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Inspire the Next

Creating a culture of predictive improvement

Moving beyond continuous improvement

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Mass customization, social media pester power, Omni-channel shopping, real-time visibility: this is a new era for consumers, and companies need to collaborate globally to develop solutions and services that are specifically tailored to an increasingly diverse customer base. This will require higher levels of innovation and iteration from all stakeholders and impact the whole value chain.

We have already seen examples of this like the global soft drinks company that has created innovative vending machines so customers can personalize their drinks or the cutting edge footwear company that digitally scans a customer's feet, then ships the customized product directly to them. Social media ensured that when Catherine Middleton, HRH Duchess of Cambridge and Britain's future Queen, last visited New York, the coat she was photographed wearing sold out within 24 hours.

So how, in this fast moving environment, can companies be prepared for future consumer needs and market behaviors and successfully drive business performance? Hitachi Consulting believes the answer is Predictive improvement – which means anticipating tomorrow and developing new capabilities to be able to respond quickly and stay ahead of the curve.

The Digital Economy will provide many businesses with greater dynamism through the transformative opportunities of big data analytics, artificial intelligence, the 'Internet of Things' and so on. The more innovative your business model however, the greater the need for improved leadership and engagement, value chain synergy and collaboration, capability development and partnering and co-innovation.

The whole is far greater than the sum of the parts, so it is no longer enough to just continuously improve your processes. To reap the true benefits of digital you now have to develop a dynamic operational

> Continuous improvement is responding to today's issues. Predictive improvement is anticipating tomorrow's issues.

strategy across the whole value chain that can deal with both everyday variability and future disruption. The way forward is through a journey from a culture of continuous improvement to a one of predictive improvement.

Continuous Improvement is about doing things differently through technology and changes are incremental and progressive. Predictive Improvement is about using innovation to do things differently, making significant changes with high impact.

Predictive improvement is about anticipating tomorrow and developing new capabilities in leadership, management and processes to be able to respond quickly and stay ahead of the curve.

- Hitachi Consulting has identified the roadmap to get to predictive improvement from where your company is today, whether you are struggling to drive improvement programs or at continuous improvement.

- Our predictive improvement Model is focused on specific elements to achieve the next level:
  - Operational and financial performance
  - Current status on the improvement journey
  - Capability and development
  - Leadership and engagement
  - Communication and collaboration
  - Processes and systems
  - Technology

Each element of the model needs to be considered across the value chain to achieve predictive improvement.

- This is a journey that companies will need to undertake, it will not happen overnight, so identifying where you are today is crucial in setting realistic ambitions and providing focus on those elements that need the most attention.

> Creating a culture of predictive improvement is about embracing disruption and empowering partnerships across the value chain.

The whole value chain must become dynamic and innovative

Companies need to position themselves for future success with a multi-year roadmap that is regularly reviewed and updated. Predictive improvement isn't a sequential undertaking, so everyone across the business and the value chain must share best practice, collaborate, innovate and see what can be sustainably improved in their environment.

Invest in agile working groups to identify, define and test potential improvement scenarios and then implement the outcomes with customers, suppliers and partners. This way you become a leader in new ideas and new capabilities and an early adopter that can quickly roll out and industrialize new products, processes and ways of working.

Predictive improvement maturity model
A 5 level model

To achieve this, leaders must seek out best practices from inside the organization and from other industries and be proactive in proposing new initiatives and pilots for them. The result will allow you to get closer to predictive improvement that delivers:

- Stable performance, even with high degrees of variability

Level 1	Ad-hoc Improvemt	Level 2	Step or Focused Improvement	Level 3	Continous Improvement	Level 4	Enterprise Synergies	Level 5	Predictive Improvement

- Plans that are reliable because operational and financial targets are aligned and integrated with internal and external factors
- A business that is systematically outperforming the market in relation to its strategy.

Big Data means big opportunities

Big data analytics is a critical theme of predictive improvement. You're going to be collecting more and more data and new types right across the value chain. Business Intelligence is a key enabler for business transformation. First you need to define a Business Intelligence and Analytics (BI&A) strategy which is essentially a roadmap to help you identify competitive advantage through data and tune into requirements of your customers, products and suppliers. We're already seeing companies doing, defining a BI&A strategy so they can explore the application of big data analytics, considering specific cases which can drive value for your business and tackle your operational and value chain challenges. Once proven these 'use cases' can be rolled out to realize their full value.

You're also going to need data scientists to help you find new and exciting ways to get the most from your data to deliver more customer value and better customer value. Their skills will also help you

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improve systems and processes internally, enabling you for example to undertake predictive maintenance, such as ordering parts to fix a machine just before it goes down, or automatically switching production from one line to another, and predictive production parameters based around supply material characteristics or environmental factors like temperature or humidity.

Innovate, test and deliver to market

The ability to take an idea forward to a profitable product, service or enhancement can also be significantly improved if a company achieves predictive improvement. Just sourcing ideas from across the value chain is a significant challenge, particularly in large, complex organizations. Developing ways of communicating that allow good ideas to be shared and built upon is crucial to staying ahead. The delivery engine to test and explore potential innovations and bring the credible ones to market before the competition will require the ability to quickly form networks and ensure the right talent is available and connected.

A whole world of public information will also give you a competitive advantage by enabling you to track and predict customer demand based on many inputs, including celebrity endorsement, social media, mass public events, the weather or even the number of Google key words searched in a particular geographical area. But with so much data being generated you're going to need a different kind of employee to maximize it, so you'll need to find and develop these capabilities.

Open the business to new ideas and new talent

You can't plan for every eventuality, but you can plan for many and that means opening the business to as many new

ideas, innovations and partnerships as possible. Potential changes such new products and strategies, technologies, new logistic models and merger and acquisition or partnership opportunities must be regularly reviewed to predict future capability needs.

The whole profile of the modern workforce is changing, so not only do you need to improve the skills and training of your current teams, but they have to be comfortable in dealing with

Look beyond the current organizational chart and use technologists, sociologists, futurists and social media experts to redefine new skills and new roles for the future.

information from different sources. The skill involved in interpreting information quickly, taking decisions right at the process will become the new literacy. You will also need to recruit additional skills, such as data scientists. That means collaborating with HR to look beyond the current organizational chart towards technologists, sociologists, futurists and social media experts to redefine skills and roles for the future.

Social media collaboration also needs to be built across the organization to encourage employees, customers and suppliers to come up with new ideas and new ways of working. Systemic rethinking and reshaping sessions on the current way of working should be facilitated by external partners, leading to initiatives to be called out and cascaded to middle and front line management. The company also needs to be proactively involved in forums and networking events outside the classical industry peers and constraints.

Develop creative motivating leaders

A new type of talent and capability means that companies need to enhance their definition of leadership and engagement:

- Predictive improvement starts at the top, so you don't just need thinkers, you also need doers who can lead and motivate teams that will include new core competencies.
- It means having leaders who can apply critical thinking to new challenges to see how they connect with the business model, but who can also implement change rapidly and sustain it in the business.
- It also means implementing value chain KPIs to ensure leaders are accountable for a wider remit and can truly drive the business forward.

How are companies doing on the journey to the digital economy?

All companies plan for the future, but having a three, five or ten year plan is not enough, having the capabilities in place to meet future disruption is what is needed. What will the future look like? Will you be a disruption leader or a disruption follower (and it's not black and white). What will the customer want and what will be the best way you can deliver it? Continuous improvement is no longer enough.

It would be great to see progress on the journey. There are certainly major changes happening in the way businesses are embracing technology and establishing new business models. Data is already available in large quantities, so arguably, the challenge we are facing is how to deal with it, interpret it and use it. On the other hand, humans do not easily embrace change and will inevitably look for the comfortable way forward. Decisions will have to be made more quickly in a networked, less hierarchical structure which will challenge the boundaries of our previous thinking and models. Improvement will be a more holistic decision, just solving a functional problem will not be enough.

Continuing the journey from Continuous Improvement to create a new culture of predictive improvement will take time and will impact a number of areas across the value chain.

How two Hitachi Consulting clients are moving to predictive improvement

A global consumer goods manufacturer

For several years the company struggled with major shifts in the market, regulatory issues and strong competition. As it became clear that this was the new status quo, rather than a temporary setback, they developed a strategy that required a more dynamic approach to their markets and brands and greater focus on cost and agility. This meant that not only would marketing have to be cutting edge in defining what the consumer wanted, when and where, but the rest of the value chain would also need to respond with quicker lead times and more completive pricing. Although the senior leadership had a clear view of what this meant, the reality of getting a complex supply chain and an extensive manufacturing network to follow was, and continues to be, a significant challenge.

Over the last three years, they have managed to build the foundation in manufacturing by focusing first on leadership and capabilities. This meant a monumental effort to engage and align the senior managers in manufacturing in a common vision of how to engage the workforce and give them the tools and knowledge to drive the behaviors they need going forward. Although they have managed to attain continuous improvement, there is still a long way to go to ensure the next step, to ensure that the focus on agility and cost utilizes opportunities across the value chain.

A leading European packaging company

The packaging industry, often seen as providing 'no value add' to customers, has seen dramatic changes in the last few years: the retail discounting model has dominated, new internet providers have emerged and material costs and environmental pressures have increased. All these factors have contributed to drive a more complex product demand (more complex shapes, colors, strength characteristics), higher client service expectations (make packaging part of the innovation process; deliver to small batch runs and just-in-time packaging; use of different materials) and strong cost pressures. To cope with these challenges the industry is changing fast by consolidating between players, centralizing some functions, integrating business units and adopting new technologies. While the packaging business still lags other more mature industries, our client is clearly building its capabilities to move beyond the continuous improvement stage. They have launched a complete portfolio of improvement initiatives across their value chain, creating cross functional groups to transform their business. For example, they have recently launched a program to review and reinvent their pan European business models in both operations and sales to ensure cross fertility and synergies. While they are not yet at the predictive improvement stage, they are clearly moving in that direction to reinforce their leadership in this industry.

Conclusion

The challenge for business will be aligning the whole value chain to respond to tomorrow's issues and opportunities. Plans become more reliable because operational and financial targets are aligned with external factors, enabling a company to systematically outperform the market with a market.

Predictive improvement factors - business areas and functions	What predictive improvement means to a business	How it manifests - what it will look like operating in 'Predictive Improvement'
Operational and Financial performance	Operational and financial plans aligned and integrated with internal and external factors.	Systematically outperform the marketplace. Flexible business plans and budgets reviewed against scenarios.
Continuous improvement journey	Improvement pull system where line employees identify and deliver performance related to targets, prioritized and managed as part of daily business. Focus of specific predictive teams is to seek out potential disruptions and breakthroughs, market, business model and ways of working.	An ingrained 'doing better' culture is manifested in every aspect of the company, driving a desire for change.
Capability development	Potential environment changes such as new product introductions, technologies fully reviewed to anticipate future capability needs and incorporated into training and succession planning. Capability teams seek talent from other industries, recruit new roles such as technologists, sociologists etc. for their skills, provide training and coaching activities. Company is proactively and visibly involved in social innovation groups, forums and external networking events outside classic industry bodies; employees participate at all levels of the organization.	Development, training and recruitment plans include the demand for new capabilities driven by potential market change scenarios.
Leadership and engagement	Leaders are actively seeking and testing new ways of working, reviewing best practices and benchmarks inside and outside their organization. Systemic breaking/re-thinking/re-shaping sessions are facilitated by external partners, at least one initiative to be called out annually and cascaded to front line management.	Leaders focus on removing barriers and challenge the organization at every level to innovate while empowering individuals and teams to do the same.
Communication and collaboration	External leaders are involved in defining new trends (by working with academics, technologists and leading companies in other markets etc.). Leaders are regularly invited to share new trends and technologies with employees. Digital platforms are used to collaborate both internally and externally and content shared from collaborative and syndicated research. Agile working groups are formed to drive innovation and to seek out potential improvement scenarios, which are then implemented involving external parties from customers, suppliers, experts and academics.	Collaboration is part of the individual performance criteria and evaluated by peers. Cross functional teams and projects exist and are valued with customers and external partners.
Processes and systems	External best practices are regularly reviewed; potential environment changes are taken into account in the design of current processes and systems ensuring the flexibility to adapt if changes occur. Budgeting process is based on several weighted scenario models.	Processes and systems improvement are part of key performance management meetings and annual reviews, from the shop floor to boardroom. Exchange with partners, other industries and consultants are proactively sought after.
Technology	R&D is at forefront of thinking, early adoption leadership of new ideas/capability. Artificial Intelligence used to drive efficiencies, deeper understanding and some corrective actions taken without human intervention (e.g. switching production to another one automatically). Anticipate customer needs based on external intelligences (e.g. weather). Predictive maintenance based on complex parameters correlation analytics. Predictive production parameters based on supply material characteristics or environment (temperature, humidity).	Paperless, VOIP communications, electronic dashboards, e-learning, connected objects and big data are already part of the organization. Technology awareness training is provided to all employees. Aligning the whole of the value chain to respond to information, opportunities and to cope with change and uncertainly.
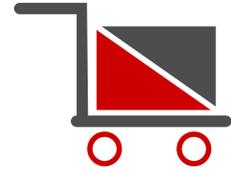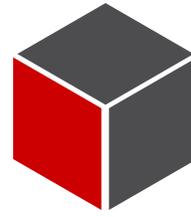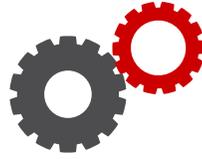
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