nichol, 2009; Hunt and Schum, 1999). So, if one wants to conduct creativity training for ordinary people in ordinary jobs, one should first analyze the creative and non-creative acts and the interplay between them in the setting where creativity training will have an effect. After this, one must understand the interplay or collaboration between employees before developing a suitable creativity course. However, this method is expensive and differences in the context make it impossible to offer employees the same creativity course in different work settings. Another and probably much more fruitful approach would be to enable employees to understand the domain of everyday creativity produced in their own work setting. This would include enabling the employees to categorize and identify creative and non-creative acts and to analyze the interplay between the two in own work and in the interplay with others during work (Zhu, Chen, Tang, Cao, Hou, and Qiu, 2016). Among the positive effects of this approach is the improvement of the employee's skills, competences and knowledge as well as empower them to improve their own everyday work. This kind of creativity training will pay off since it ensures the employees employability and enable them to apply the kind of act (creative or non-creative) required for solving the challenges and problems they face in everyday work.

6 Limitations

A number of limitations apply to this study for managers and their teams. First, the research study only considered companies in three regions of the world. Two of these reside in U.S. territories and the other in Denmark. Adding additional case studies from other parts of the world would provide more evidence to produce a more comprehensive study. Further, researchers may choose to focus on everyday creativity as it relates to one particular region, one industry, one catastrophe, or one organization. On the contrary, they may choose to expand the study and compare and contrast multiple regions, industries, disasters or organizations.

Everyday creativity is a growing topic of interest (Amabile, 2017; Kaufman and Beghetto, 2009). This study was an initial step towards understanding how three different organizations - one non-profit conglomerate and two for-profit small businesses located in different regions of the world employed everyday creativity to grapple unexpected challenges in the workplace.

7 Conclusion

The analysis clearly shows that the study of creativity requires the ability to go beyond the phenomenon being studied in order to uncover the non-creative acts which are not only producing the background but also the very foundation for creativity in a certain work setting. We therefore conclude that the common and essential aspects of creativity at work is that the phenomenon requires its opposition, which is the important and often unnoticeable non-creative acts produced by people during their workday. We further conclude that creativity training for employees will pay off as long as it ensures the employees employability and enable them to apply

the kind of act (creative or non-creative) required for solving the challenges and problems they face in everyday work. This can be obtained if training enables the employees to understand their work setting as a domain of creativity. This includes the ability to categorize and identify creative and non-creative acts and to analyze the interplay between the two in own activities and in the interplay with others during work.

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