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Manufacturing: Small and Midsize Industrial Machinery and Components Manufacturers Are Using Technology to Make a Difference

THE BRIEF

Small and midsize industrial machinery and components (IM&C) manufacturers around the world are seeing their businesses transform in a variety of ways. These firms — typically with fewer than 1,000 employees — face competition not only from similar firms in their home regions but also from larger firms looking to disrupt current relationships. Rather than simply reacting to new threats, successful IM&C manufacturers are leveraging technology in new ways to sharpen business practices, improve agility, and better serve customers. Through digital transformation, the effective engagement of the Internet of Things (IoT), and the development of new services, the opportunity to maintain and gain competitive advantage can be significant.

INDUSTRY DEFINITION AND CORE ATTRIBUTES

The IM&C sector includes manufacturers of automation and control solutions, construction and mining machinery and equipment, energy and power equipment, rail equipment, and shipbuilding equipment. While drawing on significant capital investment, firms are experiencing considerable change, with static machinery used to run manufacturing and construction sites across multiple industries and also mobile machinery such as cranes and earthmoving equipment for agriculture, construction, and mining.

Configuration management, model-based system engineering, and reuse are all critical in this industry, particularly in heavy equipment, where make to order and responding to demand quickly and efficiently are important company differentiators.

The IM&C sector is challenged by declining margins and long life-cycle products, which makes strengthening of service revenue especially important. Retrofitting machines and

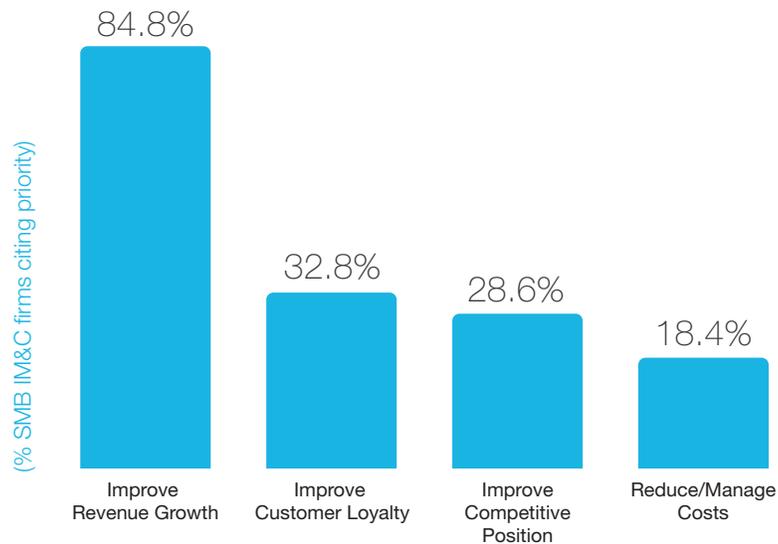
assets for IoT is also becoming a focus so that IM&C manufacturers can better track and service their machinery to minimize downtime. Ultimately, the transition to Industry 4.0 and related initiatives as part of digital transformation efforts will help small and midsize IM&C manufacturers compete at every level.

KEY BUSINESS PRIORITIES: REVENUE GROWTH ABOVE ALL!

The highly competitive nature of the IM&C business and the project nature of engagements make the continuing need for reliable revenue streams an essential fact of life. In fact, according to IDC research, IM&C firms cite revenue growth as a top business priority more often than any other priority (see Figure 1). In particular, these firms think that improving customer loyalty and developing new services to add more value will contribute to this growth.

FIGURE 1

Top Business Priorities for Small and Midsize IM&C Manufacturers



n = 1,889, n = 66 for SMB IM&C firms only

Note: Multiple responses were allowed.

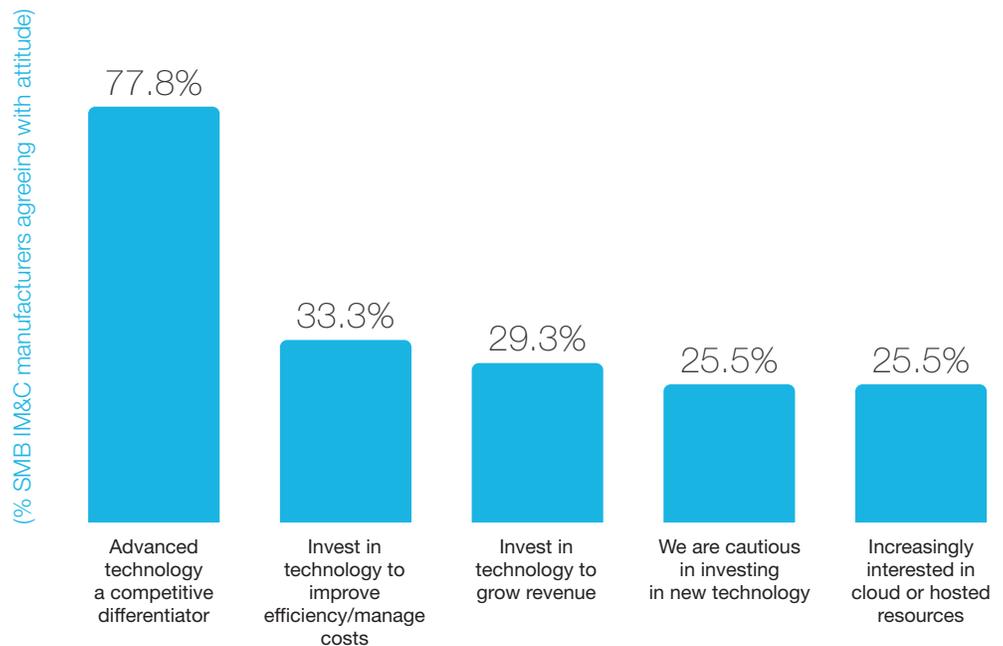
Source: IDC's Worldwide SMB Survey, 4Q15 (United States, United Kingdom, Germany, Japan, India, China, Brazil)

STRONG AGREEMENT: ADVANCED TECHNOLOGY MAKES A COMPETITIVE DIFFERENCE

Small and midsize IM&C firms recognize the importance of advanced technology in providing strategic advantage to their business. These firms agree that technology is helping drive revenue and improve productivity, but even more dramatic is the strong agreement that advanced technology is a competitive differentiator that is integral to their business success (see Figure 2). In effect, the integration of technology into key business processes is at the heart of operations — processes are not just upgraded and automated (technology layered on); rather, technology is used to inform and guide the continuing enhancement of key operations (technology baked in). While firms in some industries simply automate business practices to do things faster, the most successful IM&C firms continue to transform processes and themselves for competitive advantage.

FIGURE 2

Attitudes Informing Small and Midsize IM&C Manufacturer Technology Investment



n = 1,889, n = 66 for SMB IM&C firms only

Base = percentage of SMB IM&C manufacturers citing 6 or 7 on a 7-point agree/disagree scale (7 = strongly agree), respectively

Source: IDC's Worldwide SMB Survey 4Q15 (United States, United Kingdom, Germany, Japan, India, China, and Brazil)

FOCUS ON REVENUE GROWTH WILL INFORM SMB IM&C BUSINESS INVESTMENT WORLDWIDE

- Revenue growth priority will mean even greater focus on organizational and product performance in response to new challenges.
- The market is highly competitive for both automation and production equipment, as well as heavy equipment, making SMB performance improvement essential for success.
- Although Germany (for automation) and the United States (for heavy equipment) are still leaders in market share, providers in China, Japan, and Korea are gaining quickly. SMBs will be under increasing pressure from larger competitors worldwide.
- Margins for automation, controls, and tooling (i.e., manufacturing and production equipment) are very low and dependent on new manufacturing plant construction or refresh — which doesn't happen that often.

Customer Engagement and Improving Loyalty Also Tied to Success

- Expanding business with existing customers is always easier than finding new customers, but customers know they have many options, and retention can be a challenge. There are two ways for IM&C manufacturers to improve loyalty: improve service and improve machine performance.
- Technology can play a role in helping firms track and assess customer relationships and improve machine performance through leveraging IoT capabilities, which can help optimize products and customer experience even before issues become concerns.

SMB IM&C MANUFACTURERS: VIEWS ON ADVANCED TECHNOLOGY AND SERVICES

While successful IM&C manufacturers are interested in improving machine performance and delivering more advanced services on a continuing basis, relatively few SMBs see investments in technology as increasing revenue per se. It's more often considered a second-order effect made possible by freeing management's time to focus on accounts and business expansion. IDC believes this narrow view will make firms vulnerable to competitors using technology (including analytics) more innovatively.

Heavy equipment companies are more cautious than manufacturing equipment companies in investing in new technologies because of the risk of technology obsolescence. Ironically, this conservatism extends to relatively modest interest in cloud or hosted resources as alternatives to traditional on-premise infrastructure — which would be a way to avoid obsolescence! Firms should make sure that they are making effective use of alternative approaches, such as transaction-based invoicing for spares and servicing, to maximize their flexibility and agility.

In a similar way, manufacturing equipment companies adopting a defensive posture regarding technology risk being “also rans” as customers look for new levels of responsiveness in their IM&C sources.

TAKEAWAYS

Despite conservative traditions associated with significant capital investment and historical stability in business operations, IM&C manufacturers, especially small and midsize IM&C manufacturers, face a number of different challenges that will require a rethinking of business practices and processes in response to the changing competitive environment:

- **Understand that the IoT can offer new insights and provide more value to customers' cash flow.** The integration of sensor-based analytics at the machine controller level is becoming more and more important, and real-time production process monitoring is essential for SMB manufacturers to maintain competitive advantage. For example, machines need to be “integratable” into manufacturing execution system processes at the shop-floor level. Tools to manage receivables, monitor expenses, and even optimize team composition can dramatically improve both cash position and service delivery effectiveness. These capabilities may seem “nice to have,” but they will increasingly be essential.
- **View remote maintenance/predictive maintenance as revenue enhancer.** Rather than view maintenance efficiencies as potential cost reducers, IM&C firms should focus on the opportunity to sharpen uptime performance as a revenue generator (and therefore worthy of major investments). Upgrading for improved productivity can be expensive, but sharpening uptime with effective maintenance approaches can have four times the dollar impact over equipment lifetime. Where would you rather invest?
- **Explore new business models (but don't feel compelled to disrupt everything).** Taking the customer's viewpoint always seems more revolutionary than it really is. Value pricing, which is being tested by some leading automation OEMs, can seem revolutionary but make real sense from the customer's view. Innovative approaches don't necessarily have to involve new technology models; rather, they can build off current capabilities

in new and innovative ways to deliver added value to customers. For example, manufacturers may want to move certain processes, such as quality management and service execution, to the cloud while other processes exist on-premise.

- **Consider where participation in business networks can provide additional value.** In keeping with where new business/solution provider relations will be heading, SMB IM&C firms should explore becoming part of wider business/solution provider networks with customers, suppliers, and service providers. Rather than try to be everything to everyone, firms can partner effectively with different specialists to offer comprehensive solutions to customers. This will provide the opportunity to deliver higher-value solutions that will support higher margins, albeit shared among multiple participants. Such an approach could facilitate digital transformation in an effective and affordable way, with resources from multiple sources curated and coordinated for maximum impact.

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