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'New Ideas for a New Century'

**INTERACTION OF THE LEGITIMATE SYSTEM AND THE
SHADOW SYSTEM IN ORGANISATIONS:
ITS IMPACT ON CREATIVITY**

COMPETITIVE PAPER

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ABSTRACT

Key words: creativity, legitimate system, shadow system

This research examines the relationship between the Legitimate and the Shadow Systems in organisations: an interaction that can result in bringing an organisation into a state of bounded instability, and therefore increased creativity and innovation. The Legitimate System consists of the formal hierarchy, bureaucracy, rules, controls and communication patterns in an organisation. A properly functioning Legitimate System is vital for the conduct of business in an organisation in order to ensure its survival and efficiency. The Shadow System is a term coined by Stacey (1997) to describe the informal network of relations within the organisations that are evident in casual hallway conversations, along the grapevine, through the rumour mill and in the informal procedures for getting things done. It harbours such diversity of thought and approach that it is often the place where much of the creativity resides within an organisation. Hence, it can be a great source of innovation if leaders could learn to listen to and tap into it. Stacey proposes that when the Legitimate and Shadow Systems are at a level of optimum interaction, an organisation can sit at the Edge of Chaos or be in a state of bounded instability. In this state the organisation hovers between equilibrium and chaos and is the ideal setting in order to promote change and maximise innovation and creativity (Brown and Eisenhardt, 1997).

INTRODUCTION

In recent years we have seen the development of a more post-positivist view to

management, with a gradual shift away from the purely rational organisational model that was favoured in the past. Underpinning this move away from mechanistic and bureaucratic approaches to managing, is the assumption that a more dynamic approach will stimulate organisational creativity. In this regard concepts such as chaos and complexity theory are being explored to assess their applicability in the management domain. This is a relatively new area of research and this paper will explore the interaction between the Legitimate organisation (with its formal roles and procedures) and the Shadow system (informal organisation) and the role of chaos and complexity theory in respect to organisational creativity.

Research Questions

Through undertaking a comparative case study analysis of the creative process in two advertising and design agencies, this paper aims to investigate how the Legitimate System interacts with the Shadow System and its impact on creativity. Advertising and design agencies are hotbeds for creative thinking. Creativity by its very nature requires one to think outside of the box whereby a linear 'cause and effect' approach to the management or accommodation of creativity is not relevant. In this regard, other organisations can take lessons from the relevance of chaos and complexity theory as a management tool. It is hoped that an increased awareness of the interaction between the Legitimate and the Shadow System will allow managers to guide employees to be more creative and innovative. The research questions addressed in this paper are as follows:

1. To what extent can/does the Shadow System (complex and informal interactions and

procedures) contribute to the creative process?

2. To what extent can/do managers manage the interaction between the Legitimate and Shadow Systems in order to optimise the creative process?

In the research that this paper is based on, a further question was addressed but will not be dealt with in this paper due to space limitations; namely, To what extent can/does the Legitimate System (mechanistic controls and procedures) contribute to the creative process?

LITERATURE REVIEW

This section firstly explores the concept of the organisation and its evolution, and the shift in the paradigm that is occurring from viewing the organisation in a positivist manner as a machine, towards viewing it in a post-positivist manner as a living system. Secondly some of the literature on complexity and chaos theory is discussed. Finally we address how managers might apply these concepts.

The organisation as a machine

In the seventeenth century, Isaac Newton viewed the universe as operating like clockwork, with predictable planetary movements in space and time (Morgan, 2006). This view came to be popularly known as the machine metaphor or Newtonian science. The notion of the organisation as a machine gained popularity with the work of individuals such as Taylor and his Scientific Management and Weber and Organisational Bureaucracy. If an organisation is a machine, then we simply must specify parts and follow specific step-by-step processes. To date, the positivist machine metaphor has largely prevailed in management science. Economics has

been used as a means of understanding a firm's behaviour and competitive outcomes, with the key concept of economic theory being the importance of the relationship between cause and effect - which stresses linearity.

What are the limitations of the Machine Metaphor and Positivist Thinking?

The basic problem with the metaphor of the organisation as a machine is that with all of its controls, rules and regulations it is often difficult for those in the organisations to think for themselves. Morgan (2006) sees severe limitations as a result of the machine metaphor: (1) great difficulty in adapting to changing circumstances; (2) mindlessness and unquestioning bureaucracy; and (3) dehumanisation of employees, especially those at the lower levels of the organisational hierarchy. Morgan's (2006) final point is of particular interest as it highlights how a mechanistic view of organisations ignores the individual employees and the complex interconnections between each individual in the organisation. Recent years have seen the emergence of a new paradigm towards a more post-positivist way of thinking about organisations. Figure 1 developed by the authors' delineate the main differences between the two paradigms.

Figure 1 Organisational Paradigms

Traditional Organisation Paradigm	Emerging Organisation Paradigm
Positivist Machine metaphor – Newtonian Science Cause and effect Linearity	Non-positivist Living system – chaos / complexity Circularity Complexity

Complexity science is increasingly being presented as an alternative way of making sense of the organisation, which resists the “instrumental” view of organisations in terms of tools and techniques (Stacey, 2003). Many authors are now shifting the paradigm; they are replacing the prevailing image of the organisation as a machine with that of the organisation as a living system or network. The nodes in the network represent people as human system agents; while the links connecting them become active human relationships (Dervitsiotis, 2005).

The Organisation as a Living System

Chaos and Complexity Theory

Stacey (1997) has been one of the biggest contributors to the field particularly in relation to complexity and its relevance to change, innovation and creativity. The underlying rationale is that if change processes, structural dynamics, cooperative and competitive dynamics work well in nature, then perhaps nature should serve as a guide for how organisations should function (Dent, 2003).

Chaos Theory

<p><u>Chaos Theory</u> – irregular, unpredictable behaviour of non-linear dynamic systems. Simple behaviour can generate behaviour so complex that it appears random e.g., butterfly effect.</p>
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Chaos theory is used to describe the irregular, unpredictable behaviour of non-linear dynamic systems, suggesting that simple events can generate behaviours so complex they appear random, yet they are entirely deterministic (Marion, 1999). They will not result in a stable

response and when input is slightly altered the effect varies widely.

Strange Attractors and Sensitivity to initial conditions

The Lorenz “strange attractor” is one of the best-known principles to emerge out of chaos theory. It is an example of a non-linear dynamic system. In linear systems, attractors are linear and stable, and if disturbed will return to their previous consistent pattern. In non-linear “strange attractors”, one variable can generate non-proportional results within the system, (Marion, 1999). It is often referred to as the Butterfly Effect, using the example of how a butterfly flapping its wings in Mexico causes a storm in China. This reflects sensitive dependence on initial conditions, whereby unimportant and small changes might give rise to radical transformations in the behaviour of the system in the long run (Gleick, 1988).

Deterministic Chaos

According to Levy (1994), one of the major achievements of chaos theory is its ability to demonstrate how a simple set of deterministic relationships can produce patterned yet predictable outcomes. He highlights that chaotic systems never return to the same exact state, yet the outcomes are bounded and create patterns.

Complexity Theory

Complexity Theory – applies to social systems and human behaviour in organisations

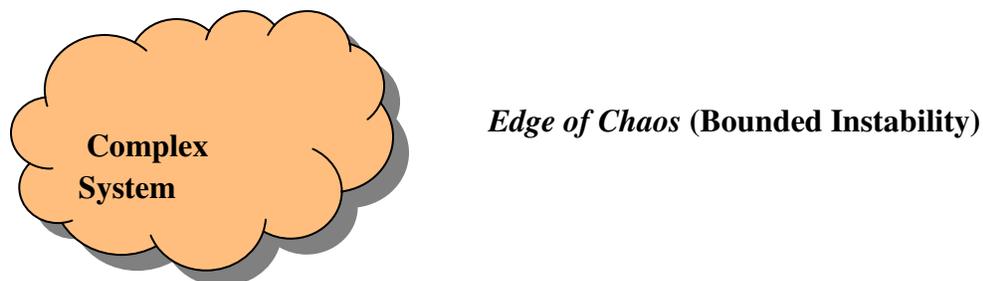
Complexity theory is rooted in chaos theory. It examines the dynamics of “complex networks of adaptive agents” (Shaw 1997, p235). While chaos theory is primarily about

deterministic non-linear systems that are mostly mechanical in nature, complexity theory accounts for social systems and human behaviour in organisations. It recognises the self-organisation and the emerged aspect in human organisations, and the fact that organisations are paradoxically stable and unstable and thus the potential for prediction and control is limited (Stacey et al, 2000).

Bounded Instability

At their outer edges, complex systems border on a state of chaos (see fig. 2) The Edge of Chaos is a phase transition as a system moves from stability to instability (bounded instability). It provides a rich environment for creativity and the emergence of new behaviours. It is in this state of bounded instability that a system is capable of escalating tiny changes into radical transformations - such as the Butterfly Effect as discussed earlier. According to Casti emergence is defined as “an overall system behaviour that comes out of the interaction of many participants - behaviour that cannot be predicted or ‘even envisioned’ from a knowledge of what each component in a system does in isolation” (in Lissack 1999, p11).

Figure 2: Bounded instability at the Edge of Chaos of a Complex System



Organisations as Complex Adaptive Systems (CAS)

Complexity theory has provided the concept of Complex Adaptive Systems (CAS); systems that emerge from the interaction among agents. These systems are non-linear and unpredictable, they display the emergence of self-organisation and are highly sensitive to initial conditions. Humans in any social situation display characteristics of CAS. Organisations can therefore be seen as CAS. Central to this perspective is the view that organisations be seen as networks of multiple, interacting agents that are fairly autonomous. Each agent is constantly acting and reacting to what the other agents are doing (Brown and Eisenhardt, 1997). When organisations are seen as CAS, alignment, interaction with and responsiveness to the environment becomes more important than analysis and planning (Cunha & Cunha, 2006).

The Need for Complexity Theory to be informed by Psychoanalysis

There are many authors who believe that the application of chaos and complexity theory to social organisations is unreasonable as they have their origins in the natural and biological sciences the literature (Houchin and MacLean, 2005). In order to take account of the human element in an organisation one needs to add a psychological/ social aspect. The model of examining organisations in terms of the interaction between the Legitimate and the Shadow System allows this. Ralph Stacey, in his conception of the Legitimate and Shadow Systems uses lessons from complexity theory, while incorporating lessons from psychoanalysis in order to take account of human behaviour and anxiety.

The Interaction between the Legitimate and Shadow Systems

Although the existence of an “informal” organisation has long been appreciated, this has

been perceived largely as a source of inertia or resistance to the Legitimate change effort. Shaw (1997) points out that much has been written on strategies for understanding and dealing with this. By viewing the management of organisations from a complexity perspective, it allows for a shift in thinking - the informal system is seen in a more positive light which can actually be used to tap into creativity and new innovation and possibilities for organisations. This highlights the shift in thinking from a linear perspective to a complexity perspective.

The Legitimate System

The Legitimate System consists of the formal hierarchy, bureaucracy, rules, controls and communication patterns in an organisation. The boundaries of the Legitimate System are usually very clear and its purpose is to carry out the primary task of the organisation (Stacey, 1996). Burke (2004) speaks of the legitimate themes as being those that are consistent with the official ideology, which is designed to make particular patterns of power relating feel natural. The role of the Legitimate System is to pull the organisation towards a state of stability or equilibrium. Delahaye (2002) argues that unfortunately, if the organisation remains at the stage of total equilibrium for a period of time, the organisation will stagnate and slowly poison itself.

The controls, procedures and rules of the Legitimate System ensure predictability and 'comfort zones' within which one can operate with relatively little effort. These internal norms also legitimise the psychological addictions that are employed to buffer uncertainties within the organisation (Schaeff & Fassel, 1988). According to Dervitsiotis (2005), living systems thrive only when pushed away from their comfort zone, where they must reconfigure themselves. The Legitimate System will ensure survival in the short term, but will not allow for the leeway for

enduring growth or progression in the long term. Attempts to introduce change into the organisation can produce anxiety. Anxiety reducing techniques take the form of defence mechanisms. Delahaye (2002) identifies two defence mechanisms which result in single loop learning or negative feedback loops:

- undiscussables: labelling certain activities or philosophies as ‘undiscussable’ - no one can discuss them in the Legitimate System;
- defensive routines: The Legitimate System automatically commences activities that are designed to subvert the new idea
 - ignore mode: Any attempt to introduce a new idea is simply ignored in the hope that it will go away;
 - genuine management activities: committees can be formed but never comes to a conclusion. These committees are based on negative feedback loops and this soon crushes any creativity.

The Shadow System

The Shadow System describes the set of interactions among members of an organisation that are outside the rules prescribed by the Legitimate organisational system. It is the informal network of relations within the organisations which are evident in casual hallway conversations, along the grapevine, through the rumour mill and the informal procedures for getting things done. Burke (2004) speaks of the shadow themes as being the unofficial ideologies not publicly expressed which may subvert and undermine the official ideology. The boundaries of the Shadow System are not clear and it is through these informal networks and procedures that people can learn and self-organise among themselves (Stacey, 1996). In 2005, Stacey clarifies

his concept of the Shadow System further and encouraged practitioners to think of organisations as the “patterning of peoples’ interactions with each other”, (p. 325).

The Shadow System pulls the organisation towards chaos and according to Stacey, it harbours such diversity of thought and approach that it is often the place where much of the creativity resides within an organisation. This can be a great source of innovation if leaders could just learn to listen to and tap into it. Dervitsiotis (2005) proposes that during times of disruption or change, the informal Shadow System is capable of maintaining more and stronger links among its human system agents compared with those designed in the formal system. The hidden, implicit patterns of behaviour and organisational forms within the Shadow System are hard to delineate and therefore hard to rationally control. Viewing the organisation in terms of the Shadow System requires that managers replace the prevailing image of the organisation as a hierarchy with an image of the organisation as a vibrant live network. The nodes represent people as human system agents at all levels and the links connecting them become active human relationships (Dervitsiotis, 2005).

Leadership and Self-Organisation at the Edge of Chaos

Self Organising Groups (SOGs) can emerge in the Shadow System. The need for self-organisation is evident in unstable conditions and this raises the issue of the sort of leadership skills necessary to stimulate and facilitate such processes. Managers face two challenges; the ability to identify the emergence of SOGs and the ability to encourage SOGs to survive by providing energy, and therefore, positive feedback loops (Delahaye, 2002). It is important for

leaders to understand that self-organisation is not self-managing or everyone doing their own thing. Self-organisation is in fact about agents interacting on the basis of their own local organising principles and there is no one in control- this is therefore anxiety provoking and managers may find that they are facing anxiety reducing activities or defence mechanisms as discussed above, (Burke, 2004).

Leaders can encourage SOGs. Stacey suggests that certain conditions can be conducive to self-organisation. Managers can help teams to have freedom to operate - meaning that normal hierarchy is suspended for most of the time; discover own challenges, goals and objectives - meaning that top management should not set overly defined objectives or prod the group to reach a set predetermined view and have membership drawn from a number of different functions, units and levels.

In order to manage the interaction between the Shadow and Legitimate System, strong leadership skills are needed. The features of extraordinary management (compared to ordinary management) to capitalise on the interaction between these two systems is presented in appendix A, (which is based on Stacey, 1996). Sbarcea (2003) suggests that there is such thing as a complexity leader. She suggests that the complexity leader has an enhanced awareness and intuition which will allow the leader to dance between chaos and stasis. Her concept of the complexity leader is as follows:

- the complexity leader should provide guidance, mentoring and coaching (not management or control);
- the complexity leader should allow for paradoxes; recognising the need for structure yet less structure; leaders know but also guide into the unknown; leaders have authority but not control; leaders explore possible future scenarios without committing to one, fixed

reality.

PREVIOUS EMPIRICAL STUDY

Knowledge Management in PLP (Delahaye, 2005)

There appears to be very little empirical research on this topic. We located one particular case study which provided a framework for the primary research. In this case study of PLP, a successful Australian publishing company that produces nine narrow-market niche magazines, Delahaye examines the interaction between the Legitimate and the Shadow System and proposes that there is a state of bounded instability in existence in the company. Delahaye uses a model of knowledge management which incorporates the management of both the Legitimate and the Shadow System as developed by Stacey. He also adds to this model by incorporating control systems, enhancing systems and political and embedding guidelines for managers in order to incorporate ideas from the Shadow System into the Legitimate System.

Delahaye's findings show the real strength of PLP was its ability to sustain a durable state of bounded instability. The basis for negative feedback loops in the Legitimate System of PLP was the heavy emphasis on making publication deadlines. The emphasis on deadlines provided the Legitimate System's negative feedback loops with a pre-determined standard and became the classic dampening process that controlled the rampant nature of creativity. The flip side to this was that the organisational culture encouraged having fun (surfing, activities, whatever the employees passions) as well as having a high regard for creativity, provided the positive feedback loops that energised the Shadow System and encouraged continuous creativity.

There was strong evidence of SOGs and two such groups had resulted in two new magazines being initiated and published. Both groups commenced as informal meetings, and received positive feedback loops in the form of encouragement from a senior manager.

RESEARCH METHODOLOGY

Primary research focuses on the interaction between the Legitimate and Shadow System during the creative process in advertising agencies. The rationale behind this is that the day-to-day processes of advertising agencies centre around creativity and the generation of new ideas. Central to the concept of chaos theory is the presumption that the future is unpredictable in detail but can be predicted in broad terms. The broad outcome of the creative process in an agency may be predictable in broad terms, however the path and the detailed stages by which the agency generates its ideas are not predictable.

Semi-structured interviews as well as observation were used to collect data in two advertising agencies. A total of five informants from both senior and junior roles were interviewed. Delahaye's case study referred to earlier was used as a benchmark against which to test the interaction between the Legitimate and the Shadow Systems in both of the companies. A brief overview of company profiles and interviewees is provided next.

Company A: A medium sized design and advertising agency providing the full range of marketing services including branding and identity, design and advertising. This agency has 10

employees with a clear division into two teams- a Creative Team of five and a Client Services of five. The following people were interviewed: **(A1)** Creative Director of Company A; **(A2)** Client Services Director of Company A; **(A3)** Junior Designer of Company A

Company B: A medium sized design agency providing a range of services including branding and identity and design. This agency has 8 employees. There is a division between the Creative Team and the Client Services team- with 2 employees on the Client Services side and 6 employees on the Creative Side. The following people were interviewed: **(B1)** Creative Director (with Client Contact) of Company B; **(B2)** Junior Designer (with Client Contact) of Company B.

Limitations of the Methodology

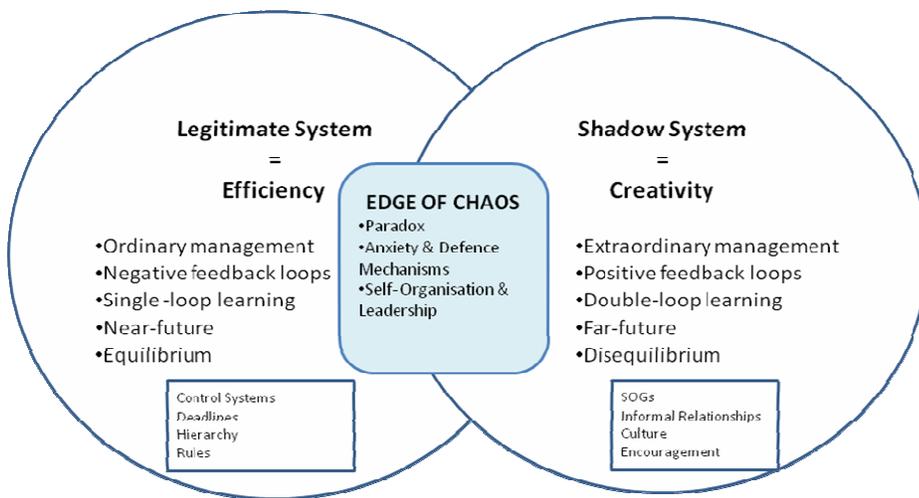
Complexity theory is relatively new; the research path is less well-defined, so it may be perceived as high risk and overly subjective, with knowledge produced in a form that can not be generalised (Houchin and MacLean, 2005). Throughout the data collection and analysis, procedures were used to minimise bias and ensure reliability and generalisability.

FINDINGS AND ANALYSIS

The aim of this section is to present the findings and analysis of the primary research. In undertaking the primary research process, interview questions were developed based on the main themes that emerged in the literature review. There are three sections to this framework- all relating directly to the research questions. It is based on the following: Stacey's guidelines on Ordinary and Extraordinary Management; Delahaye's Model of Knowledge; and additional knowledge gained from other sources during the literature review. Figure 3 on the next page

presents the conceptual model which emerged from the literature review in relation to the legitimate system, the shadow and the edge of chaos (bounded instability). Each section of the model was used a basis for the linking the literature review to the research findings and analysis.

Fig 3: Interaction between Legitimate and Shadow Systems (developed by the authors, adapted from Delahaye's Model of Knowledge 2005)

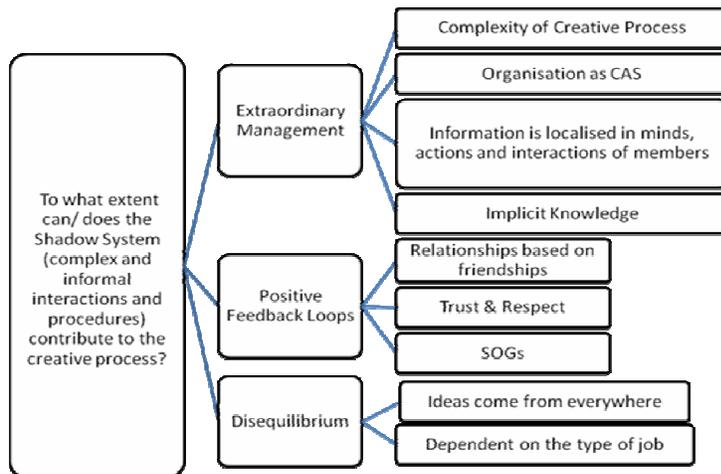


Findings and Analysis associated with Research Question 1

As expected there were clear signs of the existence of the Shadow System evident in both companies. The Shadow System contributes to organisations by means of increasing creativity. This study found that the shadow system provides a means of creativity in design and advertising agencies also. As seen below the Shadow System is very complex in nature. Figure 4 on the next page shows a synopsis of the findings from research question one. This is also linked to

‘Shadow System’ section of Figure 3. This will be followed by an analysis of the findings in relation to the conceptualisation of the shadow systems- as opposed to the legitimate system. This is based on extraordinary management, positive feedback loops and disequilibrium.

Figure 4: Research Question One Synopsis of Findings



A. Extraordinary management

Evidence of extraordinary management taking place was as follows; awareness of the complexity and diversity of the creative process, reference to the organisation as a CAS, recognition of the importance of perception and implicit knowledge, the role of interactions and communication in the creative process.

While there are systems in place in order to ensure the efficient flow of projects, there is also a recognition that while the goal remains fixed, the journey to this ultimate aim may not always be the same and there may not always be clearly distinguished stages. Chaos theory

highlights that outcomes, although not totally predictable can produce patterned outcomes (Levy, 1994). During one interview, a participant's description of the creative process was analogous with the concept of the organisation as a complex adaptive system; *'The process is not about individuality, different people do different things at greater degrees at the time. The sum of it all, the little interactions'* (A2).

Stacey (1996) speaks of one of the skills of extraordinary management as having the ability to recognise that information is localised in the minds, actions and interactions of the members. One of the interviewee's comments was interesting in this regard. When queried as to what their role was in the company, they responded that *'sometimes it's not really about how I see my role in Company A, sometimes it's about the way other people see your role'* (A1). The researcher saw this as recognition of the existence of the Shadow System and the fact that people's roles in the company are based on perception as much as on job titles. Stacey (1996) notes the relevance of implicit knowledge during extraordinary management. A member of company B spoke of the role of implicit knowledge *'we've worked together for ten years now so we have a fairly good understanding of the way each of us thinks so in a way I can sometimes pre-empt his reaction'* (B1).

B. Positive Feedback Loops as a Basis for Double Loop Learning

The research found the following issues that lead to positive feedback loops in the organisations; relationships based on friendships, relationships based on trust and respect and finally the formation of self-organising groups.

Organisations are socially constructed and the process of linking with other humans creates a meaning for our existence (Dervitsiotis, 2005). In both companies it was clear that relationships were not just based on the hierarchical structure or job titles, but that there were also relationships based on friendships. Every participant felt that having a good relationship with their colleagues helped them not only get the job done better but also to enjoy the job. The ability to trust in others also arose as a source of a positive feedback loop. It allowed people to feel less stress and pressure. It was also an important factor in order to allow for real creativity and the opportunity to push the organisation away from a stable state of equilibrium; *‘That’s your craft.....well this is what you should be doing, even though it might be a little bit off the mainstream- but you need to trust us.’ (A1)*

There was evidence of the existence of self-organising groups in both companies. An example was given in company A which showed evidence of at least one incident where a SOG formed in a positive manner and for the betterment of the company. One participant told of how a group of people had got together in order to improve the layout of the office; *‘It was sort of really chitchat with people saying oh lets change the studio.’(A3).*

C. Disequilibrium and Far-Future

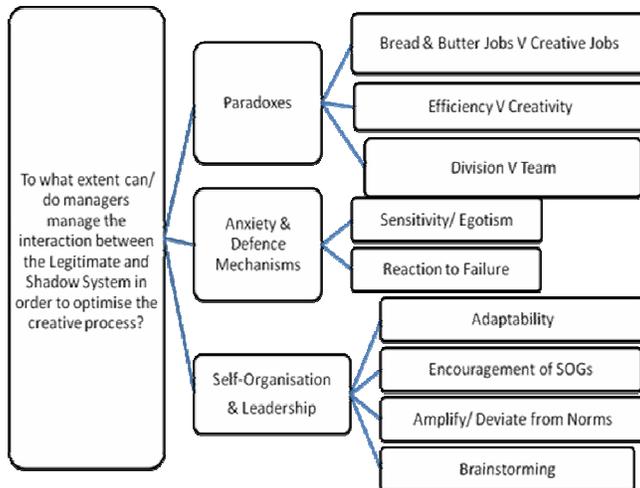
One participant stressed the importance of good creativity and design in order to ensure the long term survival of the organisation; *‘You need to have a well structured, well managed company but you need to have the quality of design for the company to grow and develop itself and to make its presence felt within the industry. Otherwise you are relegated down to a*

mediocre level' (A1). In order to achieve this, an organisation needs to be closer to a state of disequilibrium. When queried in relation to the generation of ideas during the creative process, the overwhelming response from participants in both companies was that ideas pop up from many different sources- all respondents commented on idea generation away from the formal office environment.

Findings associated with Research Question 2

Figure 5 depicts a synopsis of the findings from research question two. This will be followed by an analysis of the findings in relation to the conceptual model presented in figure 3, in terms of paradox; anxiety and defence mechanisms; self organisation and self organisation and leadership.

Figure 5: Research Question Two Synopsis of Findings



Both companies displayed a level of management skills that allowed for interaction between the Legitimate and Shadow Systems. This research did not indicate that either company is in a perfect state of bounded instability. On the other hand there were strong but different elements in both organisations that were pushing them towards the Edge of Chaos. Organisation A displayed very strong leadership by means of giving employees guidance and mentoring, while also allowing them enough space to self-organise and learn for themselves. Organisation B displayed a very strong culture by means of promoting a team spirit and very open communication therefore leading to self-organisation. In particular it was found that brainstorming was used by both companies - this is a perfect platform in which to achieve the phase transition from instability to stability at the edge of chaos.

A. Paradoxes

It was evident from the research that both companies faced many paradoxes. There is a paradox between the *'bread and butter'* jobs and the jobs that allow for creativity. There is also

a paradox or trade off between the need to be as efficient as possible as opposed to being as creative as possible; *'quick, good and cheap, pick any two. So it could be quick and good but it won't be cheap or it could be good and cheap but it won't be quick.'* (A2). In Company A there was a consensus that the client management team will invariably focus on the process and efficiency side of things while the creative team will always veer closer to the Edge of Chaos.

B. Anxiety and Defence Mechanisms

Paradoxes cause tension, and tensions can invoke anxiety. Anxiety can lead to the rise of defence mechanisms. One participant commented that agencies could possibly be a working environment whereby people are more prone to feelings of anxiety; this is particularly in relation to the fact that creativity is a very personal thing; *'most designers are quite sensitive about their own work'*(IA). This sensitivity can sometimes have an effect on teamwork and lead some creatives to *'prefer to do their own thing'* (IA). This indicates a link to Carr and Gabriel's (2001) remark that unconscious forces are at play in virtually all human endeavours and that these forces can stifle or stimulate creativity. Another related issue came up in relation to sensitivity; that of egotism as a defence mechanism: *'I find that you can get people that if a really good job comes [along] like a high profile job, [then] you don't get a look in because it's about their ego'* (A3). Failure has a natural tendency to raise anxiety levels, in this regard every interviewee was asked how they felt their organisation and the people in it reacted to failure. According to Delahaye (2005) those who use punishment as a reaction to failure tend to focus too much on the Legitimate System and rely on negative feedback loops. Those who see failure

as merely one step on the path to learning, tend to have more active Shadow Systems. One participants' response to their reactions to failure were as follows; *'My reaction to failure; move on and if I didn't learn from it then I would start to question whether I'm right. And so you'd always set a guide and mentor approach and you know, you'd hope that the person learnt from that' (A1)*

C. Self- Organisation and Leadership

Sbarcea (2003) suggests that a complexity leader should provide guidance, mentoring and coaching. This was evident to some extent in both organisations. Both organisations also displayed that adaptability was key and different approaches are suitable at different times. During each interview, participants were queried in relation to the leadership approach in their organisations. Both managers interviewed in Company A stressed the importance of the ability to be able to take a flexible and adaptable approach; *'Adaptability. You know with younger people on the team you try to be a guide and a mentor'.(A2)*. Stacey (1996) also states that it is very important for managers to have an ability to amplify deviations from the norm as opposed to dampening them. This allows the organisation to be pushed closer to the Edge of Chaos. During the interviews the following example of a manager displaying leadership skills that amplified deviations was narrated. When working on a large pitch campaign one of the client service team members very causally made a suggestion. The creative manager very happily listened to it and took the suggestion on board, even though the client service team are usually left to look after processes and the creative team to look after creativity, *'Dave was like 'what about never mind*

the phone book?’ and he wasn’t even working over the job he was just overhearing the conversation like’ (A3) This idea changed the whole direction of the pitch and the agency won the campaign. This is an example of the Butterfly Effect or concept of “Strange Attractors” whereby one variable can generate non-proportional results within the system (Marion, 1999). In addition to this, there were practices in Company A that allowed for greater connectivity between the employees. There is a daily production meeting every morning that every employee attends. This meeting provides a dual focus. Its primary aim is to allocate work to everybody for the day. The meeting is also used as a discussion forum for new ideas of the staff- therefore opening up channels of communication as opposed to everyone just sitting individually at their desks.

There was a large kitchen and lunchroom in Company B. It was obvious that this area provided the space for people to informally communicate and relax. The lunch room is seen as the area where people create bonds and friendships with each other. It therefore allows for a stronger shadow system; *‘It’s sort of the family that eats together stays together’ (1B)*. The researcher found that a key element in the encouragement of the formation of self-organisation and new idea generation were brainstorming sessions.

Brainstorming sessions were seen in both organisations as a very helpful tool in order to generate new ideas, these ideas may stem from the Shadow System but can be embedded into the Legitimate System. The Edge of Chaos is a phase transition as a system moves from stability to instability- or vice versa. Brainstorming sessions are a perfect platform in which to achieve this

phase transition. In both organisations, there was a feeling that brainstorming did not occur enough, however when it did occur it allowed for a multitude of ideas and opinions to be openly discussed. The sessions start off very chaotically with more structured ideas emerging towards the end. Brainstorming sessions were seen to bring an energy and enthusiasm to both organisations. They were definitely a source of positive feedback loops as a basis for double loop learning. Marion (1999) suggests that emergent effect is not an infinite number of possibilities, but that (in the spirit of self-organisation) elements in a chaotic and complex system will gravitate to a small number of stable systems with a limited choice of outcomes possible.

CONCLUSIONS

To what extent can/does the Shadow System (informal interactions and procedures) contribute to the creative process?

Overall, both the literature review and comparative case study research showed that creativity resides in the Shadow System. It is within the Shadow System that informal organisation 'structures' can exist with creativity being most likely at the nexus between the Legitimate and Shadow Systems. In this regard some theorists propose that the principles of

chaos and complexity theory are relevant. Three core themes emerged from the literature review that were also evident in the primary research; extraordinary management, positive feedback loops and disequilibrium. Chaos and complexity theory are seen as being applicable to organisations through such ideas as self organising groups (SOG'S). The Shadow System pushes the organisation towards the Edge of Chaos and a state of bounded instability.

To what extent can/do managers manage the interaction between the Legitimate and Shadow Systems in order to optimise the creative process?

The literature review and the findings showed three core themes: paradoxes, anxiety and defence mechanisms, and self organisation and leadership. Overall, the literature review showed that in order for an organisation to have perfect interaction between the Legitimate and Shadow Systems, the organisation needs to be in a state of Bounded Instability. It did not appear that either of the organisations studied were at the Edge of Chaos. There were however strong but different elements in both organisations that were pushing them towards the Edge of Chaos. Organisation A displayed very strong leadership by means of giving employees guidance and mentoring, while also allowing them enough space to self-organise and learn for themselves. Organisation B displayed a very strong culture by means of promoting a team spirit and very open communication therefore leading to self- organisation.

Main Conclusions and Recommendations

The metaphor of the organisation as a machine and the legitimate system was discussed in the literature review. In this regard three core themes emerged; ordinary management, negative feedback loops and equilibrium. The main function of the legitimate system is efficiency. A finding from this research is that in both organisations studied, while the Legitimate System was necessary in order to ensure efficiency, it actually stifled the creative process in some regards. The lesson here is that the Legitimate System is important but should not be the only focus of managers.

Ultimately the Legitimate and Shadow System should be seen as two separate elements. They affect each other equally and are intertwined as part of one complex and living system. Many of the lessons learnt in this research have related back to some of the basics of communicating with people- lessons that go beyond the management of organisations- with key issues arising over and over again in each interview; the importance of openly communicating, the importance of being open to new possibilities, 'outside of the box' thinking, the importance of trust. The research indicates that an ability to do all of the above will give a manager the ability to bring an organisation to that state of bounded instability whereby it can blossom and grow into its full potential.

Appendix A: Differences between ordinary management and extraordinary management: based on Stacey (1996).

Ordinary management	Extraordinary management
<p>There are stages:</p> <ul style="list-style-type: none"> A. Formulation of desired action at the top <ul style="list-style-type: none"> - Preparing the blueprint B. Implementation down the line <ul style="list-style-type: none"> - Actualising the blueprint C. Monitoring as top calls line to account <ul style="list-style-type: none"> - Measuring outcome, comparing with policy prediction, damping the difference <p>Essence is that learning is done before doing and embodied in documents</p>	<p>There are no clearly distinguished stages. Ideas pop up from many sources and are pursued in many different ways depending on the people and circumstances at the time. The process is political. Deviations from the expected are not dampened, rather, new ideas are amplified through the institution. Essence is that learning is done in the action. It is real time reflection-in-action.</p>
<p>Mechanism is an institution's Legitimate System and thus:</p> <ul style="list-style-type: none"> • Comprehensive information is collected and funneled to the centre for analysis and use in policy formulation at the top. 	<p>Mechanism is an institution's Shadow System, its informal networks, and thus:</p> <ul style="list-style-type: none"> • Information is localized in the minds, actions and interactions of the members, that is, agents of the institution. There is, too much information, it is changing too fast and its meaning is too ambiguous to make it possible or worth centralising.
<p>Essence is the focus on comprehensive and centralized information- explicit knowledge of the institution to be found in its systems and procedures.</p>	<p>Essence is the focus on localized information-implicit knowledge of the institution to be found in the different experiences of agents, who cannot all know and experience the same things. The 'grapevine' is the key information system and the institution's knowledge is contained in myths, stories and rumours.</p>
<p>Mechanism is an institution's Legitimate System and thus:</p> <ul style="list-style-type: none"> • Instructions for implementation are passed down the hierarchy for implementation in accordance with bureaucratic rules. <p>Essence is the transparent use of the recognised hierarchy and bureaucracy.</p>	<p>Mechanism is an institution's Shadow System and thus:</p> <ul style="list-style-type: none"> • It is self-organising with suggestions being made at many points as agents avoid the normal hierarchical and bureaucratic channels. <p>Essence is the use of personal networks in a much less transparent way relying on chance encounters.</p>
<p>Legitimate authority drives interactions.</p>	<p>Interpersonal relationships, trust and respect drive interactions.</p>
<p>Outcome is thus the realization of prior, intention on the part of the most powerful.</p>	<p>Outcome emerges without prior, widely shared intention and is later articulated and</p>

	incorporated as a change to the Legitimate System.
Those in charge of the Legitimate System are 'in control'	Behaviour is controlled by the need to sustain support but no one is 'in control'
Relationships are contractual, particularly between public and private sectors and between one country and another.	Relationships are based on trust, honour, friendship, fear of retribution etc.
Ethical conduct is explicitly prescribed by rules	Ethical conduct flows from interaction, from ongoing conversation between the parties.

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