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Inspire the Next

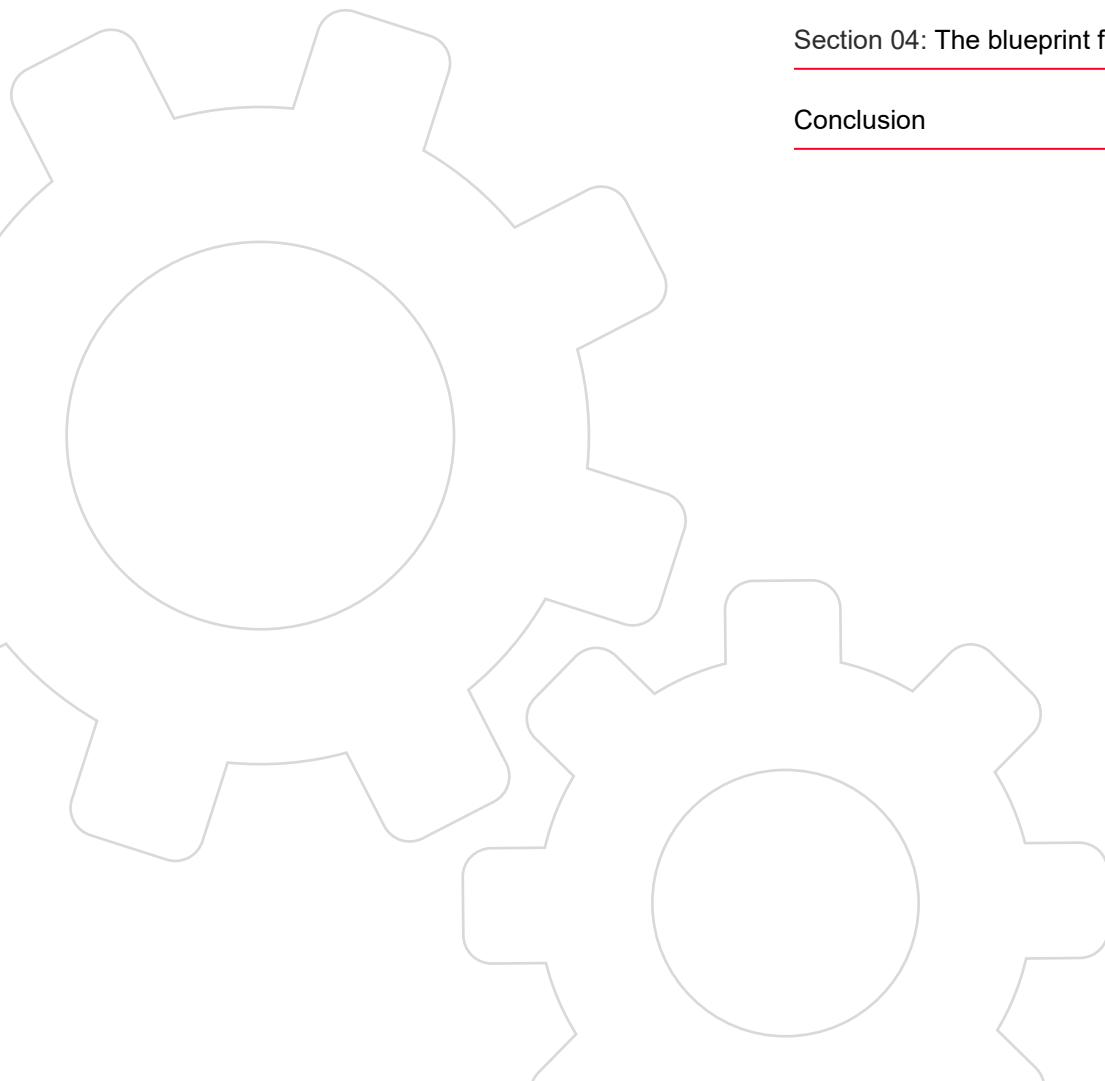
Co-creating the Future

THE FUTURE IS OPEN TO SUGGESTIONS

Hitachi Social Innovation

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Foreword

Co-creation

(n.) The process of innovating with partners in order to create new value for business stakeholders, for customers, and for society at large. >

Firms today must contend with more complex projects, intertwined consumer markets, greater competition and the trend towards instant, and constant, customer feedback. Traditional approaches to business – solo, private innovation and simple, linear supply chains – cannot adequately address these challenges. So businesses are turning to collaboration, bringing new partners into their ecosystems that all benefit from working collectively towards a common goal. This ‘collaborative creation’ is a dynamic way not only to successfully navigate the new business conditions, but also to solve society’s biggest challenges. Technology such as the Internet of Things (IoT) plays a key role in driving and facilitating these new partnerships – enabling more integration and the availability of vast amounts of data to multiple stakeholders.

Hitachi is one of the few companies in the world with decades of experience in developing both operational technology and information technology, the core building blocks of IoT.

But Hitachi’s technological expertise only tells half the story of how it is becoming an innovation partner of choice for the IoT era. Operating at the intersection of business, government and society, Hitachi is a true leader in ‘collaborative creation’.

About the research

Hitachi has commissioned Longitude Research to explore the extent to which co-creation is being adopted by companies across industry sectors and the benefits of a more collaborative approach to innovation.

Our research surveyed 554 senior executives and directors across a range of sectors in Europe to understand the state of co-creation, and its impact on Social Innovation. Over 80% of companies surveyed reported revenues of up to \$5 billion a year, with the balance (17%) in excess of \$5 billion.

The research was conducted by Longitude Research on behalf of Hitachi. >

We'd like to thank the following interviewees for their time and insights in shaping these findings (listed alphabetically, by surname):

Michael Bartl Author of *The Making-of Innovation*, CEO of HYVE

Karen Boswell OBE Managing Director, Hitachi Rail Europe

Lynn Collier Chief Operating Officer, Hitachi Data Systems, UK & Ireland

Alistair Dormer Chief Executive Officer, Railway Systems Business Unit, Hitachi, Ltd.

Torben Gleesborg Director of the Technical and Environmental Departments, City of Copenhagen

Greg Kinsey VP of Industrial IoT Solutions, Hitachi Insight Group

Peter Bjørn Larsen Director of City Data Exchange – Copenhagen, Hitachi Consulting

John O'Brien Executive Vice President, Hitachi Consulting Europe

Dominic Oughton Principal Industrial Fellow, Institute for Manufacturing, University of Cambridge

Frank Piller Professor at RWTH Aachen University and Co-Founder of the MIT Smart Customization Group

Venkat Ramaswamy Hallman Fellow of Electronic Business and Professor of Marketing at the Ross School of Business, University of Michigan

Patrik Sjöstedt General Manager EMEA, Hitachi Insight Group

Claire Thomas Senior Account Manager, Hitachi Consulting

Executive summary

Co-creation has now hit the mainstream. >

By bringing stakeholders directly into the innovation process, from customers to suppliers, and even competitors, academic institutions, NGOs and government agencies, businesses have found a unique way to develop innovative new products and services in an increasingly complex world.

This research explores why co-creation is a crucial strategy for any organisation that wants to deliver true value through innovation – for the business, for their customers, and for society at large.

The report investigates the best methods for achieving successful co-creation. This includes strategies and business models that drive innovative ecosystems. It also encompasses technologies such as IoT and collaboration platforms that are changing the way businesses think about their operations and communications, and the impact these technologies are having on the world of innovation.

It also examines businesses that say they have seen strong evidence that co-creation has led to more commercial opportunities. By looking at the attitudes and behaviours of this group, we hope to shed more light on the best practices for co-creation, and the strategies that can lead to success in this time of massive shift in the innovation landscape.

KEY ISSUES COVERED IN THIS REPORT INCLUDE:

- What does it mean to co-create solutions with your customers and partners? And why has this approach become so central to the way today's organisations compete?
- Who are the pioneers when it comes to using co-creation strategies to solve real-world problems? And what can we learn from these innovation leaders?
- What new models are emerging for collaboration to solve major social challenges?
- What are the barriers to co-creation? And how do you build the right mechanisms to reward knowledge-sharing?
- How do you create a thriving culture of innovation, where knowledge is efficiently distributed, idea-creation is properly incentivised, and parties across the innovation ecosystem have a shared stake in success?

01 | Innovation in innovation

Innovation has been turned inside out. >

The traditional way of doing things – where discrete products were developed behind the doors of R&D labs – has been superseded by a much more dynamic and open approach to innovation.

Co-creation is part of this next-generation approach. Organisations are bringing stakeholders into the innovation process to help create new products, services and projects and to work out how to deliver value in new ways. As well as customers and supply-chain collaborators, these multiple parties could include employees as well as social entrepreneurs, academic institutions, government or public sector bodies (including regulators), start-ups, and in some cases even competitors. In practice, co-creation describes various models, with different organisations approaching the challenge in different ways according to their needs and preferences. This has been spurred on in part by the advent of technologies like IoT and collaborative online platforms that help support connected solutions and innovation ecosystems.

“They’re looking for shared innovation, shared development, and potentially even shared engagement and ownership in the outcome of the project.”

Greg Kinsey, VP of Industrial IoT Solutions,
Hitachi Insight Group

Part of the shift to co-creation involves a move from a solutions-based approach to a collaborative one. “Today, customers don’t always know exactly what they want,” explains Greg Kinsey, VP of Industrial IoT Solutions at Hitachi Insight Group. “In the past 10 or even 20 years, there was a whole movement towards solution-selling. Solution-selling assumes that the customer knows what the problem is. But today, customers don’t always fully understand the problem. There can be ambiguity around the scope of the problem, and there may be multiple paths to resolving it.”

As a result, Kinsey says, customers are looking for a different type of a relationship with their suppliers: more of a partnership. “They’re looking for shared innovation, shared development, and potentially even shared engagement and ownership in the outcome of the project,” he says.

“When you move from selling products to selling solutions, you suddenly need a much larger competence space in your company, which as a mid-sized company you don’t often have in-house – that’s one of the reasons to team up,” explains Frank Piller, Professor at RWTH Aachen University and a Co-Founder of the MIT Smart Customization Group.

Co-creation is becoming an increasingly mainstream business concept, according to Venkat Ramaswamy, Hallman Fellow of Electronic Business and Professor of Marketing at the Ross School of Business, University of Michigan and author of *The Power of Co-Creation: Build It With Them to Boost Growth, Productivity, and Profits*.

“Once upon a time, quality was seen as something intangible, but once the concept was fully understood, companies worked out how to measure quality, and whole quality control management processes were put in place,” says Ramaswamy. “Companies made systemic changes to address quality. I believe the same thing will be true for co-creation, and indeed, some companies are already taking steps in this regard.”

Today, products and services must be tailored to suit individual needs. Innovation can no longer happen in hermetically sealed environments: it must be pursued hand in hand with key stakeholders. For most, this requires a significant shift of mindset. Companies must learn to be more open, to share ideas at an early stage, to adopt the right technologies that can help the process, and to build a culture that encourages collaboration.

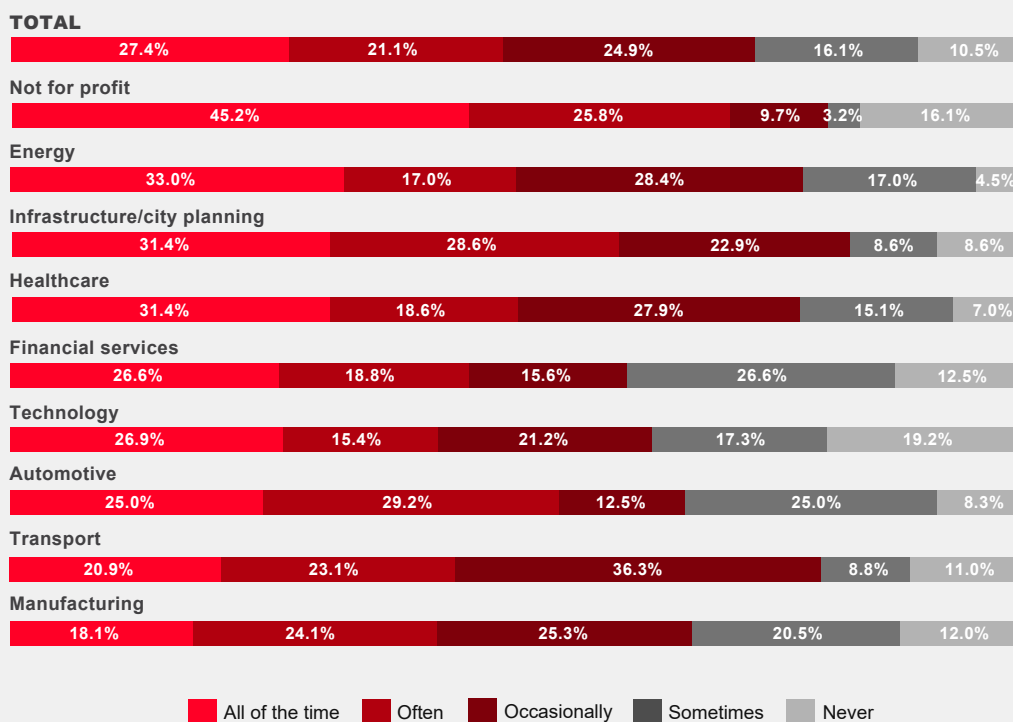
“There is a growing realisation that many sources of innovation lie outside of the business.”

Dominic Oughton, Principal Industrial Fellow, Institute for Manufacturing, University of Cambridge

Collaborating with customers is the most common form of co-creation

The not for profit sector is the most likely to collaborate with customers “all the time”, and tech companies are most likely to “never” do this.

“In the last 12 months, how often has your organisation worked with customers on a collaborative creation project?”



02 | The case for co-creation

Companies are embracing co-creation as a new way of innovating. >

Indeed, our survey shows that co-creation has become a core tool for the development of new projects, products and services: 58 percent of respondents to our survey say they have already piloted or rolled out co-creation as an approach to innovation.

Co-creation is a popular tool for organisations that have already seen the opportunity. Only 3 percent of respondents have discussed and subsequently rejected co-creation as an approach to innovation – suggesting that, for the vast majority, the concept has serious merit. More than half of respondents (57 percent) say that co-creation has transformed their company's approach to innovation.

Clearly, this is a radical shift. Companies believe that by collaborating with a complex and shifting ecosystem of customers, suppliers and other stakeholders they can accelerate their innovation efforts and create more value for their business, their customers and society. It is an approach that brings significant challenges, but also huge rewards – as this report will outline.

1: Technology-led collaboration

Many believe that IoT has the potential to drive companies towards co-creation, thanks to the wealth of data it enables that was simply not there before. “The Industrial Internet, as IoT is also referred to in the industrial space, allows the integration of information technology with operational technology, and drives projects that are based on a radically new, detailed view of challenges and space for creativity,” says John O’Brien, Executive Vice President of Hitachi Consulting Europe.

IoT has been warmly embraced by the rail sector, according to Karen Boswell OBE, Managing Director of Hitachi Rail Europe. “Rail is massively data rich,” she explains. “Hitachi’s capabilities in the area of IoT, through its IoT platform Lumada, allow us to pull together data from many aspects of a running train, to improve performance and inform design and operational decisions.”

But there are many more applications for IoT technology in the co-creation space. For example, Enel, the Italian utility, recently completed a project with American industrial software company C3 to take the data from its network of internet-connected smart meters in order to better predict demand and possible breakdowns before they occur.¹

¹ <http://c3iot.com/enel-increasingly-digital-and-smart/>

The Longitude view >

IoT is a perfect tool for developing collaborative solutions: as the proliferation of connected objects continues in both the consumer and business spaces, organisations are getting access to more data than ever before, which can aid decision-making, provide proof of concept, and help with further iteration of products and services. This is further helped by the fact that many of the various software platforms that are being built around the back end of IoT devices also facilitate open and transparent real-time collaboration.

2: Complexity squared

Co-creation seems ideally suited to complex projects, despite the risks. A number of major cities around the world are now embarking on ‘smart city’ projects, for instance, which often have lofty, challenging goals. Berlin’s Smart City project, for example, aims to boost the use of renewable energies, minimise the side-effects of pollution and stress-related illnesses, and boost the city’s international competitiveness.² Here, the challenges are just too large to tackle through conventional, off-the-shelf technology solutions. Instead, a whole range of small projects must work in harmony.

Why wouldn’t traditional approaches work in such situations? “The complexity of problems that we see as a business is increasing,” says Patrik Sjöstedt, General Manager EMEA of the Hitachi Insight Group. “We are living in a much more complex world. It is simply too big for a single organisation to take on. You need multiple perspectives and different capabilities to come together to actually have a chance to attack and address some of these issues.”

“We are living in a much more complex world. It is simply too big for a single organisation to take on.”

**Patrik Sjöstedt, General Manager EMEA,
Hitachi Insight Group**

3: Putting the customer in the driving seat

Look for a business leader who says that competition is decreasing in their sector, and you will probably be unlucky. Rivalries today are fiercely fought, and stakes are high. One reaction to this is to get closer to customers in order to build brand loyalty, using closer interactions to pre-empt demand.

Co-creation puts customers in the driving seat of the innovation process. It is a far cry from the “build it and they will come”, off-the-shelf approach that has dominated the consumer age. Technologies are now emerging that allow customers to specify products that are perfectly suited to their needs and desires, and which enable businesses to offer mass customisation – which combines the personalisation of custom-made products with the low unit costs normally associated with mass production – as standard.

Even in sectors such as rail, where products have a lifespan of decades, finding ways to predict customer needs is critical. “The rail industry runs off customer service and providing a good customer journey experience,” explains Karen Boswell. “This is true whether you’re in the supply chain or train operations. You need to listen to your customers and come up with services and products that they want, or don’t yet know they want.”

4: On a convergence course

The boundaries between many industries are blurring. This is convergence, and it is shaping business in unexpected new ways. First, car manufacturers had their own in-car entertainment systems displaced by those of tech companies that consumers better associated with quality offerings.³ Now, the car makers and tech firms are announcing partnerships to develop driverless car technology in tandem.⁴ In some cases, co-creation is the only way to avoid the threat of a looming rival.

² http://www.berlin-partner.de/fileadmin/user_upload/01_chefredaktion/02_pdf/02_navi/21/Strategie_Smart_City_Berlin_en.pdf

³ <http://fortune.com/2016/07/25/ford-apple-carplay-android-auto>

⁴ <https://www.theguardian.com/technology/2016/may/03/self-driving-car-google-fiat-chrysler-partnership>

FINDING SOLUTIONS IN NEW PLACES

Co-creation is seen by many businesses as a response to these changing circumstances. And our survey respondents are clear: they see the benefits of adopting co-creation for a number of reasons:

- **57 percent** say that co-creation has transformed their organisation's approach to innovation.
- **52 percent** say that a co-creative approach to innovation has reduced the cost of developing products and services in their businesses.
- **61 percent** say that co-creation has enabled them to produce more successful new products and services.
- **51 percent** say that co-creation has improved financial performance.
- **61 percent** say that co-creation has created new commercial opportunities.
- **54 percent** say that, beyond the bottom line, co-creation has helped to improve their business's social impact.

Many of the products, services, and even industries that will shape our future have yet to be discovered. It is clear that traditional innovation cycles are not producing the results needed for this ever-more competitive, connected and convergent environment. As a result, businesses are starting to be persuaded that the most fertile ground for new products, services and solutions will be found at the intersection between companies, their customers and a host of other players in the innovation ecosystem.

The next sections of this report tackle the challenges to fully embracing co-creation as an innovation tool, and the shared traits of those companies that are doing this best.

⁵ The total number of respondents in the "advanced co-creators" group was 121. The total number in the "less-advanced" group was 433.

FINDING THE ADVANCED CO-CREATORS

To identify a group of leaders in co-creation, we selected those in our survey that strongly agreed with the statement "Co-creation has created new commercial opportunities for my organisation", then looked at how this group responded to the rest of the survey and compared this with the responses of those that did not.⁵

The results show that the 'advanced' group, which has seen commercial benefits from adopting co-creation, is indeed further ahead in the implementation of co-creation than the 'less-advanced' group, in both their attitudes and behaviours.

- Members of the advanced group are more likely to have partnered with other parties on a co-creation project. Advanced co-creators reported a higher incidence of working with employees, customers and supply-chain partners on a collaborative creation project (either 'often' or 'all of the time'). One in four (26 percent) had worked with more than one partner on a co-creation project.
- A greater proportion of advanced co-creators than the less advanced group say that they expect their investment in collaboration and knowledge-sharing technologies to increase in the next 12 months (68 percent to 48 percent, respectively).
- Advanced co-creators are twice as likely to collaborate on the innovation projects of other companies than those in the less-advanced group (33 percent to 14 percent).
- The advanced group is much more likely to have co-creation processes in place – either across some departments or regions or across the whole company – than their less-advanced peers: 51 percent say this is the case, compared with 31 percent of the less-advanced group.

CASE STUDY: Copenhagen City Data Exchange

Copenhagen, Denmark, is moving towards its goal of becoming a smart, carbon-neutral city by 2025. To achieve this, the city is initiating smart city programmes such as smart lighting, sensor-based traffic management, intelligent building management and more. Until now, data from individual smart city initiatives has been kept in silos. Copenhagen and Hitachi have joined forces to launch an integrated data service to eliminate these silos. In addition to smart city data integration, this solution will also enable the integration of data from private companies and open data from public authorities.

The City Data Exchange (CDE), as it is known, is a software-as-a-service solution that will allow for the sale, purchase and sharing of a wide variety of data from multiple sources among all types of users in a city – citizens, city government and business. The exchange enables large companies, small and medium enterprises, startup companies, as well as the academic and public sectors, to come together and integrate multiple sources of information to meet the challenges of sustainability and quality of life.

“ We will know that the CDE project has been a success for Copenhagen if it provides a platform for future business success in the city. When we reach the stage where we have some showcase projects emerging that have been built on the platform we created when we built the CDE, then I will be very happy. ”

Torben Gleesborg, Director of the Technical and Environmental Departments, City of Copenhagen

This service streamlines the analytic process by eliminating the need to rebuild the big-data plumbing for each analysis, and eliminates the big-data silos that make it difficult to share information among entities and constrain innovation. Over time, it can be used to integrate data from multiple sources, such as demographics, crime statistics, energy consumption, air quality sensors and traffic sensors.

Some participants in this marketplace will be interested in selling or providing data for free, subscribing to

data, or both supplying data and consuming data. Entrepreneurs and application developers will be able to use the data to develop new services and software solutions for their customers, such as benchmarking energy consumption, finding an available parking space or determining where best to locate a business.

Gehl Architects studies urban foot traffic and public space usage to help cities create better public space and public life. The company will use access to new data to improve their urban space analysis – by combining different data sources, CDE illuminates some of the typical blind spots of public life studies, leading to better informed design decisions and policy making.

“ With the CDE, a project we worked on with both the city of Copenhagen and the larger region, we’ve delivered a solution that has never been designed or implemented before. It shares some similarities with existing solutions, but it’s a completely new product. That, for me, is the main differentiator between consulting and co-creation. It’s your ability to build something new to solve an extremely complex challenge or problem that you’ve not managed to solve with normal product solutions in the past. ”

Peter Bjørn Larsen, Director of the City Data Exchange – Copenhagen, Hitachi Consulting

CAR MAKERS: CO-CREATION TRAILBLAZERS

For nearly two decades, the automotive sector has exploited the potential of co-creation to generate innovation both in its product ranges and its engagement with consumers and stakeholders.

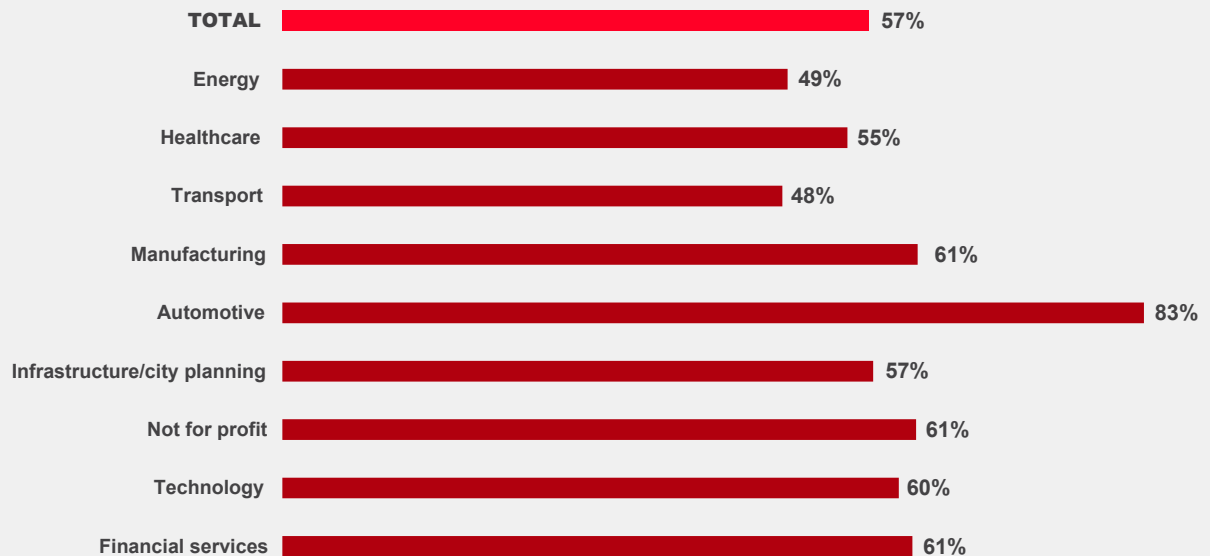
The sector’s successful track record is reflected in our survey’s findings, which show that over four-fifths of automotive firms (83 percent) agree that co-creation has transformed their approach to innovation, compared with 57 percent for all industries.

The most significant benefit has been how car makers now collaborate with consumers to source and test designs and explore emerging-market opportunities.

Automotive is ahead of the pack in implementing a collaborative approach to innovation

By sector, the automotive sector is the most likely to say that co-creation has transformed their approach to innovation.

“Do you agree with the statement ‘Co-creation has transformed my organisation’s approach to innovation’?”
*Total of “Strongly agree” and “Somewhat agree”.



This is perhaps unsurprising given that the cost of designing and manufacturing a new vehicle is so prohibitive, which puts the onus on manufacturers to give their products the best possible chance when they're released onto the market.

The Longitude view >

The automotive sector is in the middle of a radical shift, as a number of transformative factors converge. Connected cars are becoming increasingly commonplace, and a driverless future for the automobile looms large on the horizon. The biggest fear for carmakers is that the public will stop viewing cars as a desirable product, and begin to see them as a service. It's this desire to continue creating relevant and attractive products that is spurring the automotive sector towards co-creation.

IMPROVING PRODUCTS

Crucially, progressive car makers are no longer relying on simplistic market research or focus groups when testing the potential of new products. Instead, they are sourcing consumer feedback at the design stage to ensure that their products meet or exceed market expectation, while gaining a competitive edge over rivals. BMW, for example, has developed a 'Co-Creation Lab',⁶ a virtual community where consumers can offer their opinions on its designs, submit their own ideas, and get involved with the development of concept vehicles. This plugs consumers into the design process from inception through to potential completion, giving them a very real and vested interest in the finished product.

⁶ <https://www.bmwgroup-cocreationlab.com>

ENGAGING STAKEHOLDERS

The auto sector has also reached out to key internal and external stakeholders, including suppliers, dealers and employees. For instance, Ford's Aligned Business Framework was launched in 2005 to enable it to share information with suppliers at the earliest stages of design. The aim was to boost trust, transparency and supply-chain efficiency and it has subsequently led to closer working relationships, earlier access to innovative supplier-sourced design features⁷ and, importantly, lower production costs. CSR Europe, the business network for corporate social responsibility, runs a working group on supply-chain sustainability that brings 12 European car manufacturers together to enhance sustainability in their supply chains.⁸

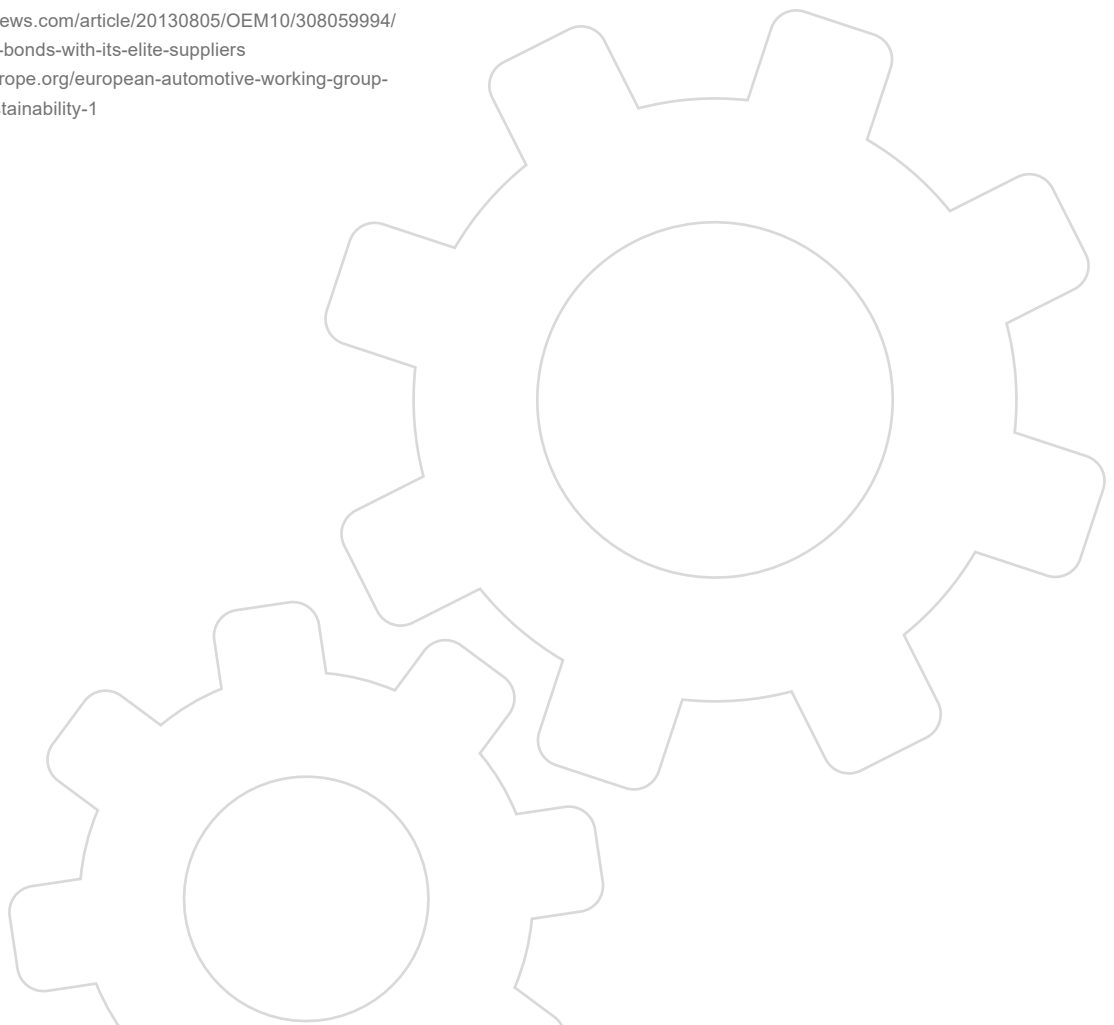
While more work still needs to be done within the auto sector – perhaps surprisingly, only 67 percent of automotive firms in our survey believe they have the right culture for co-creation – the success of its existing collaborative projects offer proof that co-creation can benefit all.

LESSONS FOR OTHER SECTORS

While there are clearly some great examples of co-creation in action across sectors such as energy, healthcare and transport, in general, these sectors have some work to do if they want to achieve the same levels of performance as in the automotive sector. For example, while 38 percent of automotive sector survey respondents say they collaborate with non-competitors in their sector 'often' or 'all the time', only 25 percent of energy and healthcare sector respondents say this, and only 17 percent of respondents from the transport sector. Industry collaboration has taken the auto sector strides ahead in terms of setting common standards and working to solve some of its bigger challenges, like driverless automation and fuel efficiency. By learning lessons such as these, healthcare, energy and transport companies could stand to make the same leaps.

⁷ <http://www.autonews.com/article/20130805/OEM10/308059994/ford-strengthens-bonds-with-its-elite-suppliers>

⁸ <http://www.csreurope.org/european-automotive-working-group-supply-chain-sustainability-1>



03 | Unleashing the power of co-creation

Enthusiasm for co-creation is high: >

Of our survey respondents, 58 percent say they are piloting or rolling out co-creation projects, and 47 percent say that they have a clear and coherent co-creation strategy in place.

For many businesses today, however, co-creation is an aspiration, rather than a fully formed strategy. Just under a third (31 percent) of our survey respondents say that co-creation has had no impact on their business so far, and well over half (57 percent) say that they have yet to put processes and workflows in place.

What is causing this disconnect between enthusiasm for co-creation and full implementation? “The time, effort and money involved in launching co-creation projects are the biggest external barriers to co-creation – they have the potential to put you at a competitive disadvantage in the short term,” says Peter Bjørn Larsen, Director of the City Data Exchange in Copenhagen for Hitachi Consulting. “For companies that allow these barriers to get in the way, an off-the-shelf solution will always be preferable, despite the potential pay-off that can come through embracing co-creation.”

Another issue is the challenge of defining the level of resources that should be allocated to the project.

“The Copenhagen CDE project [see above] took a year and a half to get through the design phase,” Larsen explains. “Of course, you need to build this into your project plan. Naturally, the costs that this brings will act as a barrier to some parties.”

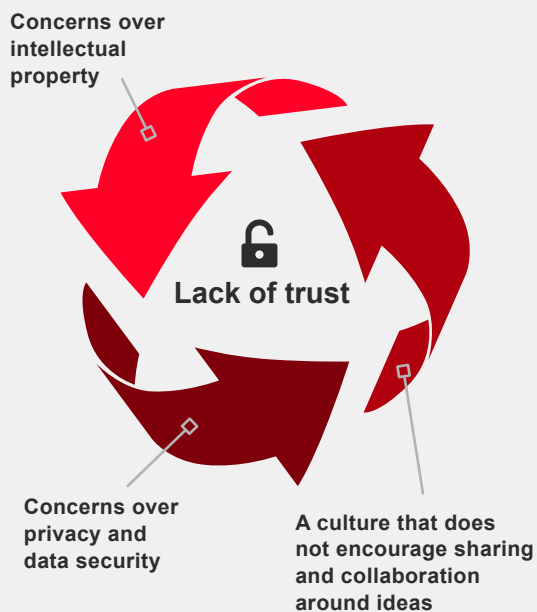
However, our survey respondents do not rate access to capital as a significant obstacle: just 16 percent say that insufficient funding is a major barrier to co-creation. In fact, investment in collaboration and knowledge technologies has ramped up over the past 12 months, with 45 percent of survey respondents saying they had increased their investment in this area in the past year, and 52 percent forecasting an increase in investment next year. It therefore seems that co-creation is starting to win the argument against the high investment required to embark on such major projects. So what, then, are the barriers?

THE END OF “WE INVENTED THIS HERE”?

The greatest barriers to co-creation, according to our survey respondents, are concerns related to the sharing of information and data with other organisations. Concern over intellectual property (IP) tops the list, with 29 percent of respondents highlighting it as their main barrier to co-creation. Close behind are concerns over privacy and data security, at 28 percent, and the lack of a culture that encourages sharing and collaboration around ideas, also at 28 percent.

Barriers to co-creation

A trio of barriers to co-creation shares one common theme: "Lack of trust"



Nervousness around IP is natural, given that co-creation is such a new way of operating. In the information economy, IP is seen as a key wealth creator, as companies rely more and more on intangible assets for growth.⁹ In any new project, companies want to make sure that they benefit from the intangible assets that are produced. The best way to overcome this challenge may simply be to talk about it, suggests Hitachi's Lynn Collier: "It's a discussion that we do need to have very much at the beginning of the process. By tackling the issue head on at the beginning of a co-creation process, you can avoid IP becoming an issue later on. Transparency is key here."

The Longitude view >

"But what about my IP?" is a common cry from executives considering co-creation, our survey suggests. But IP issues can be resolved relatively painlessly with partners at an early stage – it seems likely that retaining the IP on a new product or service will be more important to one party than another in any venture, and this should be discovered early, and talked about openly.

Data sharing can also be a sore point in a world where intangible assets are becoming ever-more important to competitive advantage. But the same technology that allows companies to share data also allows them to anonymise it, share only the necessary data points, and do both of these things safely and securely. The willingness to co-create with partners is the only pre-requisite for entering into such a partnership – it's not necessary to give away the company's secret recipe while doing it.

If two companies collaborate on new IP, traditional protection measures should be introduced to ensure that the IP is secured, whether it be via a joint ownership model or where co-creation roles are clearly differentiated.¹⁰ Any assignment of rights should be clearly defined from the beginning of a project through negotiated agreements and licences where required, and restrictions drawn up on what each co-owner is able to do with the resulting IP.

Different co-creation partnerships have different degrees of openness around IP, and if you're totally open, the challenges of IP and ideas getting stolen are bigger than being more or less not that open and using a different instrument.

In instances of co-creation based on a company's existing IP, relevant patent protection should be put in place, confidentiality agreements signed, restrictive covenants introduced and access to trade secrets restricted if and where applicable.

It is a lot easier to deal with IP issues related to products that are co-created with consumers. Companies that commission crowdsourcing projects, for example, can explicitly list terms and conditions on their sites to protect against future claims. Some existing co-creation platforms also insist that participants sign non-disclosure agreements, or at the very least that user accounts and logins are set up before any access is granted; the latter is a mandatory requirement for consumers wishing to take part in, say, BMW's Co-Creation Lab (see 'Car makers: co-creation trailblazers' on page 8).

⁹ http://www.wipo.int/edocs/pubdocs/en/intproperty/888/wipo_pub_888_1.pdf

¹⁰ http://www.i3pm.org/Event-1/Rayna_and_Striukova_the_IP_Challenges_of_Co-Creation.pdf

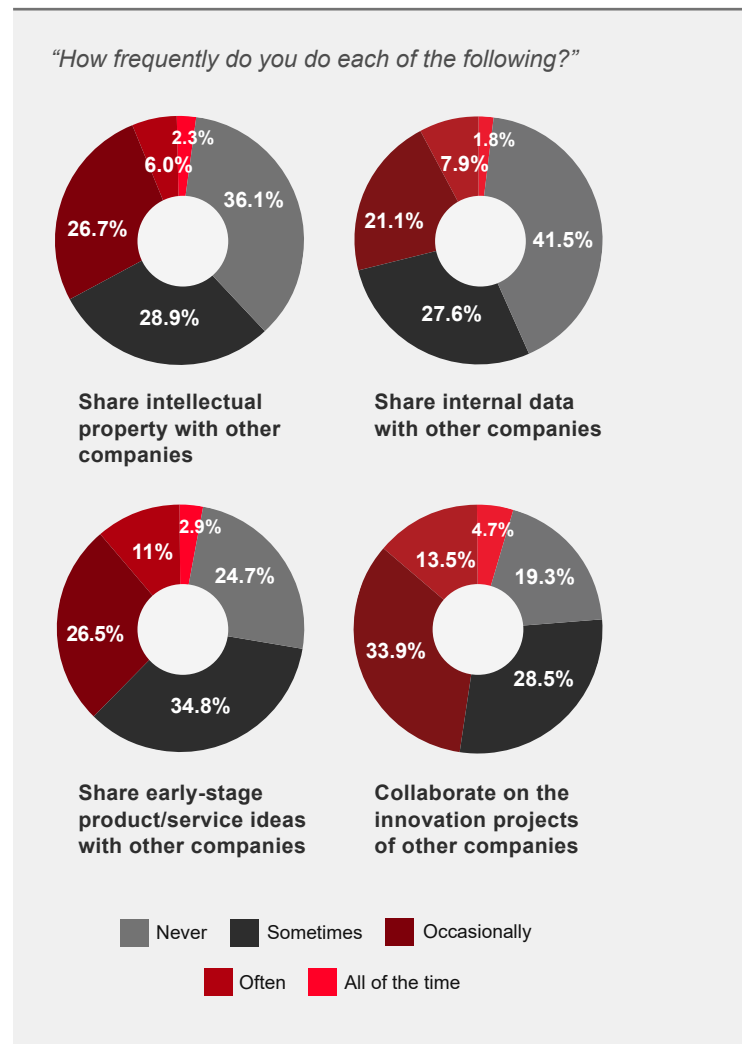
A different, more radical approach emerges when companies reject traditional approaches to IP altogether. In the UK, for example, leading pharmaceutical companies including GSK, AstraZeneca, Janssen, Lilly and Pfizer have given researchers unprecedented access to their 'virtual libraries' of undeveloped molecules in an attempt to find new uses, and this has already resulted in some success.¹¹ In its search for new compounds, Lilly has created a platform that allows scientists to submit compounds for screening – and the scientists themselves get to keep the IP on their compounds, should Lilly be interested in developing them.¹²

DATA DANGERS?

It could be argued that fears about data security are overplayed: platforms are already available that address the data concerns that arise when co-working with third parties. For example, leading cloud-based supply-chain software ensures that suppliers are only able to access data that is relevant to them, negating data risks entirely by putting confidential company information out of reach. None of these systems will remain completely invulnerable forever, but with the right attitude to security, and by using the right tools and practices, risks can be managed and sharing can become a feasible prospect.

Indeed, companies have already embraced systems that they believe offer the necessary safeguards for co-creation. Consumer-goods giant Procter & Gamble has been sharing its data with external companies for several years via its secure internet portal.¹³ Through it, the company has exchanged its R&D and expertise with companies and individual innovators to enable co-creation on new products. So successful has the co-creation programme been that the company estimates it makes up 35 percent of P&G's innovations and has more than doubled the productivity of its R&D department.¹⁴

WORDS VS ACTIONS



The concerns over IP and data-sharing act as a significant barrier to innovation. Currently, few organisations actually share data – the charts above show how sharing data and IP is not the norm, even if collaborating is becoming increasingly common.

Our 'advanced' group of co-creators from the survey was three times more likely to share intellectual property than its counterparts (17 percent compared with 6 percent), and also more likely to share internal data with other companies (14 percent compared with 9 percent).

¹¹ http://www.pmlive.com/pharma_news/pharma_firms_open_up_drug_libraries_to_uk_researchers_588073

¹² <http://www.ddw-online.com/business/p217613-collaboration-for-innovation-is-the-new-mantra-for-the-pharmaceutical-industry-spring-14.html>

¹³ <http://www.pgconnectdevelop.com/>

¹⁴ <http://www.computerweekly.com/feature/The-era-of-co-creation>

CASE STUDY: Applying digital know-how with the NHS and patients to drive change

Since 2013, Hitachi has been involved in a collaborative project with Salford Royal Foundation Trust (SRFT) and Salford Clinical Commissioning Group (SCCG) to co-design, prototype and incubate a web-based solution to be used in a trial of a new service for the prevention of type-2 diabetes (T2D). T2D is a major area of expenditure and a strategic concern for the NHS, with more than 10 percent of its £116bn annual budget being spent on diabetes related treatments. The project leverages Hitachi's extensive lifestyle management experience in the healthcare sector in Japan, where similar projects have supported patients to improve their lifestyle as part of a targeted plan to reduce weight, combat impaired glucose regulation (IGR) and improve overall health.

As well as the development of a new digital solution to support the IGR initiative in Salford, the project included the development of a service improvement and change management proposition, based on data-driven insights extracted from data analytics. One of the more challenging propositions of the project was establishing consensus and aligning goals across stakeholders. A key factor for the success of the project was to leverage data on patient activity, progress and engagement. The information was then refined with the stakeholders to develop a data analytics offering providing the key tools for SRFT to be able to make sense of the data and translate this into an agenda for improvement. The IGR service trial has allowed for the development of a product-driven, data-rich, service-based solution for T2D prevention. With the incidence of T2D growing alarmingly around the globe, and with other long-term chronic conditions yet to be tackled from the prevention perspective, the benefits of developing a technology-enabled, patient- and data-driven approach are clear.

BREAKING BAD: TEARING DOWN SILOS

Co-creation is already proving to be a formidable ally against conventional restrictive practices, developing closer relationships with consumers at every touchpoint and breaking down silos.

The perceived benefits of this are reflected in our survey's findings that investment in co-creation technology is increasing: last year saw a 44.5 percent slight or significant increase, while next year is expected to hit 52 percent.

Engagement platforms have become instrumental in breaking apart the silos that can plague companies, allowing entire departments down to individual employees to connect, acquire, and share knowledge with one another.

One of the UK's leading healthcare specialists, Bupa, was previously shackled¹⁵ to a network of 12 individual intranets across 11 countries, which created an impenetrable mass of silos. By rolling out a single unified engagement platform, 'Bupa Live', departments and employees were able to collaborate more efficiently across the globe and different time zones. Based on an initial survey of just 700 users, the savings credited to Bupa Live were £190,000 in year one,¹⁶ with potential savings in the millions across the entire user base.

Deploying such engagement platforms has proven time and again that it can bring benefits. Telstra, the Australian communications company, asked for feedback on its business development processes, and altered both its processes and technologies as a result.¹⁷

More leftfield ways to boost employee engagement include 'working out loud',¹⁸ whereby employees at companies including leading investment banks¹⁹ share what they are working on to aid collaboration, interdepartmental engagement and resources pooling.

¹⁵ https://www.jivesoftware.com/wp-content/uploads/2015/08/233588_Jive-n_Bupa-Case-Study_073115.pdf

¹⁶ [http://www.ey.com/Publication/vwLUAssets/ey-the-power-of-video/\\$File/ey-the-power-of-video.pdf](http://www.ey.com/Publication/vwLUAssets/ey-the-power-of-video/$File/ey-the-power-of-video.pdf)

¹⁷ <https://hbr.org/2015/04/why-no-one-uses-the-corporate-social-network>

¹⁸ <http://www.kmworld.com/Articles/Editorial/ViewPoints/Does-Your-Company-Work-Out-Loud-107132.aspx>

¹⁹ <http://www.brandhook.com/case-studies/brand-growth/co-creating-with-competitors/>

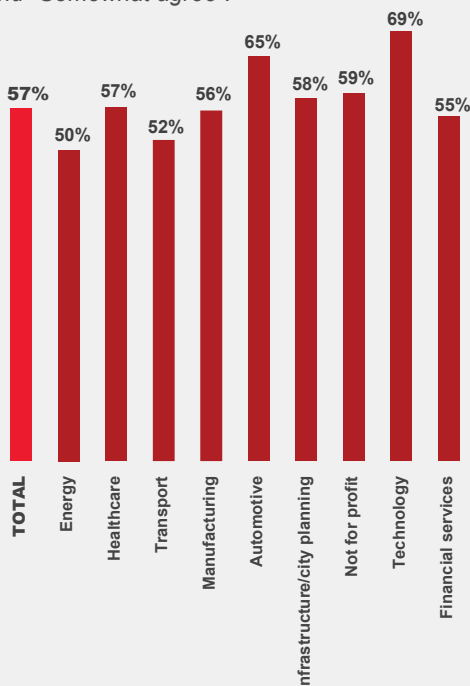
SOLVING PROBLEMS AT THE CROSS-ROADS OF BUSINESS AND SOCIETY

While much emphasis is placed on its benefits for enterprise and consumers, co-creation is also playing a key role in transforming the relationship between society and corporations, offering solutions to a wide range of public issues – from health to public transport.

The belief that co-creation can bring about genuine Social Innovation is highlighted in our survey, with the majority of respondents (57 percent) believing that it has the ability to solve problems where business and society interconnect. Typically, enterprise has embraced philanthropy and corporate social responsibility programmes to bring about Social Innovation – but co-creation is now playing an increasingly important role: 61 percent of respondents state that it has helped their organisation to improve its societal impact.

They agree on the potential to use co-creation to solve societal challenges

*“Is co-creation suitable for solving problems at the intersection of business and society, through Social Innovation?” *Total of “Strongly agree” and “Somewhat agree”.*



“The key question is, if money isn’t the only metric of success, then what else is? With co-creation, businesses need to think again about how to measure success in non-commercial arenas.”

Dominic Oughton, Principal Industrial Fellow, Institute for Manufacturing, University of Cambridge

IMPACTING LIVES

Such projects can have a wide-ranging effect on every aspect of society – whether it be creating products and services that improve the lives of consumers or addressing environmental issues.

Hitachi Consulting, for example, is working in the UK to bring the power of near real-time analytics to South West Water’s employees and make company processes more agile, improving their proposition for customers and stakeholders. Hitachi is delivering a range of IoT solutions combining operational technology, including Supervisory Control and Data Access (SCADA) systems and telemetry, with enterprise IT systems. This is enabling South West Water to make faster, more informed decisions to improve customer service, predict operational performance, deploy maintenance operatives more effectively and comply with industry regulation such as Open Water and the introduction of Outcome Delivery Incentives.

“South West Water has ambitious plans to change the way data is used, to make it a key strategic asset within its organisation, and we are delighted to be working closely with their team to help realise this goal”, says Claire Thomas, Senior Account Manager at Hitachi Consulting. “There is a significant amount of change taking place across the water industry at present. The opportunities for implementing new technologies present fantastic possibilities in terms of improving business processes and customer experience. Hitachi’s expertise puts us in an ideal position to help South West Water achieve optimised performance and deliver enhanced customer service.”

04 | The blueprint for co-creation

As mentioned in Section 2, our survey identifies a group of 'advanced co-creators' that have seen tangible commercial benefits from rolling out co-creation strategies. This group has much to teach us about the best way to approach co-creation.

1: Embrace customer-led design

Until recently, customer needs analysis was a crude process, involving talking to focus groups to understand customer desires and appetites. The next step was collecting data about customer needs. Now, customers are being brought directly into the innovation process. A good example is the work undertaken by Hitachi-Omron Terminal Solutions in collaboration with KEBA, a leading industrial automation group, to develop a piece of technology that would allow bank customers to deposit cash at ATMs as well as just withdrawing it. A number of KEBA's customers such as Commerzbank were brought into the project to better understand customer needs from such a machine. A comprehensive co-creation approach has enabled all parties involved to actively shape the final product according to customers' needs and preferences.

Over two-thirds (69 percent) of our advanced co-creators group have worked with customers on co-creation projects either often or all the time over the past year, compared with two-fifths (43 percent) of the less-advanced group. By engaging with buyers at the initial stage of scoping out a solution, and working with them to create an approach that is tailored to their needs,

companies can develop a mass-customised approach that works well for both supplier and customer.

However, there are cultural lessons that must be learnt here. "You have to talk differently to end consumers than you would with a supplier, for example," explains Michael Bartl, author of *The Making-of Innovation*, CEO of HYVE. "You also have to find different ways to motivate consumers to contribute to co-creation projects than the incentives you would use for a regular supply-chain company."

So getting closer to customers is seen by respondents as a key benefit of co-creation. Both the advanced group and the less-advanced group feel that the most important benefit of co-creation is the "increased likelihood of meeting customer needs" (28 percent and 24 percent respectively).

2: Save time, energy and money through smarter partnering

The Longitude view >

For some organisations, co-creation can be as simple as allowing the customer to personalise the product they're buying. For others, it could be a radical shift in the way they approach their business. The boundaries around the definition of co-creation are deliberately wide, because there are so many different ways to approach it. But two things are shared across all of these approaches: transparency and consensus. Technologies can play a role here in

putting minds at ease, and structuring interactions, but before these technologies can be used, the right mindset and culture need to be put in place.

Finding the right partners for a project can be a more sustainable alternative to developing resources in-house. Picking the right partners is therefore crucial. For example, advanced co-creators are twice as likely to have worked with supply-chain partners on a co-creation project than those that are less advanced (67 percent and 34 percent respectively).

Working with suppliers through co-creation can be a great way to reduce costs and improve the efficiency of existing production or services. Indeed, the advanced co-creators are more likely to agree that co-creation is perfectly suitable for working with stakeholders to incrementally improve an existing product or service. It even seems that the group that has seen commercial benefits from co-creation prefers to work on incremental innovation projects than on ground-up co-creation projects: this group is three times more likely to say that they prefer this to working on brand new projects (26 percent compared with 8 percent of the less-advanced group).

However, there is still room for better, more frequent partnering across the board. Just over a quarter of the advanced group (26 percent) say that in the past 12 months they have worked with more than one partner frequently or continually on a co-creation project, along with 15 percent of the less-advanced group.

3: Leadership should inspire the co-creators of the future

An open approach from the top to new types of innovation is critical to successful implementation of co-creation. Of respondents, 18 percent say that a lack of management buy-in is one of the two biggest hurdles to implementing co-creation – and 42 percent say that their CEO makes a major, measurable contribution to brokering innovation partnerships with external organisations.

However, only 17 percent of respondents overall say that their leadership team is actively driving co-creation. And the advanced co-creators are well ahead here: 43 percent of the advanced group say that their leadership team is excellent at driving co-creation, compared with just 10 percent of the less-advanced group.

4: Use the right tools to co-create effectively

Our advanced co-creators group have also embraced the need for technologies and workflows to enable co-creation. Over half of this group say that their investment in collaboration and knowledge technologies had increased or significantly increased in the previous 12 months (60 percent compared with 40 percent of the less-advanced group). A greater proportion of both advanced and less-advanced co-creators say that they expect investment in these technologies will increase in the next 12 months (68 percent and 48 percent respectively).

Advanced co-creators are also much more likely to have established workflows in some departments/regions or across the whole organisation: 51 percent of advanced co-creators and 35 percent of the less-advanced group.

CO-CREATION PROCESS

To achieve the creation of Social Innovation that brings high value, the first step is that Hitachi collaborates with customers to identify challenges, establish visions, and develop solutions. Then, the next step is to create new solution concepts that provide greater value, and rapidly develop prototypes and perform demonstrations to customers. Based on the results of the demonstration, the finalised solution is validated at the customer site and then to be launched into the market successfully. These processes are achieved by Hitachi’s unique development of NEXPERIENCE, a collective term for the customer collaborative creation methodology, and Hitachi’s technology platforms, which are accumulated over many years.

NEXPERIENCE is a systematized methodology of the approaches, tools, and space for investigating new services and business models. As to carry out the collaborative creation activities with customers, NEXPERIENCE is contributing to explore new business through encouraging productive meetings and active ideations.

The uniqueness of NEXPERIENCE is that the effective approaches and tools are developed for each process of “sharing vision with customers,” and “new concept creation, prototype development, demonstration.” Moreover, NEXPERIENCE/Space is an environment where facilitators and participants can freely apply any equipped tools for discussions. NEXPERIENCE is capable of accelerating customer collaborative creation from conducting in-depth discussion with a holistic perspective, utilizing creativeness, and shaping mutual understanding. There is one NEXPERIENCE/Space in Tokyo and a second opened recently in Silicon Valley. Two more will open soon in the UK and China.

Hitachi’s goal with NEXPERIENCE is to lead on co-creation by coming up with a set formula for working on such projects, while also pursuing its goal of Social Innovation through such projects – working with partners on projects to bring measurable social benefits.



LUMADA: How Hitachi is constructing IoT solutions through collaborative creation

The IoT revolution is under way. People, data and machines are coming together to enable more informed decisions and better outcomes. Hitachi is among the few major multinational companies with decades of experience and deep expertise in both operational technology and information technology, and it has developed a new IoT platform, Lumada, based on proven, open and flexible architecture.

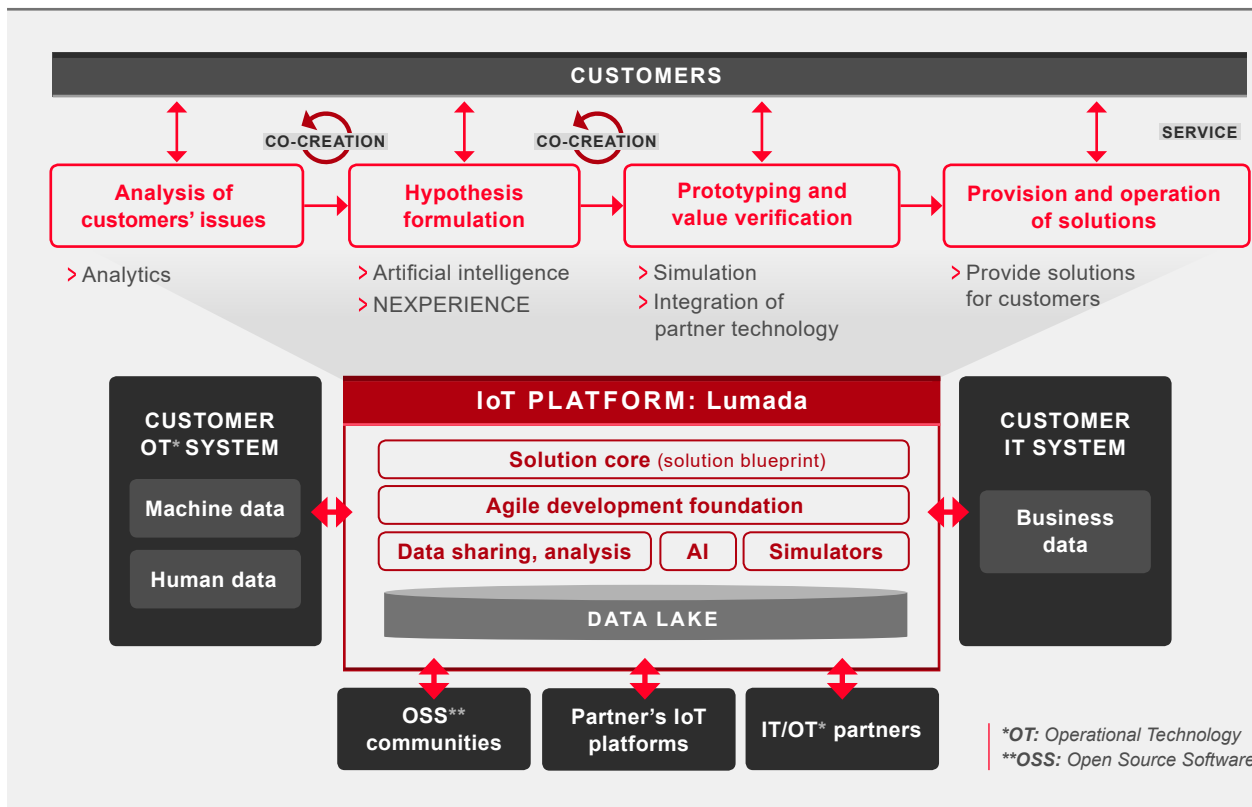
Lumada was specifically designed to address the challenges associated with IoT solution creation leveraging Hitachi’s rich operational technology and information technology expertise. Its uniquely open and adaptable architecture makes it broadly applicable for a wider array of industries and use cases, providing an extensible, flexible platform from which Hitachi and its customers and partners can easily tailor solutions or co-create.

Lumada provides a comprehensive framework of key IoT solution building blocks, including edge device and connectivity integration, application integration, data integration and orchestration, data repositories, stream

and batch data processing, advanced analytics, artificial intelligence, simulation tools, repeatable solution blueprints, and enterprise services.

“Where we spend a lot of time with customers is talking about the business outcomes they desire,” explains Lynn Collier, Chief Operating Officer at Hitachi Data Systems UK & Ireland. Off-the-shelf solutions are no longer sufficient to solve the most complex challenges that businesses face, she believes. “Technology for technology’s sake was great five or 10 years ago. Everybody wanted the latest shiny new widget in their IT department, but now the conversation is about the outcome that technology can drive, be it hardware, software, or services. This plays very well towards co-creation.”

Hitachi’s robust IoT portfolio includes services and solutions for public safety, CDE’s for smart cities, renewable and sustainable energy, intelligent transportation, precision agriculture and manufacturing, water treatment and building systems, sustainable mining, and more. Hitachi is working collaboratively with its many IoT ecosystem partners to co-create new offerings on the Lumada platform.



Conclusion

The traditional internalised approach to innovation is no longer fit for purpose in a world where customers expect personalised solutions, the challenges are more complex, and the pace of change is relentless. >

Alistair Dormer, Chief Executive Officer, Railway Systems Business Unit, Hitachi, Ltd., is very positive about the role of co-creation in planning and implementing complex infrastructure projects, for example. “The big project that Hitachi is currently delivering in the UK involves bringing together equity partners to share risk, and has involved creating a number of different partnerships in the supply chain to deliver a very innovative and cost-effective solution to replace all of the intercity trains in the UK. Any one of those companies on their own would not have been able to provide that solution.”

Co-creation is fast become the primary innovation strategy enabling companies to create more value for customers and citizens – faster, more reliably and more cost effectively than ever before. Indeed, 69 percent of survey respondents say that co-creation is a suitable innovation tool for all types of innovation.

Most companies know that they need new strategies to excel in the innovation ecosystem, but a huge shift in mindset is required. Collaborative technology, new models for knowledge-sharing, and the right culture will be essential if organisations are to compete in this new era. Over half of survey respondents (59 percent) say that their company's culture is conducive to co-creation.

The leading innovators of the future will master a much more agile and fluid approach to innovation, where value is co-created with customers, partners, academic institutions, and other segments of society.

Companies across sectors are waking up to the greater societal benefits that can be delivered through a more collaborative approach to innovation – and 54 percent of our survey respondents say that co-creation has already helped their organisation improve its societal impact.

Based on the extensive survey undertaken by Longitude Research, it is clear that an increasing number of companies are already experiencing a range of commercial benefits as well as delivering greater social impact through co-creation.

The findings from the survey demonstrate that the strategic focus of Hitachi's 2018 Mid-term Management Plan on delivering IoT-based innovation through collaborative creation resonates very clearly with leading businesses across industry sectors.



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