Transforming your organization with IBM Collaboration and Engagement Solutions

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INTRODUCTION

We are all surrounded by digital disruption. The smartphone in your pocket most likely represents a total disruption of the cell phone market. The movie streaming account you use on your tablet device has probably replaced your purchases of DVDs. We are all familiar with the apps that let you call a taxi and pay with your credit card which is disrupting the world of transportation, and of course, the world's largest accommodation provider doesn't own any property. Whether we have experienced it in our organizations yet, the remarkable digital disruption, which is caused by the confluence of extremely smart mobile devices, faster and faster mobile communications, the availability of online services and the inevitable demands of younger people to use the new technology, is likely to affect your organization soon. According to the Capgemini Digital Transformation Institute report of March / April 2017, sixty-nine percent of businesses lack the agility, flexibility and digital mindset to undergo a digital transformation

Digital disruption potentially represents a huge problem for many organizations. Are they ripe for takeover, becoming irrelevant or going out of business by competitors (old and new) who transform, find a new business model and can leverage the expertise in their organization? In fact, according to the Harvard Business Review (Analytics Study, 2016), seventy-two percent of organizations are vulnerable to disruption in the next three years. To address this threat, organizations must innovate to find new ways of working. They need to drive staff engagement to make sure that their policies, procedures, customers, delivery and supply chain, operations and all other aspects of their business are optimized. According to Capgemini, eighty percent of organizations have challenges with innovation. Is your organization one of them?

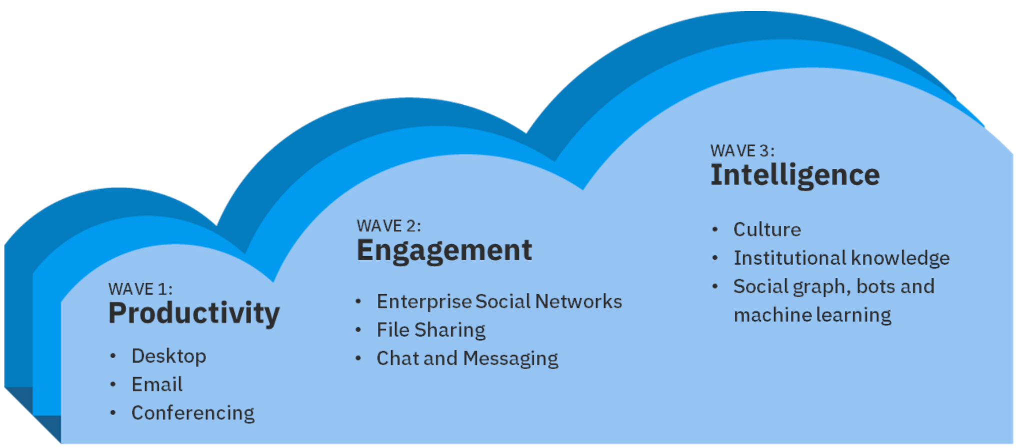

FIGURE 1 - IN THIS ERA OF DIGITAL BUSINESS, COLLABORATION IS EVOLVING

IBM believes that we are in the transition into the third major wave of technology development and this third wave is where organizations who will survive digital disruption are investing now.

THE FIRST WAVE

The first wave, offered mainly by software companies who focus on personal productivity and whose primary means of delivering "collaboration" is by sending word processor documents, spreadsheets or presentations to each other by email. The focus of the first wave was on desktop productivity, but increasingly we have found that while we have put control of document production and communication into the hands of end users, we have increased the "collaboration payload." How many emails a day do you receive?

I know colleagues who receive well over one hundred emails every day. They have multiple versions of the same file from different people and thus increasingly struggle to know what the right file is. Conferencing has replaced some meetings, especially those across long distances, and with the advent of better and better bandwidth is now a viable solution. However, we still travel for business and like the cinema's demise was predicted by the arrival of the VHS video recorder, we still prefer to meet people in person and are still prepared to sit for many hours on long-haul flights to do so.

THE SECOND WAVE

In the first half of the 2010 decade, the world of social media exploded into our consciousness. Facebook now counts its users in billions, LinkedIn, and many other social network solutions address a desire for some of us to interact with others using a digital platform. Facebook and the others represent a digital disruption of the way people keep in touch with each other.

Technology is now allowing people to reunite with each other after many years, keep in touch with loved ones with only a click and to maintain strong relationships thanks to the fact that technology has moved so far. Social media, however, of course also has its downsides. People are "trolled" at one extreme and in general people tend to post the best things that they are doing which can have the effect of making others think their lives are inadequate. These are transitions which we as a human race are still working through, and it will be fascinating to see how it evolves.

In a business context, Enterprise Social Networks represent a unique opportunity for workers to share what their work. This broadcasting can have a remarkable effect on business - serendipity. In the first wave, using email to tell people about what you are doing, or to send them something because you think they will be interested in it contributes to the vast number of emails we get each day. People send you things not necessarily because you have asked for it, but in fact, because they think you should or might need it. You must wade your way through all this noise to get to the communications you need.

Enterprise Social Networks reverse this approach and encourage a more "pull" oriented approach to information sharing. By encouraging people to share openly, you can subscribe to documents, updates, groups, communities, individuals. This approach is the same as public social network systems, such as Facebook. Trying to find your friend's information through the billions of status updates and other information which happen daily on Facebook would, of course, be impossible. Instead, Facebook shows you the updates from people you are friends with or groups or in things that interest you.

Enterprise Social Networks, like the social components of IBM Connections, can provide a wonderful way of finding out something you didn't already know or asking a question of your network when you don't know who could answer it. The follow-on benefit of this kind of interaction is the fact that people become known experts in an area because of their interactions. When you search for something in, say, IBM Connections, the people producing the information is given as much weight as the content itself.

To get the greatest benefit from an enterprise social network, having located someone who might be able to help you should instead post a message to them on their message board. Why? Well, because everyone that expert relates to will also see that message and they may have more information or more insight to the question you are asking. Why is this important? Well, you could have emailed that expert directly and waited until they had a chance to respond. Their response would presumably be limited to you, and hence that knowledge exchange would be private only to you.

By making it more public several things happen - first the expert may be helped by one of their networks, and their workload reduces. Second, the exchange of knowledge becomes "public, " and when someone else in the future has the same question or something close to it, they will find the answer automatically, and the expert will not need to be disturbed. This example is just one way that implementing an enterprise social network can improve productivity and can also improve the collective knowledge of the organization. It can help to convert the tacit knowledge that walks around in everyone's heads and helps to make it explicit and thus available for others.

The second part of the second wave of productivity has been in the move to file sharing, usually in the cloud. File sharing has of course been around ever since a computer network existed, and file servers are still commonly deployed in organizations as the place where people are supposed to put their documents.

Mere file systems, however, are not particularly useful beyond that which exists on your computer. The problem with file servers and file sharing, in general, is that you need to know where a file is, to find it. If you don't know that a file exists, how do you know where to find it? Thus, merely moving your file server to the cloud does not make people more productive. A file sharing solution must have integrated search, tagging, metadata, descriptions, preview and a relatively simple structure which encourages people to locate files easily. The simpler the structure, the more serendipity can occur.

Managing knowledge with files, however, is a risky strategy. If I make a change to a file to update it, do I replace the existing file, used by everyone else? Do I make a copy of it with my name, so I know which I one I edited? Can I backtrack through earlier versions if something is changed I need to get back? What if someone else is editing the same document somewhere else? How do we handle the conflict?

Thus, File Sharing while the de-facto approach for collaboration for many organizations is far from being a perfect solution. Organizations who want to protect themselves from becoming irrelevant or being lost in digital disruption need to have a more pragmatic and forward-looking view on how the management of files and more importantly the knowledge contained within them is handled.

The third part of the second wave is the introduction of chat and messaging between workers. This "instant messaging" facility is a critical application in many organizations. They often support rich content and the ability to send files to co-workers. They can support group discussions and in some cases telephony, video and other services. Chat and Messaging supplements the use of the telephone and certainly can increase the productivity of a worker by being able to conduct a long-running chat or quick discussion with workers anywhere in the world simultaneously.

Chat and Messaging also represents an incredibly disruptive influence on someones thought process and work. Like email, chat and messaging decides when it wants you to be disturbed - not the other way around. Exactly like the telephone. How often have we received a telephone call from someone who has no idea what you are doing and calls you with what you might think is a trivial issue when your head is engaged in something you think to be more important.

In many situations chat and messaging can be enormously productive. In others, it can be enormously disruptive to productivity. Like many of the other parts of the first and second waves, the correct and appropriate use of these collaboration technologies can result in genuine improvements in productivity and efficiency, but used wrongly it can at least be yet another channel to stay on top of and at most become something that dominates your working day. Don't forget too that the discussion which happens is in a completely different place from your email, from your files and anything else. What do you do with the information that you captured, the exchange which happens? Is it lost?

THE THIRD WAVE

The third wave is the place we are today. It's the evolution of productivity towards being more focused on the unstructured information which flows around your organization. It's the phone calls, the chat messages, the experience and the expertise which lies between your organization making a digital transformation and one which remains part of the earlier waves and susceptible to the kinds of disruption already discussed.

This third wave is all over the media and all over our lives already. It's the emergence of the driverless car, robotics, assistants at home that respond to your question with "Hey" or "OK." It's contextual analysis, sentiment analysis, actions and Q&A pairs. It's all about finding the intelligence in the systems we all now use. By using computers to augment our intelligence, we can again move forward in business by being readier to respond to a customer's request. It's being able to predict and model and anticipate when a piece of machinery is going to break down. It's sifting through the chat history, call logs, meeting reports and all the other sources of information which we have at our fingertips these days to make sense of it.

IBM's vision for the third wave is not of artificial intelligence but augmented intelligence. We would all recognize that the biggest computer with the largest network is still no match for a single human. It does not seem that there will be any obvious change in this situation for a very long time. However, by being able to supplement instead of replacing human intelligence computers can continue to do what they are so good at - crunching through enormous amounts of data and finding patterns we might not see. Supplementing an oncology doctor's insight to a patient by "understanding" the condition and providing the kind of additional insight which that doctor would not be able to have on his own.

So much information is produced these days in the field of medicine and oncology that it is impossible for even the most dedicated and scholarly doctor to be able to stay on top of it. Much like we are overwhelmed by the volume and diversity of information which now confronts us from our smartphones to our tablets to our computers to our TVs to our cars, so we need help to augment our lives. We need to be able to make sense of all the input available to us to help us make better business decisions; to anticipate what our customer might need; to delight that customer with our excellent service; to stand out from our competition by providing the kind of care that our customers now expect from us.

If your organization is not moving in this direction, according to the studies, there is a strong risk that you will be overtaken, become irrelevant or go out of business.

Much of this seems like science fiction, however. For a small manufacturing company with ten employees do you need to be at the cutting edge of conversational cognitive analysis? Maybe not, but being somewhere on the road will position that company to develop new innovative processes which shorten delivery times or reduce costs. By bringing the concept of intelligence into even basic interactions - like sentiment analysis on a customer's email which adjusts the priority of a service desk request, they can be better. They can augment their business - not by replacing people but by giving them the opportunity to be better. To use the social skills which we all want - human to human interactions with someone who knows what I need - not some call Center working through the same old script.

Thus, to be successful in the third wave the culture of your organization must adjust to allow it room. It needs to be set by the management who are forward-thinking enough to realize that the world is changing and that your organization must change too.

The Institutional Knowledge - that which is held in documents, wikis, spreadsheets, emails and all the other places from the first and second waves is just the starting point for the transformation. The tacit knowledge and experience of working out loud in social networks, the questions and answer forums with your experts and your customers where their problems are solved and understood so that the situation is avoided next time - is all your organization has. It probably walks out the door every night at 5 pm. Without people in your organization knowing and contributing, all you have are files on a file server, emails with no context and machinery or a service which can't operate or will break down.

Wave three, therefore, is about the evolution of the Information Age to use the "raw material" of our working lives and bring some element of machine learning and cognition to that raw material. Currently, your organization is limited to the capability of your best people to do a good job. What if you could use computers to help the other people do a better job? What if you could use your existing investments in information technology as the starting point of a revolution in your business to transform, to evolve into a truly listening AND LEARNING organization? That's what IBM's Collaboration and Talent Solutions are setting out to do in the third wave.

WHY HAVE A FRAMEWORK FOR COGNITIVE COLLABORATION?

IBM is going beyond mere personal productivity with creating word processor documents and sharing them on a cloud storage facility. We're embedding all three waves into core capabilities which you can use to bring about fundamental change to your organization. This is not rip-and-replace - it's augmenting your intelligence with thoughtful, progressive and flexible systems.

IBM Connections is at the heart of all three waves. Wherever you are in your journey, IBM's Connections platform, with Engagement Center, Watson Workspace, Domino and all the other components gives you a way to unlock that intelligence.

We set out how core technologies can be applied to core solutions to meet key use cases any organization needs. We go beyond that however by demonstrating the kind of capabilities each line of your business can harness to effect a digital transformation.

We do this by focusing on five key strategic areas:

- Conversation
- Cognitive
- Content
- Cloud
- Choice

Every solution you will read about here is founded on these core strategic areas. We recognize that every customer has infrastructure and preferences and have made choices already about where information should live. We work with these choices, whether they are in the cloud or on premises. We recognize that content is the core of your organization and with cognitive assistance, the power of conversations can be used to make better decisions, provide quick answers and to allow you to differentiate your organization from disrupters and competition.

Many people ask what the value of collaboration is in business. Often it is a "nice to have" and not critical to the business of the organization. Of course, we all *must* collaborate at work to get anything done, but do you need a technology solution to help you do this?

In a study published in *American Lawyer* magazine (March 2015) called "Why it pays to collaborate" (reproduced from "Smart Collaboration" by Heidi K Gardner) the effects of team collaboration on revenue was examined. The results showed that the revenue a law firm can generate by having different teams collaborate around a case or with a client shows a nearly exponential growth as more teams collaborate.

Each firm showed the same trend despite them being remarkably different in size. As you can see from the graph, the amount of revenue that firm can generate increases with the level of collaboration.

There are probably many factors at work that contribute to this kind of dramatic increase, but in summary, these are attributed to collaboration driving the following outcomes:

1. Collaboration help revenues and profits improve.
2. Collaboration helps you retain clients and build loyalty.
3. Collaboration helps you increase innovation.

4. Transparency and risk management improves when collaboration is used[1].

It’s for these reasons that IBM has built a framework for cognitive collaboration. This framework describes the key business solutions that an enterprise-ready collaboration solution provides and focuses these on the four areas where collaboration will improve your business.

In addition to considering the key business solutions that underpin the benefits, IBM has considered what steps you, your team, your department and the entire organization can take to realize these benefits. We recognize that there will be a limited scope of the changes you can make in the early stages of a digital transformation. Thus, we provide guidance on short-term tactical solutions you could take today and help you build out from there.

As well as organizational scaling of the framework, IBM has also considered how different lines of business can adopt cognitive collaboration to best effect. Improving communications in an operations area is different from doing so in human resources, so we describe potential areas where you can tune your efforts to suit the work that people are doing.

COLLABORATION HELPS YOU IMPROVE REVENUES AND PROFITS

The earlier example of the law firms who used collaboration to service cases or customers and involved multiple teams stands testament to the fact that revenues and profits can increase when you use a collaboration platform to bring people together. The law firms as part of the study saw a nearly exponential growth in the revenue from clients when they involved more than one team with the client.

What’s not considered in this study is the fact that involving the client themselves in the collaboration, described in our *Working Externally* business solution, can improve even these results by helping to drive customer loyalty and retention.

COLLABORATION HELPS YOU BUILD CLIENT LOYALTY AND RETENTION

All businesses these days are seeking to differentiate themselves in new ways. Increasingly being the cheapest at something does not guarantee that you will dominate the market. In today’s crowded business world everyone expects a good experience. It must be easy to do business with you, it must be a professional and friction-free journey, and in the end, they should exceed the expectations you have set throughout. Many organizations understand this but of course, face the challenge of implementing it is quite different. According to a study by Capgemini[2] 80% of organizations, they interviewed about digital transformation had difficulties with innovation – finding new ways to address the changes expected by their customers.

1 “Smart Collaboration”, by Heidi K Gardner.

2 The CapGemini Digital Transformation Institute, March/April 2017.

INCREASE INNOVATION WITH COLLABORATION

In a study[3] of two million patents and twenty million academic publication across fifty years, researchers have found that **teams** are more productive than individual scientists and that teams produce innovations that have a greater impact in their domain.

In many cases, not every problem requires a new solution. Often, we work more on adapting existing solutions to new problems. Collaborating with others to make these adaptations makes innovation more productive, faster and more reliable.

IMPROVE TRANSPARENCY AND RISK MANAGEMENT WITH COLLABORATION

The American Bar Association[4], in a report in 2005 highlighted that legal malpractice claims were caused by individuals in forty-seven percent of cases. Partners taking risks or making assumptions about the law ended up with their company being sued for malpractice.

Reducing the risk-taking of individuals by forcing transparency to be improved through "working out loud," working together and sharing documents is something that any organization should be concerned about.

Indeed, transparency is the key to making the organization stronger, smarter and less dependent on the heroic effort by individuals.

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3 S. Wuchty, B.F. Jones, B. Uzzi, "The Increasing Dominance of Teams in Production of Knowledge," *Science* 316 (2007): 1036-1039.

4 American Bar Association, Standing Committee on Professional Liability, "Profile of Legal Malpractice Claims 2000-2003", 2005.

INTRODUCING THE FRAMEWORK FOR COGNITIVE COLLABORATION

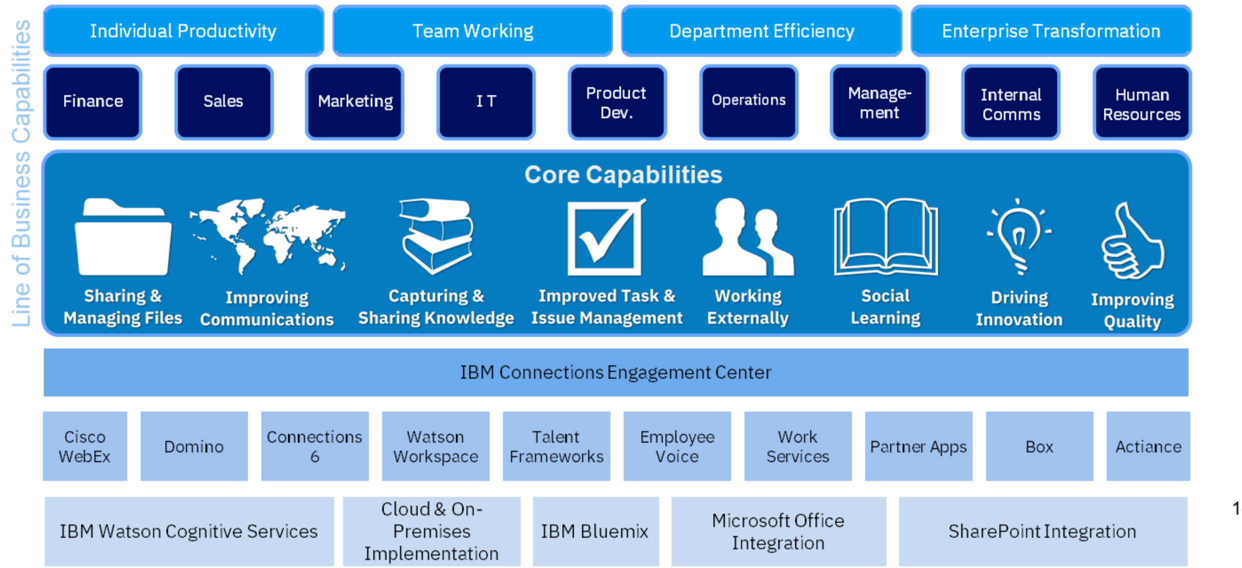

FIGURE 2 - IBM FRAMEWORK FOR COGNITIVE COLLABORATION

If collaboration, and better still collaboration which can bring the many benefits of machine learning, is a solution to help differentiate your organization then how can you implement it? What areas of a business accept new ways of collaborating best and where are the easy places to get started? The IBM Framework for Cognitive Collaboration gives you a model which you can use to structure your approach and encourages you to start small and iterate quickly through different core capabilities in different areas of your business.

In this whitepaper, we will talk about what these core capabilities are, and in other white papers in this series, we'll look at the underlying technology, and how you can successfully implement them in your organization.

THE EIGHT BUSINESS SOLUTIONS

A collaboration platform like that offered by IBM can perform thousands of different tasks and is comprised of many different tools and techniques to help bring the business benefit to life. The choice of which tool to use and in which way is sometimes a matter of taste and in others a more obvious choice.

Other so-called collaboration solutions which focus purely on document collaboration force you to use one approach, in other words:

"If all you have is a hammer, everything looks like a nail," Abraham Maslow

IBM's platform provides an entire box of tools for every type of job you need, and the eight business solutions which lie at its core represent best practices which can then be applied to different scales in the organization – such as individual productivity, team working, departmental productivity and enterprise transformation. They can also be adapted to suit the needs of different lines of business.

When considering how to apply these business solutions to your organization, remember that individual productivity is the kind of thing any one of us could do to get started. Larger enterprise transformation projects are more complex and rely on more resources:

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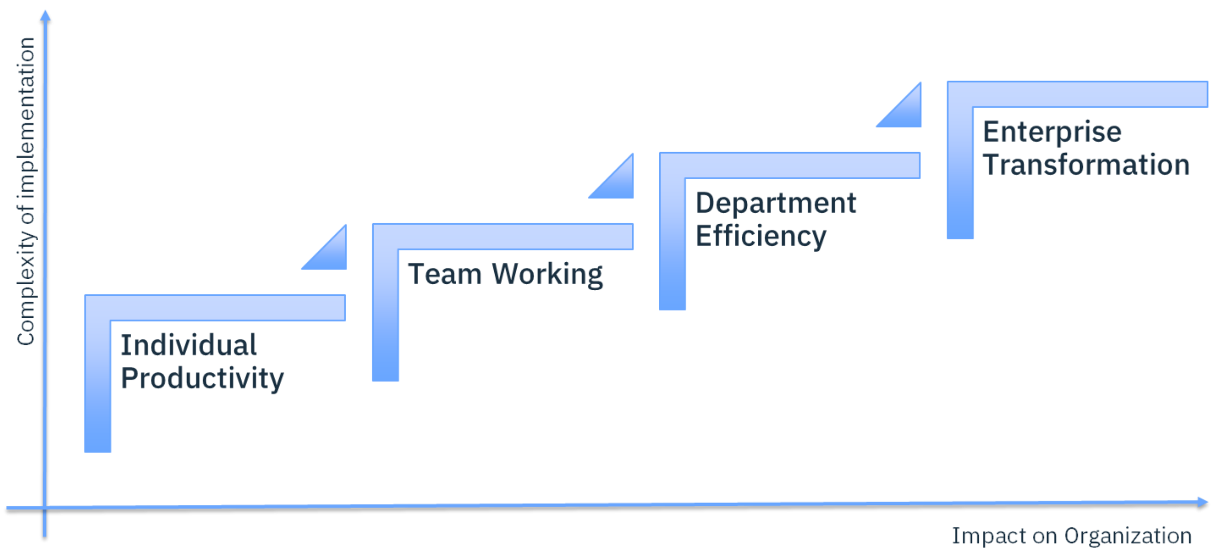

FIGURE 3 - COMPLEXITY OF IMPLEMENTATION VS. IMPACT

So, you should start small, perhaps yourself and then expand your use of the collaboration toolbox to your immediate team and beyond. You will find that you have better success, you lower the risk, and the chances of viral adoption of the platform grow significantly.

The eight business solutions presented here are derived from numerous academic and business research papers. However, one paper, from the University of Koblenz-Landau[5] sets out the case for the core functions any organization needs. We have summarized them into:

1. Sharing and Managing Files
2. Improving Communications
3. Capturing and Sharing Knowledge
4. Working Externally (with external parties)
5. Improved Task and Issue Management
6. Social Learning
7. Driving Innovation
8. Improving Quality

SHARING AND MANAGING FILES

Sharing documents is a basic function of most organizations. Someone creates something and needs to give it to someone else perhaps to work on further. That other person might then edit the document some more and send it back to the first person.

The problem with this approach is that this basic transaction has already resulted in two copies of the same file. There is now one copy of the original file with the originator, probably one copy of the original

5 "Use Cases and Collaboration Scenarios: how employees use socially-enabled Enterprise Collaboration Systems (ECS)", Schubert, Petra & Glitsch, Johannes, May 2016

with the recipient, one copy of the updated file with the recipient and now another copy of the updated file with the originator.

Which version is up to date? Which version should we be using? Why are there now four copies of the same document in circulation?

This is the problem encountered by virtually everyone who needs to create and share files. Sending files around by email is inherently inefficient, and can be dangerous given the results of someone acting on an out of date copy of a file.

So, we fixed this problem with file servers. You remember those shared drives that were all the rage back in the 1990's? Anyone who used these will also remember how complicated it became to work with a shared folder structure of documents. Often these folder structures were enormous and overly hierarchical to make finding the file you want at least logical.

If you worked in this scenario you probably also had a personal drive where you were encouraged to save your files. Often you relied upon putting your files in that drive because at least you could find them again. When you had to share a file with your colleagues on the file server you probably also copied your file to the right place, but in case someone needed the existing file you would give yours a slightly different name. Someone coming along later looking for the latest version of the file was forced to try to deduce from modified dates and the likes which one might be the current.

If any of this sounds familiar, you are in good company. The problem has not gone away. However, it has just moved to even bigger file stores - this time in the "cloud."

IBM's approach to file sharing (and secure file sharing) is a little different to what we've just described.

Firstly, IBM Connections provides access to the files you are working on in the same ways as you would access them on your computer - through Windows Explorer or the Mac Finder. On mobile devices, the Connections mobile applications give you access to the entire library of files and, like their desktop counterparts, let you synchronize the ones you are working on to have them available when you are offline.

OK, so no change there then. So, what does IBM offer to make the experience better? Well, firstly, when you share a file in IBM Connections you are creating an entry in a database and Connections stores lots of additional information about where the file is, what version it is, who downloaded it, who can edit it, tags, descriptions and a bunch of other information.

When you click on a file in Connections, you are asking it to give you the current file that's stored. Changes made to the file result in a new one being stored (behind the scenes) and the entry in the database being updated.

Anytime someone sends you a link to a file (which we recommend instead of sending the actual file) you always get the database's response which is, of course, the current version. If you want to see earlier versions, they are still there, but the point is there is only one version of the truth. If we share the file and update it, then we are always up to date.

One easy way to get started with Secure File Sharing is to arrange for you and your immediate colleagues to upload the files that you can share with Connections and make them available to each other. That very task alone is enough in many respects to allow others to know what documents you have and, if they need them, to simply go and get them rather than having to ask you and wait for you to send it. They are always looking at the current version, so they can be sure what they are looking at is the most recent work.

In your team, department, workgroup or organization, what effect would openly upload and share these file have in your business. Can you quantify the time you might save by not raking through emails or waiting for a response?

When you combine this core function with others what possibilities do you have for organizing and streamlining the work you do?

It's very common in IBM for people to upload their files and share them like this. Before even asking someone if they have a file I could use, I do a search and often find what I am looking for with a couple of clicks. I might not have known where the file I was looking for was, but with Connections treating all content including files as one big repository of information I can easily cut right across any structure that has been put in place (like nested folders) and locate what I am looking for. How cool is that?

IMPROVING COMMUNICATIONS

We probably all feel that improving business communications is a good thing. Employees feel more involved in their organization, management gets better feedback about what's going on, and customers can be better informed about what you do.

Improving communications is a broad statement however and covers many areas of an organization. For example, there is:

1. Corporate communication - often the HR department publishes a company newsletter with a collection of news about what's happening.
2. Department communication - where the management of the department needs to share some update on a sale, product change, production schedule, new product range, etc.
3. Team communication - where a team of people, perhaps involved in a project or some other "thing" need to communicate about what they are doing, how progress is going, publish meeting notes, etc.
4. Individual communication - where you communicate what is happening in your work and what help you need.

These except for the last one might seem quite straightforward and are probably happening already in some form in your organization. The last one, however, the individual communication is the building block for a fundamental change of the culture of your organization.

By communicating openly about the work, you are doing; the people you have interacted with; the experiences you have gained and the input you have received from others, you can introduce a powerful new tool in your organization: serendipity.

Serendipity is the chance discovery of something useful to you usually somewhere you did not expect to find it. Publishing work you are doing, asking for feedback, reporting on what's happening might seem like an awful lot of work for you and a lot of noise for others to deal with.

In our Framework, you choose which people you want to hear from - when they make a communication, this appears in your news feed, just like people you are friends with on Facebook do.

The Framework encourages open sharing of updates rather than you sending emails to a group of people, only some of which might be remotely interested.

By letting others choose what to pull, rather than have you push information to them two things happen:

First, they get some time back by not having to go through a huge list of emails which are irrelevant to them - time and money saved.

Second, you don't need to be concerned about whether the right people are receiving the information they need. Let's say you are working on an update to this document. There could be someone out there in your organization who is rightly very interested in this document - but you don't know about them. When you're finished making the changes, you circulate by email the finished version to the group of people you think would be interested. Without something like IBM Connections managing the flow of news to people who are interested, then your collaborator (that you don't know about) would never hear about your new document, and could, feasibly, assume that the version they have is the current one.

If I subscribe to the actions of my immediate colleagues - those which I work with, I will get to see any changes they publish. I can choose to be notified when a change occurs. However, by I receive a “river” of information there could well be something one of my colleagues is working on which is very useful to me - and I didn't know they were working on it.

The result - chance finding - serendipity - is an immediate “aha” moment, and thus the experience and knowledge of the organization are enhanced.

Consider, therefore, the concept of Individual Communication. What effect might that have in your organization? Are you in a Sales department where it would be useful to hear the “noise” about customer meetings which have happened? By encouraging others to share openly through individual communication, you can achieve this goal.

Turning now to team communications, you can use many of the core technologies of the Framework to improve team communications. Implementing an Engagement Center dashboard which your entire team uses to monitor the status of customer service requests is one approach. Adding the “river of news” from your colleagues into that gives an opportunity to have a pseudo-live feed of what's going on.

Improving team communication could be as simple as having an IBM Watson Workspace that your team uses to discuss, “chat” if you like, about what's going on. The critical advantages of Watson Workspace's ability to apply augmented and cognitive intelligence to what you chat about is an enormous area for you to improve how your organization works.

At a simplistic level, just simply having a history of discussion which Workspace can summarize in to “Moments” is a hugely valuable tool for people who need to work together closely, but are perhaps not physically located near each other.

When it comes to Department Communication, this often starts to lead into what we might recognize as intranet country. Department communications are usually more formal, are more about things that are happening and present opportunities for engagement through commenting and discussion.

Good practice with Department communications is to have the department leader regularly post a status update or a blog post or something like that to solicit feedback from the others. The key to improving departmental communication is to encourage engagement, to encourage others to communicate at a department level, and essentially to encourage the “democratization” of communicating amongst the department.

The final category where the Framework allows you to improve Communications is Corporate Communication.

“Corporate Communication” may seem like an overly grand term - we mean the ability of the organization to communicate - and more importantly engage - with its employees. Many organizations have employee magazines, newspapers or similar. These are great, but inevitably they are a one-way process. An editorial team prepares them and collect news from all around the organization to be shared in some publication. These publications represent the kind of view of the organization which the management wants to present. Normally they are optimistic and forward-looking. They are celebratory and pass on good news to encourage the organization to feel good about itself. This, of course, is an important goal, but perhaps in today's “fake news” world we owe it to our employees to have a more engaged and open discussion about what's going on.

Corporate Communications is a huge opportunity for any organization to TRULY change the culture of the organization into one which listens, learns and adapts. This is a scary prospect for lots of organizations and of course this kind of "glasnost" is something which must come from the top.

Corporate Communications can start with things like a CEO blog. However, these should wherever possible be as authentic and realistic as possible. In IBM, our CEO famously video blogged on her first day about her experiences and her expectations. This had a dramatic effect and resulted in enormous engagement from the whole organization. Your organization can take these kinds of steps too - where you can be more open, more flexible and more engaged. This has a massive effect on morale, engagement, staff retention and ultimately sales success, customer loyalty, and profitability.

Like a healthy family, one who talks openly and is not afraid to talk about difficult issues is one in which everyone feels valued and has their part to play.

Corporate Communications where the CEO blogs or is present and active in the business using status updates or comments brings massive improvements to employee motivation.

CAPTURING AND SHARING KNOWLEDGE

How do you capture knowledge? Knowledge is the thing that we bring to work every day which lets the organization do what it does. Knowledge can be stored and can be retrieved and importantly can be passed on to those without it. For any organization, the churn of staff - either due to them leaving voluntarily, involuntarily or through retirement - represents a potential source of knowledge. Every day the organization spends money to conduct its operations and every day the people involved in those operations gain or use knowledge to make it happen. By being able to capture some of that knowledge and not lose it when people leave ultimately makes the organization smarter and potentially more productive, more efficient, a more rewarding place to work in, and can improve the quality of the output.

Given the length of time, a pyramid in Egypt must have taken to build; knowledge transfer must have been carried out over generations of Egyptians building these huge buildings. Without that knowledge transfer, they would probably never have been built, or at least there would be dramatically fewer, and they would have been smaller because each generation would have to make the same mistakes as their predecessors before they could be successful in their endeavor.

Consider for a moment how knowledge transfer happens in your organization. Do you do it by word-of-mouth, apprenticeships, manuals, specifications, documentation, or something else? How complete is that knowledge transfer? Do people still make the mistakes that others have made? If so then it suggests that your knowledge transfer is not 100% complete. If your company makes any mistakes or has any issues with the quality of production, then I am sure your knowledge transfer is not total. I doubt any organization can achieve complete transfer of knowledge between people.

However, we should consider how we can improve the capture of knowledge and the passing-on of that information to others who could benefit from it. If we can be better as an organization at doing so, surely our pyramids will be bigger and better and stand the test of time longer?

Expecting individuals to write down everything they know about something is probably impossible. An engineer who is retiring can do her best to mentor those still there, pass on her wisdom and experience but it is always limited to the context of their ability to recall it. If I were to ask you to tell me everything you know you might start telling me about your family, your background, your work and so on, but I would only ever learn a small amount about everything you know. On the other hand, if you indulged me long enough, it would be possible for me to construct questions on every aspect of your work to a detailed level that I could ask you to make sure that the key parts of the knowledge about the organization you hold are passed on.

This is not a practical proposition of course, and thus we must consider how we can adjust our organizations to foster Knowledge Capture and Management. Doing so helps to one who learns and advances and does its best not to repeat the mistakes of the past.

So, what exactly is knowledge capture? How do we manage knowledge? IBM's framework with products like IBM Connections and Watson Workspace make it very easy for individuals to respond to requests for help and to provide engaging commentary and feedback on business issues.

Consider a situation where a Watson Workspace is created to allow the police, fire department, hospital, paramedics and so on to engage each other at a road accident immediately. Asking each participant to stop and answer questions is, of course, ridiculous as a strategy to collect knowledge. Having them engage in a dialog - vocal, typed, videoed - whatever, allows us to capture the exchange of facts, procedure, protocols and so on that allow us to define over time what the most effective approach to a road accident might be. Over time this analysis allows us to bring cognitive capabilities such as IBM Watson in to play to augment that knowledge capture. Watson can learn from the experiences and act on the knowledge captured. It could suggest that the paramedic on site tries to identify one of the casualties at the roadside so that we can check the hospital database for the blood type of the individual so that it can be on hand in the emergency room if necessary.

The people on the scene at the time are focused on the recovery and health of the people involved. A System of Intelligence, which provides augmented intelligence by capturing the knowledge of earlier exchanges thus starts to accelerate processes, increase efficiency and makes the situation more productive.

At a practical level, employing techniques like Secure File Sharing and Corporate Communications are the building blocks for Knowledge Capture and Management. Encouraging people to share the files that they can and encouraging them to communicate openly allows the knowledge to be distilled into a digital form. This knowledge however inconsequential at the time can be used in the future.

Imagine being presented with a difficult customer situation where you must resolve a situation where the customer refuses to pay for some service your organization has provided. Knowing the whole situation, down to call reports, meetings, schedules, emails, chat messages, site reports is of course extremely important and part of the knowledge capture process. However, experiential knowledge, the commentary around these artifacts can uncover the intent, the situation, and context for the decisions and circumstances that led up to the unhappy customer. Without some systematic knowledge capture and management regime, you may lose money to satisfy unfairly disgruntled customers, or end up with a large court bill one day.

So how do you do all this? You encourage sharing and engagement of all information in the organization. You foster having people involved in projects storing their information in a central place where their colleagues can see and respond to it. You develop a culture of communication, of learning and of handling information like spreadsheets and word processor documents in a central and shared place. Not by covert communication by email where only those who receive the email know the information exists.

The Platform provides any line of business with tools like wikis, blogs, activities, status updates, bookmarks, files, chat, surveys, and all sort of another context for you to embed knowledge capture into the daily work of your staff.

Say your standard operating procedures for the chemical distillation plant are stored in a word processing document. Consider breaking this document down into wiki pages which reflect the key sections and chapters of that document. Consider inviting review and editing of these individual wiki pages instead of trying to have multiple (usually huge) versions moving around where everyone needs to review the document and supply changes. Over time this more atomic review of individual pages uncovers new insights through commenting and revision. The document now becomes a live living thing which people can consume in the parts that they need rather than be faced with a dauntingly huge document.

Document management does not need to be difficult or a burden. In fact, in most situations, the key knowledge captured as part of a document revision process is switched off when the document is finished. The reader of the final version doesn't get to see the anecdotes, knowledge, experience and so on that are normally captured in the comments which are supplied in the revisions in a word processor document. That key experiential knowledge is lost when the document is published.

Considering a less document file focused approach enables the experience to be attached and retained against the knowledge to which it pertains.

Other techniques for knowledge capture and management abound throughout the Framework. Brainstorming through ideation blogs are a good example of how the normally fraught brainstorming process can be democratized. Instead of a few people in a room with post-it notes and flip charts, using an ideation blog, you can greatly extend the idea capture and share net. You can have detailed discussion, comments and review of ideas across time zones and geography. You open your idea generation to the wisdom of the crowd and thus those ideas and ultimately the decisions which flow from them are more likely to be tested, sanitized and peer-reviewed.

Importantly, the churn, the messy exchange of ideas, comments and concepts which happens during a strong ideation process very often causes the initial idea to be heavily revised and adapted. The input in that process is vital to experience and opinion which is not otherwise captured if more traditional approaches are used.

WORKING EXTERNALLY

Working externally incorporates your team, department or enterprise working with those outside the organization. This can be anyone from customers and suppliers to outside agencies and recruits.

Working externally can be the kind of capability that can make a competitive difference to your organization. It can greatly reduce the friction involved in doing business and significantly enhances transparency.

In many situations increased transparency between your organization and a customer or supplier could be a huge benefit. It might mean that your organization is easier to work with that your competitors; it could expose critical decision making which is wrong and therefore can be caught earlier in a project; it can reduce the anxiety a potential recruit might have about joining your organization by answering many of the questions they inevitably have.

IBM's platform provides a secure way of managing external co-operation. Your organization remains in control of the data you share. You open the system to specific users, and they have limited abilities to change or update documents. You can see what has changed, and control their overall capabilities.

You can reduce the amount of email that is sent and received, reduce misunderstandings and get quick solutions and answers to problems as they develop.

As we described in the earlier capability, *improving communications*, the ability to engage others outside of your organization in any operations – from the mundane to the emergency – could be a significant new factor in improving your efficiency and productivity, as well as the quality of service.

Imagine a legal practice who chooses to set up an external community for one of its key clients. Each case that is being worked on is stored in folders or as documents in a wiki in that community. The customer's key contacts and the partners and assistants are all added to that community. Using the *Event Calendar* in the community, meetings can be coordinated and meeting minutes recorded and shared immediately. Partners can hold interactive web meetings using collaborative document editing to review the contents of documents with the customer. The customer can see these changes being made in real-time and can approve or change the content as necessary.

Forums in the community can be used to discuss key points of the case asynchronously. Questions can be asked and answer given and discussed.

Within the practice partners located in different geographical locations (even in the same office) might choose to use IBM Watson Workspace to discuss the case in a conversational synchronous manner. This can allow for greater flexibility and permits a long-running thread of conversation to be maintained and easy caught-up with should one of the key partners be out of the office.

Adding cognitive capabilities to Workspaces such as training it to review the latest legal judgments or case law can provide a significant advantage over the work of the partners alone. The partners bring their experience and judgment to the matter in hand, and Watson Workspace, when trained, can bring case law and recent verdicts which the partners may not have been aware of.

Using the engagement platform with both clients and internal users legal firms can apply cognitive technologies to gain new understandings and working more openly and transparently with their clients.

IMPROVED TASK AND ISSUE MANAGEMENT

Creating and tracking tasks is a core component of any business process. Something needs to be done, and we need to know that it has been done to move on to the next stage. As well as "tasks" there are of course issues that need to be tracked. These come in all sorts of shapes and sizes – customer complaints, non-conformance reports in construction, quality issues, project delays – anything that requires someone or a group of people to look at something and remediate the situation.

If you think for a moment about your work and what you need to do on a daily basis you probably realized that virtually everything you do is either an issue or a task. The smallest project, preparing for a meeting, presentation, handling a project or whatever needs to be managed to some degree.

Many people still rely on intuition and an implicit knowledge of the processor business to know how to steer an issue to resolution. However, this implicit knowledge is not scalable and ends up meaning that the success of an organization's ability to resolve a particular issue relies on someone's expert knowledge rather than some innate capability of the organization to deal with it.

Of course, for us as individuals, we might feel validated by the fact that people ask for us to help them with a critical situation. But if you are not available what does the organization do? Consider for a moment Sarah's problem:

We're all familiar with bottlenecks at work. That one person or group with authority to do something vital to you getting your work done. There's another kind of bottleneck through - the "go the extra mile" employee who by collaborating and helping others with their work slowly becomes more and more depended-upon by everyone simply for stuff to work.

It's easier to ask Sarah where something might be than it is for me to search for something on our intranet. Sarah's the one who knows how that works, so I'll ask her. How much of Sarah's work does Sarah get to do anymore? Over time, less and less. Sarah's motivation drops, Sarah's health might suffer, her performance appraisals show that she is less effective at work but completely overwhelmed with the amount of stuff she has to do.

Some of this can be addressed through management. Some of this can be addressed by Sarah learning to say no to people. In either case, you are cutting off the flow of critical information which Sarah provides to the organization. Sarah might feel better that she can now get on with her work, but the remainder of the organization feels the effect. Sarah also enjoyed helping people, but when it got out of control, it stopped being fun.

A stunning statistic jumped out at me in the January-February 2016 issue of the Harvard Business Review: “In most cases, 20% - 35% of the value added collaborations [in an organization] come from only 3% to 5% of employees.” How many Sarahs do you have in your business?

So how do you help Sarah? How can Sarah continue to be the “go the extra miler” and in so doing encourage others in the organization to do the same? How does the organization get the kind of insights that Sarah for some reason can find about how things work and how to get things done?

I believe there are some steps that an organization needs to take to solve Sarah’s problem once and for all.

The first of these is a cultural issue where the sharing of knowledge is rewarded. Many organizations reward the knowledge of individuals by promoting them to ever higher positions where their influence on the outcome of the work is more and more distant. Their ability to employ their tacit experience to business solutions is moved out of focus and in general, they are deployed to fire-fight and expected to perform some super-human rescue mission to solve some problem or other. That person is put under enormous pressure at the time because to justify their elevated position they need to be the one who solves the problem. This might massage their ego for a while but underscores a fundamental issue and yet another bottleneck.

Instead, people should be rewarded for what they share. Prolific shares of experience, tellers of stories, documenters of ideas, collaborators and those able to work with teams to get them to do the same things are the kind of people you want running your organization.

Changing a culture in an organization is far from easy. It takes time and perseverance. It also mandates that the management of the organization completely and wholeheartedly embraces the change. The management must be the agents of change to bring about the kind of knowledge sharing culture which will allow your bottlenecks to be removed and to retain the kind of talent that you want and which Sarah represents.

The second is in bringing people with you. Most people don’t turn up to work every day to do a bad job, but little effort is often deployed in making sure that people know how to use the tools at their disposal. The result is that poor old Sarah gets overloaded or people try to use a hammer to solve every problem. Every problem, however, is not a nail, and hence people are disillusioned about their working environment and management becomes wary about implementing new ways of working because the previous ones failed. The previous ones may not have failed. Instead, the delivery of the previous ones may not have been sustained and far-reaching enough.

Thus it's important to bring people with you in the change to help avoid the Sarah situation. You need to make sure that everyone can in some measure achieve the same kind of insights that she can achieve by searching, commenting, liking, developing or whatever she does? How do you this? By biting off only what you can organizationally chew and make it everyone’s responsibility to develop their skills to embrace your new way of working.

The third aspect and the one you will probably gain an appreciation of when you have had some system or other implemented for about six or more months are that of complexity. Many of your users may well find that they can do some things better. Others will not have improved their mode of working one bit. Often this is caused by a lack of connectedness in the solutions they are using.

Can they search across an entire content management solution for the latest presentation, while simultaneous checking that it’s not in their email or their shared files, or somewhere else entirely? Maybe not. This is something IBM has recognized for many years, and something which we realize is the key to unlocking the productivity and satisfaction gains which people want. People expect to do a Google-style search of your organization and get what they are looking for in the first three or four items on the first page of those results. They expect to be able to click on someone's name and see EVERYTHING they are sharing, the most up to date content they have contributed and what they have been working on.

By continuing to use our email environments as our primary method of storing and filing information we are no further forward than an electronic version of something used on paper nearly one hundred years ago. Mailboxes continue to grow, file attachments continue to be attached, and errors, delays, mistakes, and misunderstanding continue to be made because we have not embraced a team-working and sharing culture in our organizations.

Digital transformation and disruption will be coming to your business soon. Uber, Airbnb and all the others are out to turn whole markets upside down. Without you embracing of the need to find that new way to work, to instill that culture of working, and to release Sarah from the grind of serving people who don't know where things are, then Sarah will leave, and you put the future of your organization at risk.

SOCIAL LEARNING

Organizations rightly place the skills of their staff as a key part of their continued success. By investing in the skills of the employees as a business manager, you can expect those people to make better decisions, exhibit more insight in decision making and do a better job.

Learning, however, is an expensive business. Aside from the physical cost of the training itself, there is the opportunity cost lost which derives from that person not being available to do their job. Thus, training budgets are often the first to be cut when times are tight.

When employees are sent on a training course outside of the organization, perhaps with people they have never met, they usually report that it is a positive experience because, in addition to learning the new skills, they also meet new people. Such environments are fertile forums for new connections as everyone is "in the same boat" - equally vulnerable, equally unknown to everyone else. Thus when new connections are made they often become good friendships and last well beyond the training itself.

Social Learning in the context of IBM's Framework brings many of these benefits without the need, necessarily, for the physical presence. Of course, you can make the training materials available to the trainees either as webcasts (live but recorded for later reference). What you lose from this is the engagement with the attendees. People often hide behind their computer screens and don't take part in the ongoing conversation, answer or pose questions, and so on.

Thus, using IBM's Framework, you can go beyond traditional learning approaches – provide a video for someone to watch followed by a set of questions – to include more engagement with the other learners and with the educators.

The most obvious of these is to use a Community for the training event itself, and a forum where some topics are posted by the trainer to encourage the attendees to participate. Normally the essential nature of participation in these activities needs to be emphasized more than would be the case were the training taking place face to face, but it is a useful way of facilitating dialog.

When it comes to assignments and group working the Framework proposes two key technologies which make the participants able to communicate freely, almost as well as they were in the same room.

The first of these is video-enabled meetings. It's important to use video-enabled meetings as it is as close as we can get using a computer and a remote connection to people being there. Without the video aspect, it can be difficult to maintain the focus of those who are participating. They need to remain part of the conversation throughout. The second is the use of a conversational dialog tool like IBM Watson Workspace.

Often when the trainees are working on the assignment, they will have individual pieces of work to do which needs to be merged into one larger piece of work. The discussion and co-operation which goes on between those involved at the time can be intense. However, it can be difficult when people are in different locations for those who are participating in a live meeting to be able to share thoughts, documents, and other artifacts. While many meeting solutions, like those in the Framework (Cisco WebEx and IBM Connections Meetings), provide a chat facility, the discussion ends when the meeting itself ends. It's often difficult to get the chat discussion which might have been going on in the meeting alongside what was being said out of the meeting room and into some medium which permits further conversation to continue.

The Framework, therefore, encourages the use of Watson Workspace as the dialog tool to supplement the "organic" meeting which is happening in the meeting tool. The discussion can continue exactly as it was when the files, comments, discussion and other conversational items are put into the Workspace.

Using a conversation tool is also a good way for learners to interact with the tutor or with the originator of the learning material. How often do people watch an on-demand video for them to have follow-up questions on an aspect of what is covered? In traditional learning solutions, there is no "social" aspect to this. It's purely a consumption-based model. With *Social Learning*, placing the learning material alongside a discussion forum where other learners have asked questions and had answers, dramatically increases the ability of the educator to get their message across. Everyone else benefits from the question and answer exchange which goes on and therefore learning is enhanced.

DRIVING INNOVATION

Innovation is at the heart of digital transformation. Without innovation, the taxi or accommodation businesses would not have been shaken up to the same extent they have. The dominant new entrants into these business areas don't own any taxis or hotel rooms, yet now have established a complete transformation in the way we use those types of services.

The competitive threat and opportunity that digital disruption creates require companies to transform their businesses in a myriad of ways. In "*The Digital Culture Challenge,"* a recent study from Capgemini, culture is cited as the primary hurdle to digital transformation. Only 41 percent of employees feel they can collaborate effectively, and they consider company culture to be the problem. Put another way, today's employees are disengaged. Because employee engagement has been linked directly to productivity, it is critical that companies address their digital transformations from a cultural standpoint.

Making the right technology investments is important, and if done correctly, can help companies boost their ability to innovate, problem solve and engage with their organizations.

For example, Capgemini reports[6] that 80 percent of companies surveyed have challenges with innovation, and 69 percent lack agility, flexibility, IBM Collaboration Solutions knows that a next-generation customizable, cognitive collaboration platform can help.

IBM Collaboration Solutions understands that linking people, information, and automation of process together in new ways will help employees get work done faster. When employees, teams, and communities

[6] The Capgemini Digital Transformation Institute, March/April 2017

can achieve greater velocity from their collaborative problem-solving activities, it leads to improved outcomes for the company.

Innovation, therefore, needs to be something you bake into the culture of your organization. But how do you do that? How do you encourage individuals to innovate, to take your organization forward?

Many organizations use idea "jams"[7] to precipitate ideas and get people working together to solve problems. These are great ideas and using a tool like an "Ideation Blog" in IBM Connections is a great way to achieve this.

Innovation needs to become part of a business process, however. It should be part of the review process of a customer engagement, a project, or some other piece of work. Encourage those involved to create an ideation blog where they put in their ideas about what could be improved about the work. For example, could your interaction with the client be improved? Could the replacement of the faulty water pump have gone more smoothly? What lessons did we learn by on-boarding that new member of staff?

Ask those involved to submit their ideas and then invite them to comment and vote on these ideas. Sort the ideas by the number of votes to see which ones are more important than others and then take action.

IBM uses this approach to design Business Partner enablement. Instead of the product teams deciding what enablement Partners should receive, we instead ask them to put forward suggestions for what they want to cover.

Everyone gets a chance to contribute, and as these "ideations" are run over a longer period than your normal "brainstorming" session, each person has a chance to consider, comment and contribute to the overall result.

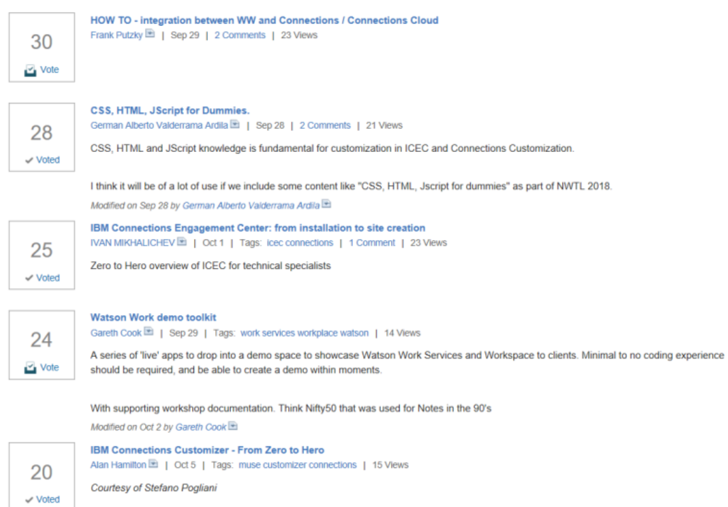

FIGURE 4 - INNOVATION IN ACTION

When the ideation has completed, the "winning" ideas can be developed into improvement projects by graduating the idea into an IBM Connections Activity. This then gives everyone the opportunity to structure the tasks and content to make the improvements:

[7] https://www.ucl.ac.uk/enterprise/support-staff-and-students/get-skills-and-training/hackathons-and-idea-jams

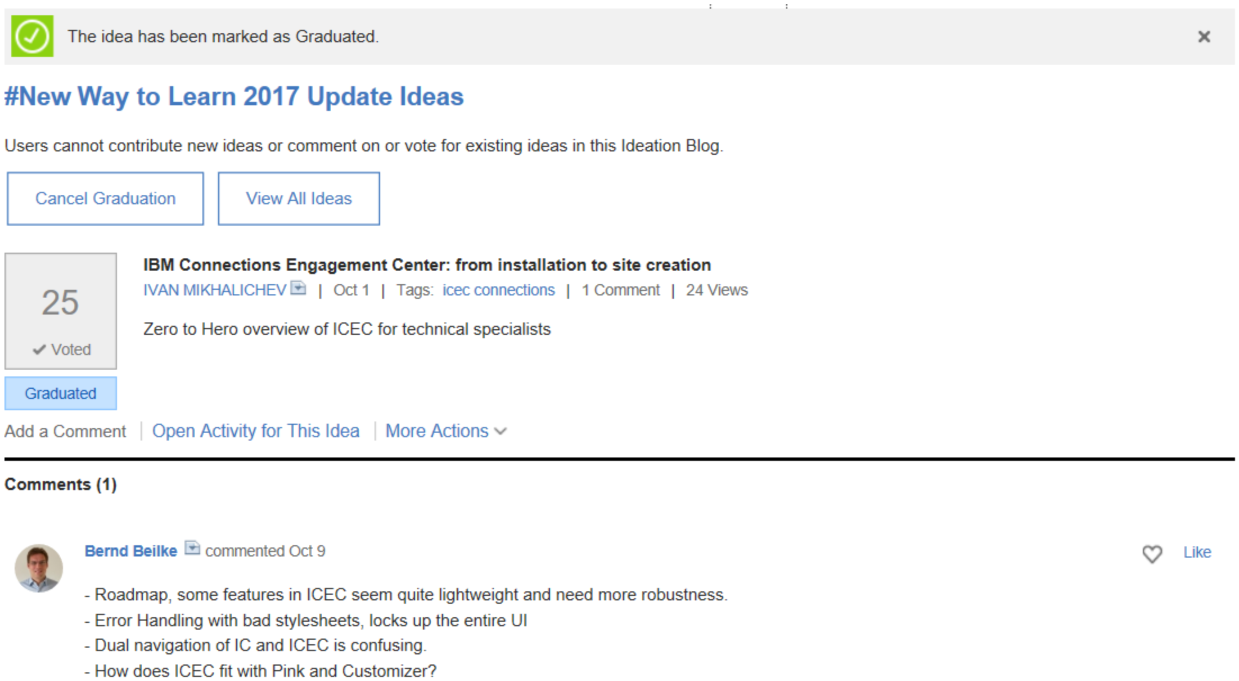

FIGURE 5 - A "GRADUATED" IDEA TURNS INTO AN IMPROVEMENT PROJECT.

IMPROVING QUALITY

For many organizations improving the quality of what it does is a primary motivator in business transformation. Improved quality is a differentiator in the marketplace. If you can improve quality while maintaining or reducing costs, then it logically follows that your product or service will be more successful in the market.

Key steps you can take to improve quality include:

1. Defining repeatable processes
2. Plan for continuous improvement
3. Invest in staff skills

Repeatable processes are the key to driving predictable results. Organizations often define these as procedure and quality manuals which are expected to be followed by people involved in the processes. On a flight deck, the pilot and co-pilot normally run through checklists when preparing to perform a particular task, such as preparing for take-off or landing. They are trained to co-operate on these tasks as it naturally affects their safety and that of their passengers or cargo.

In knowledge worker roles, where safety is less of an issue, organizations may not invest quite so much in ensuring that staff follows procedures. Expecting them to follow a checklist and document each step would be good, but you might need a tool to be able to do this repeatedly.

A tool such as IBM Connections Activities allows you to develop a sophisticated task structure which can track the tasks which are performed. It can contain the documents that need to be completed and even goes as far as allowing integration with desktop productivity tools like Microsoft Outlook and IBM Notes to enable staff to record the communications which support decision making to be stored.

Helmuth von Moltke the Elder (1800 – 1891) first coined the phrase “No plan survives contact with the enemy,” and this is no doubt true during the process of defining repeatable processes. Using an activity to define the process and then saving that process a template allows you to repeat and refine the process so that each time you engage “the enemy” you can improve.

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