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## DIGITAL DISRUPTION

# Closing the Connectivity Gap in Manufacturing with Digital Operations

Consumers anoint – and abandon – providers with breathtaking speed, causing seismic shifts in the market.

They're also increasingly difficult to define, no longer neatly fitting into traditional marketing segments. With the rise of emerging markets and micro-segments, manufacturing is confronting the challenge of mass customization.

The question is not if or when but how: Customers are demanding variety, and manufacturing companies must deliver. What's key to making this work: big data visibility, flexible processes, and an agile ecosystem that can move swiftly to serve an increasingly fragmenting, but exceptionally demanding consumer base.



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# Issue Brief

## Digital Disruption: Closing the Connectivity Gap in Manufacturing with Digital Operations

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### The Customer Owns the Empire

Manufacturing companies today face an identity problem: defining their customers. Traditional segmentation strategies no longer work in a world characterized by complexity and constant change.

Customers are bewilderingly diverse, play a variety of roles in their lives, and rapidly adopt new behaviors and tools. Armed with industry knowledge, technology savvy, and purchasing power, customers control the sales cycle. They're also industry disruptors, toppling traditional business models in the blink of an eye.

Serving this empowered, information-rich customer base is straining manufacturing processes and forcing companies to adopt new ways of developing, marketing, and delivering products.

ISSUE BRIEF  
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John Paul Williams

*Director, Enterprise  
Solutions, Polycom*

Now new markets are flexing their purchasing muscle. By 2025, emerging markets will constitute two-thirds of all global demand, as another 1.8 billion individuals join the consuming class.<sup>1</sup> One consultancy believes the change will happen even faster, with 1 billion new buyers opening their wallets by 2015.<sup>2</sup>

Although these markets offer significant growth potential, they are difficult to serve, represent a diverse array of geographies, cultures, ethnicities, and languages, among other variables.

Manufacturers know that they need to master mass customization if they are to serve this fragmented customer base profitably – and at scale. Fortunately, there is a path forward: digital operations that stitch systems, processes, and people together to create a flexible, nimble ecosystem that senses and responds to demand shifts. In this model, customers aren't just purchasers – they define and create value.

## **MEET YOUR NEW PRODUCT DESIGNERS: YOUR CUSTOMERS**

Since customers hold the power in today's economy, it only makes sense to include them as valued collaborators in designing manufacturing processes. On the front end, manufacturers leverage analytics to determine which features and functionality are coveted by consumers and can be customized profitably. They deploy configurators and online platforms to enable customers to build virtual and real products and offer social media plug-ins so that consumers can market their purchases and design choices to others.

In this brave new world, customers are creating personalized food, shoes and apparel, furniture, and 3D-printed objects. After retailer

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<sup>1</sup> Katy George, Sree Ramaswamy, and Lou Rassey, "Next-shoring: A CEO's Guide," McKinsey Quarterly, January 2014. Online article. [http://www.mckinsey.com/insights/manufacturing/next-shoring\\_a\\_ceos\\_guide](http://www.mckinsey.com/insights/manufacturing/next-shoring_a_ceos_guide). Accessed April 16, 2014.

<sup>2</sup> "Digitizing Your Operating Model for Global Growth," Accenture web site, June 12, 2013. <http://www.accenture.com/us-en/Pages/insight-digital-operating-model-consumer-goods.aspx>. Accessed April 25, 2014.

Wild Things rolled out customization tools, online sales rose 230% over the previous year.<sup>3</sup> Video, audio, and chat tools can help speed the product development cycle and increase sales conversion rates.

## GO ALL-IN FOR ONLINE TECHNOLOGIES

For traditional manufacturers, it's not quite as simple. Early adopters of enterprise resource planning and supply chain management tools, most companies are tethered by technology and lack a comprehensive view of their data and processes.

Only 38% of companies surveyed by Cap Gemini Consulting and the MIT Center for Digital Business are currently coordinating digital initiatives across functions and regions – a key reason manufacturing lags other industries in leveraging the full power of these technologies.<sup>4</sup>

To join the “Digerati,” companies must close their connectivity gaps.<sup>5</sup> Manufacturers know this: three out of four companies today say that improving cross-departmental systems, enabling process collaboration, and integrating processes are among their top strategic priorities.<sup>6</sup>

## EMBRACE DIGITAL DISRUPTION

Creating a cohesive back-end is an important first step, enabling companies to make real-time decisions, streamline production, and cut costs. However, it does little to fuel innovation. To meet customers' insatiable desire for new products and services,

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<sup>3</sup> Arlene Weintraub, “Is Mass Customization the Future of Retail?” *Entrepreneur*, <http://www.entrepreneur.com/article/229869>. Accessed on April 27, 2014.

<sup>4</sup> Operational Excellence through Digital in Manufacturing Industries, Cap Gemini Report, 2013, 3. [http://www.capgemini.com/resource-file-access/resource/pdf/operational\\_excellence\\_goes\\_digital\\_29\\_07\\_final.pdf](http://www.capgemini.com/resource-file-access/resource/pdf/operational_excellence_goes_digital_29_07_final.pdf). Accessed April 25, 2014.

<sup>5</sup> Ibid, 3, 4.

<sup>6</sup> Ibid, 4.

companies are investing in tools that help them model, prototype, and build offerings on a continual basis.

CAD modeling software, 3D printing, and advanced robotics come swiftly to mind. Robots in particular are enabling companies to switch easily between standard and custom products without costly manual intervention or tooling switches. Others are taking a modular approach to manufacturing, creating a standard baseline and offering later-stage customization to reduce complexity and costs.<sup>7</sup>

Companies are also taking a fresh look at collaboration. They're using online platforms to link customers, suppliers, and internal teams in creating new products and sources of value.

Crowdsourcing networks not only provide new ideas – they also vote on them – eliminating beta test groups and surveys. And collaboration decision environments help internal teams, suppliers, and experts mass-customize products in real-time, speeding time to market and cutting costs.

Align Technology, a leading manufacturer of invisible orthodontics, uses video, audio, and content tools to share interactive 3D models, annotate renderings, and discuss key processes in workplaces ranging from conference rooms to hotel rooms. Empowering key contributors with collaboration tools on mobile devices enables them to make faster, better decisions and track development work wherever they are in the world.<sup>8</sup>

## **RUN WAR ROOMS FOR DAILY BATTLE**

With mass customization, decision making is a minute-by-minute process. Companies are using virtual “war rooms” and linking

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<sup>7</sup> Anshuk Gandhi, Carmen Magar, and Roger Roberts, “,” McKinsey, digital article, February 2014. [http://www.mckinsey.com/insights/business\\_technology/how\\_technology\\_can\\_drive\\_the\\_next\\_wave\\_of\\_mass\\_customization](http://www.mckinsey.com/insights/business_technology/how_technology_can_drive_the_next_wave_of_mass_customization). Accessed April 25, 2014.

<sup>8</sup> “For Align Technology, Video Collaboration Makes It Easy to Go Global,” Customer Case Study, Polycom Website, <http://www.polycom.com/content/www/global/en/customer-stories/align-technology.html>. Accessed April 27, 2014.

suppliers and teams for real time analysis of market and customer behavior change. Some 63% of companies have adopted video to enable real-time collaboration with global teams.<sup>9</sup>

Using visualization tools, customers can analyze big data analytics for demand patterns, leveraging this information to introduce, extend, and retire products. They also can drill down to the unit cost, understanding the true cost of customizing different features and functions. This enables manufacturers to identify products with the best ROI and eliminate or increase prices on other choices.

Having created an enterprise view of performance across product lines, plants, and geographies, companies also have better control of manufacturing processes than ever before.

With better data and predictive capabilities, they're able to map production to real needs. That means less raw material and inventory waste, greater productivity, and better asset management and maintenance. Adopting digital tools can help manufacturers cut costs as much as 30%,<sup>10</sup> an important step to making mass-customization more than a niche play.

## Redefine Collaboration to Succeed at Customization

It's open season on innovation. Companies are linking valued contributors, from customers to suppliers to internal teams, with powerful online tools that match market dynamics. Collaboration design environments match the pace of business: providing 24x7 access to experts, tools, and ideas. Participants assemble and reassemble into groups as needed to analyze findings and share them with multiple streams of content and real-time annotations.

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<sup>9</sup> "The ROI of Video Collaboration," AberdeenGroup, Research Brief, October 2011, 1. [http://v1.aberdeen.com/launch/report/research\\_briefs/7365-RB-video-conferencing-telepresence.asp?lan=US](http://v1.aberdeen.com/launch/report/research_briefs/7365-RB-video-conferencing-telepresence.asp?lan=US). Accessed April 25, 2014.

<sup>10</sup> Cap Gemini report, Executive Summary.

Some 88% of all best-in-class companies use video collaboration tools for strategic or revenue-based use.<sup>11</sup>

With these tools, it's easy to review designs, test product quality, train teams, and provide high-level customer support. Even more importantly, collaboration decision environments transform the enterprise into a continuous learning, development, and improvement laboratory.

## Join the Digerati

Mass customization is fast becoming a new market reality. Although only 12% of manufacturers are currently “Digiratis,”<sup>12</sup> the industry needs to move upstream – and fast. Global consumers, raised on the power of Amazon’s recommendation engines, Adidas’ customization tools, and Facebook’s social sharing will demand the same functions from their other providers. And if companies can’t deliver it to them? They will simply move on to those who can.

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<sup>11</sup> Hyoun Park, “Enterprise Video Collaboration: Strategic and Revenue Producing Video for the Business,” Aberdeen Group, September 2011, 2.  
<http://v1.aberdeen.com/launch/report/benchmark/7183-RA-video-conferencing-collaboration.asp?lan=US>. Accessed April 25, 2014.

<sup>12</sup> Cap Gemini report, 3.

## Issue Brief Collaboration Partner Spotlight

John Paul Williams is Director of Enterprise Solutions at Polycom. His background in leading global innovation in manufacturing, quality and engineering spans the fields of telecommunications, process controls and more. Prior to joining Polycom, John Paul served as General Manager of a process controls firm, designing and manufacturing control systems for the Energy industry. He was Vice President, Operations and Quality for a division of Hunter Douglas, a manufacturer of custom designed products with a 24-hour lead time. John Paul has also managed plants in Europe, Asia and the United States, providing local support to customers and markets while taking advantage of regional cost advantages.

### About Polycom

Polycom helps organizations unleash the power of human collaboration. More than 400,000 companies and institutions worldwide defy distance with secure video, voice and content solutions from Polycom to increase productivity, speed time to market, provide better customer service, expand education and save lives.

### About Obzervant

Obzervant is a content generation agency positioned to create relevant and valuable thought leadership materials to engage readers throughout the buyers' journey as part of an integrated strategy.

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