Exhibiting Rebus Leadership in the Complex Domain

Badri N. Srinivasan and Chandan Lal Patary

ABSTRACT

Today's business world is shifting swiftly and the organization needs to exhibit different styles of leadership to sustain in this turbulent period. Leadership in large organizations is more complex as it has built-in legacy which will not allow it to mobilize the decision making fast enough for business survival. The business environment has become increasingly unstable, and uncertain, in just the past decade or so. Leaders need to think differently to transform the complete ecosystem with his/her team members aligning with the external ecospace. In today's organization, most of the employees are not engaged (Gallup employee engagement survey 2015); when employees are disengaged it means quite simply that companies are receiving only a fraction of the creativity and productivity of their workforce. Leaders need to ensure company's ability can increase so that it can surpass competition and drive growth in new distinct situations by learning and adapting when tackling unforeseen circumstances, predicaments, complex problems and crisis. Today's leaders are operating in the complex domain which necessitates out of the box thinking and innovative solutions to solve everyday problems.

This paper will highlight how the proposed new leadership model will ensure enterprise agility, how adaptive leadership team plan to transform operation excellence and bring agility across the layers, how leadership introduces and ensures sustaining of the new cultural transformation with innovation, how building adaptive project management to increase response ability, How to influence emergence and achieve enterprise agility?

Keywords: Complex Adaptive System, Systems Thinking, Emergence, Antifragility, Cynefin Framework

INTRODUCTION

Leadership practices in complex domain are very unique. The nature of competition has become more diverse. Some environments are mature and predictable, while others are highly uncertain, how can leaders ensure they are doing the right stuff at the right time?

Our societies are changing rapidly from those based on structures of hierarchies and standard answers to ones that are constantly changing (even volatile), interconnected, networked, ambiguous and increasingly complex. Our leadership models must adapt to this new world. Today's world is more and more complex

Today's world is more and more complex, traditional leadership skills do not support much. Leadership theory also has to be modernized.

DETAILS OF THE PAPER

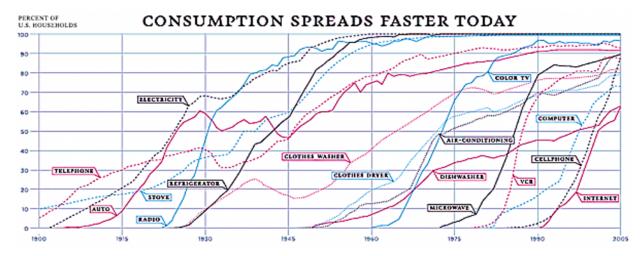


Fig 1: Adoption rate of new technologies across the century, the world is "more complex" or "rapidly changing"

"62% of top-performing companies say the most important factor to improve their organization's agility is the right leadership team."

Technology adoption rate is very high today; will traditional leadership styles still work in today's complex world? Will top down approach work? Today's world is more complex. The scope of this paper is limited to explaining about the role of leadership in the complex domain and it is applicable in all generic research and development sectors (Retail, Banking Financial services and Insurance (BFSI), Manufacturing, Pharmaceuticals and other sectors). This paper focuses on enterprise agility through changes in organizational design.

Every individual is a potential agent in the complex domain. Leadership in complex systems is a locus of power during the interaction processes among human agents. There are many variables in a complex situation and the interaction between these variables is nonlinear and interdependent. Therefore, the process of acting in a complex situation cannot be rational and linear. To solve complex problems, we cannot rely only on convergent analysis and on using our own knowledge in a traditional manner. Instead, we have to use divergent thinking and adopt an experimental approach to the situation in order to solve complex problems in a more creative way.



Fig 2: Characteristics of conventional leadership since Industrial era, will these styles work in Complex Domain?

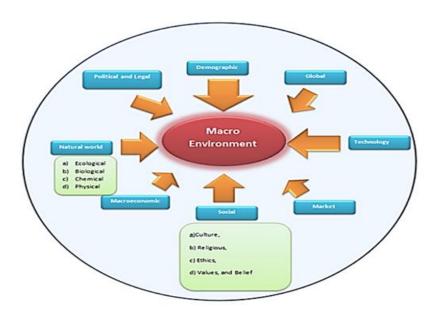


Fig 3: Macroeconomic forces in business, creating the world as a complex system

What are Complex systems? (A.k.a. Complex Dynamic Systems or Complex Adaptive systems) **Complex** = difficult-to-understand or difficult to predict

Dynamic = moving, changing

Adaptive = changing to adapt to an environment or condition

In a Complex situation, we don't know with certainty the effect of various variables and thus we have to enter into an effective broad exploration of the possible variables and identify patterns where we can indicate association and causation. Then we can design probes to test the systems and from this information we can build pilot programs. Systemic methods require a highly diverse group of participants; they are both highly time-efficient and the participants enjoy sharing their knowledge.



Fig 4: Different states demands different actions, Cynefin Framework

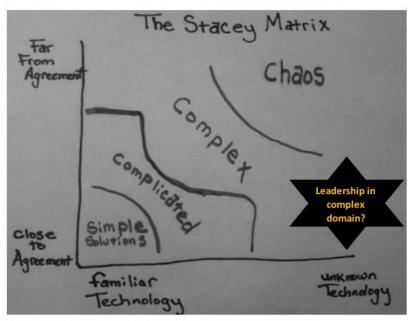


Fig 5 Leadership In knowledge era is not the same as industrial era

The Cynefin framework has five domains. The first four domains are -

Obvious - replacing the previously used terminology simple from early 2014 - in which the relationship between cause and effect is obvious to all. The approach is to **Sense - Categorize** - **Respond** and we can apply best practices.

Complicated - in which the relationship between cause and effect requires analysis or some other form of investigation and/or the application of expert knowledge. The approach is to **Sense - Analyse - Respond** and we can apply good practices. E.g. - a microprocessor even with a billion transistors is typically only "complicated", very linear and has clean transition rules.

Complex - in which the relationship between cause and effect can only be perceived in retrospect but not in advance. The approach is to **Probe** - **Sense** - **Respond** and we can sense emergent practice.

Chaotic - in which there is no relationship between cause and effect at the systems level and the approach is to **Act** - **Sense** - **Respond** and we can discover novel practice.

It might be impossible to identify one "correct" solution or spot cause-and-effect relationships in "complex" situations. According to Snowden and Boone, many business situations fall into this category. To solve a complex problem, we have to know how the role of leadership in complex situations differs from that of other situations. We need a different style to operate in the complex domain.

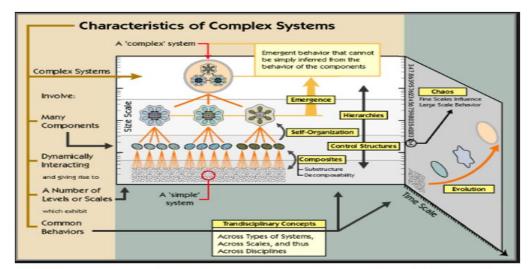


Fig 6: Agents are unpredictable living organisms who are adaptive, flexible, creative, and evolve continuously

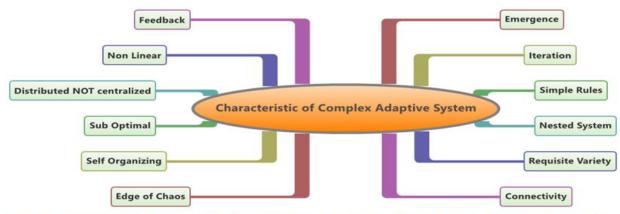


Fig 7: Examples are Weather pattern, Immune system, Universe, all types of Ecosystems, ant colonies, financial market, and democracies

In a complex context, there is no linear relationship between cause and effect but a pattern may emerge over time and offer some kind of order, even though it often exists for a limited time only.

So let us look more closely at the complex context.

What is an agent? In complex systems, Agents are the autonomous entities that interact to carry out their particular tasks. Agents are adaptive and agents must be able to react to their environment and possibly change their behaviour based on what is learned.

Based on the above discussions, we realize that most of the time, in the knowledge era, we operate in the complex domain where individual needs to lead differently. Most of the leadership styles which originated during the industrial era do not address all the issues leaders' face in the complex domain.

The new proposed leadership theory is called - **Rebus Leadership Theory (RLT).** English meaning - Rebus is a representation of a word or phrase by pictures, symbols, etc. A puzzle in which words are represented by combinations of pictures and individual letters. Rebus also indirectly refers to the inherent complexity present in the complex domain and which is a puzzle that needs to be solved.

1. WHAT IS REBUS LEADERSHIP

Rebus Leadership Theory (RLT) is a framework which is made up of the following components –

- Rebus Leadership Values
- Rebus Leadership Principles
- Rebus Leadership Pillars
- Rebus Leadership Practices
- Rebus Leadership Levels

Rebus Leadership in complex systems takes place during interactions among agents when those interactions lead to changes in the way agents expect to relate to one another in the future and when the changes observed in one or more agents (i.e. leadership) leads to increased fitness for that system in its environment. Rebus Leadership Practices are embedded in the Rebus Leadership Pillars and they can be expanded and appropriately focused based on the specific problem requirement in the complex domain.



Fig 7.1 Rebus Leadership Theory components

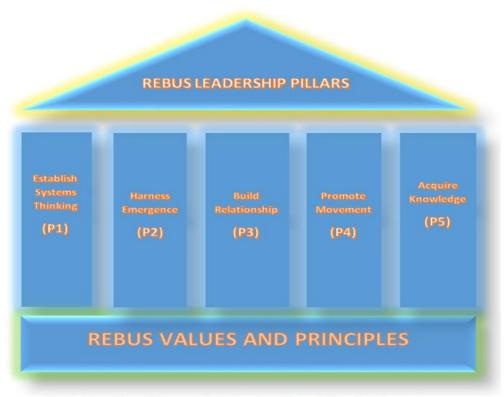


Fig 8: Five pillars aids agents to operate under complex domain

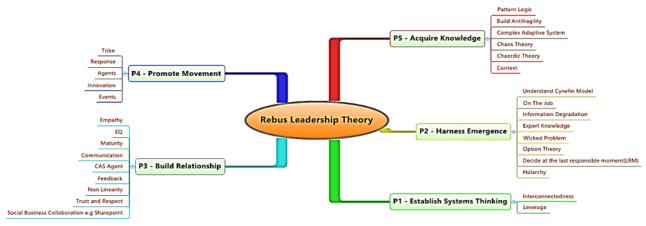


Fig 9: Interconnection of RLT (Rebus Leadership Theory) pillars, if one pillar is weak, it will destabilize the other pillars

2. REBUS PILLARS

2.1. P1 - ESTABLISH SYSTEMS THINKING

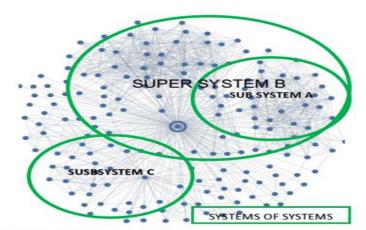


Fig 10: Understand the systems, Map the systems And taking action in systems to maintain the systems ideal state

"A DISCIPLINE FOR SEEING WHOLES. IT IS A FRAMEWORK FOR SEEING INTERRELATIONSHIPS RATHER THAN THINGS, FOR SEEING PATTERNS OF CHANGE RATHER THAN STATIC SNAPSHOTS." – PETER SENGE

As a Rebus leader, he/she has to perform below mentioned activities for Pillar 1 which is about systems thinking –

- Identify a system. After all, not all things are systems. Some systems are simple and predictable, while others are complex and dynamic. Most human social systems are the latter.
- **Explain the behavior or properties of the whole system**. This focus on the whole is the process of synthesis. Analysis looks into things while synthesis looks out of things.
- > Explain the behavior or properties of the thing to be explained in terms of the role(s) or function(s) of the whole. And **take actions** with all the stakeholders to formulate an ideal system.

The continuous assessment process that is characteristic of systems thinking is essential in a volatile, rapidly changing environment. It takes time and good habits of critical reflection to engage in this kind of learning, both for individuals and organizations

3. P2 - HARNESS EMERGENCE:

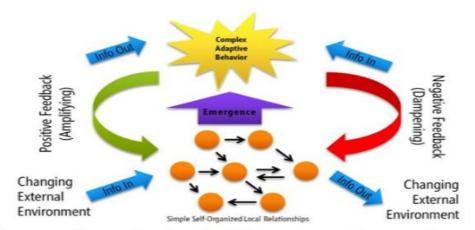


Fig 11: Systems are diverse and made up of multiple interconnected elements and they are adaptive in that they have an aspect of cognition by learning from previous experiences in order to respond to changes both positive and negative. Understanding systems that evolve as a result of the relationships within the system itself at an elemental level.

Emergence is a process whereby larger entities, patterns, and regularities arise through interactions among smaller or simpler entities that themselves do not exhibit such properties. It's usually the system-level behaviour that intrigues us. A stock market is one of the best examples.



Fig 12: An emergent behavior or emergent property can appear when a number of simple entities (agents) operate in an environment, forming more complex behaviors as a collective.

Rebus leaders can call for open space meetings to get new ways of working which should be part of the emergence exercise.

Appreciative enquiry also helps Rebus leaders to discover emergence.

Other types of problems that could be facilitated by emergence are -

A wicked problem is a problem that is difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are often difficult to recognize. The use of the term "wicked" here denotes resistance to resolution, rather than evil. Moreover, because of complex interdependencies, the effort to solve one aspect of a wicked problem may reveal or create other problems.

3.1. P3 - BUILD RELATIONSHIP

Learning by diverse agents, coupled with nonlinear interactions, leads to self-organization, emergence, and co-evolution. Self-organization is the development of dynamic but stable patterns of organization that arise through the local interactions of agents.

The progression of leadership theories demonstrates the evolution of the role of the leader from command and control to transforming followers, to networking and relationships.

Rebus Leaders need to facilitate agents to make strong and meaningful connections within the system which can create organizations that can adapt, innovate, and remain sustainable in a complex environment.



Fig 13: Way for hosting meetings, conferences, corporate-style retreats, symposiums, and community summit events, focused on a specific and important purpose or task (force of self-organization to do its thing)

Rebus Leaders need to conduct additional network meetings to build relationships.

The understanding of emergence has to do with relationships: the relationships among the parts or the relationship of the system to its environment. Parts of a system that are related are also often referred to as a network. A system within the larger system of which it is a part are sometimes referred to as an ecosystem.

Leading with empathy, the Rebus Leaders create a shared sense of purpose and manage through influence rather than command and control.

3.2. P4 - PROMOTE MOVEMENT

All types of events which promotes people movement, idea share, data movement is healthy in the complex domain, e.g. Conversation Café (Chai pe Charcha), Connect events, agile café, iob rotation and internal iob movements.

Conversation Café is an international movement started by author Vicki Robin fostering coffee house meetings on a regular basis for interesting communication about relevant issues amongst strangers in the Socratic tradition of respectful dialogue.

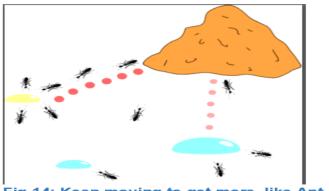


Fig 14: Keep moving to get more, like Ant

3.3. P5 - ACQUIRE KNOWLEDGE

Complex systems display the below mentioned characteristics -

- Feedback loops
- Some degree of spontaneous order
- Robustness of the order
- > Emergent organization
- > Hierarchical organization

As a Rebus leader, the individual has to be continuously aware about what is going on with these parameters in the system. Unity and shared purpose should be one goal. Pull based connectivity and sharing knowledge helps to acquire knowledge. The flow of data, information and knowledge moving around in the networks of systems and people is shared through team interaction, communities and events, facilitated through knowledge repositories and portals and built through tacit (implicit) and explicit knowledge by the agents.

All these five pillars will enable agents to competitively manage the intricacies of the complex domain. Additionally, knowledge about the specific issues occurring in the problem space and knowledge about complex adaptive systems (CAS) will help the Rebus Leader to more optimally manage the issues arising in the complex domain.

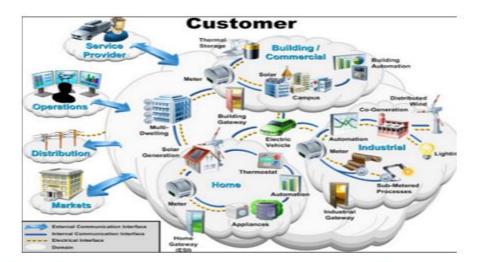


Fig 15: Smart Grid System, where we have large numbers of interconnected elements, all these elements are interacting in a nonlinear way, any minor changes can produce disproportionately major consequences, The system is dynamic, the whole is greater than the sum of its parts, and solutions can't be imposed; rather they arise from the circumstances, The system has a history, and the past is integrated with the present; the elements evolve with one another and with the environment. Though this system may, in retrospect, appear to be ordered and predictable, hindsight does not lead to foresight because the external conditions and systems constantly change.

The Smart Grid System is a distributed control, multi-agent system and if an organization has to operate under such a system, the leadership team needs to exhibit all the characteristics of the RLT framework in order to smoothly and efficiently accomplish this work. Let us look at all the 5 Rebus Leadership pillars in this smart grid system. Agents working in the system have to exhibit Rebus Leadership skills. Agents need to apply systems thinking to understand the processes and need to know how parts influences the whole. Knowledge of the entire system and subsystems are necessary to manage the s in the complex domain. The Rebus Leader needs to know how collective properties arise from the properties of parts; how behavior at a larger scale arises from the detailed structure; how behavior and relationships works at a finer scale. Without knowing emergence, it is difficult to work in the complex world. All the agents are interconnected and share the feedbacks effectively to work together in seamless manner. Agents working under this system are constantly meeting with each other to work effectively. If all the 5 pillars, along with the Rebus values principles and practices are applied judiciously, it will then lead to enterprise agility (ability to respond to the changes in the market easily) and also changes in the organizational design structure can be managed optimally. Lead Agents are also present in the system and they facilitate the networking and other aspects of agents to ensure that all the agents are focused on the overall goal.

4. REBUS LEADERSHIP LEVELS



Fig 16: Rebus Leaders should mature one level after another. Level 5 is the Highest Maturity State

www.pmworldjournal.net

Levels	Establish Systems Thinking	Harness Emergence	Build Relationship	Promote Movement	Acquire Knowledge
Level 1 Pangaea	Initial stage of leaming	Initial state of discovery	Initial state of connection	Little bit of mobilization	Built-in initial awareness about the system
Level 2 Co-Ordination	Aware about the parts in the system	Through co- ordination increase emergence	Interaction of the individual agents	Improved movement	Co-ordinate and Improve knowledge
Level 3 Collaboration	Enhance knowledge about the systems and subsystems	Through collaboration enhance emergence	Increase collaboration to improve connection	Collaborate and encourage movements	Collaborate and improve knowledge
Level 4 Establishe d	Complete insight about the systems	Linear and Non Linear feedback loops	Stabilized inter relationship, inter-action and inter- connectivity strengthened	Agents are mobilizing at frequent intervals	Near real time knowledge and Information
Level 5 Zenith	Clearly see the big picture and impact	Constantly able to hamess emergence and promote discovery	Self- Organized, self-motivated, Self-driven agents	Extreme collaboration	Real time knowledge and Information

Fig 17: Rebus Leadership Theory Pillars and co-relation with all the maturity levels

Rebus Leadership has 5 different levels of maturity. We cannot expect a team to be at Level 3 on day one. Systemic improvement needs to be planned and the team/leader has to gradually stabilize the 5 pillars and move to the next levels by considering all the factors of maturity. Level 1 which is the Pangaea stage is the initial state where everything is chaotic in the complex domain. By focusing on all the pillars, the agents need to improve and start stabilizing the situation. At every level there should be an effort and a plan to move to the next level and each team needs to move from one level to another. Level 5 is the Zenith stage where Agents have the highest level of skills and knowledge about the complex domain. Because as Agents, he/she has complete information about the systems, super systems and subsystems; he/she has more or less real time data about the emergence in the systems as he/she has established well connected network with other trusted agents who have the right knowledge and will pass it on seamlessly at the right time to them.

5. REBUS LEADERSHIP VALUES



Fig 18: The 5 Values will help to achieve RLT maturity and strengthen the RLT Pillars

Rebus Leadership Theory has 5 values which ensures leaders/agents perform at the optimal level in the complex domain -

Value No 1 – Courage - To lead an organization, it takes courage. Courage to try new things; courage to make mistakes; courage to admit you don't know everything; and courage to change knowing that what works today may not work tomorrow.

- ➤ Value No 2 Openness Leaders will not always tell people what they want to hear. However unpleasant the issue, leaders will not be afraid to raise it with them. By doing so, leaders can challenge everyone to be different and stand out from the crowd. This will require leaders to insist that everyone is to be open and honest with each other.
- Value No 3 Wisdom Wisdom is defined as "Knowledge that is gained by having many years of experience and skills accumulated over a period of time; the natural ability to understand things that most other people cannot understand; knowledge of what is proper or reasonable; good sense or judgment. Wisdom is the ability to make the best use of knowledge, experience and understanding by exercising good judgment. Wisdom also focuses on pattern thinking and pattern logic that is gained through years of experience.
- Value No 4 Commitment Ensure Commitment which is dedication to the tasks at hand and ensure the successful completion of the tasks.
- Value No 5 Respect Treat others as you would expect yourself to be treated. Embrace each individual's unique talents and honor diverse life and work styles. Operate in a spirit of cooperation and value human dignity.

6. REBUS LEADERSHIP PRINCIPLES

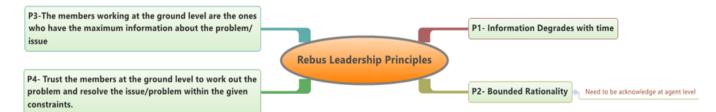


Fig 19: Rebus Leadership position on these 4 principles which helps to strengthen the theory

Rebus Leadership Theory has 4 principles which will enable agents to be very efficient. All these principles helps agents to accomplish improved outcomes in a complex environment.

Principle 1 (P1) - In complex systems, agents need to upgrade their information continuously. Information degrades with time and hence, available information should be viewed in that context.

Principle 2 (P2) – It talks about individuals making decisions and how their rationality is limited by the available information, the tractability of the decision problem, the cognitive limitations of their minds and the time available to make the decision.

Principle 3 (P3) – It highlights the point where the maximum information is available and how an agent at the ground level has access to the maximum information.

Principle 4 (P4) – This principle highlights the point that agents need to be trusted in order to deliver and resolve the issue/problem within the given constraints.

Rebus Leadership Theory has been tested with a team which is developing new generation applications in the competitive start-up space. Everything was uncertain about the product success. The team has been coached on the Rebus Leadership Theory and it was facilitated by RLT agents to achieve success. Thus, this theory is generic and it is applicable across all the domains where complexity is present.

7. GENERIC STEPS TO COACH TEAM/LEADER ON REBUS LEADERSHIP THEORY (RLT) IN THE COMPLEX DOMAIN (RETAIL, BANKING FINANCIAL SERVICES AND INSURANCE (BFSI), MANUFACTURING, PHARMACEUTICALS AND OTHER SECTORS

- Explain Snowden's Cynefin Model
- Provide several examples for each domain
- Highlight specialty of complex domain
- Explain what is Complex Adaptive System, Why leadership is different in complex domain
- Five Pillars of Rebus Leadership Theory and Why they are important
- Explain the Specific Practices embedded in the Pillars as applicable for the specific domain and specific problem (this is based on experimentation and based on experience, it could be evolved in the form of an assessment/questionnaire)
- Rebus Leadership Values and Principles
- > Five Levels of Rebus Leadership
- Apply the RLT in a pilot team and based on the success and feedback, apply RLT across all other product development teams in the organization
- SUSTENANCE
 - a. The focus is on improving the maturity level of the teams and progressing from one level to the next level
 - b. Conduct RLT training/coaching by RLT Coaches for senior management and other members in the organization to ensure enterprise agility and organization design change are managed appropriately.
 - c. High level RLT training/coaching by RLT Coaches provided to the support teams (HR, IT infrastructure, admin, Training and other teams) in order for them to provide facilitation to the product development teams
 - d. Ensure continuous improvement and Establish a RLT Competency Center to undertake research and development on the practices embedded in the Pillars and other areas in order to enhance and sustain RLT along with periodic training/coaching for new joiners and existing members across the organization

8. HOW REBUS LEADERSHIP HAS HELPED INFOSYS

The current CEO of Infosys has a leadership style that is reflective of the RLT. All the RLT pillars have been equally mapped to his five point strategy and it completely aligns with the RLT Framework e.g. improving employee engagement, service offering on design thinking. We can observe the reflection of the RLT style in the latest results of Infosys.

9. HOW REBUS LEADERSHIP COULD HAVE HELPED YAHOO TO COME OUT OF THEIR CRISIS SITUATION?

All the important decisions currently taken by the Yahoo CEO are against the RLT pillars e.g. remote workers being made scapegoats, diversifying pointlessly in different areas. She has

broken one of the major Pillars in the Rebus Leadership Theory which is Building Relationships. As a result, other pillars are constantly becoming weak; especially Pillar 2 which is harness emergence. She is operating approximately at RLT level 2, which is the co-ordination level. Most of the RLT values and principles were not followed.

10. HOW REBUS LEADERSHIP THEORY HAS HELPED US MAXIMIZE OUR OUTPUT IN ONE OF THE WORKSHOPS?

A workshop is considered to be operating in the complex domain on account of the interaction of the agents within/outside the system, feedback received and the outcomes being non-linear in nature. Recently, in one of the workshops we had piloted, we had used RLT and achieved success. We had applied the concept pertaining to Pillar one (Systems Thinking) to understand all the agents in the system. We built our knowledge about the workshop topics. During the workshop, we consciously used the other three Pillars - Emergence, Movement and Build Relationship to know more about the expectation and present what agents wanted. We played a game which involves movement. Thus, it helped us to harness emergence and the connections among the agents were strengthened.



Fig 20: As a speaker at Discuss Agile conference Where we have applied RLT as a pilot and received very good feedback from the audience, same information is available at Twitter@discussagile

11. HOW WE HAVE USED REBUS LEADERSHIP THEORY IN SOME OF THE PROJECTS WHICH WE HAVE TRANSFORMED TO BRING ABOUT ENTERPRISE AGILITY (LESSONS LEARNED)?

We had started a pilot project about one year back to understand about the whole project and parts of the project, teams and interdependencies about the project with other systems. The team had been coached on RLT. Key Performance Indicators were worked out as targets to be achieved with a high level timeline. During the journey, the team undertook various activities like knowledge sharing sessions, team role changes and collaborative meetings which helped the agents to meet all the Rebus Leadership component requirements and achieve the goals.

A sample questionnaire administered to the teams as a guideline is given below - (questionnaire is not self-explanatory and will require guidance from a RLT coach. The

questionnaire can be modified / enhanced based on the requirements of the problem domain and other factors).

SI No	Survey Questions	Rate (1-5) ,1- Low, 5 is Excellent
1	Is system complex? If Yes Continue	Yes/No
2	Agents are well aware about parts in the system and influences among parts	
3	Well established Feedback loop into the system	
4	Regular events are happening in the system	
5	All Agents are demonstrating courage and are more collaborative	
6	Connected with all the agents in the system frequently	
7	Various platform created for connection? No boundary set	
8	Self-organized agents	
9	Within system, are agents feeling safe? agents are sharing, caring each others	
10	Respect , Trust , Fun visible within system, among agents	
11	Knowledge on bounded rationality	

Fig 21: Questions to be asked to check the maturity on RLT

Based on the quantifiable output, we can assess the RLT maturity as per the guideline table given below -

Levels	Team Score	
Level 1	1 to <=30	
Level 2	>30 to <= 35	
Level 3	>35 to <=40	
Level 4	>40 to <=45	
Level 5	>45 to <=50	

We were able to see significant changes in the behavior and artifacts which the team members/agents were producing and which increased the enterprise agility. Time to Market (TTM) and Cost of Poor Quality KPI has significantly improved quarter on quarter. This has lead to better relationship and customer satisfaction.

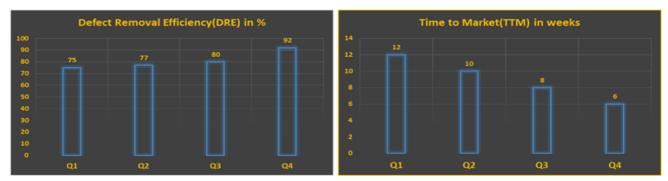


Fig 22: KPI captured by the RLT agents for their project after deploying RLT for one year

CONCLUSION

Complexity has shifted from something found mainly in huge systems such as cities to something that affects almost everything we touch today - the products we design, the jobs we do every day and the organizations we oversee. Most of this increase has resulted from the information technology revolution of the past few decades. Systems that used to be separate are now interconnected and interdependent, which means that they are, by definition, more complex. We are operating in the complex domain and the leadership skills require changes from the earlier leadership style. The internet of Things (IoT) revolution has also further compounded the complexity scale.

There is no comprehensive universal checklist for becoming a Rebus Leader but by focusing on all the components of the RLT Framework -- Pillars and embedded Practices within the Pillars, Values, Principles and the Levels as described in the earlier sections, the Rebus Leader can better equip themselves in the turbulent and unpredictable business environment. The five pillars are proven and tested.

Rebus Leadership Theory as indicated earlier is suitable only for the complex domain.

In sum, this paper focuses on developing and outlining key elements of the Rebus Leadership Theory (RLT) leading to improved enterprise agility and focuses on Rebus Lead agents and Rebus agents operating in the complex domain which entails restructuring of the organizational design structure to meet these requirements. Hence RLT being a generic theory is applicable across all the domains where complexity is the key focus (as per Cynefin framework). In the absence of such a leadership, an organization may face slow death and its survival in the future may be uncertain in the complex market domain.

We therefore recommend Rebus Leadership Theory (RLT) as a novel and innovative methodology for leaders to demonstrate leadership in the complex domain — a proven framework for the future organization. We are also working on applying RLT to other teams and the results will be published subsequently.

REFERENCES

- 1. Retrieved May, 2016 from http://www.trojanmice.com/articles/complexadaptivesystems.htm
- 2. Retrieved May, 2016 from

http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1017&context=leadershipfacpub

- 3. Retrieved May, 2016 from http://xenia.media.mit.edu/~brooks/storybiz/kurtz.pdf
- 4. Retrieved May, 2016 from http://pespmc1.vub.ac.be/ECCO/Oyvind/Oyvind-LeadershipComplexWorld.pdf
- 5. Retrieved May, 2016 from

http://emergentpublications.com/documents/9780979168864_contents.pdf?AspxAutoDetectCookieSupport=1

- 6. Retrieved May, 2016 from http://www.thinking.net/Systems Thinking/OverviewSTarticle.pdf
- 7. Retrieved May, 2016 from https://en.wikipedia.org/wiki/Systems_thinking
- 8. Retrieved May, 2016 from

https://www.druckerforum.org/fileadmin/user_upload/2013/files/presentations/dayl/tammy_ericksonspeech.pdf

- Retrieved May, 2016 from http://theclariongroup.com/images/GooglePlus-Docs/Complexity-Leadership-Article.pdf
- 10. Retrieved May, 2016 from https://en.wikipedia.org/wiki/Wicked_problem
- 11. Retrieved May, 2016 from https://en.wikipedia.org/wiki/Emergence
- 12. Retrieved May, 2016 from https://en.wikipedia.org/wiki/Cynefin_Framework
- 13. Retrieved May, 2016 from http://andrewcerniglia.com/wp-content/uploads/2009/12/Cynefin_Framework.pdf
- 14. Retrieved May, 2016 from http://www.stephenwolfram.com/publications/academic/complex-systems-theory.pdf
- 15. Retrieved May, 2016 from http://www.au.af.mil/au/awc/awcgate/dau/ree mj06.pdf
- 16. Retrieved May, 2016 from http://www3.nd.edu/~gmadey/Activities/CAS-Briefing.pdf
- 17. Retrieved May, 2016 from https://www.mpg.de/36885/cpt08_ComplexSystems-basetext.pdf
- 18. Retrieved May, 2016, from

http://web.mit.edu/esd.83/www/notebook/Complex%20Adaptive%20Systems.pdf

- 19. Retrieved May, 2016 from http://didattica.agentgroup.unimore.it/wiki/images/a/a6/IntroCAS.pdf
- 20. Retrieved May, 2016 from http://www.forbes.com/sites/mikemyatt/2015/11/20/marissa-mayer-case-study-in-poor-leadership/#31aac6493795
- 21. Retrieved May, 2016 from http://www.rediff.com/business/report/infosys-extends-vishal-sikkas-term-as-ceo-by-2-years/20160224.htm
- 22. Retrieved May, 2016 from http://telecom.economictimes.indiatimes.com/news/industry/vishal-sikkas-5-point-strategy-a-hit-at-infosys/40361164
- 23. Retrieved May, 2016 from https://en.wikipedia.org/wiki/Bounded_rationality
- 24. Retrieved May, 2016 from https://en.wikipedia.org/wiki/Vicki_Robin#Conversation_Caf.C3.A9
- 25. Retrieved May, 2016 from https://morealtitude.wordpress.com/2010/07/08/embracing-the-chaotic-cynefin-and-humanitarian-response/
- 26. Retrieved May, 2016, from , http://www.cas-group.net/
- 27. Retrieved May, 2016 from

http://www.gp-

training.net/training/communication skills/consultation/equipoise/complexity/stacey.htm

- 28. Retrieved May, 2016 from https://en.wikipedia.org/wiki/Open Space Technology
- 29. Retrieved May, 2016 from https://morealtitude.wordpress.com/2010/07/08/embracing-the-chaotic-cynefin-and-humanitarian-response/
- 30. Retrieved May, 2016 from http://necsi.edu/projects/mclemens/cs char.gif
- 31. Retrieved May, 2016 from https://agileyammering.com/tag/stacey-matrix/
- 32. Retrieved May, 2016, from

http://cdn.theatlantic.com/static/mt/assets/business/technology%20adoption%20rate%20century.png

- 33. Retrieved May, 2016 from http://colabria.com/heutagogy/
- 34. Retrieved May, 2016 from http://andrewcerniglia.com/?p=301
- 35. Retrieved May, 2016 from https://eavoices.com/2010/08/10/the-new-world-of-emergent-architecture-and-complex-adaptive-systems/
- 36. Retrieved May, 2016 from https://en.wikipedia.org/wiki/Open Space Technology
- 37. Retrieved May, 2016 from http://pediain.com/seminar/smart-grid-seminar-report.php

About the Authors



Bangalore, India



Mr. Badri N. Srinivasan is currently working as AVP and Lead - Agile Center/Enterprise Agile Coach at Societe Generale Global Solutions Center (SG GSC), Bangalore, and Karnataka, India. He is leading the Agile Center and is responsible for the implementation of continuous delivery and agile practices in the organization. He has 20+ years experience and has extensive experience in process implementation and organizational change management processes and process improvement initiatives in the travel, retail, manufacturing, real estate, mortgage and banking, healthcare and financial services domains. He is a Certified Scrum Master (CSM), Certified Scrum Product Owner (CSPO), and Project Management Professional (PMP) ® from the Project Management Institute (PMI), USA and a certified Six Sigma Green Belt (SSGB). His extensive experience includes coaching, managing, mentoring and training Scrum Masters, product owners, and project/program managers and implementation of enterprise agile practices in the organization. He has published numerous articles in various magazines/online forums - Scrum Alliance, InfoQ, PMI - Knowledge Shelf, DZone, Agile Record, Agile Journal, Sticky Minds, techwell.com and Methods and Tools. He can be reached by email at thirumangaiazhwar@gmail.com, and through his LinkedIn Profile https://in.linkedin.com/in/badrisrinivasan.

Chandan Lal Patary

Bangalore, India



Mr. Chandan Lal Patary currently works as Enterprise Agile coach at Societe Generale. He has deep experience in developing Software applications across various domains and has successfully executed many Projects. Chandan has worked on domain like Banking, Healthcare, Aerospace, Building automation, Power automation, Industrial Automaton under real time mission critical product development to large scale application development. Chandan has 18+ years of industry experience. He is certified PMP from 2008, Green Belt certified holder from 2005. Chandan is an agile practioner and Certified Scrum Master from 2011. Chandan holds a Bachelor's from National Institute of Technology (NIT-Agartala) in Electrical Engineering. He has completed one year Executive General Management program from IIM-Bangalore in 2007. He has published 17+ technical papers (including PMPC2012, 2013, 2014), posted 193 Linked-in blogs. He was speaker at various forums (India Agile week- 2013 and 2015, Software Test Conference-STC2014, Regional Scrum Gathering 2015, and PMPC2013). He can be reachable through email/LinkedIn: patarychandan@gmail.com