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# How Can Lean Six Sigma Foster Organizational Entrepreneurship in a Military Bureaucracy?

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**Abstract:** How can Lean Six Sigma foster the creation of heterotopias? This article will examine the use of Lean Six Sigma principles to magnify cracks within a traditional bureaucracy in order to create heterotopias that dramatically alter organizational practices. The empirical setting of this paper is a classic bureaucracy – the United States Army – but with an interesting twist, due to an overtness in implementing Lean Six Sigma. Lean Six Sigma protocols may be used to foster long-term change through alternative

narratives akin to organizational entrepreneurship. Therefore, this paper sees Lean Six Sigma as a storytelling methodology, in lieu of a directive set of tools and techniques. In this autoethnography, I tell my story of how I tried to execute a human resources logistics process, a Relief-in-Place, but failed on the first attempt. While facing difficult bureaucratic obstacles, I relied upon my training as a Lean Six Sigma Black Belt to use stories as a way to circumvent these obstacles, create a heterotopia, and ultimately achieve mission success.

**Key words:** narrative, Lean Six Sigma, autoethnography, entrepreneurship

## Jokes, Failure, and Lean Six Sigma: A Story of Creation of a Heterotopia in a Military Bureaucracy (Introduction)

Most of us are familiar with the idea of 'beginner's luck', which oftentimes seems like more of a way of encouraging neophytes than any sort of accurate depiction of behavior, and my own experiences as a beginner are certainly no exception. I want to share with you, the reader, my reflections of how I failed miserably at an operation I conducted when I was a junior officer in the U.S. army, and how I adapted to these challenges. Due to my low status, I could not use power or authority to overcome obstacles; instead, I sought to use humor and stories nested in the command-endorsed Lean Six Sigma to permanently change the way a U.S. Army brigade conducted its operations.

To highlight exactly how this transition occurred, I will expand upon previous discussions of heterotopias. Irrespective of scholars, most have described the heterotopia as almost accidental (Foucault, 1967), largely because these 'spaces for play' arise from competing world views – be that the divergence between strategy and practice (Tsoukas, & Chia, 2002) or theory and reality (Pelly, 2017b). Perhaps heterotopias can also occur when one coherent narrative could be superimposed upon another, dramatically different one.

This work will explore how a heterotopia can arise out of two completely different narratives – Lean Six Sigma and the stereotypical military bureaucracy.

To open the black box of the creation of a heterotopia, this paper will proceed with a brief literature review of bureaucracies and of Lean Six Sigma as narratives. I will then highlight the methodology, autoethnography, with a particular emphasis on its role in highlighting entrepreneurial stories. The paper will then begin the empirical section. In the storytelling vignettes, I will explain how I struggled, failed, and eventually created innovation in a stereotypically rigid organization. In the theoretical vignettes, I will introduce organizational entrepreneurship and develop its relationship to heterotopia formation. I will then provide final reflections in the discussion and conclusion.

### *The United States Army, the Most Bureaucratic Bureaucracy*

Bureaucracies are stereotypically depicted as extremely static (Tsoukas, & Chia, 2002), contraindicative to entrepreneurship, and are assumed to be incapable of pivoting during environmental contingencies (Sabrosky et al., 1982). The empirical setting of this article is the idealtypus bureaucracy – the United States Army. Weber (2009) typified the military as the perfect bureaucracy, which is surprising, given that he held a reserve officer's commission. Later studies of the military portrayed armies as plagued by bounded rationality and individual initiative oscillating between national benefit and self-serving interests bordering on corruption (i.e. Böll, Savill, & Bednall, 1950; Odiorne, 1977; Emerson, 2004; Pelly, 2016b).

The bureaucratic narrative is thus seen as monolithic (Weber, 2009), especially in the military (Odiorne, 1977). Strict chains of command are enforced, with little room for interpretation of intent, which is ideal for handling routine situations and favors the career technocrat (Emerson, 2004). Unfortunately, the military machine is chaotic when facing the unknown or novel situations (Clausewitz, 2004) including war, which is an almost never-ending contingency (Böll, Savill, & Bednall, 1950). This inability to cope with

these emergency – causing novelties can lead to space for new narratives to penetrate, as will be further explored.

## What is Lean Six Sigma?

In contrast to the military bureaucracy that favors stability, Lean Six Sigma is a consulting process that specializes in questioning taken for granted assumptions in bureaucracies, including in public service organizations (George, & Geroge, 2003) and in businesses (George, Rowlands, & Kastle, 2007).

Lean Six Sigma was coined by Michael George (George, & George, 2003). His contribution united earlier progressive era management theories that evolved into various Lean methodologies from the early 1900s (Feld, 2000) and the Six Sigma ideologies born during the 1960s (Eckes, 2003). Although Lean Six Sigma is commonly viewed as a series of tools, it is actually more of a mindset (Pelly, 2019a). The 'Lean' focuses on 'trimming the fat off of the meat' or, reducing inefficiencies in a process. Concurrently, Six Sigma prioritizes enhancing quality in a process. Lean Six Sigma encourages managers to observe workers to learn best procedures available, to use standardized tools for uniform results, and to encourage feedback when deriving new ways to accomplish a task (George, & George, 2003). The full spectrum of specific tools and mechanisms of Lean Six Sigma is outside the scope of this paper, but their roots in progressive era management literature provide helps us to understand how such ideas foster entrepreneurship and innovation in large organizations.

Lean Six Sigma consultants teach their doctrine in ways that empower prospective green/black/master black belts. Students begin by illuminating a select problem within the organization – known as the define phase (George, Rowlands, & Kastle, 2007), which is essentially developing a research question. They take measurements, followed by a scientific management approach to analysis (Taylor, 1911) – known as the measure and analyze phases (George, & George, 2003). There is then a phase of process improvement, with a healthy dose of worker input, after which a control, or reification phase, is implemented.

Lean Six Sigma is a powerful series of stories for effectuating change because it represents a robust alternative to existing organizational practices. As a narrative, its goal is to find ways to identify anomalies within an organization (George, & George, 2003) and solve them in a way to generate permanent organizational change, akin to organizational entrepreneurship (Hjorth, 2014; Pelly, 2017a). The power of the Lean Six Sigma practitioner is derived from the ability to explain what otherwise might be (Hjorth, 2004), and to use this potentiality to exploit gaps in bureaucracies. Lean Six Sigma tools, techniques, and artifacts extend the agency of the storyteller, and can provide structure and legitimacy in the face of strong organizational resistance to change.

Just like the bureaucracy that is bound to routines and is unable to cope with new situations, Lean Six Sigma is in many ways incompatible with the acceptance of the status quo. It is with this juxtaposition that I begin the story – a junior officer stuck between two narratives – one that was antithetical to change, and another that only understood change...

## Methodology: Autoethnography

The methodology of this article is autoethnography, which is an embodied methodological practice that utilizes a storyteller's personal experiences to further theoretical understanding (Sparkes, 2000; Wall, 2006). It is an orientation in lieu of a defined methodology (Pelly, 2017b). Autoethnography diverges from more traditional types of ethnography because it utilizes a first person perspective, and the writer is encouraged to change and manipulate variables in an attempt to understand a phenomenon. In effect, it blurs the line between literature and social science by using storytelling to study social phenomenon (Bochner, 2020). Furthermore, autoethnography accepts the strengths and limitations of retrospective recall. While individuals do reformulate past experiences based upon memory (Ellis, 1999; Rambo, 2005), recalling an event permits an individual to step away from experiences to provide a deeper understanding; thus, post hoc explanations serve as robust sense making devices (Cook, 2012).

Autoethnography is particularly appropriate to this study. First, this work examines my personal experiences in the United States Army from a post hoc perspective. Second, because my roles and experiences in the empirical setting favored experimentation, such as during the improve and control phases of my Lean Six Sigma project, a methodology that favors researcher objectivity and distance is inappropriate. Third, autoethnography responds to calls from innovation, entrepreneurship (Steyaert, 2011), and qualitative researchers who wish to make research more practitioner-oriented, more accessible, and more focused on organizational stories (Herrmann, 2020). Finally, I selected an evocative approach to research which favors narrative rationality (Smith, & Anderson, 2004).

The structure of this autoethnography is a layered account (Mendez, & Pelly, 2021; Frandsen, & Pelly, 2020; Rambo, 2005). The story will be told in a series of interweaving vignettes: those with titles in *italics* represent storytelling, whereas the vignette titles in **bold** provide post hoc theoretical explanations. In other words, the storytelling vignettes represent my reactions to events at the time, while the post hoc theoretical vignettes provide distance, and allow me to reflect upon the past and incorporate my present actuality as a researcher (Pelly, & Fayolle, 2020).

This article is augmented from a multitude data sources. One of the most significant sources is the Lean Six Sigma Black project I submitted to Headquarters, Department of the Army for Business Transformation. This project consists of numerous documents and slides that depict the ways my team and I created entrepreneurship in our unit. Other sources include emails and various drafts associated with this project. I conducted interviews and created field notes from a variety of stakeholders including my colleagues and the consultants who instructed the Army in Lean Six Sigma. Finally, I rely on memory as a sensemaking and literary device to render the account more relevant to this specific project.

## Empirical Setting

The events contained within this autoethnography occurred between April 2007 and April 2008. At this time, I was working as a second lieutenant, with a duty title of strength manager in a U.S. army brigade in the Republic of Korea. As a second lieutenant on a brigade staff, I did not hold the title of primary staff officer, but rather served as an assistant to the brigade human resources officer. I was the lowest ranking and youngest officer on the brigade staff. From a traditional bureaucratic perspective, I was not in a position to make major decisions. In fact, enlisted personnel were seasoned – most had at least ten years of experience in the army, in contrast to my six months of service – so I spent more time learning and not in making sweeping changes.

One positive – this unit was somewhat progressive. Our brigade commander sent three lieutenants and three majors to Lean Six Sigma green and black belt courses. At the time I was clueless about Lean Six Sigma, but I understood that I would attend training for one week each month for a period of six months. The George Group, a consulting company since acquired by Accenture, was contracted to teach the course. Upon completion of the course, it was expected that we implement Lean Six Sigma principles within our respective organizations in order to receive black belt certification.

My particular project was to improve Relief-in-Place operations. Simply stated, Relief-in-Place occurs when one unit replaces another in an operational area, an event frequently occurring in units deployed to warzones. Battalions are shifted into a given area of operations, displacing another unit, with an end result of manpower character changes but with the same quota of individuals. As units arrive, there are numerous logistical, tactical, and administrative procedures which must occur to ensure combat readiness. As an assistant human resources officer, my mission was to oversee the administrative portion of Relief-in-Place operations, whereas other staff officers were concerned with tactical and logistical processes. The debut of my mission is described in the following vignette.

*Another Day, Another Cent, or So It Appeared*

For me, it was just another day in paradise. I sat in my office, overwhelmed by my physical surroundings. My senses were on overload. Our offices were literally metal trailers stacked upon one another, had no air conditioning, and despite the fact it was September, it was hotter than Hades. Naturally, we opened our doors to some not so fresh air – the metal units were posited in freshly fertilized rice fields and the windows opened to a garbage dump. The smell was so bad it would have peeled the paper right off the walls had there been any. Thus began a typical, normal, uneventful day, entering and analyzing personnel data, and performing basic customer service – grunt work typically assigned to the lowest ranking officers. Suddenly I was interrupted by a scream – almost as horrific as the pungent aroma of manure that filled my nostrils – ‘Lieutenant!’ a booming voice thundered. It was none other than my boss, Major C, the brigade personnel officer. “Hey, we got this new operation coming into play – it is called Relief – in-Place, and you need to come up with all of the administrative needs for an incoming battalion of soldiers. “But Sir, I am just a lieutenant – none of the senior officers in a battalion will listen to anything I say. I’m not even entirely sure what a Relief-in-Place is,” I protested. “Yeah, whatever, you know all that Lean Sigma Six (sic) crap, use all that fancy stuff we paid for, and just make it happen. Either way I don’t give one, two, or even half a s\*%^.”

## Indifference as a Source of Organizational Entrepreneurship

Major C’s attitude sowed the seeds for organizational entrepreneurship – although I did not know it at the time. A prescribed definition of organizational entrepreneurship is the establishment of separate narratives and spaces designed to subvert established orders such as in a bureaucracy (Hjorth, 2004; 2014). Organizational entrepreneurship is commonly grounded in the lowest levels of an organization and investigates novel



forms of adherence when faced with bureaucratic resistance (Pelly, 2017a; Frandsen, Duncan, & Pelly, 2019).

A source of organizational entrepreneurship includes the attitudes within a bureaucracy (Pelly, 2017b). I am not sure if my superiors fully understood what Lean Six Sigma was, or how to use it, but much like in mimetic isomorphism (DiMaggio, & Powell, 1983) the army sought to use an outside standard because “it seemed to work for other people.” This led to a degree of command support for Lean Six Sigma, as evidenced by the fact that my organization was willing to shoulder both the financial burden (which was almost \$20,000 in terms of course tuition, plus \$12,000 dollars in per diem expenses), as well as the opportunity cost of sending three lieutenants and three majors away from their duty stations for six weeks.

The particulars of fostering Lean Six Sigma in driving organizational entrepreneurship remained ambiguous. My direct manager was indifferent to and unaware of how to foster organizational entrepreneurship, which could potentially assist or detract from my efforts. Luckily, my ‘ace in the hole’ was a blind, if not ignorant faith in the value of Lean Six Sigma. These two combined factors widened the cracks in the bureaucracy and provided a solid foundation for establishing a separate space to insert into these bureaucratic cracks (Hjorth, 2004). The support of the macro-level organization gave me the impetus needed to execute Lean Six Sigma and indicates that another pathway might enjoy support. It was left to me to craft a new narrative for the Relief-in-Place.

### *Uncertain Future Paths?*

A nickname for Lieutenants in the army is ‘LT’, and the joke is that “You can’t spell lost without ‘LT’”, which certainly epitomized my circumstance. I lacked a rudimentary understanding of the strategic and tactical importance of a Relief-in-Place. To further pressurize the situation, I had exactly six weeks before the Relief-in-Place would commence. I knew that once the Relief-in-Place was launched, I would be in charge of administratively accommodating roughly six hundred soldiers and sending another six hundred back to the

United States. These events would transpire within a six-week window. During the first week, I would welcome two hundred soldiers; the next week I would bid two hundred soldiers farewell, a cycle thrice repeating. The in-processing phase of a Relief-in-Place encompassed a dozen administrative steps.

My command authority during Relief-in-Place execution was essentially non-existent. Because I was a young and confused lieutenant, I was bullied by internal and external stakeholders, and did not rely on Lean Six Sigma to strengthen my position. As a result, the first iteration of the Relief-in-Place was a complete disaster. The brigade commander mandated that all soldiers be flawlessly in processed within a six-hour window so they could proceed to their crew and weapons qualifications. In our case, comments 'from the peanut gallery' or those who outranked me, and a continual tug of war with stakeholders derailed all of the hard work and planning I had conducted during the previous six weeks. Any attempt at innovation from my level was squashed by superior rank and position. Sadly, I was metaphorically burned at the stake when the operation lasted nine hours instead of six, and almost every in processed soldier had errors in their administrative paperwork. When my colleagues and I tallied the collective results of my failure, I knew the next two weeks would be personally embarrassing, professionally difficult, and financially costly. Of course the external colleagues who had been so 'helpful' before, denied giving any advice and abstained from supporting me in the weekly staff meeting. They refused to assist with any of the rework, instead dumping it on those of us in the administrative section. Three of my colleagues and I visited the offices of our newly welcomed battalion where we toiled for 14 hour days during the next week and a half to repair what should have been correctly performed initially, leaving me a mere four days to prepare for the next incoming and outgoing batches of two hundred soldiers.

## What Ultimately Went Wrong

For the first Relief-in-Place operation, individuals from outside my immediate control superimposed their prior knowledge to an unprecedented event,

which was one reason their advice was inappropriate. To add salt to an open wound, my neophyte status was augmented by advice from those who were unaccountable for their interference. Inexperience can suppress employee-driven change, but it was ultimately the sour taste of defeat that provided the spark of potentiality (Hjorth, 2014; Johannisson, & Olaison, 2007). This overarching failure led me to consider my situation as an emergency.

One of the key antecedents of organizational change is an emergency situation – a moment where actors realize their current path will lead to undesirable consequences (Mabey, & Morrell, 2011). These ‘cosmology episodes’ (Weick, 1993) can lead actors to engage in introspection and explore new pathways as well as to improvise (Boudes, & Laroche, 2009).

These cosmology episodes can be further exacerbated by an overlap between existing and novel routines (Colville, Pye, & Carter, 2013) and from actors’ not observing the first small events leading to a catastrophe, and then failing to make sense of new cues to develop a novel and appropriate understanding of responses to a situation (Barton, & Sutcliffe, 2009).

Given my utter failure, I certainly felt like I was in the middle of an emergency – I had no idea what I needed to do, and my previous experiences seemed less relevant. I had no choice but to improvise, or be doomed to failure as will be explored in the next vignette pairs...

### *The Seed of Lean Six Sigma*

Sometimes the best way to fight novelty is with novelty – albeit with the trappings of legitimacy. Whereas vague similar experiences legitimized by tenure and organizational networks were used to coerce a junior officer into succumbing to pressure, could I not shroud myself in similar ambiguity and feigned expertise – namely through the use of a command-endorsed management methodology like Lean Six Sigma? More importantly, could I not use this methodology to my advantage when it was so foreign to others? Although I suffered from trepidation, I certainly was not going to endure the same degree of failure, humiliation, or rework I incurred in the first iteration. I spoke to my superiors and harnessed the high-priced services of the Lean Six

Sigma consultants available to our organization to escape from my personal purgatory. I didn't know if this would work, but I would certainly try. I at least had nothing to lose.

## Fighting Fire with Fire – or Ambiguity with Ambiguity

Following an emergency, ambiguity creates “spaces for play” where what otherwise may be is discussed (Hjorth, 2004). Bureaucrats may thrive within a bureaucracy; but it is entrepreneurs who thrive in ambiguity derived from these spaces for play (Pelly, 2016). Within a space for play, the entrepreneur has the freedom to tell a story of his or her own making (Johannisson, & Olaison, 2007) and not rely exclusively upon dominant narratives (Spinosa, Flores, & Dreyfus, 1999). However, fantastic tales of potentiality will be inappropriate in bureaucracies, and a key piece of sense giving involves understanding an audience and what it can accept, and engaging in legitimacy building (O'Connor, 2004; Aldrich, & Baker, 2001). For this reason, managerial frameworks and tools such as Lean Six Sigma are an alternate coherent narrative and represent a way to structure a new story; but I still had to adapt Lean Six Sigma to my own operation as will be illustrated in the next vignette pairs...

### *The Beginning of Lean Six Sigma*

The first and most challenging phase of a Lean Six Sigma project is defining the problem. Unfortunately, I was not entirely certain why I failed – was it that outsiders were providing feedback with marginal utility, or that I ineffectively managed the competing demands of stakeholders? I began to think it was the latter. Coercion was impossible due to my low rank, youth, and lack of familiarity with the army bureaucracy. Furthermore, the brigade commander set forth rigorous standards on the Relief-in-Place; consequently, compromise with stakeholders would be inappropriate. These impasses guided my

attempts to understand the problem in the 'define' phase and contemplate ways in which to 'integrate' various stakeholder perspectives (Follett, 1940).

But how could I manage competing stakeholder demands without offending my superiors? Despite the fact that Lean Six Sigma enjoyed the patronage of the upper echelons, it was seen as an invasion in the face of the middlemen. Instead of flinging accusations at my stakeholders, I highlighted the difficulties of the situation in a way all soldiers, irrespective of rank, could appreciate – a humorous story. I used the RIP (Relief-in-Place) RIPopoly board shown in Figure 1.

In an amusing way I told a story of how multiple stakeholders competed, much like the pieces on a monopoly board. The result was an illustration of a process that was chaotic, inconsistent, and failed to produce any reliable result – which is fun when playing monopoly with friends, but the game of RIPopoly was a living hell in real life. This simple diagram was a storytelling device that highlighted the need for change and legitimized the possibility of performing actions differently.

## Narratives as a Way to Extend Agency

Prior to organizational entrepreneurship, together telling is essential (Rosile et al, 2018). Finger pointing in this case would have generated an infamous military bureaucratic 'turf war' (Emerson, 2004). Instead, I improvised through appealing to people's basic humanity – their sense of humor. Such an approach can lead to participants placing themselves in the story and find ways to contribute to the story for their own ways and reasons (Pelly, 2017a). This approach has proven effective as an initial starting mechanism to form teams in the military (Emerson, 2004) and in public-private collaborations (Pelly, & Zhang, 2018).

The prior vignette depicts humor as one of many tools used to legitimize the birth of alternative behavior. Left-field techniques such as laughter can be utilized to build upon the momentum launched by narratively constructed emergencies (Allen, 2007; Mabey, & Morrell, 2011) and are useful for facilitating parallel potentiality by highlighting the inefficiency of existing practices and

ways that bureaucratic cracks that can be filled (Hjorth, 2004). The use of humor opened up the pathway for all of us to jointly conduct the analysis of the Relief-in-Place, as will be discussed in the following vignette pairs.

### *The Define, Measure, Analyze, and Improve Phases*

After our laugh at the weekly staff meeting, I began in earnest to implement the define phase of Lean Six Sigma. We agreed that the biggest problem was that the current process was inconsistent and had too many bottlenecks, but no one could determine the reason. I used a variety of tools to illustrate our process in its current state – including the SIPOC (Suppliers, Inputs, Processes, Outputs, Customers) diagram shown in Figure 2.

I proceeded to measure the time required to complete each step in the process with the VSM (Value Stream Map) shown in Figure 3. Utilizing the meticulous notes from the previous in processing, I analyzed the bottlenecks. Unlike the define, measure, and analyze steps of the Lean Six Sigma projects which were retrospective in nature, the improve and control phases are prospective in nature. While humor had been an essential element for breaking down interorganizational barriers, the novelty and command support for Lean Six Sigma created a sufficient zone of ambiguity to shatter the confidence of my career bureaucrat colleagues. None were familiar with the core Lean Six Sigma diagrams shown in Figures 2 and 3, but as I asked colleagues for help, I was met with nods of agreement, and the volunteering of manpower and resources towards our common cause. I then conducted the first step of the improve phase – deriving a pilot plan – which focused on our hemorrhages identified during the analyze phase and attempting solutions for the next body of 200 soldiers.

### *The Conflict Between the General and the Specific*

My use of Lean Six Sigma to solve an urgent demand created ambiguity, or cracks that I was able to fill as a storyteller, instead of a story reader. But what exactly were we putting in these cracks?

Using Lean Six Sigma as the rally point, we were able to jointly generate one of the outputs of organizational entrepreneurship – the heterotopia. In the previous vignette, this heterotopia is represented in our pseudo-Lean Six Sigma working meetings (which eventually became a Lean Six Sigma task force), where members across the organization contributed to our common cause based upon their expertise, abilities, and needs (Follett, 1940).

For our purposes, a heterotopia is a separate space and a separate discourse (Foucault, 1967), such as our Relief-in-Place meetings and operations that took place outside of our normal working spaces and routines. A heterotopia could be compared to a mirror image that reflects outside values and is internally homogenous but is somehow different from the surrounding environment (Winkler, 2014), much like our heterotopia was both similar and different from Lean Six Sigma and the army bureaucracy. This means they are counter spaces where individuals can behave in significantly different ways than an expected norm (Johnson, 2006), even in entrepreneurial ways (Hjorth, 2004). This bubble evolves into a point of view, and a series of routines that socializes individuals due to auto-reinforcing social capital that grows with each interaction (Pelly, 2016; 2017a).

The relationship between heterotopias and organizational entrepreneurship is not new. Hjorth (2004) identified organizational entrepreneurship as the process of encouraging the growth of heterotopias within an established organization. Colloquial examples of heterotopias include holographic organizations (Morgan, 1997), task forces (Mandell, & Steelman, 2003) and adhocracies (Mintzberg, 1981; Toffler, 1970).

How we sustained and improved upon the success of the heterotopia is the subject of the following vignettes.

### *The Improve and Control Phases*

The initial phase changed the variables at the beginning of in processing. We used our command-endorsed justification of Lean Six Sigma to alter a portion of the in-processing stations' procedures. We began by sending forms for completion to the remaining members of the battalion still stationed in the

states. Our celebration was that forms completed by soldiers alert and awake after a twenty-hour flight to Korea would reduce errors. To a certain extent, we were correct. We reduced the in-processing time from nine hours to seven and the forms we sent in advance contained fewer errors, reducing the amount of rework time from ten to eight days. We then incorporated the modified processes into our brigade's standard operating procedure, embodying organizational entrepreneurship by permanently altering practices (Pelly, & Boje, 2019a, 2019b; Spinosa, Flores, & Dreyfus, 1999).

Unfortunately, seven hours was still unacceptable as per the brigade commander's guidance, and our error rate was still high. The principle source of errors were service member's next of kin and life insurance forms. These two forms were populated using previous, not current procedural requirements; consequently, several document pages had to be reworked manually. We created novel procedures to remedy these problems and, after the third iteration, we in processed all service members within the required six hour time frame, and our error rate was negligible, requiring minimal rework. After three attempts, we adhered to the standard set forth by the brigade commander.

When the next battalion of troops rotated into Korea three months later, we flawlessly in processed an entire battalion across three, two-week iterations. The resulting savings to the army was approximately \$75,000 annually.

## How The Improve and Control Phases Represent Employee Driven Innovation Facilitated by a Heterotopia

One of the interesting facets of the heterotopia is that they are dynamic. While some heterotopias can seemingly freeze time, they are equally adept at behaving like one of Whitehead's actual entities (Whitehead 1941; Pelly, 2017a). Much like the heterotopia straddles competing world views or narratives (Pelly, 2017b), Whitehead's actual entity straddles the worlds of the real and the abstract (Whitehead, 1941).



Whitehead's actual entity can be the perfect comparison to the type of heterotopias described in this paper because of the fact that the heterotopia (or actual entity) is not just one heterotopia, but a multitude or progression of heterotopias across iterations. The actual entity (or heterotopia) serves as the basis for a Relief-in-Place task force, which dissipates, integrates into the larger narrative, and reforms as needed. In other words, it was not the same heterotopia in that pre-Relief in Place meeting as the one from the pilot plan or the final, successful, iteration. Plans changed, the story was reinterpreted and restoried, actions changed, and we all learned in the process.

The improve and control phases represent not only the ability to make changes to an organization's practices, but also to ensure those practices remained in place after the completion of the operation. Organizational entrepreneurship is not just about isolated changes – there must remain an echo of past activities (Hjorth, 2004; Spinosa, Flores, & Dreyfus, 1999).

## Discussion and Conclusion

The application of Lean Six Sigma led to an alternate management narrative that thrived in ambiguity, set the stage for employee-driven entrepreneurship, and manifested itself through the creation of a heterotopia. The implementation represents a concrete way that Lean Six Sigma fits into the organizational entrepreneurship research. A key component of Lean Six Sigma utilizes narrative approaches to effectuate changes in current practices through creating cracks within the bureaucratic narrative and challenging a blind faith to contemporary procedures. Within these fissures, separate spaces for play, or heterotopias, were created to fill in the vacuum (Hjorth, 2004). Through the alternative narrative inside the heterotopia, I was able to improve upon the Relief-in-Place procedures. The result, conceived amid the improve and control phases, retold the story of how a Relief-in-Place should be conducted. I then used this narrative to permanently change practices.

One of the interesting findings of this paper is the advancement of our understandings of the heterotopia. Heterotopias are normally believed to

exist in between theory and practice (Hjorth, 2004) or strategy and tactics (Tsoukas, & Chia, 2002). This paper has shown that it is possible to create a heterotopia by super imposing one narrative upon another, especially when both have internal gaps. It is worth exploring if other management doctrines could achieve a similar effect, or even if less coherent narratives could be utilized in a similar fashion. These further studies could explore the efficiency of heterotopia creation based on hierarchy position – i.e. comparative studies of lower-, mid-, or high-level employees creating heterotopias.



Figure 2. SIPOC Diagram

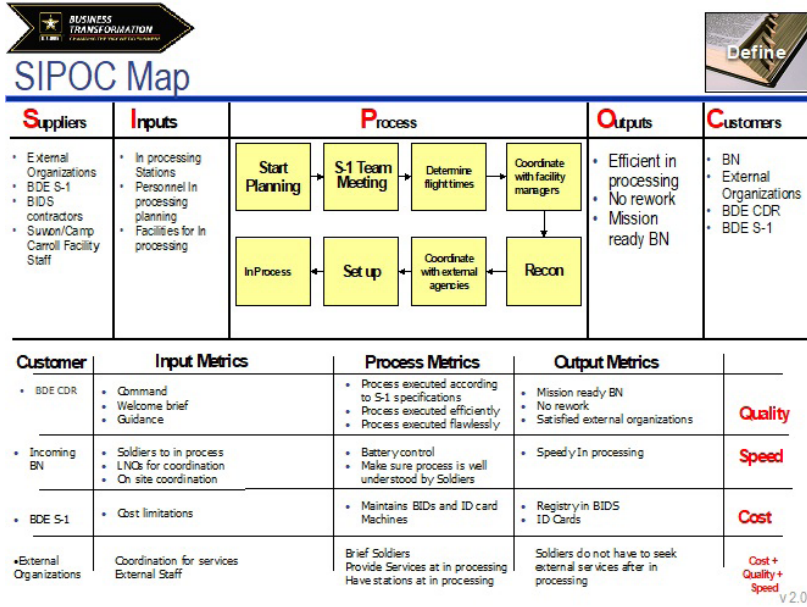
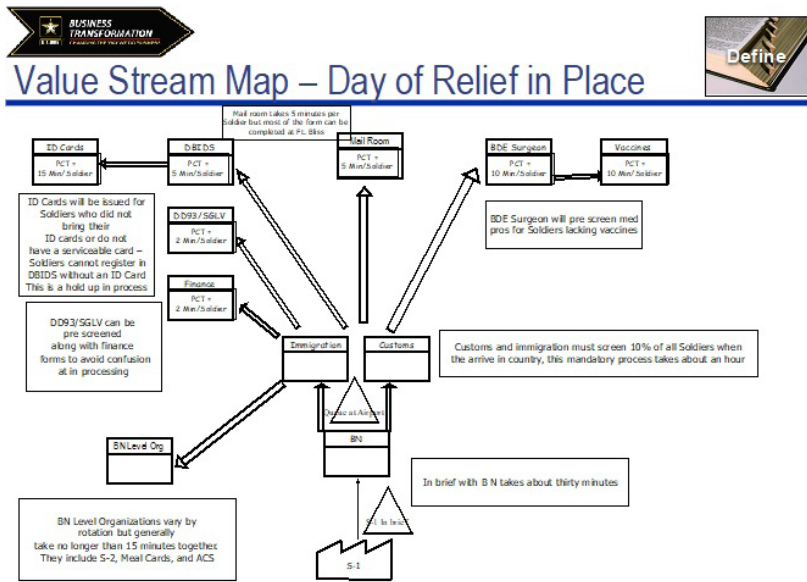


Figure 3. VSM



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