

How Companies Address the Disruption Challenge

HYPE Innovation White Paper

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Creating a New Innovation Dialogue To Meet the Needs of Disruption

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Abstract:

Over the past 12 months the idea of disruption has spread rapidly in the innovation community and the wider business literature. Does the term imply a need for significant change in how innovation managers approach their work or how enterprises deal with disruption? In this White Paper, we explore why a new innovation dialogue is needed and how it can be framed for maximum benefit. We will do this against the background of the previous white paper “Growing Adaptive Innovation Through an Innovation Maturity Model”.

Introduction

In June 2014, an article in the New Yorker magazine sparked a global debate on the nature of innovation by suggesting that disruption was a consultant’s land grab: through creating heightened anxiety about hidden disruptive risks among senior executives, proponents of the idea of disruption were able to reap the rewards in consulting fees.¹

Despite the cynicism, it is nonetheless true that disruption has been more of an issue. The business community seems beset by challengers across many major market segments including energy, finance, mobility, construction, transportation, manufacture, and more.

¹ Jill Lepore The Disruption Machine, The New Yorker, June 23, 2014

For the purposes of this paper “disruption” should be taken as change in industry structure. It is not simply about the arrival of a new competitor or improvements/deterioration in competitive conditions. It takes place in the context of an industry structure changing. That in turn should indicate many more players entering a market, a significant drop in the cost of innovation, a change in the power relations within an industry or a new technology that changes market segmentation.

Of course, there are still industries that are anchored by huge capital investments and long term horizons that seem unaffected by disruption. Companies such as Petronas in petrochemicals and Airbus Industrie in aircraft manufacture function on timelines of >25 years.

However, even here, there is a sense of disruption - in commodity prices, in the competitiveness of downstream product categories, for example in plastics, or in the ecosystem of aviation (security procedures in airports, decisions to move to new composites, low cost airlines, the different consumer expectations of people in fast growing economies, new traffic control regulations and technology and so on). Each of these impacts the boundaries of the market and relationships between cornerstone companies and their ecosystems.

The idea of disruption

The idea of disruption, in fact, comes periodically into focus. In the 1990s the source of disruption, or what was then called disintermediation, was the newly arrived commercial internet. In the 1970s, disruption went by the term technological discontinuity - for example the impact of low-level computing was felt in the cash register business where electronic cash registers went from 10% market share to 90% in four years.² In the 1980s the service industries were challenged by outsourcing; prior to that the auto industry in the US and Europe came under pressure from Japanese production techniques. In the 1980s and 1990s, the computer disk drive industry went through successive component and architecture disruptions as disks replaced tape and as disk sizes were continuously reduced, making way for more and more compact computing devices.

Disruptive forces are never far away from the work of innovators. The difficulty lies in making the idea of disruption clear enough and distinct enough to become a useful context for innovation practice and resource allocation.

² Justin Fox The Disruption Myth The Atlantic October 2014.

It is a reality of modern financial reporting, cost reduction strategies and ROI metrics that innovation budgets can be vulnerable even when they are most needed. Innovation departments often function within tight constraints, even though the enterprise might be faced with highly disruptive market forces. The rise of disruption can help reframe the dialogue around innovation, if we can retain clarity around what additional measures companies need to take to be successful. But before moving on to that, how do we experience disruption?

Characteristics of disruption:

Before moving on to a discussion of innovation, based on interviews with HYPE customers and other innovation companies, it is worth trying to identify what makes disruption different from innovation-as-normal.

- **Marketing restructuring.** Disruption, as Clayton Christensen has pointed out, represents a change to the market, that is, some form of structural change or fragmentation or hyper-growth. An Uber that suddenly makes taxi rides a global business, Lending Club, which opens up new channels for working capital finance outside the bank-enterprise relationship.
- **Strategic shifts.** It forces a fundamental change of strategy that reverberates on cost structure, skills, needs and processes. Most companies facing disruption need to find ways of countering new cost structures because disruption is increasingly the result of low costs of innovation and ease of market entry. But equally, a company like Etwater, on the US west coast, is attempting to disrupt sustainability industries by creating a new supply chain around water delivery and use. The common factor in disruption is a new industry structure. At present, the likelihood is that a new industry structure will see many more economic competitors driving the re-definition of a market.

- **Technology shift.** This refers to shifts in technology (such as additive manufacturing, global mobile networks, digital payments, communications standards) that facilitate restructuring. Technology shifts can also be categorized into systemic (shifting from petrol to electric propulsion), component (introducing new or more basic science), and architectural shifts (combining components in new ways), and those that are related to distribution (shifting the burden of innovation to ecosystems of small independent economic entities).
- **Scale.** Much of today's innovation is on a higher scale than the past. Apple with 800 million customer accounts is a good example of a highly scaled platform.
- **New price paradigms.** Disruption typically is accompanied by a radical change of price. For example, an AliPay can use scale to justify dealing with millions of investors to grow its Money Market Fund to \$80 billion in less than a year.
- **Scope of change.** It requires process change and not just business model innovation. A company like Netflix prospers because it has a constant focus on process innovation.
- **The broader economic context.** Its characteristics are long lasting because it is part of the long wave cycle of change. This is not about the post-2008 crisis. It is a fundamental change to how capitalism functions.

- **The broader social context.** As in so many eras in the past, there is a significant social change, as data becomes more empowering. Building participative processes could be the most significant investment a firm makes.

How do innovation managers experience disruption?

The research evidence suggests that executives know they face disruption but they tend to frame it as another competitive pressure rather than as a need to go deeper in innovating their processes or business models.

In IBM's 2013 Global C-suite Study found that two out of five CEOs expected their industry to be disrupted by outsiders (creating radical adjacencies).³ A contemporaneous Accenture analysis revealed that C-suite executives felt their companies were disrupted when as little as 2-3 % of revenues were under threat, in any line of business.⁴ So many executives feel disruption keenly and very quickly.

³ IBM Institute for Business Value Reinventing the rules of engagement, CEO insights from the Global C-suite Study, undated 2014

⁴ Mark P. McDonald Decapitalizing digital disruption Accenture.com, Jan 2014.

2-3 % revenue loss is a small margin and it reflects how tightly run many companies now are. It also reflects what many innovation practitioners know – that the overall accounting record of a firm keeps resources for non-core activities in short supply.

Yet the experience of disruption goes deep.

In the HYPE community, and the wider innovation community, managers' experiences of disruption differ, of course. In the health and hygiene supplies' business there is a sense that market leaders must continuously disrupt the markets that they lead, in order to maintain a competitive position. That would accord with Steven Klepper's view that incumbents typically maintain their positions by keeping the cost of innovation high.⁵

In the restaurant and hospitality business, the experience of disruption arises, because the industry has relatively low entry barriers. New companies need to secure differentiation quickly and then move with velocity into a dominant position in their category – such as healthy eating. The use of new technology (such as Cloud) is crucial for the industry to move at speed. Each new entrant can be a disruptor but this is the condition under which all restaurant chains now function.

⁵ Steven Klepper and Kenneth L. Simons. "Technological Extinctions of Industrial Firms: An Inquiry into their Nature and Causes." *Industrial and Corporate Change* vol. 6 no. 2, March 1997, pp. 379-460

Being able to establish a brand within a rapid timeframe and within the financial constraints of loan covenants allows a chain to take the next step - establishing more outlets, better brand presence and more access to funding.

London-based restaurant chain EAT now organizes its innovation activities, along with IT and operational resources, in the CFO office. The CFO acts as a coordinator for the business and monitors and reports progress. He is no longer the office of record. He has become the coordinator and adjudicator. EAT's innovation strategy is to delegate down to individual units, particularly the responsibility for recruitment and training. So innovation management in effect becomes a combination of resourcing, rapid growth, growing market presence, securing brand uniformity, and providing the technical and financial infrastructure to construct sequential phases of growth, each one larger than the last. The most surprising feature of this structure is the prominence of the CFO.

At global storage and service provider EMC, there is growing recognition, too, that the CFO role is critical in enabling innovation. For EMC, the rate of disruption has never been greater, a sentiment that many interviewees echoed.

Steve O'Neill is the CFO EMEA and believes that innovation in the CFO office has helped EMC in various ways. It has allowed the company internally to make investments that have then been spun out as services to clients, but it has also allowed departments within EMC to foster a more disruptive approach to innovation by onboarding innovative suppliers more readily – those are the new, disruptive start-ups that generally would struggle to find a way through EMC's procurement systems particularly for services with little proof of concept.

The CFO office needs to understand that traditional ROI metrics are difficult to apply at the edge where the company wants to engage with disruptors. At EMC, taking this on board has been a key factor in its capacity to be proactive on disruption.

The recognition of the CFO role as being critical for spurring, organizing and driving innovation, is partly a result of EMC's need for C-suite involvement in creating higher value services and transitioning to income from subscriptions, apps, and fees in place of, or to supplement, product margins. It takes an innovative CFO who can balance the books while changes in revenue models take hold, and who can ensure cash visibility and cash flow across increasingly complex global operations.

Bango, a UK-based carrier billing platform, is increasingly dependent on its ability to provide such global "knowledge logistics". Carrier billing is the process whereby users of the web, particularly app stores, pay for their

purchases through their mobile phones rather than through their credit cards. Bango facilitates carrier billing for over 100 carriers globally and for app stores like Google Play and Amazon. It is the platform that sits in the middle, between the world's carriers and app stores.

According to Ray Anderson, the CEO, Bango is now the world leader in carrier billing enablement. In that sense, the actual core monetized service, the platform, is no longer innovative, let alone disruptive. However, in order to enable services, companies as global as Google need services that help them coordinate their affairs in carrier countries. Equally, carriers need help in securing precisely the right software code and instructions from app stores.

Bango has developed a global coordination service that provides app store owners with regulatory and tax compliance information. Its new platform offers knowledge and coordination, and through that platform it is accelerating the uptake of carrier billing and a 3 to 10 fold increase in customer purchases when carrier billing is turned on. Carrier billing may be the main business, but here the disruptive element is simply knowledge.

Anderson describes his company's core process, now, as friction reduction. "Last year I went to a Nissan factory in the north of England," says Anderson, "in order to learn how to be innovative in a complex system.

By observing how they coordinate their activities we were able to innovate our own services and take about 80 - 90% of the friction out of the carrier billing system for our customers and increased the speed of business."

"We're now like the eHarmony for these companies, the conduit for information that lets people like Google cut their costs. Innovation is about linking and matching people, say at a Google office in Mountain View, with a person in a carrier's compliance department in Indonesia."

At Petronas in Malaysia there is less a sense of acute, continuous disruption. According to the head of innovation at the Petronas chemicals' business, Ross Gilmour, the oil and gas industry takes a long term view anyway, with vast capital expenditures anchoring the company over many years. Fracking, for example, has seen 20 - 30 years of patient investment, experimentation and build-up. Add into that the power distance culture of a country like Malaysia and the innovation requirement is quite unique. The first priority can be simply to understand better where innovation fits within the overall culture of the organization and then to seek out appropriate innovation.

Airbus Industrie is in a similar position with its core product changing substantially only every 25 years or so. However, Markus Durstewitz, Head of Innovation Methods and Tools at Airbus Corporate Innovation, points to a wide range of disruptive factors around the aircraft.

In addition to those already mentioned above there is a trend towards aircraft as a data platform, for example allowing flight rebookings mid-air, integrating with other mobility platforms, perhaps even the possibility of crowdfunding some areas of aircraft development, and the need for experimentation in a tightly regulated industry. All these make the aircraft design and construction business much more fluid than is immediately apparent.

A final development that innovation managers might want to make note of is the rise of customers in the innovation process. At Fujitsu in the UK, the customer base has been invited into the HYPE platform to help generate ideas for new products and services.

Fujitsu UK provides hosted services to large clients in the UK and Europe. Their core business is challenged by technology companies such as Microsoft and Amazon who began offering Cloud services and then moved onto providing services on their Cloud platforms. At the same time they are exposed to competition from low-cost business innovation models from outsourcing firms like TCS and Cognizant. Like many companies faced with commoditization and multiple price challenges Fujitsu is changing its proposition to become much more tightly focused on verticals and precisely defined customer pain points where they can deliver tangible value.

The objectives are to take complexity away from customers, be specific about the value of what they offer and being able to offer solutions at speed so that the benefits accrue to the client quickly.

Fujitsu uses the HYPE platform to engage its large customers in a yearly review of key issues. Most platform users focus on internal or partner idea generation, but in this case the platform is used to improve participation with customers with very specific endpoints in mind.

Outside the HYPE community, companies like LEGO and Daimler have been developing similar participation strategies. The experience of a participative innovation strategy is itself an important process innovation. In the case of LEGO it is being used to prepare the company for the move to additive manufacturing, where customers will co-design and then print their own LEGO kits with LEGO becoming more of a rights holder. By taking the participative route, LEGO can already begin to build metrics for how successful that transformation might be. Daimler is attempting something similar with its Moovel platform, using participation to smooth the disruption pathway.

Disruption in a wider context

Disruption can emerge from general economic conditions and from specific competitive conditions.

Economic disruption

- Competitive pressure from newly emerging economies
- Large scale outsourcing that undermines the cost base of an industry
- Technology shifts such as the Internet
- Long wave economic cycles
- Social movements such as BYOD

In these cases the disruption has been felt broadly across western society. The disruption of Japanese consumer electronics (CE) broadened the market for CE goods such as the 1990s Walkman, raised quality, as in autos, destroyed production in key centers like Detroit (USA) and Birmingham (UK) and forced change onto those geographical locations that survived (Germany).

Similarly, large scale outsourcing has forced service industry companies to create a supply chain of call centers and off-shore processing or data input, and lately even of innovation practices.

Technological shifts, like constant improvements in processing power and storage, have altered the consumer landscape again through smartphones and are bringing more change via 3D printing, sensor-rich networks, and programmable matter.

But perhaps more significant still is the long wave economic cycle that seems to occur every 50 - 60 years when world commodity prices become unsustainably high and then forces widespread innovation across society.

Finally, there is a social element to disruption too - it used to be felt through organized labor but tends not to be driven by consumerized experience being forcibly transferred into the enterprise by employees.

Competitive disruption

These changing economic conditions allow enterprises in turn to develop new competitive strategies that can disrupt the markets they function in, and indeed to expand those markets. Global-mobile for example is creating a new class of strategy around business velocity. Companies like Uber, Airbnb and Netflix are exceptional because of their pace of growth, which is made possible by global mobile networks. Even where the global element isn't immediately obvious, velocity is a factor. Yu'E Bao Mobile Money Market Fund from AliPay, the payments arms of web merchant site Alibaba, took in US\$93Bn in deposits in its first 8 months.

No money market fund has ever performed so spectacularly.

As the funds are drawn from very small deposits, they also have to function at a very low cost and very low price. But we've seen that type of innovation emerge in the reverse innovation space where GE now distributes ultra-low-cost infant warmers. Radical price reduction is an obvious sign of an industry in the throes of disruption.

Companies like Uber will become truly disruptive as they begin to move horizontally from their initial target markets. For example, Uber is well set to attack the parcel delivery space or create other real time meetings.

The diagram below shows 4 main types of disruption strategy.

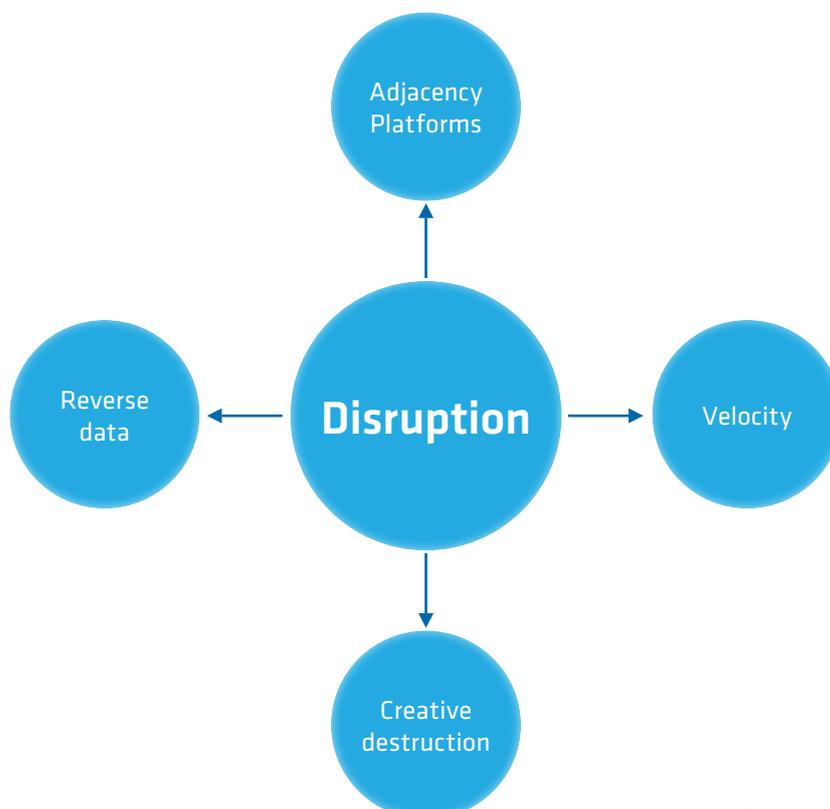


Figure 1. Enterprise disruption strategies

Adjacency platforms that move gracefully from one sector to another are becoming more common, dating back to Apple's incursion into mobile.

In the area of long wave economic disruption, with problems like deflation, price reduction contributes to a sense of foreboding. Creative destruction involves fast acting and brings strong pricing pressure where companies fail to react by creating additional value.

In the health sector there is now strong pressure on health systems from information-rich preventive systems for genetic profiling. Though the data from genetics can be incorporated into health provision, it also forces health systems to move beyond their current responsive paradigm to one where partnership with informed citizens could produce better outcomes.

This is also beginning to show up as a slow-growing reverse data movement where enterprises are being forced to recognize data as a customer asset rather than an enterprise one. In genetic research, allowing customers access to DNA profiles could be the best available guide to good health patterns . In energy consumption, there is a similar movement to manage data on behalf of customers and the same will happen in B2B in areas like capital markets. This reverse data paradigm is on a continuum with other social changes such as social media and BYOD. It is likely that

many companies will be forced to manage data for customers rather than in opposition to them. We already see in the strategies of companies like LEGO and Daimler a recognition that the future lies in a more participative innovation process and a more participative relationship with customers.

These are profound trends and strategies, all of which go beyond product or service innovation. They involve the construction of new processes and the movement of enterprises to new market paradigms. Yet we also need to understand how to integrate these activities into normal innovation processes, too.

Developing the maturity model to support the case for resources

The most significant advance an innovation department can make in most organizations is to win support for its work, translated as real resources and more autonomy. One facet of that is going to be difficult for innovators: the need to build flexibility into their own operations and if necessary, to accept closer alignment with business units. But the other facet is to win more ring-fenced resources by elevating the strategic importance of their work – in other words by playing into the disruption space. That means developing methods to respond to disruptive market developments.

In the course of developing the maturity model we distinguished three phases:

1. Idea-centric, the main characteristics being the push for new ideas, setting up or extending stage-gate decision processes to cover open innovation, and learning about the firm's culture as it grapples with innovation
2. Customer-centric, where companies make more of an investment
3. Decision-centric, a final phase where companies invest in their employees' abilities to make good investments, where they also tend to delegate innovation responsibility to third parties, and where decision processes become more nuanced, more options-based and less reliant on strict ROI.

These three phases are really about a journey. The journey is from initial competency in creating and processing ideas to a point where innovation managers become more involved in making key decisions based on situational evidence - i.e. being on the ground, seeing a market evolve and having the power to act on a new investment.

Where innovations are more component-like (i.e., needing basic science), decisions about them are unlikely to be devolved onto managers.

There are, though, elements of business today that can change market structure but that aren't breakthrough science, yet are nonetheless profound.

Disrupting a market is often about how to repackage components, how to drive growth rapidly, how to reduce friction, how to use branding competitively and quickly, nurturing new data paradigms, creating participatory programs with customers, or even devising something as simple as a cryptographic currency (simple in the sense that its principles have been around for 40 years).

Since ideas can be the basis for profound change, it is important for innovation managers to lead the thinking in how disruptive change can be achieved or countered. In outlining a model for that and providing detail on

one aspect of it, this white paper gives a context for the maturity model. Companies that are faced with the opportunity or threat of a changed market can use a decision model canvas to sketch out their options and responses.

In this canvas, we are deliberately refraining from seeing the disruption process as a sequence of steps. The steps are all iterative. The table also should be read as saying that business model change is ok but in reality it is secondary to some form of process change. It is linked to the maturity model in that wherever there is fast paced innovation, there need to be *new decision processes*.

The Decision Model Canvas	Disruption plan for:	
Disruption Analysis		
<ul style="list-style-type: none"> • Create or apply disruption model • Identify catalysts or drivers with disruption vector analysis • Identify critical information needs • Develop participative strategies 		
Options and Pathways		
<ul style="list-style-type: none"> • Create a strategic options profile for products/services within the disruption model framework • Break strategic options into "real options" (the pathways") • Analyze market and competitive implications of real options • Analyze process implications & organization change 		
Decision Criteria & Process	Capabilities Assessment	
<ul style="list-style-type: none"> • Agree on criteria for assessing options • Develop CFO dialogue/expose IT decision options • Focus on downstream and alternative revenue streams and liquidity issues to expose financial constraints • Perform real options forecasts • Plan out metrics and financial monitoring 	<ul style="list-style-type: none"> • Assess innovation maturity level • Assess for specific domain skills and recruitment needs • Assess for process agility • Assess for options management capability • Assess for platform skills 	
Narrative Design		
<ul style="list-style-type: none"> • Design the story that will bring employees, partners, observers, and markets along on a journey where uncertainty will be more pronounced 		
Information Layer	Ecosystem	
<ul style="list-style-type: none"> • Assess and score capacity to influence the broader information community (thought leadership) • Reformulate participative strategy based on outreach constraints • Design mixed marketing approach • Develop influencer matrix 	<ul style="list-style-type: none"> • Build participative strategy pre and post launch • Agree on platform-ecosystem model • Analyze supply and distribution channels for competitive advantage 	

Table 1: A decision model canvas for disruption

The Adaptive Innovation white paper made clear that mature firms move away from rigid ROI. They find numerous ways to justify an investment. These include improving the firm's foundational capabilities or adding to the firm's optionality. They are also far more likely to engage in deep real options planning (i.e., exploring the varying and uncertain pathways ahead). As firms move up the maturity curve they are also increasingly likely to involve customers in the innovation process, to the point where we now see participation becoming the disruption (as LEGO and Daimler).

In the table you will see these facets represented. Under Disruption Analysis, it would be normal, for example, to ask about the participatory strategy and how participants (customers primarily) can help us to change our processes and models. However, the most critical element seems to be developing a dialogue around new decision criteria. That dialogue needs to be developed with the CFO.

Taking the canvas from the top, companies need to learn new techniques for analyzing the potential disruption around them, including deeper participatory approaches; they need to discover new options, in cooperation with participants, and plot these as real option pathways. In the process, they need to envision where they can act at speed and with scale. And they need to renew their narrative, to tell the story of change differently.

All this is impossible without a CFO that will support change. To date, a lot of the innovation debate is stuck in a debilitating series of polarizations:

- Should we control innovation at the center or at the business unit level?
- Is innovation possible in a mature culture or should we do innovation externally?
- Does innovation conflict with execution?

Innovators should instead focus on bringing the CFO deeper into the disruption process and securing permission to build a more strategic innovation approach based around real options.

How to shape the CFO dialogue

The CFO office appears to be directly responsible for innovation in an increasing number of contexts. Even if not directly involved, the indirect involvement can be either a barrier or a spur to innovation. Unless innovators raise the debate though, the CFO role becomes budgetary when in fact it should be part of a broader discussion about changes to innovation. The innovation community should therefore learn to see innovation from the CFO standpoint, while arguing for a more strategic and devolved approach. It should seek to solve CFO challenges.

CFOs are increasingly bound by the constraints of complexity. It is important for innovators to realize that resources are often trapped in the system as companies expand their geographical reach. In the face of these liquidity management problems, can innovators support CFOs with liquidity management solutions? Can the innovation department make more of a virtue of the CFO's innovation record or potential?

Above, we have given examples of organizations where CFOs lead innovation. Using these cases, e.g., Bango, where companies have to take on new responsibilities and new market opportunities by creating new processes, can help raise the importance of process innovation - it is not just about internal re-organization.

Look for specific examples where new competencies were needed, for example, to accomplish process change, or to model disruptive forces, or to translate innovations more quickly into products, to frame the dialogue.

In addition, a simple economic model of disruptive forces - something as simple as the 2 x 2 diagram below - helps to show where innovation becomes strategic.

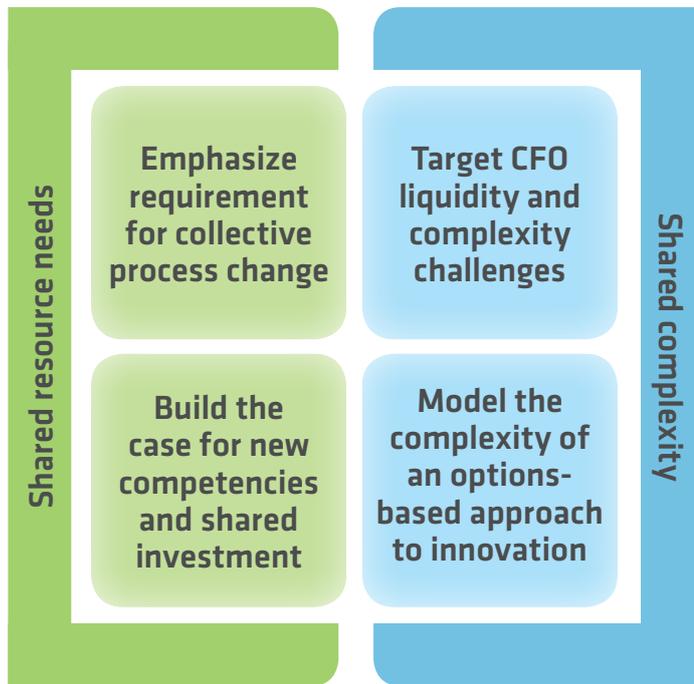
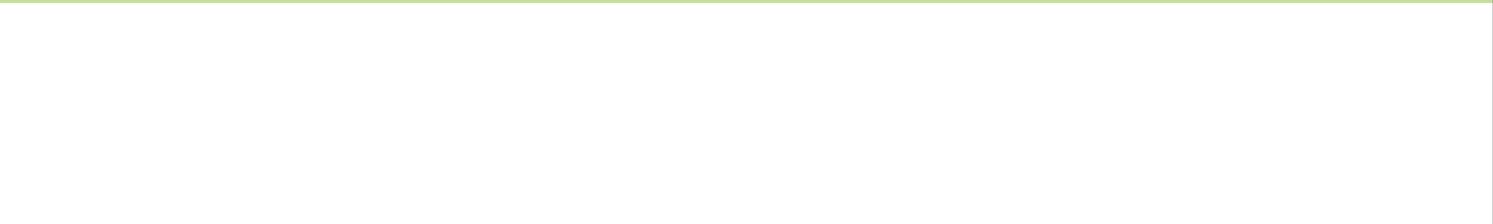


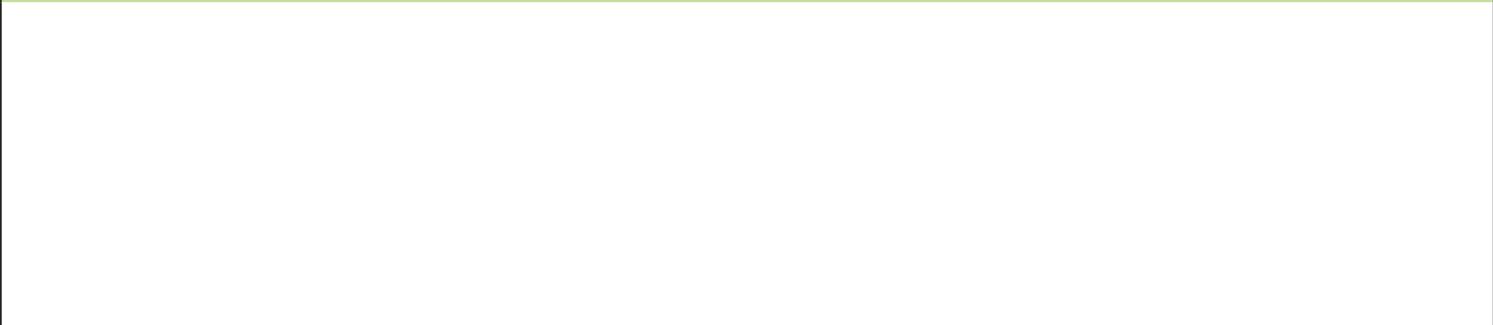
Table 2: How to seek common ground with the CFO

These are all ways to build the dialogue. However, the dialogue needs a long term purpose and that is to show that innovators have common ground with the CFO office. That common ground is to move beyond innovation to disruption, to switch emphasis from business model innovation to new process models and to embed concepts like velocity and new data paradigms into the strategic debate. All of that can be packaged within a decision model canvas, assuming the organization wishes to accelerate its innovation maturity.

The Decision Model Canvas	Disruption plan for:
Disruption Analysis	
Options and Pathways	
Decision Criteria & Process	
Narrative Design	
Information Layer	



Capabilities Assessment



Ecosystem





About HYPE Innovation

HYPE Innovation is a global leader in full-lifecycle innovation management software. HYPE's powerful platform allows organizations to engage thousands of employees in idea generation and collaborative problem solving. We help you focus on measurable business outcomes that can be tracked through to execution. Companies work with HYPE for our flexible products, our deep expertise in innovation management, and our long history of success with some of the largest organizations in the world. Our client community includes global companies such as Siemens, Bosch, RWE, P&G, Bombardier, DHL, Roche, Nokia, Daimler, Airbus, Petronas, Saudi Aramco, Clorox, Deutsche Telekom, and many more.

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