Innovations in Change Management

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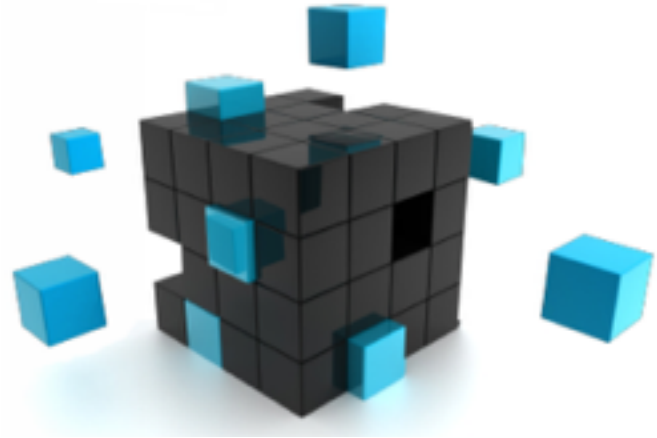

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Abstract

Companies are continually in a state of change. But change remains a challenge and few companies navigate the process and achieve the outcomes they want. Despite the evolution of change management practice McKinsey and others estimate that about 70% of change initiatives still fail to meet the objectives upon which they were justified. Change struggles exert a heavy human and financial toll on organisations and change failures have an unacceptable cost.

We believe change management is due for some innovation and that success can be significantly improved by leveraging neuroplasticity and real world emulations that prime individual employees, organisations and culture to change, literally overnight.

Introduction

You may have heard that some breakthroughs in Neuroscience postulate that it is now possible to change habits in the span of a sleep cycle, literally overnight.

The new world of neuroscience could soon replace the failing "science" of Change Management. In fact, since this branch of neuroscience deals with human behaviour in an industrial setting, it applies equally well to all forms of business disciplines involving performance improvement such as Human Resources, Operations, Strategy, Innovation, Technology Implementation, New Product Introduction, Organisational Effectiveness, Business Development, the list is endless.

Change Has a Poor Track Record

More than seventeen years ago (Kotter J, 1995) published research showing only 30% of change programs are successful (i.e. were on time, on budget, and delivered the expected outcome). Three years later in another study (Turner D & Crawford M, 1998) 88% of executives believed that the changes were right and their organisation capable of achieving the changes but only 33% achieved partial or complete success. Ten years later another study of 10,000 projects (Prosci, 2005) reported that 29% were successful, 53% were challenged (i.e. were late, over budget and or delivered less than required) and 18% failed (i.e. were cancelled or delivered and never used). Three years later another McKinsey survey (Fine D, Hansen MA, & Roggenhofer S, 2008) indicated that the success rate for change projects was still 30%.

In more recent years surveys suggest the success rate has shown modest improvement concurrent with reducing project sizes. But the proportion is still unacceptably low at 34% (Standish Group, 2011). McKinsey research (Jacquemont, D,; Maor, D and Reich, A, 2015) confirmed that senior executives still believe that only 26% of major organisational transformations fully achieve the outcomes they set out to deliver. Even those who challenge the 30% success rate as too low (Hughes, M, 2001) challenge on the basis of semantics around the interpretation by many that 'fail' means 'outright failure' rather than 'fail to fully realise the benefits, in the time frame and within the budget, upon which the change project was originally justified. The fields of project management and conventional change management have done little; some may say nothing, to improve things in 20 years.

While these success numbers seem dismal they become truly disagreeable when you consider the cost. A number of studies have reviewed change initiatives in terms damaged customer relationship (Anton, T. et al., 2002 and Petouhoff, N. et al., 2006). In the USA alone, between 1990 and 1998 it is estimated that about 91,000 contractor's projects failed leaving almost $23 billion in outstanding liabilities (Prosci, 2005). The 2004 CHAOS report (Standish Group, 2004), evaluated total U.S. project waste alone to be $55 billion (in lost dollar value and project overruns). No wonder many decision makers are averse to contractors and change projects!

Why Change Has a Poor Track Record

Organisations are collectives of people working together to accomplish a goal (or goals). Organisations are complex and influenced by the people, culture, and time, in which they are developing.

We know organisation change must occur in order for there to be growth and to respond to environmental changes (e.g. new technology, economic downturn or new competitors in the market.) But organisations resist change. Companies continue to do as they've always done, even when it seems irrational to do so, and the manyfold reasons include:

- Power & control - people in power typically do not want to release their power. Yet for change to be effective, often parts of the decision making process need to be shared.
- Fear of the unknown - organisations may be afraid of change due to the unknown or that a change will make things worse. They like what is familiar. Stability is rewarded.
- Culture & values - organisations resist change because the new way may question or not meet their mission, value system and beliefs. In order for change to occur often time a change must occur in the culture of the organisation itself.
- System - typically, in order for change to be affective, all members need to be involved. The whole system, top down or even from worker to top management, needs to change.
- Motivation - members of organisations resist change when they feel there is no need for change, that things are fine as they are.
- etc.

These widespread difficulties have at least one common root: people. And people, when dealing with change, are predictably unpredictable. Managers and employees may view change differently. However, for both groups change is rarely sought after nor welcomed. It is perceived as disruptive and intrusive. It upsets the balance. Yet change management mostly focuses upon systems and process and is rarely about effectively uncovering and changing people's mind-sets, emotions, culture, beliefs and values so they support change.

Scientists have been critical of the Change Management field too. They have written that the Change Literature has been characterised by theoretical propositions and homey advice with minimal empirical evidence or without any supporting research at all (Pettigrew et al, 2001). Change management isn't working as it should.

Some practitioners, in the business of helping organisations achieve better results, have been disenchanted with the "science" of Change Management for years. To them it has long been clear that there must be a better way to implement change quickly, permanently and flexibly – words that are not traditionally found in the same sentence with Change Management. They see Change Management initiatives are often 'large, messy, probabilistic systems that are goal oriented.' There are many interrelated factors in a change process. However, as your experience is likely to attest, they also see that these drivers, when fixed, are not enough to make desired change happen. Something is missing.

The problem is of course people: individuals and organisations. Are you ready for a new paradigm? We need to help them reprogram themselves. That sounds strange but it will make sense once you think about it.

Over the millennia, nature and Darwinian selection have developed a system that enabled humans to learn tasks very quickly and make the associated thinking processes become automatic. Once a person, or group of people, has learned a way of completing a task that produces a satisfactory outcome (e.g. driving a car, solving a problem, or making a decision), it seeks to automate the process (i.e. make it an automatic unconscious behavioural habit) to conserve energy and save time. It does this by imprinting automated neural pathways.

These automated neural pathways don't normally change easily - especially when in most contexts they are useful and deliver desired outcomes. Seen from an evolutionary perspective, 'resistance to change' is really a function of how the brain has wired itself. 'Resistance' is simply an old 'neural imprint' that has been learned and reinforced (by success) over years. The automated circuit and the behaviour pattern run outside of our conscious awareness and dominate (often distorting) our perception.

Unfortunately, no amount of classroom readiness training or conscious exhortation will affect these circuits. Why? Because the information that comes from classroom training does not reach these automated circuits. Without getting too technical, the theoretical classroom information gets stored in the wrong place; it gets stored in the auditory cortex close to your left ear. The circuits we want to change are held in a different spot, behind your upper forehead in your prefrontal cortex. That's where plans for action are stored.

It is for those reasons that most Change Management and behaviour management interventions fail – they are focused in the wrong place.

What is the New Science of Neuroplasticity

You've probably heard about neuroplasticity from the field of medical science and the mainstream works of people like documentary co-author and producer Todd Sampson (Sampson, Todd 2014, 2015) and best selling author Normal Doidge (Doidge, Norman 2007 & 2015). For example, in the medical space, it's the field that is getting serious stroke patients talking and mobile again quickly. Beyond that it is being employed to increase adaptability, improve the resilience, accelerate learning, memory and other mental performance of people who were functional to begin with.

Neuroplasticity is an umbrella term that refers to the potential that the brain has to reorganise by creating new neural pathways to adapt, as it needs. Think of the neurological changes being made in the brain as the brain's way of tuning itself to meet your needs. Research over the last 50 years (Rakic, P. 2002) has shown many aspects of the brain remain changeable (or "plastic") into adulthood (Pascual-Leone A.;et al., 2005). This notion contrasts with the previous scientific consensus that the brain develops during a critical period in early childhood, then remains relatively unchangeable (or "static") during adult life (Pascual-Leone A.; et al. 2011).

Neuroplastic change can occur at small scales, such as physical changes to individual neurons, or at whole-brain scales, such as cortical remapping. Ample evidence shows that behaviour, environmental stimuli, thought, and emotions contribute to experience dependent neuroplastic change or reorganisation of the brain. This has significant implications for development, learning, intuition, memory, and adaption to change. The human brain, and thus an organisation of people, is not hardwired.

The NSA (National Science Association of USA) funded academic research into applications of neuroplasticity in business - specifically learning and change. The work was published in the form of peer reviewed papers in the late 1990's and up to 2011 (DiBello, Lia; et al.,1987-2014). That research has also been written about in the US media (Walsh, J., Chamberlain, E.S., 1998; GSUC, 1997; NTI, 1993; Jiminez, R. 1999; Bryan, J., 2004; Bower, B., 2004). Some of the team from our partner Workplace Technologies Resources, Inc. (WTRI) worked on that research . Commercial applications of neuroplasticity break the paradigms about what is possible for change and performance improvement. You can use neuroscience to help you:

- drive quantum shifts in business performance
- rehearse and accelerate learning in high stakes contexts (e.g. first response. safety or project management)
- solve the business performance problems that your team perceive as 'insoluble'
- make innovation a fast and reliable process
- cascade high velocity changes in culture of practice
- unite disparate groups with competing agendas
- and more.

How Does Neuroplasticity Work in Business?

Neuroscientists specialising in business problems have discovered ways to 'reprogram' the prefrontal circuits and to coax the brain into enriching its old way of thinking and doing things with new behaviour patterns, without losing the underlying expertise or knowledge. This work has been over twenty years in the making, with painstaking research. There is no need to cover the whole of this science but here are a few of the salient ideas to help you grasp how it works.

The brain can be coaxed into relinquishing its hold on old patterns by disrupting the stuck circuits with corrective feedback (what we sometimes refer to as 'pain'). Not physical pain, but the 'pain' or 'sting' of repeated failure. The 'mental discomfort' that comes from having done everything you could to achieve the results you were hoping for, and failing, repeatedly.

In business this can be done by building a suitable simulated replica (what we call an emulation or isomorphic metaphor) of the organisation's business, and speeding up time thus allowing the employees to experience the cause and effect nature of their decisions. The emulation is important for two reasons. First it allows mistakes to be made learning to follow without real world costs and consequences for the business. It allows the process of 'fail cheap,fail fast, fail often, fail forwards.'

Second it allows speeding up of time and thus immediate feedback of results flowing from decisions made and actions taken in the emulation. With rapid feedback, the brain can link decisions and consequences in a way that is not possible in the real world. And so people can perceive their habits and ways of working are resulting in failure. This recognition of a significant mismatch between desired outcome and actual outcome is emotionally 'painful.' The 'pain' provides the impetus or 'away from motivation' to interrupt old automatic thinking, behaviour patterns and stuck neural pathways. It helps people to 'changes their own mind' very rapidly. Like the response to the physical pain of touching a very hot stove – the brain literally reprograms itself to avoid the 'pain' of failure and to achieve the desired business goals.

By immersing employees in specially constructed replicas of their business and forcing them to fail repeatedly in achieving a new business goal, we can now help them to develop intrinsic motivation to change. Further with accelerated learning they can reprogram themselves to successfully navigate the change. In a form of accelerated learning individuals, groups, and entire organisations can replace old dysfunctional behaviours and habits as quickly as the span of a sleep cycle. In fact, it is possible to see these changes happen overnight. If you were to put the employees through an FMRI scan, you could actually see the connections in their brains reorganising themselves.

Case Studies Prove Neuroplasticy is Effective in Change Management

This approach has been tested successfully in a range of industries and business over the last twenty five years. Examples include:

1. A Pharmaceutical Company used The Rehearsal and saw their back order inventory problem diminish from $800,000/day to $20,000/day within a few months, even though initially the workers thought this was an unsolvable problem.

2. A failing Bronze Foundry, close to bankruptcy, used The Rehearsal to quickly improve its on-time delivery, increase its cash flow and reduce its scrap rate. It went on to achieve sustained profitability and acquired another foundry.

3. A leading Gold Mining Company used The Rehearsal to improve operations, improve exploration and expand its business development activities. The Company increased production, reserves, revenue

and cash flow in a way that led to doubling its market capitalisation in 18 months and outperforming all competitors.

The following two examples are explicated in a little more detail to help the reader understand the applicability in truly challenging contexts, the process followed, and possible results.

Transport Industry Example

One of the most cited case studies relates to the New York City Transit Authority (NYCTA). In 1998 the Chief Mechanical Officer at New York City Transit Authority (NYCTA) was in the middle of a complex organisational restructuring of his shop floor. He faced a 10% increase in ridership across 234 routes, a $300M decrease in budget (across bus and rail), increased Mean Distance Between Failure targets.

His goal was to move from a historical culture of practice that was built around reactive maintenance to a new model based on predictive maintenance. His challenge was implementing a new complex Computerised Maintenance Management System (CMMS) in an environment characterised by the following:

- Long held plans to implement a CMMS had been put on hold because six previous attempts in the NYCTA had failed and half the prior attempts in the wider transport industry had failed when mechanics resisted or sabotaged CMMS projects through ignorance.
- Due to the union arrangements at NYCTA there were no consequences for workers for misbehaviour like sabotaging or breaking new technology. Workers just could not be fired for anything.
- The blue collar workforce misunderstood the system goals and operation (thinking it was a time and motion tool) and so were already strongly opposed to the changes.
- The NYCTA mechanics were a mature workforce with few computer skills and a culture that was resistant to computerisation and change. The workforce thinking was 'job for life.'

New York Transit Authority used The Rehearsal to successfully train workers and supervisors in the use of the new CMMS system. Three workshop modules were designed to 'retool' the 'thinking' of the maintenance workers. The workshops required teams to run a scale model depot, complete with 40 buses, complex parts, inventories, schedules, budgets and revenues. The non-negotiable goal was to keep 32 buses in service at all times, within a budget and evaluate daily operator reports Each 'day' was compressed into 20 minutes. The emulation, (i.e. the miniature depot), constrained the goals and resources, (i.e., was 'rigged'), in such a way that in order to succeed the participants had to use preventative maintenance strategies. The participants were given access to the CMMS and adequate tools to predict parts breakdown. They were given other tools as well, similar to those already used to do reactive maintenance.

On the first module, the participants had to "wing it." When they tried to resolve problems employing existing 'habitual' thinking patterns and reactive strategies, they ran into a mounting series of failures and were continually shown the financial consequences of their decision making patterns and asked, "What were they thinking?'' They were stung with failure every twenty minutes.

In the second module (run after a suitable break - i.e., after an overnight sleep cycle which gives the brain a chance to reorganise its default thinking patterns), participants reflected on what they did in module one, as recorded by the facilitators. The participants discussed among themselves what thinking led to various decisions and began to identify the practices that led to bad outcomes. It was at this point that the participants were truly open to new 'preventative maintenance' ideas about how to solve the problems of bus maintenance. They also began to understand in detail the ways that their 'gut feel'' decisions revealed

how they had actually misunderstood preventative maintenance. The facilitators aided in the review process but did not provide the solution. The participants then built a preventative maintenance approach. The participants then entered their data into the CMMS and created a plan and assigned work orders according to the CMMS schedule.

In the third module they ran their miniature depot again using the emulation and CMMS schedule and saw the difference in profits and ease of workflow.

They returned to their depots and successfully implemented the computer based predictive maintenance system in six weeks. The industry implementation period norm was 18 months with a 70% failure rate. A comparison between 17 'test' sites who were 'trained' using The Rehearsal and one 'control' site that received standard software user training showed:

- There was virtually no resistance to the CMMS when it was implemented at the test depots. The reverse was true for the control depot.
- Every test depot was able to become fully independent within six weeks of implementation. Test site hourly staff took two weeks to master the new system and line supervisors (who do more with the system) took six weeks. After 8 months, the control site implementation was declared a failure
- Industry standards show that, in CMMS data entry, coding the location of an equipment defect at a sub-system level is required for trend analysis. The test sites were coding at the greatest level of detail in the bill of material—the most detailed component level within the assembly. This use of the '4th level' was an unprecedented result in the transit industry. The control site failed to code correctly.
- The test sites had higher and continually improving MDBF performance. The control site had decreasing MDBF performance.
- The test sites had a concurrent increase in first pass success on repairs. The control site first pass rate remained stagnant.

In essence the NYTA were able reduce the expected implementation time from an expected 78 weeks (18 months) to 6 weeks.

Mining Industry Example

In 2014 one of the big 3first tier miners wanted to trial and introduce new underground emergency technology plans for future tunnels. But, as is often the case, the front-line workers and supervisors resisted the change. Because the research had shown how virtual worlds have profound cognitive impact on participants a Virtual World emulation of the mine was built. The emulation was a multiplayer environment where up to 200 miners at a time can rehearse operating the underground mine. Although normally 25 - 30 staff participated in the emulation - a crew and their above ground support staff.

Although some miners were reluctant on the first day, once in the underground virtual world they engaged and become totally 'addicted' to the 'game.' The game 'pattern generators' would create issues that the miners would normally have to deal with and they would practice dealing with them. The miners thought the exercise was just an operations and safety rehearsal. But the game exposed them to events where the only way to survive was to use the new emergency technology. Of course on the first day, when they did not use the new technology, and so did not get out of the 'virtual mine' alive the miners were very deeply affected. On day two the miners turned up early - keen to try again. This time they succeeded. Upon their return work they deployed the new emergency technology and significantly improved safety. The Virtual World emulation workshop also resulted in improvements to mine design for better productivity and safety.

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Testing with the workers showed that rehearsing hazard identification and escape resulted in 100% survival (a 20% increase in the simulated environment) and 50% increase in speed of response to major incidents. Subsequently the corporation put their senior executives, innovation team and many other functions through the virtual mine emulation too. The mining conglomerate are now employing the emulation technology for much bigger issues.

We can now look forward to the day when in response to changes in the marketplace, or changes in technology, an organisation could routinely change the way it gets work done to stay ahead. In this new environment, apart from some technical tweaks and teething problems, the workers quickly adapt to the new system, routinely innovate better ways of doing business, improving productivity and quality.

Although the fundamental research has taken over twenty years, there is a growing group who are working in this emerging field of Accelerated Change Management through business applications of neuroplasticity, and you will hear more about it as delivery platforms become more accessible and popularised in the market place.

Conclusion

Companies, for the most part, don't manage change as effectively as they could. They often lack the critical knowledge and skills to undertake change, lack the leadership systems and procedures that advance and reward change in the workplace, and lack the methods to generate a compelling 'intrinsic impetus' for change within the workforce.

However, despite this, the field of neuroscience is delivering effective change management. Models that genuinely anticipate and address the technical, process and human issues associated with large-scale change.

Organisations and managers who employ the latest change management approach described in this paper can succeed. They will enjoy higher success rates on their projects, earn higher return on investment for change projects and earn a sustainable competitive advantage for their organisation.

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With more than years of experience working at Senior Executive levels with large corporations, he has seen failures of astronomical proportions in organisations bent on perpetuating the proverbial “That’s the way we’ve always done it around here.” This has led him on an ongoing quest to understand how to pull corporate cultures stuck in the same old destructive ruts out of their groove, change the way they plan their next big strategic moves and accelerate strategy implementation and change.

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