

Innovation to Execution: The Hardest Step of All



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CONTENTS

INTRODUCTION	3
KEY FINDINGS	4
THE INNOVATION CHALLENGE	5
THE CRITICAL IMPORTANCE OF INNOVATION	6
TRADITIONAL APPROACHES	6
INNOVATION IS HARD TO DELIVER AT SCALE!	7
THE OPEN INNOVATION ALTERNATIVE	7
TRUST: ESSENTIAL FOR COLLABORATION ACROSS ORGANIZATIONS	9
STRONG LEADERSHIP, ACTIVE PARTICIPATION	10
KEEP THE TEAM SMALL, FOCUSED AND AGILE.....	10
ITERATIVE, NOT LINEAR – AND AT SPEED	11
SCALING INNOVATION	12
WILLINGNESS TO ACCEPT RISK	12
EXPERIMENTATION AND PROTOTYPING	13
INDUSTRIALIZING INNOVATION.....	13
OPTIMIZING FOR SUCCESS	14
EXPERIENCES FROM THE FIELD	15
DIGITAL INSURANCE, GRUPO NACIONAL PROVINCIAL ('GNP'), MEXICO	15
STORE & STAFF SECURITY, MAJOR SUPERMARKET, UK.....	16
TURBINE BLADE QUALITY CONTROL, SIEMENS GAMESA, DENMARK.....	16
SMART FORMS SYSTEM, LARGE UK BANK.....	17
IN CONCLUSION – ARE YOUR INNOVATIONS READY TO SCALE?	19
ABOUT FUJITSU	20
ABOUT TEKNOLOGY GROUP.....	21

INTRODUCTION

Innovation is widely recognized as a core business capability, essential for protecting existing markets and establishing new ones.

At the same time, the real purpose of innovation is so widely misunderstood, that it risks becoming ‘the thing that we do, when we don’t know what to do’. And yet it remains so widely respected that innovation has become the subject of corporate virtue-signalling - or even a distraction to divert attention from mediocre performance. No conference is complete without a keynote from the chief innovation officer, and no office is complete without a brightly coloured digital innovation corner, complete with beanbags.

In reality, the business of innovation is deadly serious, and critical to business survival. The true measure of innovation success is not how many new ideas you can generate, but how much traction you can achieve with those new ideas in your chosen markets.

This highlights a truth about innovation that is hidden in plain sight: new ideas are relatively easy to come up with, but getting the market to adopt them is infinitely harder.

To explore the challenges of scaling innovations into production, teknowlogy Group has partnered with Fujitsu to look at specific examples of best practice. This will provide a source of guidance to organizations with validated innovation initiatives that they now wish to scale into production. The report also looks at specific examples of organizations that have embraced open innovation at scale, highlighting the benefits that a broader range of perspectives can bring.

KEY FINDINGS



Innovations only deliver value once they gain traction

*Inventions, new and improved ideas, products, and processes remain **potential** innovations until they are put into practice. The critical measure of success has to be: what level of adoption has been achieved? Too often, high-potential innovations fail because too little effort is invested in how to scale the innovation into production, and how to ensure effective adoption.*



Focus on your key strategic goals, and the value you will deliver

By targeting the innovations with the greatest potential strategic value, you will focus on the topics and themes that do most to move you closer to your goals, delivering value for your customers and gaining wide internal support.



Involve your leadership right from the start

Involving leadership personally in the innovation helps build organizational momentum, which is essential to overcome the natural resistance to change. It also signals to participants and the broader organization that innovation activity is important, and has to be taken seriously!



Encourage wide participation – but avoid “innovation theater”

Innovation is a critical process that enables organizations to be self-sustaining. To embed this as part of business-as-usual requires a widely shared innovation culture and mindset. But treat innovation seriously – if the goal becomes creating good impressions (for staff, customers, shareholders, etc.), your ability to innovate will inevitably suffer.



Agree in advance who has the authority to make decisions

The need to become more responsive means that committee-style planning is giving way to knowledge-based decisions made by individuals chosen for their expertise and experience. When big choices are going to be made by expert “decision authorities”, it’s important to agree upfront who has final say.



Learn fast and stay nimble

Agile organizations with the clarity to grasp quickly what is working and what isn’t, become adept at applying that flexibility to scaling up or down in line with customer needs, and pivoting to exploit new opportunities as they arise.



Build innovation into your DNA, and embrace outside help

To become an innovation-led organization, the appetite for innovation needs to become part of your culture. This includes being open to the great ideas that other organizations with differing perspectives can bring. While engaging a broad ecosystem in collaborative innovation does require some trust, it has proven a successful approach for many organizations.



THE INNOVATION CHALLENGE

Business surveys repeatedly show that most organizations believe that their future prosperity – and perhaps their survival – depends on their ability to innovate.

And yet successful innovation remains elusive to many businesses and difficult to repeat. In this section, we look at some of the major challenges of innovation, as well as some counter-intuitive approaches that have nonetheless proved highly effective for innovation programs.

THE CRITICAL IMPORTANCE OF INNOVATION

Innovation is an essential renewal process for any business, enabling existing markets to be retained, and new markets developed – or as Peter Drucker memorably put it: ‘innovate or die’.

Society places so much faith in the beneficial impact of this renewal process, that innovation is a key component of the United Nation’s Sustainable Development Goals. As the OECD states:

‘Innovation is central to improvements in living standards and can affect individuals, institutions, entire economic sectors, and countries in multiple ways’.

In many cases, innovations can be literally life-sustaining. For example, over half the world’s population relies on rice as a food staple, making the \$450bn world trade in rice critical to global nutrition. Tracing the supply chain for commodities such as rice can be tricky. Still, Fujitsu was able to show RiceExchange¹ (Ricex) the potential of distributed ledger (i.e., blockchain) technologies in this space. Fujitsu’s Blockchain Innovation Center was able to provide ‘Proof of Business Assessment’ within just one week, enabling Ricex to take an agile approach to their innovation program.

Business and finance place equally high value on the ability to deliver successful innovation. Tesla is a strong current example that has transformed our understanding of what the automotive sector could be, shifting perceptions from that of rust-belt survivors to creators of a gleaming zero-emissions future. Leaving aside the showmanship that has accompanied this change, much of what Tesla does is genuinely novel, open, and collaborative, as shown by the company’s decision to open-source its patents. The market’s response has been famously positive, making Tesla the most valuable car company in the US at the start of 2020. At the same time, Tesla has transformed consumer attitudes to zero-emissions vehicles from ‘worthy but dull’ to something truly aspirational, and through innovation has kick-started the rebirth of the US automotive sector.

TRADITIONAL APPROACHES

Modern innovations practice is worlds away from conventional approaches to innovation. Historically, developments followed fixed tollgate or phase processes very rigidly and were usually managed by dedicated teams. This concentration of innovation in specialist organizations remains common within those areas of science and technology where innovation is seen as inseparable from advanced research and development.

75%

of GDP growth in the USA since WW2 is attributable to technology innovation, according to the US Department of Commerce

¹ See <https://www.fujitsu.com/emeia/about/resources/news/press-releases/2019/emeai-20191105-fujitsu-and-rice-exchange-bring-to-market.html> for more details

In other fields, many organizations now take a much broader and more inclusive approach to innovation, keen to harness the full expertise of their teams. At the same time, most organizations still see innovation as a source of competitive advantage, with much of the value tied to first-mover advantage. Consequently, for most organizations innovation remains a confidential activity performed by specialists behind closed doors.

INNOVATION IS HARD TO DELIVER AT SCALE!

Innovation has become a highly visible activity in many organizations, and this can be a double-edged sword. The pressure to be seen to be innovating can become overwhelming. This can lead to flurries of innovation activity, often with no real alignment with the overall goals of the organization. This leads to the numerous internal innovation competitions we have all seen, many of which result in no real business or societal value.

The root cause of such window-dressing activity is simple: almost all organizations want to be innovative, but many lack the competencies and experience to innovate successfully.

At the same time, many organizations become distracted by the innovation process and lose sight of the innovation goal. In 'conversion-poor' organizations, too little effort is made to screen peripheral suggestions, to allow greater focus, resources, and attention available to be placed on truly strategic innovation – with an all-too-common outcome that no innovations make it into production.

This is a key insight: new ideas, models, or processes that do not make it into production are not innovations. Adoption is the true goal of all innovation since this is how innovations have impact – and this can be through driving new sales, retaining existing customers, gaining user buy-in to new ways of working, and that should always be the ultimate test of innovation success or failure.

With this in mind, organizations that lack the capacity to initiate an in-house innovation program, should look externally – either through paid engagement with innovation consultants or by turning to their ecosystem - for innovation support. Ideally, this should include knowledge transfer, so that over time they too can embed innovation thinking into their corporate culture.

THE OPEN INNOVATION ALTERNATIVE

Innovation never happens in a vacuum - it builds on existing ideas and approaches, often in novel ways. With that in mind, it is obvious that a rich combination of varied perspectives is likely to be more creative than a massed monoculture.

Market adoption is the true goal of all innovation, and that should always be the ultimate test of innovation success or failure

This is the basis of co-creation - the bringing together of people from different organizations to try out new approaches to addressing an issue, to deliver value, and make life better. This intuitively makes sense, and the approach has already been tried by many organizations. Unfortunately, in many businesses, the approach has been abandoned after the first trial. Often this is because the first experience did not deliver results that could be brought to market, or else because the process was simply too slow. This shows a misunderstanding of the challenges of innovating together. While rapid prototyping can deliver remarkable results in a short time, most innovations will require both time and patience – as Drucker put it: *“Effective innovations start small. They are not grandiose”*.

Open innovation takes the co-creation approach a step further. Open innovation is intentionally “open door”, making the calculated bet that the benefits of an even broader and more inclusive team will outweigh the risks of losing competitive advantage. For this reason, open innovation may not be a good fit for all development initiatives, and indeed many organizations use both open and closed innovation, choosing which approach to use case-by-case. Open innovation is often most effective when supported by an open strategy, which ensures that the business creates value through innovation while keeping an eye on value capture. Ultimately open innovation should not be seen as the opposite of closed innovation; it is more an alternative and complementary approach that has benefits in certain circumstances.

COLLEAGUES AND ECOSYSTEMS: SOURCES OF COMPETITIVE ADVANTAGE HIDDEN IN PLAIN SIGHT

Most organizations, even those with active innovation programs, overlook their strongest innovation assets – their existing co-workers and the trusted ecosystems they already work within. Studies have shown² that the amount of innovation coming from external sources is typically 45% of the total for the companies concerned, and even in the discovery intensive pharmaceutical sector, this only fell to 30%. External sources are therefore a critical starting point for a large proportion of innovations. Existing ecosystems have huge potential to enrich the innovation process with diverse experiences and ideas.

Of course the opportunity to engage an ecosystem will depend in part on the existing history between an organization and its network. For deep collaboration to take place, a strong and flexible relationship with the ecosystem is ideal. This will provide a firm foundation for the open and dynamic conversations that open innovation thrives on.

Since the goal is to bring new angles on an issue into the mix, there is value in intentionally broadening the range of innovation partners involved. This could

Open innovation: “the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the market for external use of innovation, respectively”

Henry Chesbrough, originator of Open Innovation, and Faculty Director at the Garwood Center for Corporate Innovation at the Haas School of Business at Berkeley

“Even if you get the best and the brightest to work for you, there will always be an infinite number of other, smarter people employed by others.”

Joy’s Law as restated by Todd Park, United States CTO to President Obama’s administration

² Linder et al (2003) <https://sloanreview.mit.edu/article/toward-an-innovation-sourcing-strategy/>

involve reaching out to different partners, as well as different stakeholders within partners, to broaden the range of contributions. It can also make sense to extend the ecosystem beyond the commercial sphere. As a case in point, Fujitsu has successfully engaged with one of its UK partner universities, Nottingham Trent, to involve students in Smart Campus innovation projects. Even a global IT giant benefits when the views and experiences of 150 current students are added to their innovation mix.

TRUST: ESSENTIAL FOR COLLABORATION ACROSS ORGANIZATIONS

Ecosystem engagement is a critical component of open innovation, enabling the initiator to benefit from new ways of thinking, and experience has shown that ecosystems can become effective force multipliers for innovation. Open innovation requires participation by stakeholders from outside the initiating organization— for example, the intended customers of the product or service, and the sales and marketing channels that are expected to bring the innovation to market

Ecosystem involvement is not limited to the supply chain. Benefits accrue whenever participants can contribute to the creative process. Given the diversity of participants involved in an open innovation project, it is critical that innovation partners can trust each other, and that they believe in the value of the innovation process and experience. Conversely, lack of trust is one of the leading causes of failure of open innovation initiatives.

Trust is not achieved simply through signing up to a project mandate - trust always needs to be earned. This is easiest with partners from the supply chain, since the benefits of their participation in the process are likely to be obvious and mutual. Trust from other parts of the ecosystem may take longer to earn, and can be assisted by references highlighting previous success with open innovation.

An example of deep trust is seen between Fujitsu and the UK's Environment Agency, a relationship nurtured by both sides over 15 years. This deep level of confidence made Fujitsu a natural choice to embed text-to-speech into flood warning alert systems. This is by no means a trivial exercise, catering not only to the UK's numerous regional accents, local place names, and the Welsh language. However the solution has dramatically improved the delivery of flood warnings, while delivering even greater cost reductions.

At the same time this point should not be over-complicated – most often, the request to participate is straightforward, seeking help to make an improvement that will make things better. In this case, trust starts with a simple human relationship, growing stronger as the project team delivers. Just as success breeds success, trust also breeds trust.

“Fujitsu’s innovation partnerships build on long-standing relationships where trust is already present. This certainly helps to develop the innovation”

Emily Bacon, Post-Doctoral Affiliate in innovation at Swansea University

STRONG LEADERSHIP, ACTIVE PARTICIPATION

The need to build trust is one reason why strong leaders are needed, especially given the deliberately broad mix of participants. Strong leadership is also required to instill a clear appreciation for the shared goals of the initiative, in spite of the diverse origins of the team.

Experience shows that direct involvement of senior leaders is more effective than a more arms-length form or project sponsorship. When key stakeholders from the different innovation partners are directly involved and personally “in the room” they are vastly more effective in driving the shared vision. Senior leadership participation also plays a valuable two-way communication role – leaders close to the project can keep their peers aware of project successes and bottlenecks. At the same time they can keep the project aware of any important strategic developments that might change the project goals, timelines, priorities or resources

While it might seem ambitious to expect senior leaders to make time to be personally involved with innovation projects, in practice this does not seem to be the case. Senior leaders often relish the opportunity to be directly involved in a project with relatively immediate consequences, and their participation helps to smooth away political and organizational issues that might otherwise create road-blocks.

KEEP THE TEAM SMALL, FOCUSED AND AGILE

When building out the innovation team, it is crucial to stay focused on the desired outcome – market adoption. Clear project success metrics really help to keep the team’s attention on delivering value – otherwise it is all too easy to become distracted by the attraction of simply doing new things in new ways.

A flexible approach to team composition helps provide the specific skills needed by each individual project, with participants chosen for their skills and knowledge irrespective of where they sit within the organization. Different project functions and phases may call for different approaches – ideation will often benefit from the wisdom of the crowd, while rapid prototyping and delivery is often best delivered by a small tight team: the Smart Forms example described in more detail later in this paper relied on eight hand-picked individuals that had the right skills in the right technologies to transform a customer’s Forms application within six weeks.

At the same time it is very important to avoid team bloat, which frequently happens if too many “hangers on” are allowed to become involved. Agile innovation can be most effective in small groups (e.g. Amazon’s famous two-pizza teams). This will enable them to iterate quickly with short feedback loops to their ecosystem. Innovation is too important to be treated as a form of team-bonding activity.

“The right choice of innovation leader is often the critical success factor for an initiative. They need to be driven and passionate about making a difference and be senior enough to have the ear of senior executives and stakeholders. This enables them to remove any barriers or address any push-back while championing, driving and evangelizing the initiative.”

Stafford Bond, Head of Service Innovation, Fujitsu

Innovation should not be confused with a fun form of team bonding. The team needs to stay small, agile and customer-focused.

ITERATIVE, NOT LINEAR – AND AT SPEED

Unlike traditional tollgate methodologies, agile innovation management adopts a less strictly sequential approach, based around the customer at the center, and using the customer to validate frequently what is being developed. This customer-centric focus encourages a more iterative and interactive probe-and-learn process. A good example of putting the customer's needs at the heart of a development is the work Fujitsu has done with Beam-Suntory, producers of Jim Beam bourbon, deploying IoT sensors onto whiskey barrels, and integrating sensor data into SAP, providing the customer a single pane of glass view of their business.

Open innovation is by design more intent-based than strictly process-based, giving organizations the freedom to start at the phase that makes the most sense and to abbreviate steps when needed. This helps keep the focus on the goal - successful innovation - rather than on a slavish focus on process adherence. This more flexible iterative approach gives the development greater flexibility than traditional processes, enabling a quicker path to innovation value, while also creating space in which unexpected positive outcomes are able to flourish.



SCALING INNOVATION

As mentioned earlier, the success criterion for any innovation project is – has it been adopted in the market? This is the critical point that most innovations project trip over, and in this section we consider some of the critical success factors for scaling innovations.

WILLINGNESS TO ACCEPT RISK

While the characteristics described above improve the chances of success, there is no ‘winning formula’, and many organizations remain petrified by fear of failure. As Edward de Bono wrote, with some irony: *“something new that does not work out is a failure or a mistake. Language does not have a word for a ‘fully justified venture which, for reasons beyond your control, did not work’. So anything which does not work out is a failure. It makes sense to avoid failures.”*

Fortunately a more enlightened generation of leaders accepts that some level of failed pilots is the costs of repeatable success in production. Practice and experience improve the odds, since these help build and reinforce an innovation culture. At the same time, organizations that are committed to innovation must be willing to accept that some initiatives will not proceed to market.

“The readiness to try new things is not usually a factor in an executive’s success and promotion”

Edward de Bono

EXPERIMENTATION AND PROTOTYPING

Organizations that invest in experimentation and prototyping gain both financially and in time-to-market since it is cheaper and quicker to refine innovations during an experimental phase than once it is in-market. Conversely, if a project is not a success, it is best this happens prior to launch – what P&G calls the smart learning to *“fail cheaper in experiments”* instead of the bad learning of *“fail in market”*. This view is robustly supported by organizations as diverse as GE, Coca Cola, and eBay, which all have in common a strong appetite for open innovation. Experiments allow organizations to refine their innovations iteratively and curtail investment in less promising experiments (‘fail fast’). This allows organizations to refocus on more hopeful initiatives while avoiding the organization stress and reputational risk of withdrawing a live product

Experiments and prototypes can also indicate when an innovation will be highly successful, enabling scalable production to be planned from the start. By planning agile production from the start, it is much easier to start small and ramp production rapidly to meet demand (i.e. ‘scale fast’).

INDUSTRIALIZING INNOVATION

Most organizations recognize that for efficiency, it helps to follow a standard innovation path so that everyone can understand their role in the process, and improve their performance over time. This is critical, since in the current highly dynamic business environment, situations change too rapidly to allow for re-inventing the process each time an innovation opportunity arises.

Many organizations invest fruitfully in innovation platforms that help automate the process. For example, Aisin (a Toyota component manufacturing company in Brazil) has specifically invested in innovation management processes to enable anyone to propose and implement process improvements, using the low-code capabilities of RunMyProcess.

A further example of successfully embedding successful innovation as a repeatable practice is provided by the *Fujitsu Agile Service Establishment* (or ‘FASE’) method, the company’s super-fast method of rapid feature development. The FASE method was developed within Fujitsu’s Service Technology Unit, Digital Service Business Group and uses an open innovation approach with Fujitsu’s federated organizations contributing ideas and requirements through an Ideas Portal. This was originally piloted for services delivered on third-party hyperscale clouds (Azure, AWS, etc.), which evolve so rapidly that conventional developments would be unable to keep pace. Fujitsu initially shrunk development lead-times to 10 weeks and has now succeeded in delivering new features within one week.

Organizations can turbo-boost adoption of innovation processes by buying-in (or renting) experienced talent. Innovation is a discipline where experience counts, and

“Experiment, experiment, experiment!”

GE presentation,
Unleashing Innovation Summit New
York

Many organizations want innovation to be part of everyone’s role. This is rarely the case today, and making it a reality requires sustained cultural change effort over a number of years.

hiring experienced innovators will help drive the good practices that help industrialize innovation. Organizations can equally choose to partner with organizations with significant expertise in scaling innovations to production, to acquire that know-how through knowledge transfer.

In parallel, organizations are having to make choices about how much of their products or services are developed and/or delivered in-house. Unlike outsourcing, these discussions are driven less by a need to drive down cost, and more by a need to achieve speed. By focusing on the benefits delivered to the customer, and decoupling this from the delivery process, some organizations are successfully innovating by becoming delivery orchestrators of the benefits their customers need.

OPTIMIZING FOR SUCCESS

While there is no 'recipe for success', organizations can take steps to improve their innovation outcomes.

First and most importantly, organizations should define and agree at senior level the significant areas where innovation can have a truly strategic impact on their organization. By agreeing quite tightly defined areas of focus, the organization can concentrate on the topics that matter most, and avoid diluting innovation efforts on more peripheral initiatives.

Organizations should avoid becoming victims of their own processes. While most organizations have aspirations to become more agile, many still run according to processes designed to manage an annual plan. The annual cadence for portfolio review and innovation planning can very easily sabotage efforts to be nimble. Agile portfolio management and allocated resources may well deliver better outcomes than a master plan of all planned projects.

Organizations also need to agree who 'owns' innovation, or at least who has the authority to make decisions. This is important because the output of ideation phases is often somewhat unformed, and decisions may still need to be made around which to proceed with. In the past, timescales allowed for carefully calibrated development decisions based on weighted scoring. In today's more dynamic times, decisions need to be made more quickly, and with less debate. Very often the decision authority is a senior leader chosen for their knowledge and experience. For this reason, it is very helpful when everyone is clear about who makes this call, so that once made, decisions can be executed quickly.

A final optimization is to develop a pipeline and portfolio of developments, to put momentum into the innovation flywheel. This allows the organization to balance the innovation workload, and also creates space for developments to be accelerated or paused, in line with strategic objectives.



EXPERIENCES FROM THE FIELD

DIGITAL INSURANCE, GRUPO NACIONAL PROVINCIAL ('GNP'), MEXICO

The insurance vertical has historically been one of the more conservative sectors in terms of technology adoption and innovation. Of course, this also creates an opportunity for those organizations willing to challenge the status quo. This is what GNP of Mexico is aiming to do - its goal is to be "leading insurers in innovation" by 2022.

GNP has been working on embracing cloud for apps and processes, working with Fujitsu's RunMyProcess to build and automate cloud-based digital insurance workflows. This has allowed everyday insurance tasks to be automated and optimized, from enabling car insurance customers to start a claim curbside from their mobiles, to using ML to send the closest available loss adjuster to investigate a claim, without the need for a human dispatcher. The company is now looking at several other areas where it sees potential for digital disruption of the traditional competitive landscape, including adding natural language processing into its applications and creating and analyzing a data lake of IoT and other sensor outputs.

Caught between the need to move quickly on the opportunities that innovation creates, and the shortage of internal expertise, GNP has turned to its suppliers to help it move forward. At the same time, the order of magnitude of the changes, and the pace at which they are needed, has called for a more fluid and flexible partner relationship.

"...rather than a technology partner being a provider of boxes or software for us to do whatever we needed to do, we are moving into a type of co-creation relationship with them."

Enrique Ibarra,
Director of Systems, GNP

This is typical of the changing priorities in innovation, moving from a precisely calibrated process to a more nimble and informal process of ‘is this a step in the right direction?’ Additionally, innovation practitioners are stepping away from a tight focus on careful co-ordination of participants, instead prioritizing pace of change. This in turn is driving innovation focused on small teams, short feedback loops, and maximum automation and efficiency – and in many cases this leads organizations to embrace co-creation.

STORE & STAFF SECURITY, MAJOR SUPERMARKET, UK

A top-10 UK food retailer opted for a co-creation and open-innovation approach to address challenges with a number of convenience store branches.

The problem the retailer faced was an upsurge in anti-social behavior in specific branches and at particular times. This involved frequent incidences of blatant theft, but the retailer’s main concern was the accompanying threatening behavior by shoplifters towards store staff.

The retailer worked with Fujitsu on a co-innovation project together with a facilities management provider to develop a solution to deter shoplifting and, at the same time, reduce or eliminate staff intimidation and distress.

Working directly with store staff, the innovation team identified that body-worn cameras could be a viable solution, especially when combined with the possibility of connecting the cameras to stream live to a central monitoring function.

The solution has now been trialed successfully and is now in use at problem stores. Unlike conventional CCTV, body-worn cameras ensure there are no “blind spots” in the stores, while audio capture provides a record of conversations between staff and the public. At the same time, the cameras are intentionally very visible, and this in itself had deterred a large amount of theft. An unexpected outcome is that staff now feel much more empowered to challenge unacceptable behavior.

The solution was piloted over a nine-month period to ensure that it was welcomed by staff. The outcome so far has been very positive for the safety of both staff and legitimate customers, and with positive end-user feedback, the solution is now being rolled out much more widely.

TURBINE BLADE QUALITY CONTROL, SIEMENS GAMESA, DENMARK

Siemens Gamesa is a leader in clean energy production, with over 40 years’ history of generating renewable electricity from wind farms, and a global presence in over 90 countries worldwide.

The company depends on its fiberglass wind turbines for its energy production, and it manufactures them in-house. Each year the company produces over 5,000

Problem shoplifting and antisocial behavior has been very effectively neutralized through co-innovation between Supermarket, Fujitsu, Facilities Management company and store staff, showing the power of highly diverse ecosystems

blades, the largest of which, at 75m in length, are the largest one-piece components cast from fiberglass in the world.

The problem that Siemens Gamesa brought to Fujitsu was one of quality control. Because of the way the turbine blades operate, any failure in use could be potentially disastrous. This means that quality control of the manufactured blades has to be carried out to the highest possible standards, which is a challenging task. Ultrasonic testing of the blades produces scans that an experienced quality controller can evaluate. But the huge blades result in huge scans, and the need for minute attention to detail, together with the knowledge that mistakes could be catastrophic, create a slow and stressful task.

Fujitsu's answer was to explore the deep learning capabilities of its artificial intelligence solutions, which are capable of analyzing scans, as demonstrated through an initial proof-of-concept. Once this was accepted, Fujitsu worked closely with Siemens Gamesa to complete requirements capture for the full-scale solution.

The co-innovation team chose to apply a very customer-centric approach to the development, ensuring frequent customer touch-points to keep the development on track. Like many agile development teams, it chose a two-week sprint cadence, which helped ensure the priorities of customer stakeholders and the development team remained in synch. The outcome is a solution which is very reliable at identifying flaw-free parts of the blades and is also able to highlight areas with potential flaws from the scans. These can then be subjected to deeper investigation by human quality controllers, reducing human effort by 80%.

The use of the system has now been successfully scaled up to apply to all Siemens Gamesa's fiberglass blade production, representing a potential gain of 32,000 hours over a year. At the same time the system is flexible to accommodate new sizes and designs of blades that Siemens Gamesa may produce in future, and it is also capable of self-training when it identifies new types of production flaws.

SMART FORMS SYSTEM, LARGE UK BANK

One of the UK's largest financial institutions wanted to replace its inflexible monolithic system for electronic forms. Making changes to the existing system was complex and time-consuming. It was also siloed across multiple Internet- and intranet-facing infrastructures, creating an environment where management, orchestration, and disaster recovery were all hazardous to deliver.

Fujitsu proposed a solution based on cloud-native technologies, to deliver a modernized Smart Form application using containers - a set of small, self-contained software modules, which are then much quicker and more efficient to operate than traditional monolithic applications. This provides a flexible software solution that is delivered as private SaaS to overcome the Internet / Intranet silo problem while remaining on-premises for GDPR compliance.

The container approach also enables highly utilized parts of the application to be scaled up and down in line with demand, and individual components of the application can be maintained or reworked, with minimal impact on other software components.

The new Smart Forms application was delivered by an agile squad of experienced cloud-native DevSecOps developers after just three two-week sprints. To ensure that the team maintained focus on the bank's real needs, the team was paired up with Bank staff who were able to provide feedback on each step of the development. This guaranteed that features most needed by the business were prioritized during the development, which helped increase internal adoption within the bank once the application went live.

The outcome is a solution that allows non-technical bank staff to build their own Smart Forms from within a browser, without any coding expertise. At the same time the modern application architecture means that application performance does not degrade with traffic volumes, while updates can be made 30 times faster than before.

IN CONCLUSION – ARE YOUR INNOVATIONS READY TO SCALE?

As this paper shows, the keys to successfully scaling innovation lie in the very earliest phases of the innovation initiative.

This starts with focusing on the topics and themes that have the potential to deliver significant strategic value to your customers and your organization. That value is realized when the innovation is embraced by the market, so adoption rates should be used as a critical measure of innovation success.

Fortunately when proposed innovations are clearly aligned to strategic goals, the benefits of the innovation are often obvious to all. This helps generate internal momentum, unlocking the time and resources the initiatives will require.

In any case, this will be hugely helped by the personal involvement of a senior leader, to provide a communications bridge to the rest of the leadership team, but also to champion and evangelize on behalf of the innovation. In the course of the development the team will often need to get decisions turned around quickly, so ideally the decision-making process should be agreed in advance.

Leaders are also essential to champion and sustain an innovation mindset in the whole team. Over time innovation successes should be shared with the broader organization, driving a habit of repeatable innovation, which becomes part of business-as-usual.

When it comes to innovation, many organizations overlook their greatest asset – the expertise and creativity of their existing co-workers. Where the topic of innovation allows, the innovation process can be transformed by involving a broader ecosystem. Differing perspectives help stimulate creativity, while a diversity of knowledge and experience can unlock unexpected solutions.

To enable the innovation to adapt to changes ‘in-flight’, focus on agile processes and structures. This will provide the flexibility to scale up or down rapidly as needed.

To become truly innovation-led, the practice of successful innovation needs to become part of your organizational DNA. This requires organizations to be open to new ideas from co-workers across the organization, as well as from external sources. This can often involve collaboration with your broader ecosystem and could also include hiring in expertise e.g. on a contract or professional services basis. This should be planned to include knowledge transfer so that over time the organization builds up its own “innovation muscle”.



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Fujitsu promotes a Human Centric Intelligent Society, in which innovation is driven by the integration of people, information and infrastructure. In the Europe, Middle East, India and Africa region (EMEIA), our 28,000-strong workforce is committed to Digital Co-creation, blending business expertise with digital technology and creating new value with ecosystem partners and customers. We enable our customers to digitally transform with connected technology services, focused on Artificial Intelligence, the Internet of Things, and Cloud - all underpinned by Security. For more information, please visit <http://www.fujitsu.com/fts/about/>

ABOUT TEKNOLOGY GROUP



teknology Group is the leading independent European research and consulting firm in the fields of digital transformation, software, and IT services. It brings together the expertise of two research and advisory firms, each with a strong history and local presence in the fragmented markets of Europe: CXP and PAC (Pierre Audoin Consultants).

We are a content-based company with strong consulting DNA. We are the preferred partner for European user companies to define IT strategy, govern teams and projects, and de-risk technology choices that drive successful business transformation.

We have a second-to-none understanding of market trends and IT users' expectations. We help software vendors and IT services companies better shape, execute and promote their own strategy in coherence with market needs and in anticipation of tomorrow's expectations.

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