Change Agents Worldwide, LLC
White Paper

CHANGE AGENTS WORLDWIDE

Toward Higher Rates of Adoption
for Social Business Platforms
through Adaptation and Exaptation

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Image credit Michael Krigsman. Used with permission.

Abstract

The focus of this white paper is to improve the adoption of a new product, technology or process by employees through a new model that adds adaptation and exaptation measures and maps those to corresponding change strategies.

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Introduction

We are all familiar with the Technology Adoption Curve [Wiki1], which simply states that for any given change caused by the introduction of a new product, technology or process, adoption occurs in stages that follow a normal distribution curve. The typical approach is to create a technology adoption and communications plan together with Organizational Communications, HR, IT and Change Management and introduce (and oftentimes force fit) the new product, technology or process to the enterprise.

Yet, despite elaborate planning and stakeholder involvement, we find that adoption beyond the early adopter stage often stalls and remains a struggle: change management programs that attempt to mitigate resistance to change remain ineffective, as do incentive programs sponsored by HR, policies posted by Organizational Communications, and training programs hosted by IT. Recent findings from a study by the McKinsey Global Institute on the potential of social tools confirm these trends. [1] At the same time, McKinsey estimates that there is a large untapped social value potential if enterprises were to fully adopt social technologies and processes [McKin1]. How can we unlock this potential and improve on the prevailing methods?

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[1] McKinsey states, "In aggregate, though, the shares of respondents reporting certain benefits have hit a plateau, suggesting that these benefits are harder to come by after the first wave of adoption. Executives are optimistic but sober about the next leg of the social-technology pathway: they expect increases in employee productivity but also recognize the significant organizational barriers that prevent their companies from capturing the full potential of social tools." [McKin2]

This white paper introduces a new model that complements the traditional adoption model with two additional constructs; adaptation and exaptation. Adaptation is aimed at making people aware of increasingly volatile and disruptive business environments, i.e., unless concrete measures are taken to adapt, the very survival of the business unit or organization could be at stake (not to mention the job as well). The second construct, exaptation, allows people to tinker with the new product, technology or process to incite new and unexpected uses. Taken together, we believe these measures have the potential to change the adoption game.

Next, we uncouple adoption stages from the time-bound approach and map change strategies to each of the three constructs: adoption through social change, adaptation through structural change, and exaptation though change that has yet to emerge. Social change can be introduced through social presence, social initiatives and informal learning. Structural change can include policies, rewards and environmental monitors. The last strategy relates to exaptation: allowing users to find new uses beyond the originally anticipated feature [Wiki2]. For this to happen, certain conditions or rules have to be present, which we will discuss later in this paper.

We believe that this new model helps organizations rethink and possibly overcome the limitations of the current adoption model. We do not anticipate that change occurs along a prescribed timeline, nor will the three measures be used equally for each new product, technology or process. Instead, expect change to occur in small and large pockets and sprints across the organization. There are different degrees for each measure, so organizations can decide which mix of adoption, adaptation and exaptation constructs work best for them at the appropriate state of growth or environmental conditions.

2 1 Traditional adoption

The traditional approach to introduce a new product, technology or process[2] to the enterprise is to craft a Technology Adoption and Communications Plan that would reach all employees across the Technology Adoption Curve (see image below). The adoption curve is divided into five groups that mimic the typical rate of acceptance along a timeline: beginning with Innovators (INNO), then Early Adopters (EA), followed by the Early Majority (EM) and the Late Majority (LM), and ending with Laggards (LAGG), corresponding to 2.5%, 13.5%, 34%, 34% and 16% of the total population, respectively. With each stage, it becomes more difficult for the user to adopt the new technology. The plan often includes incentives to overcome the dreaded chasm that opens after the innovators and some early adopters have successfully adopted the technology [Moo1].
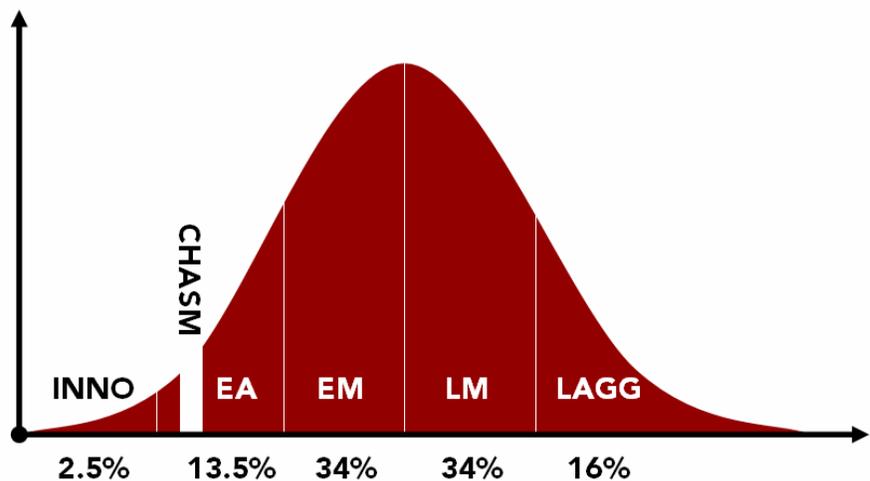

Resources are typically invested in the early stages to ensure sufficient momentum is gathered and early success stories can be secured. Various corporate units, such as Organizational Communications, HR, IT and Change Management, are standing by to keep this momentum going and push the technology initiative ahead. Since these corporate groups are operating from within the organizational hierarchy, the adoption plan is typically top-down oriented, with messages being disseminated in rapid succession to the targeted audience (a.k.a. employees).

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[2] For the remainder of this paper, we will use the term "technology" or "social initiative."

Yet, despite all the planning efforts and lineup of resources, adoption beyond the early adopter stage is hard work. With the curve still looming large after the hearts and hands of the Innovators and Early Adopters have been captured, it's no surprise to find the remaining users unconvinced of the business value of the technology initiatives.

A second approach is to tie adoption to generational groups [Pew1]. The adoption curve is divided into four groups (soon five, once Gen-Z enters the workforce): the Millennials (born after 1980), the Gen-Xers (born between 1965 and 1980), the Boomers (born between 1946 and 1964) and the Silent generation (born before 1945). As individuals in the generation groups get older, the curve will shift toward the right and eventually make room for the next group (it is estimated that by 2020, roughly 50% of the generation groups will be Millennials [For1]).

	MILLEN	GEN-X	BOOMER	SILENT
	Born after 1980	1965-1980	1946-1964	1928-1945
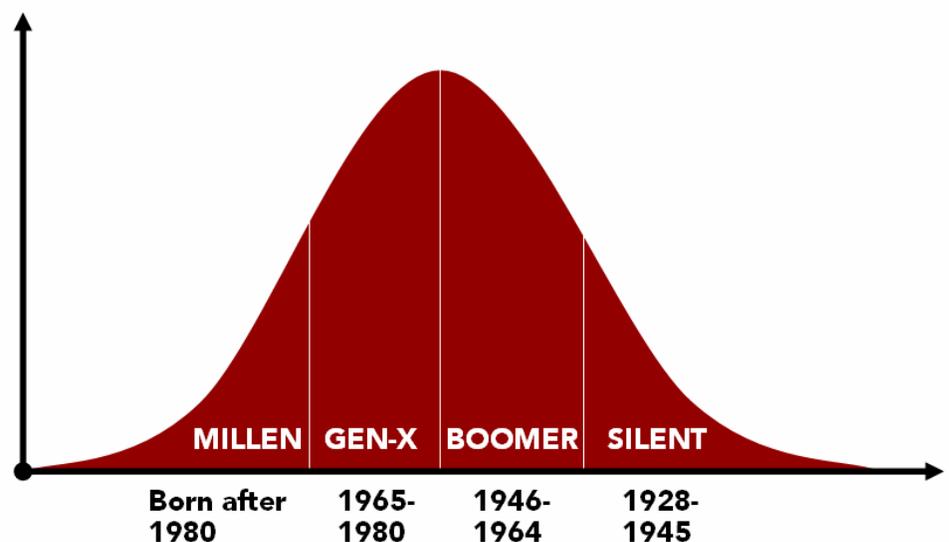
Adoption for this model targets different generation groups, each with their own needs and wants. Adoption for Millennials will be different than adoption for Generation X, which in turn is differs from the Boomers. For example, while Millennials are said to be on the lookout for the latest communications gadgets, Gen-Xers will likely want tools that help them get their jobs done.

Yet, even with these targeted generation groups, adoption still lags behind. The problem is that we usually plot adoption along a timeline that has artificial groups appear in neatly arranged order (be that user groups, such as Innovators, or generation groups, such as Boomers). That is not the case for real adoption and is the reason why we call this the fallacy of time. Real-life adoption is more diverse. For example, Boomers may have a difficult time adjusting to new technologies, but they are as eager as Millennials are to connect and share information[3]. Conversely, the Late Majority may think through new technology longer but, in the end, they may discover a much better use for it.

3 A better approach

This white paper introduces a model that takes time out of the equation and complements the traditional adoption model with two additional constructs: adaptation and exaptation.

3 1 Adaptation

Adaptation, as biology textbooks explain, is not about the survival of the strongest, nor is it about the survival of the most intelligent. It is about the one who is most adaptable to change. What does this mean? Certain species survived because they were best able to adapt themselves to their environment. A traditional example is the peppered moth, which increased in numbers in Britain following the Industrial Revolution. What happened? As the environment degraded and soot darkened trees, a new kind of dark-colored moth was able to adapt and escape predation by birds.
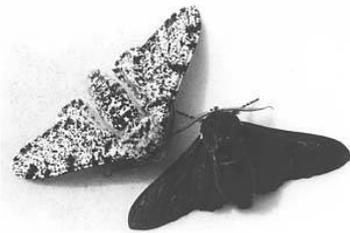
For the context of this paper, we will take this metaphor in a slightly different direction, since we are not looking at adaptation as a means of natural selection (that would take too long), but rather as a means of a conscious decision we make as individuals or within groups. Adaptation in our corporate environment simply means

to adopt measures to better protect organizations (which are made up of individuals) against internal or external demands or threats.

For adaptation to occur, employees need to become aware of the demand. Hence, a necessary condition of this measure is to communicate as direct and openly as possible. Employees need to recognize and understand that necessary action or precautionary measures are taken to thwart an oncoming demand or threat. Externally, having awareness and transparency among employees, supply chain parties and customers can increase your ability to notice and "adapt" to demands or threats, and better predict where the market is going. Those that are adept at "adapting" and "exapting" have more potential for sustainability and resilience. Let's take a closer look at exaptation.
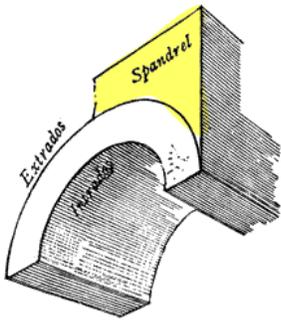
3 2 Exaptation

Similar to adaptation, exaptation has its roots in biology, where it refers to shifts in the function of a trait during evolution. In other words, at times nature overturns an original feature request from evolution (akin to business or IT) if it finds a better use for it. This makes perfect sense for nature, as every feature develops toward a function, and if it turns out that the function performs better in a different way, then the old function is summarily dismissed or augmented. A classic example in evolutionary biology is bird feathers: they may have evolved for temperature regulation, but later were found to be a lot more useful for flight.

Harvard paleontologist Steven Jay Gould (1991) discovered exaptations of another type called "Spandrels" (a term borrowed from Architecture[4]). While the first type of exaptation is based on co-opted adaptation (the bird feathers example), the second type —a spandrel— did not emerge from an adaptation but rather owe their origin to side consequences of other features (bridge-as-shelter).

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[4] The spaces between the pillars of a bridge, for example, can subsequently be used by homeless persons for sleeping, even though such spaces were not designed for providing such shelter.

How do we best nurture co-opted adaptation and how do we nurture co-opted spandrels (i.e., a side benefit of a function that can act as a function of its own? Let's take a look at something that will get us closer to exaptation: **serendipity**. It is defined as "the occurrence and development of events by chance in a happy or beneficial way" [Wiki3]. You may see it as a place where insights occur, or where something suddenly "clicks" into consciousness, because the right ingredients were present at the right time and place. The result can only be measured indirectly, such as a jump in usage.

A good example for technology exaptation is email. There have been many new features (spandrels) discovered beyond its original messaging intent, such as using email as a personal knowledge archive or a knowledge discovery tool. For this to happen, employees need to be given a certain degree of freedom around the new technology initiative. Hence, a necessary condition of this measure is to allow a range of features (uses) to evolve naturally, rather than rolling it out forcefully with a single purpose in mind. This does not mean you allow for a large degree of variability, but you do allow for a limited range for experimentation.[5]

The interesting part is that we do not know in advance what that feature will be. It will only reveal itself after a number of users have understood and applied the new technology in their current work context. As this is unlikely to occur in the Innovator or Early Adopter groups (they prefer scarcity and will be happy to have what others can't have or don't know about [Mal001]), it is important to communicate the new use to the other user groups (where the majority of users sit). They need to be able to experiment with the new technology and map out new ideas ("could we use it in this particular way or for this stalling project?"). Someone, somewhere in the organization will be able to pick it up and find the spandrel— be sure to follow up with the user and understand what has caused the spike.

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[5] Also, the original feature of the technology remains present, we will only expand on its use, not replace it entirely.

3 3 Putting it all together

Measure	When to use it	When not to use it
Adoption	▪ You have a large number of innovators and technology enthusiasts ▪ There's a benefit in kick-starting the technology with a small group	▪ Social change is frowned upon and it is hard to motivate people ▪ The purpose and benefit for individual users is unclear
Exaptation	▪ The technology you are about to introduce allows a certain degree of freedom ▪ You have a diverse workforce that is keen to explore new ways of working	▪ The technology feature has a single purpose only and cannot be re-purposed ▪ You are a top-down and command-and-control driven organization
Adaptation	▪ You have successfully identified one or more internal or external threats ▪ Your internal or external threat is real and recognized as such	▪ There is a low level of trust throughout the organization ▪ People don't respond to formal incentives and extrinsic motivation

Now that we have discussed adoption, adaptation and exaptation, let's combine all three measures into a single chart. The chart is similar to the cumulative adoption S-curve: however, you will notice that the chart axis has two peculiar labels. Instead of measuring the rate of adoption along the Y-axis and time on the X-axis, as it is commonly done with adoption models, we use **ubiquity** and **certainty**. Ubiquity simply says how commonplace the new technology is and certainty says how well defined and understood it is. In other words, this chart strives to maximize the use and acceptance of any technology initiative across the organization. This is based on work by Simon Wardley [War1], who studied the basic process of evolution between two extreme sets of characteristics to map relationships driven by competition in markets.

This comes in handy, since things happen (diffuse) at different times and at different rates, and actors (employees) appear in different stages. Adoption, adaptation and exaptation are not sequential events (nor can they be lined up as such), i.e., we cannot foretell when things are going to happen. Using ubiquity and certainty allows us to present the chart around the three measures.
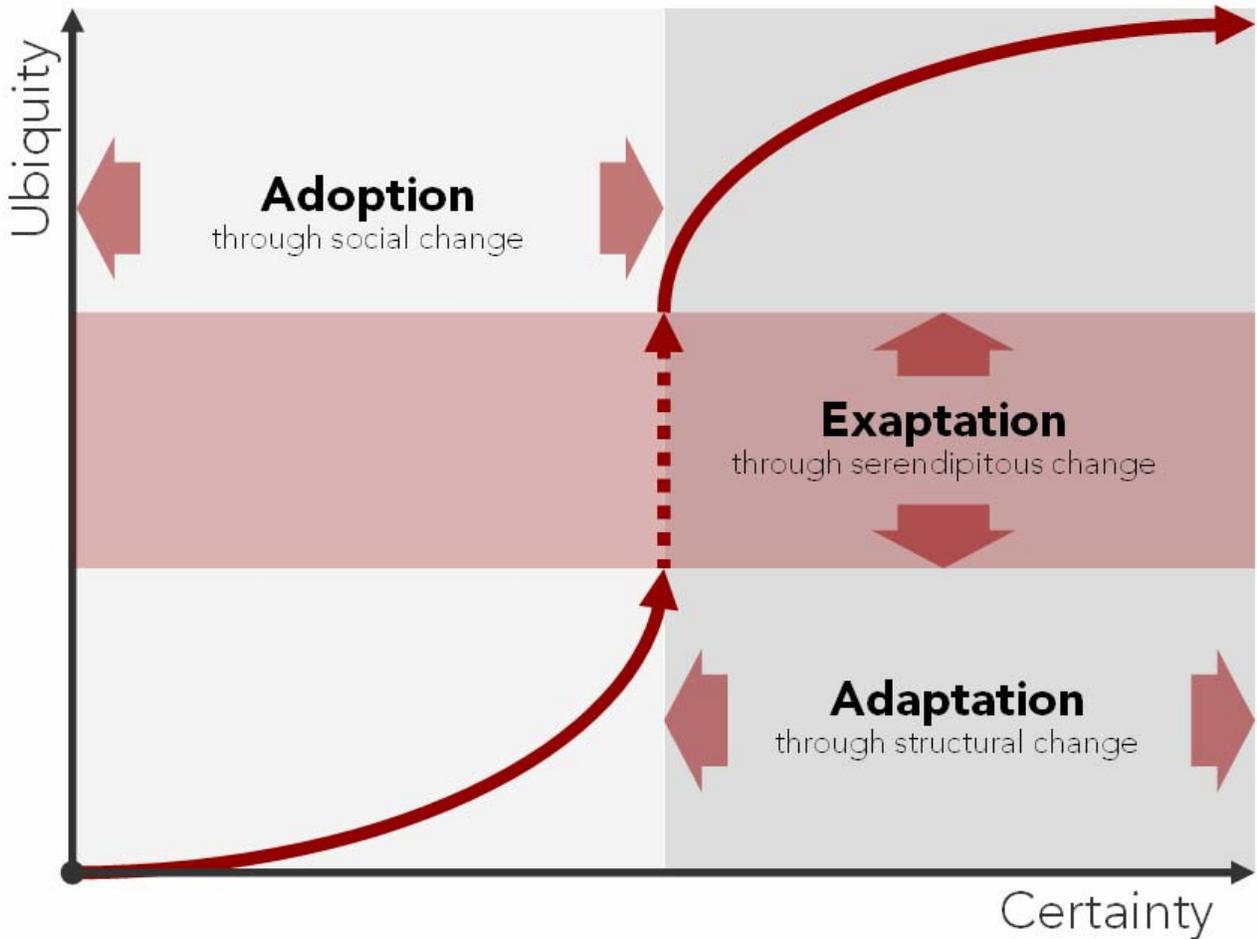
As we will see in a later section, this will also provides us with room for variations to increase or decrease each measure. Let's now return to our strategies and examine each one in more detail.

4 Change strategies

Now that we have embedded the three constructs into a single chart, let's take a closer look at change strategies. To capture the hearts and the minds of the majority of employees, we need to closely align change strategies with each measure and user group:

- **Adoption** through social change, starting with the Innovators and Early Adopters
- **Exaptation** through serendipitous change (change that has yet to emerge), mostly for the Early and Late Majority
- **Adaptation** through structural change, targeted to the Late Majority and Laggards

For example, Early Adopters could create an informal learning space and share their experience with other employees. Or employees at the peak of the adoption curve, where the majority of users reside, could find new usage patterns and promote those to other users, provided there is an opportunity to do so (a.k.a. serendipity). Lastly, we could introduce a few structural elements within the context of environmental threats, such as an incentive or policy, and see how it resonates with employees who are less likely to change. Targeting each group separately with a different change strategy will also enable some synergies among the different user groups. For example, Early Adopters can encourage the Early Majority to try something different with the technology (and vice versa). Or the Late Majority might adopt or modify the incentive program as word-of-mouth disseminates across the enterprise. Let's take a closer look at each type of change strategy.

4 1 Social change

Adoption occurs on an individual level whereby each employee will go through a personal (internal) evaluation and sense-making process to understand what the new technology is about and how it will fit into his or her existing work environment (called "What's In It For Me?" or "WIIFM?"). On the other hand, no employee is an island, and future organizations are networked entities.

If the technology has the capability to bring people closer together (as is the case with most social technology), then you must make use of it. Doing so can result in a positive social movement within the enterprise with self-selected champions or self-organizing groups of individuals that could take the solution much further and ignite other movements across the organization. This is especially true for the Innovators and Early Adopters, groups that are already very familiar with social media and are highly engaged from the get-go.

Another way to spread adoption is through informal learning. Formal training programs that are usually part of the change management program are a lot less effective than an employee who launches a mini-community, posts a topic in a discussion forum or creates an ad-hoc video clip explaining what the new technology is all about. If HR (or L&D) find some of the feedback, visuals or videos particularly helpful, they can take it a step further and create a social training program that supplements the formal training program. Social learning, at the intersection of formal and informal learning, is becoming increasingly popular in large organizations.

4 2 Serendipitous change

This strategy relates to exaptation—allowing users to find new uses beyond the originally anticipated one. This is a rather unusual method to increase user adoption, yet it can be a very effective one. How is this possible? Picture yourself getting supplied with a cast-iron crank-operated pencil sharpener for your desk. A completely useless item (unless you like to sharpen pencils all day), until you suddenly realize that it makes a nice bookend. The intention immediately goes from stowing it away to using it for another, unrelated purpose. This may be an extreme example, but it illustrates the shift that is happening in the user's mind. The function of a pencil sharpener is still present, but the utility and certainty has just gone off the chart. And so it goes when you allow people to tinker with a new process or technology and find new and unexpected uses for it. But you have to create the right conditions to let accidents happen.

Sometimes the new use is inherent in the object (as we saw with the pencil sharpener), sometimes the new use needs to be carved out of the object (e.g., by repurposing email as an archival tool), and sometimes a clash of serendipitous events helps make the new connection (e.g., by taking the technology out for a test drive in a different context, say, your next client engagement). What else can we do to encourage serendipity? Target a highly diverse group of people that are likely to take the technology to new extremes (give the green light to tinker with it, to tear it apart, to find its physical limitations). Don't explain the original purpose of the technology and instead let the group figure out the purpose on its own and be surprised by new applications that emerge.

4 3 Structural change

Adaptation is aimed at making people aware of increasingly volatile and disruptive business environments that can adversely affect the organization. Things have already happened, so now is not the time for debate, but rather to get ready, take action and respond. But threats do not always come from outside the organization. Dramatic changes can happen inside organizations as well, for example, before, during or after a merger, acquisition, or a restructuring or re-engineering effort. Unless the organization takes concrete measures to adapt at this point, its very survival can be at stake. Most organizations react to these kinds of changes with a traditional top-down method that is based on fear, command and control. We believe that this approach is misguided.

Dramatic changes inside or outside the organization open a window to gain the trust and respect for each other in the organization, irrespective of position or experience. What better time is there to reunite the organization to face a common threat or overcome an internal barrier? If you lead through this difficult time with an honest and authentic voice and provide the right scaffolding (structure) to gain confidence, you will see payback in terms of higher and sustained adoption rates (ubiquity and certainty).

If we include the generation groups discussed before (including soon-to-arrive Gen-Z), we get the following matrix. You can see the three change strategies appearing as concentric circles, moving out from the center (the larger user and generation groups) toward the edges of the matrix (the smaller user and generation groups). This way, we can gain additional traction through ripple effects caused by synergies between targeted groups. For example, Early Adopters could create an informal learning space and share their experience with other employees (the turquoise ring). Or a large majority of users at the peak of the adoption curve could exapt new usage patterns and promote those to other users on the sidelines of the curve (e.g., a large community turned into a technical support channel). Lastly, we could introduce a few structural elements as a "baseline usage model" through more formal guidelines and see if this provides better scaffolding for the other groups (the outer ring).
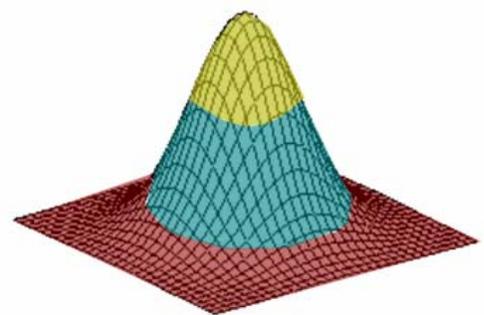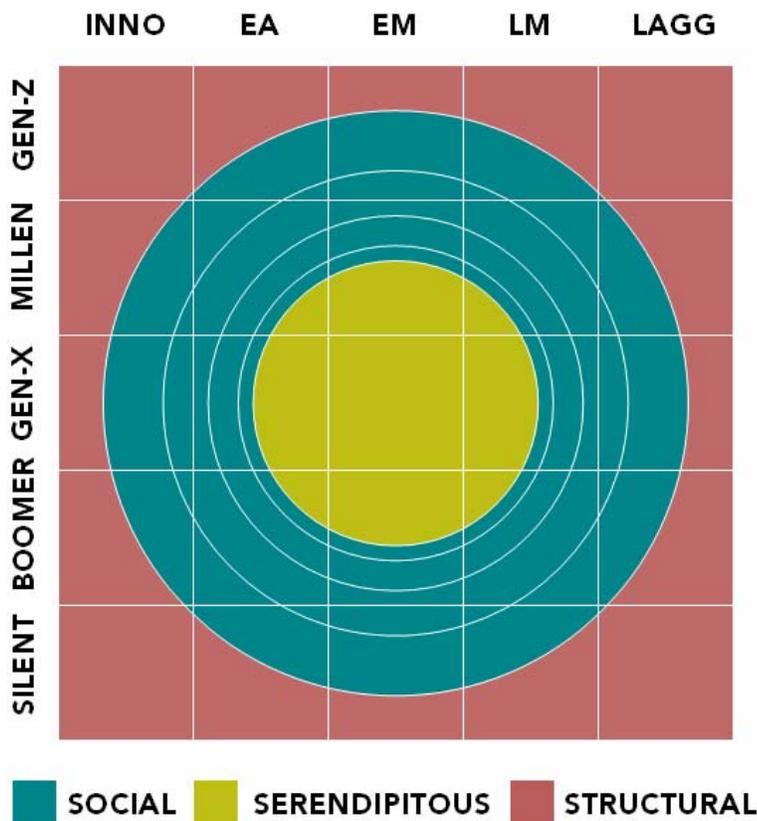
5 Variations of this model

Now that we've looked at the change strategies, let's examine some variations of the model. The first variation, called **The Iron Fist**, draws out the adaptation measure in favor of contracted adoption and exaptation measures. The second variation, called **The Bootstrap**, expands the adoption measure and reduces adaptation and exaptation measures. The final variation, called **The Jump Start**, opens up the exaptation measure but closes the adoption and adaptation measures. Let's look at each variation in more detail.

5 1 The Iron Fist

In this first variation, we draw out the adaptation in favor of adoption and exaptation measures. This means we will focus more on structural change, as opposed to social and serendipitous change. This makes sense for technology initiatives that are critical and focus on the survival of the organization or unit during turbulent internal or external times. A typical scenario would be to spell out clear policies and procedures for people to follow (the scaffolding) against a backdrop of an openly communicated threat. This also means that Innovators and Early Adopters play a minor role as the technology needs to be adopted and disseminated by everyone in the organization. There is not enough time for exaptation measures, as those would take away critical resources needed to push adaptation ahead (those can be added later on).
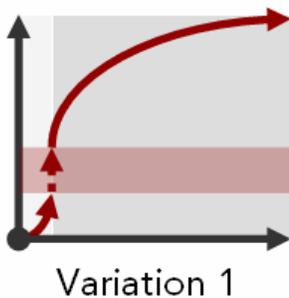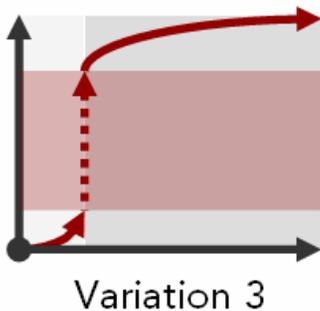

Variation 1

5 2 The Bootstrap

In the second variation, we prolong adoption but reduce adaptation and exaptation measures. This means we will focus more on social change, as opposed to structural and serendipitous change. This makes sense for technology initiatives that naturally generate a lot of excitement and followers, eager to see a change sweeping throughout the organization. We call this bootstrapping, since it spawns a "self-organizing and self-sustaining process that proceeds without external help" [Wiki4].

Variation 2
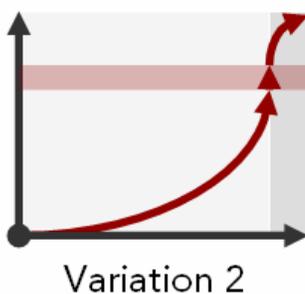
In other words, you would jump-start the technology with a few dedicated champions (Innovators) and then take a step back and watch the technology initiative unfold. You would count on the networking effect as a large percentage of the employee body is eager to join the ranks of their colleagues. Obviously, it is critical to provide consistent peer support so that questions that arise can be answered informally and disseminated quickly.

Variation 3

5 3 The Jump Start

The last variation opens up the exaptation but limits adoption and adaptation measures (they can play a role but are not the focus here). The idea is to set the organization ablaze with technology that has high potential to ignite the hearts and minds of employees. You would be clear about the parameters (which parts of the organization will be affected) but then let a thousand flowers bloom. After a while, new patterns would emerge that spell out the direction the technology should go. This is often the case with shadow IT, whereby someone in the organization signs up with a cloud service and it starts to spread like wildfire. You can do the same by bringing the technology in-house and let it evolve over time. This is not a rapid change and might take a series of iterations to get it right. However, in the end, employees will have ownership in the new solution and can become proud supporters.

6 Next steps

To successfully introduce a new technology, process or initiative to the organization, you need to work on multiple fronts using multiple measures at the same time. Employees are keen to learn more about the new technology, process or initiative, provided you have a compelling story to tell that affects the hearts and the minds of your employees. Begin this process by assessing the potential and impact of your new technology, followed by understanding the user and generation groups of your organization. Hash out a flexible adoption and communications plan that reflects the way your employees work and provides real value for various user and generation groups. Think about adaptation and exaptation and how far you can take these measures in your organization. Are you ready to open up more and target messages differently? Are you willing to engage with your employees on a new level of mutual respect and understanding? Are your employees getting a sense of trust from leadership after you communicated your real reasons for change? Are you giving your technology some room to breathe and employees some space to repurpose and adjust?

What about helping people fix existing problems and pain points (that may even have been aggravated through the use of an earlier technology initiative)? Think about how you could repurpose and reintroduce the technology in an entirely new context! For example, see if the earlier technology had been implemented with too many restrictions or if you could add a few more modules that make the technology more flexible, opening the doors to some surprising serendipitous events.

These are just a few questions that we hoped to raise in this white paper. Keep in mind that you cannot serve everybody; some groups will struggle to adopt new behaviors and to adapt to the new realities inside and outside the organization. Allow them to talk to each other and approach their ideas, concerns and fears in open forums. You will be surprised by how much change is possible in your organization.

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7 Acknowledgements

About Change Agents Worldwide

We are a network of progressive and passionate professionals, specializing in future work technologies and practices. We designed Change Agents Worldwide to function as a cooperative, where value is realized by every node in the network. As the network grows, the benefits compound exponentially. We believe change is coming fast to the enterprise. We believe in the principles that drive the evolving web: chief among those are transparency, sharing/collaboration, authenticity and trust. We are excited about new behaviors, structures and technologies that will fuel healthy, productive disruption to industrial-age beliefs, taxonomies and processes. We share a passion for introducing change to large institutions that results in a step change in productivity, higher engagement and richer experiences.

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Joachim Stroh is a Knowledge Management Practitioner more than 15 years of experience with *Towers Watson*, a leading HR professional services firm. He is best known for setting the technology platform strategy and standards, including content management, collaboration and enterprise social software. Joachim is the Creative Director, Co-founder and SCA of *Change Agents Worldwide*.

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