IDC Manufacturing Insights

Mobility in Consumer Products

INDUSTRY BRIEF

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IDC MANUFACTURING INSIGHTS OPINION

The consumer products industry is undergoing significant change, with "empowered" consumers putting pressure on manufacturers and retailers for greater selection and speed. Traditional forms of consumer outreach are quickly being augmented and, in some cases, replaced by these new ways of communicating, reporting, and promoting. Demand is becoming more volatile, requiring consumer products companies to have greater levels of visibility than ever before and the ability to make better decisions more quickly. The deployment of mobility offers the consumer products manufacturer a set of technologies that can help bridge visibility gaps and allow remote employees to be more efficient and effective.

While the adoption of mobility tools by the consumer products industry has been and will continue to be driven by the use cases that generate value to the organization, there seems little question that for distributed functions such as sales and supply chain, mobility can be a transformative technology:

- Sales has tended to lead in terms of consumer-grade mobility implementations based on both intracompany and intercompany interactions, whereas the supply chain has led in terms of implementations based on purpose-built, ruggedized tools.

- The integration of mobility into the business has tended to be "evolutionary" rather than "revolutionary"; companies are looking at mobile tools as a way to improve the existing process, but not necessarily as a way to change the process — at least not yet.

It is important to make a distinction between the adoption of consumer-grade smartphones and the mobile devices that are designed both for a specific function and to withstand the environment in which they are expected to operate. Indeed, where we have seen companies looking at consumer-grade smartphones as a presumed cost-effective replacement for purpose-built devices, the failure rate is so high as to more than offset any initial purchase price advantages.

SITUATION OVERVIEW

Consumer products manufacturers continue to be affected by both internal choices and external forces, and IDC Manufacturing Insights expects a number of major industry trends to impact both the behavior of these companies and their IT investment priorities over the next few years:

1. **The "empowered" consumer** uses ubiquitous access to information to make more informed decisions and product purchases. Mobility and social business connectivity are transforming the way that people interact with each other and with consumers, customers, and manufacturers. Traditional forms of outreach are quickly being augmented and, in some cases, replaced by these new ways of communicating, reporting, and promoting. Further, consumers are increasingly intolerant of latency; once they decide to make a purchase, they "want it now."

2. **Complex and extended global supply networks** are a consequence of globalization and the chase for "low cost" manufacturing. The reality is that many manufacturers now experience significantly longer product lead times than ever before, driving a level of complexity in the supply chain that can prove problematic, particularly if agility and responsiveness are required.

3. **Volatile demand** is the new norm, with consumers who are less brand loyal and far more selective than ever before — and, frankly, are willing to "leave their wallet at home" if the value they require in a purchase is not apparent. Peer reviews and recommendations are driving brand switching, and private label alternatives are becoming more popular. All these factors conspire to drive forecast accuracy down and demand volatility up, requiring greater supply chain agility if service performance is not to suffer.

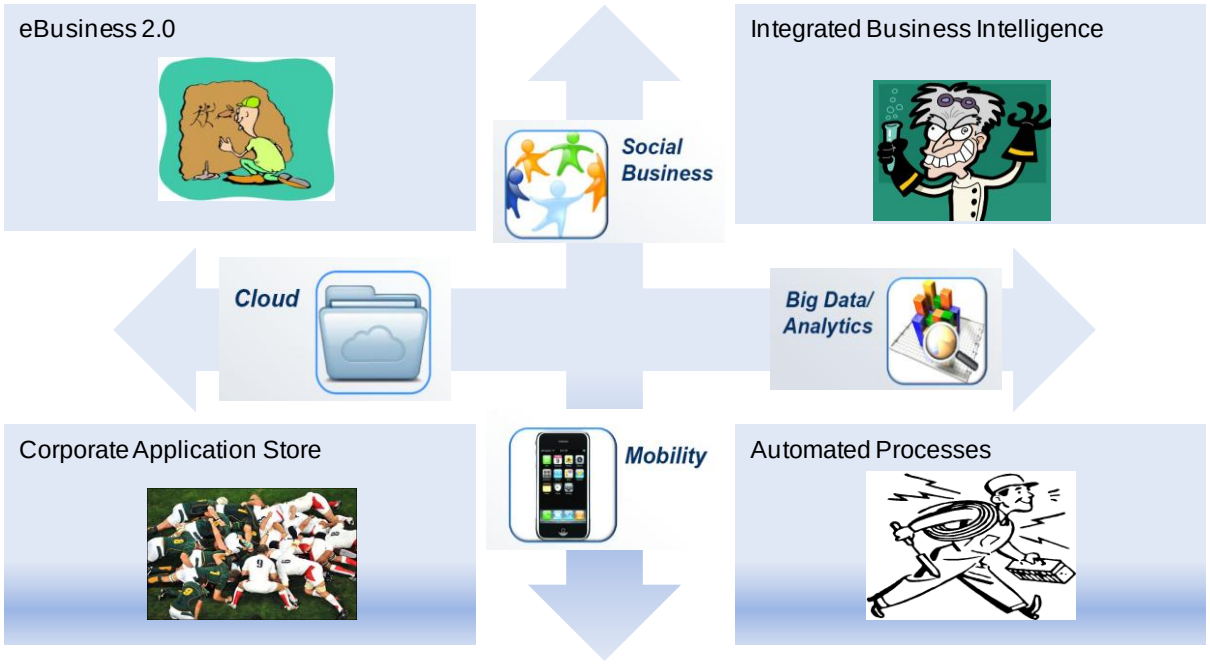
4. **Growing regulation,** particularly in the area of traceability, is certainly worrisome to consumer products manufacturers, many of which prefer to be proactive rather than reactive. Traceability has reinvigorated efforts to improve visibility and supply chain responsiveness, particularly for consumer products companies that market food and beverage products with short shelf lives, and puts an emphasis on reliable and accurate data.

5. **Compressed order lead times** are putting pressure on manufacturers to be more agile and run the clock speed of their business more quickly. In the past couple of years, many companies have found themselves facing sub-48-hour order lead times, often with poor supporting capabilities.

Although these business trends reflect distinct challenges and opportunities and will impact different areas of the consumer products manufacturer's supply chain, there are some common elements — particularly when it comes to the implications for technology. IDC Manufacturing Insights' predictions for 2012 and beyond refer to a shift to the IT industry's third major platform of growth — built on mobile, cloud, social business, and big data/analytics technologies. These four technology areas make up the "four pillars" of IT, as illustrated in Figure 1.

FIGURE 1

The Four Pillars



Source: IDC Manufacturing Insights, 2012

Consumer products manufacturers are applying these new technologies to support how they engage with employees, partners, customers, and, most important, consumers, as well as how they approach the five challenges detailed earlier. In addition:

- Technology catches up to the changing organization with the four pillars — mobility, cloud, big data/analytics, and social business.
- Manufacturers will allocate IT spend to support the four pillars; investment prioritization depends on alignment of IT productivity and business value.

- Today, big data/analytics is the least developed technology but has the highest potential for creating new advantages.
- New opportunities exist in the overlapping applications of these new technologies, such as cloud-enabled corporate mobile application stores or rapid analysis of large volumes of social media content.

The bottom line is that the expectation for speed and agility, in an environment where supply networks are complex and demand is more volatile, requires consumer products companies to have greater levels of visibility than ever before and the ability to respond more quickly to demand from the marketplace.

The Persistence of Manual Data Collection

Consumer products manufacturing supply chains are growing longer and more complex and face real challenges in delivering timely and accurate information to the right place at the right time. These globally distributed supply chains present the largest challenge to transportation and logistics organizations whose efforts to make operational and execution processes more efficient and effective are regularly hampered by late, inaccurate, and incomplete data caused in large part by the inefficient transfer of logistics data through the use of paper forms and manual processes.

Although the use of mobile devices appears slightly more mature in the transportation and logistics part of the supply chain, there is still the view that substantial improvements can be made in the business process. While over 75% of logistics functions continue to use paper forms and approximately 50% of the data is input manually, more worrisome is that one-fifth of the data captured manually is not entered at all. This lack of automation is contributing significantly to the poor level of data accuracy and corresponding shipping errors within transportation and logistics.

Balancing Cost with Service

At the same time, while cost clearly remains a top priority for consumer products manufacturers, service performance is a key component of business success. The reality is that the empowered consumer and the attendant requirements on the manufacturer to drive product availability and choice will mean a greater focus on service. While different companies will approach the notion of a "service centricity" in differing ways and at different speeds, the empowered consumer means a focus on consistent service delivery; and when trade-offs need to be made, service trumps cost. It also means meeting and exceeding consumer and retailer expectations in terms of imperatives such as on-shelf availability and/or rapid replenishment.

The ability to achieve these expected service levels requires consumer products manufacturers to improve their ability to consume and

disseminate information across the full breadth of the customer relationship, with both sales and supply chain personnel, many of whom work remotely and/or spend considerable time in the field.

THE APPROACH

While a significant number of technologies can improve communication with and visibility for field-based employees, consumer products manufacturers are placing a high priority on the employment and deployment of mobile tools. In a recent supply chain survey, IDC Manufacturing Insights asked consumer products manufacturers to rank the importance of the four emerging technology areas depicted in Figure 1. The results, detailed in Table 1, suggest that the adoption of mobility and mobile tools is an important priority for these companies.

TABLE 1

Four Pillars Prioritized by Consumer Products Manufacturers

Emerging Technology Area	Mean Score
Big data/analytics	3.6
Mobility	3.3
Cloud computing/software as a service	3.0
Social business tools	2.9

n = 355

Note: Respondents were asked to rank the emerging technology areas on a scale of 1 to 5, with 1 being not important and 5 being most important.

Source: IDC Manufacturing Insights' *Supply Chain Survey*, 2012

Although all four of the emerging technology areas scored above average in terms of importance, big data/analytics and mobility were the clear leaders. However, in extensive discussions we have had with consumer products manufacturers, there is a consistent view that while mobility will play a critical role in the sales and supply chain business functions, companies are still exploring use cases and working out how to best make technology available to their employees.

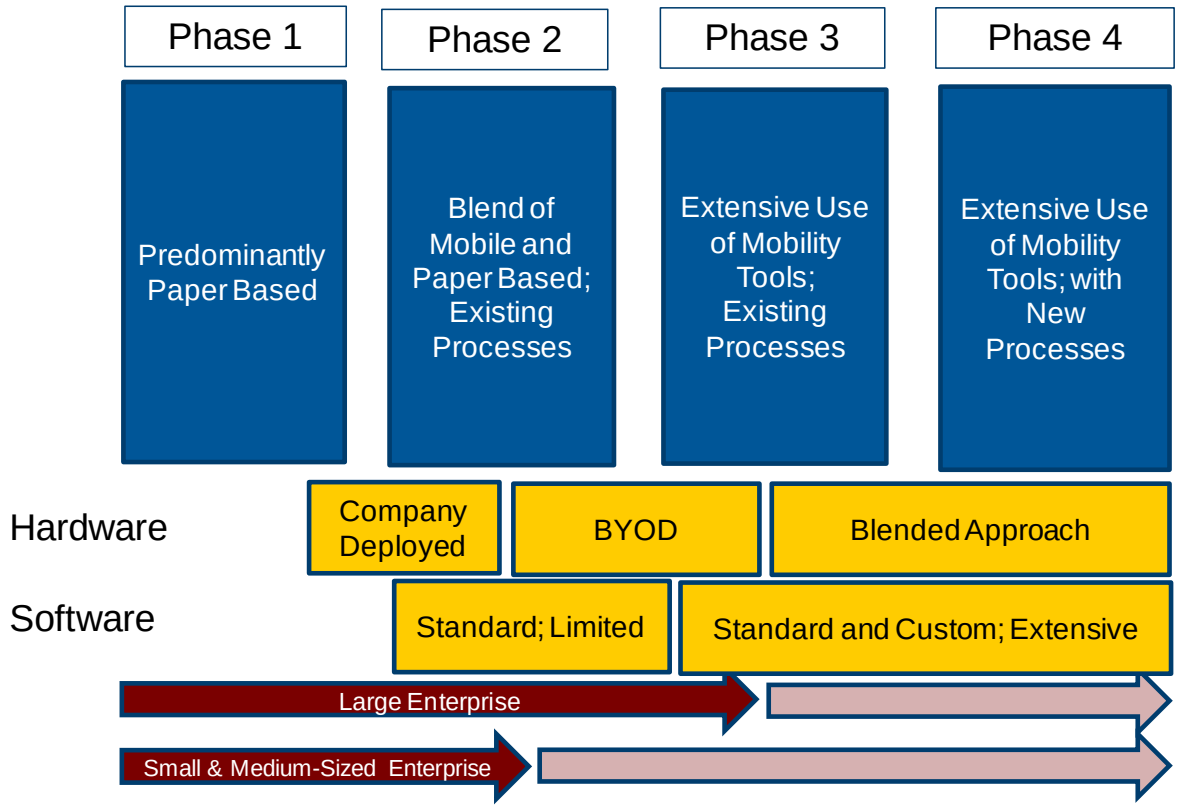
At the same time, where companies have begun to integrate mobility into their business processes, the path has tended to be "evolutionary" rather than "revolutionary." In other words, companies are looking at mobile tools as a way to improve the existing process, but not necessarily as a way to change the process — at least not yet. Examples include:

1. **Resource management**, in terms of both people and more traditional assets, has been an area of focus, particularly where there is less visibility and/or significant time spent outside the traditional office environment, but it has been largely about driving efficiency within current operating paradigms.
2. **Streamlining of business processes**, particularly in the areas of data capture and dissemination where field sales or analyst resources can spend over 75% of their time accessing or processing data rather than acting on key insights. Yet, it has largely been about efficiency within the constraints of current approaches.
3. **Operational excellence,** as a result of the ability to be proactive in anticipating problems, or opportunities, by having critical data more immediately available and reacting to it more quickly.

Building on this notion of "evolutionary" rather than "revolutionary," companies in the consumer products industry appear to be following a fairly predictable maturity curve with regard to mobility. We illustrate this as a four-phase maturity model in Figure 2.

FIGURE 2

Maturity Model for Mobility in the Consumer Products Industry



Source: IDC Manufacturing Insights, 2012

As with all maturity progressions, some companies will sit in between phases or take a somewhat different route in ultimately getting to phase 4, but the majority of companies we have spoken with are taking this step-by-step approach. It is interesting that the strategic view is somewhat more mature for hardware than for software (applications). Most companies have implemented a "bring your own device" (BYOD) strategy, or plan to shortly; how they approach installing tools/applications on the devices is less clear. Further, there appears to be a view in some quarters that as companies get a better handle on BYOD, there will be a resurgence of company-sourced mobile tools as well, moving essentially to a blended approach.

In the supply chain particularly, the inherently extended nature of the supply network, with multiple suppliers and third-party logistics providers, makes BYOD adoption of mobility an interesting fit. The notion is certainly gaining traction more quickly in supply chain than in other areas, although concerns around data and device security abound — particularly where proprietary applications may be important (i.e., demand forecasting and inventory visibility). Also, up to now, the use of consumer-grade BYOD devices has been typically limited to "consumption" activities such as alerting and inventory monitoring. We don't see much in terms of "creation" such as order entry/management.

FUTURE OUTLOOK

Ultimately, though, the adoption of mobility tools by the consumer products industry has been and will continue to be driven by the use cases that generate value for the organization. There seems little question that for distributed functions such as sales and supply chain, mobility can be a transformative technology as companies move up the maturity model.

In the Situation Overview section, we briefly touched on the impact of governmental regulation and, specifically, the challenge of supply chain traceability. Mobility can play a significant role in this area, both as a facilitator for greater and faster visibility and as a way to disseminate timely information to field-based resources. Mobility tools, for example, can greatly improve the efficiency of retail store merchandising resources who can be called upon to identify and remove suspect inventory.

At the same time, it is important to make a distinction between the adoption of consumer-grade smartphones and the mobile devices that are designed both for a specific function and to withstand the environment in which they are expected to operate. For example, a warehouse barcode scanner is a device with a clearly defined role and is ruggedized to survive in the harsh environment of a distribution operation. Indeed, where we have seen companies looking at

consumer-grade smartphones as a presumed cost-effective replacement for purpose-built devices, the failure rate is so high as to more than offset any initial purchase price advantages.

Yet, there are clearly places within the consumer products company where the environment does not regularly imperil the integrity of a mobile device and where the adoption of consumer-grade devices is warranted.

Best Practices

Companies in the consumer products industry that tend to be leaders in the adoption of technology are, once again, the businesses that are more actively exploring mobile tools and the implications for business value. In the maturity model illustrated in Figure 2, these companies are firmly in phase 3 and moving toward phase 4. The differentiation for these leaders is in exploring ways to redefine business processes in the context of the things mobility can do within sales and supply chain — in other words, moving from just plugging mobile tools into an existing process to *evolving* the process based on new capabilities that mobile tools can enable.

Adoption levels vary even among the leaders and certainly by function. The sales function has tended to lead in terms of consumer-grade mobility implementations based on both intracompany and intercompany interactions, whereas the supply chain has led in terms of implementations based on purpose-built, ruggedized tools.

As consumer products companies have grown their implementations of mobile devices, they have also seen significant growth in analytics capabilities. This growth in analytics is partly a function of increasing amounts of available data, but it is also driven by both fewer resources and the increasingly mobile nature of company personnel. Indeed, IDC Manufacturing Insights sees big data/analytics and mobility growing together — particularly in the consumer products industry where they are the top two prioritized technology areas (refer back to Table 1).

There are a number of use cases for the adoption of mobile tools across the consumer products manufacturer's enterprise, many of them also reflecting the growing use of analytics. We have focused our discussion in this white paper primarily on sales and the supply chain; we think that the following use cases reflect the kinds of mobility implementations businesses can be expected to make.

Use Case: Retail Merchandising/Field Service

Increasingly, consumer products manufacturers are getting involved in the retail store. Whether serving as a category captain, delivering products directly to a store (DSD), setting up promotional displays, or just making routine visits to verify plan-o-grams or determine in-stock

performance, field-based manufacturing representatives are highly mobile individuals, relying heavily on information, yet often disadvantaged in terms of the IT tools that are available to them. It is no wonder, then, that in conversations with IDC Manufacturing Insights, sales and brand marketing executives cite retail merchandising/field service as the number one opportunity to leverage value through the use of mobile tools.

Indeed, we see this as a very common place for the deployment of mobility tools, as remote employees have traditionally struggled to drive to higher levels of productivity because of a lack of information and, often, poor connectivity. With the deployment of mobility, consumer products companies see many benefits for their field-based employees, including:

- Access to the most recent business and customer (retailer) plans
- More timely submission of orders, which drives demand accuracy, ease of fulfillment, etc.
- Information about forthcoming shipments or deliveries
- Verification of promotional plans
- Ability to update plans and activities in real time
- Communication of out-of-stock or near-out-of-stock condition

The deployment of mobile tools is not without its challenges, however, particularly as it relates to the speed of decision making. One senior-level executive we recently spoke with lamented that in the time it took the company to approve funding for an investment in mobile tools, multiple generations of technology had come and gone. Although BYOD is a potential option for companies to consider for their field-based personnel, the requirements for reliability and data security have prompted most manufacturers to use IT-supplied technology. While fully ruggedized devices can play a role in this area, many consumer products companies are looking at consumer-grade smartphones and tablet devices.

Use Case: Warehouse Operations

In the supply chain, the warehouse is a particularly good candidate for mobile technology, and we see a couple of interesting trends. Traditional forms of barcode and RFID scanners continue to be used to good effect in the warehouse. A few consumer products companies have looked at replacing these purpose-built, ruggedized devices with consumer-grade technology as a way to reduce technology costs; however, nonruggedized devices simply do not hold up under regular warehouse conditions and have proven to be less reliable — and more

costly — than more traditional approaches. But we are seeing the growing use of smartphone technology as a way to more easily understand business and inventory conditions — not as a replacement for purpose-built, ruggedized devices, but as a complement to them. In addition, the two-way capability of modern mobile devices can be helpful in terms of getting information about either incoming shipments for the factory or outgoing shipments to the customer. In addition, many warehouses now use drop lots as a form of overflow storage for truckloads of product that either cannot fit in the primary warehouse or, more commonly, arrived during a period of peak activity when no dock door was available. The ability to monitor and communicate inventory status is the most obvious benefit from the use of mobile technology. Other benefits are as follows:

- Visibility into inbound shipments and the implications for outbound order prioritization
- Ability to easily consume and disseminate traceability information (Because the warehouse is often "ground zero" in the case of a product recall, the ability to easily consume and disseminate traceability information — including the ability to support product hold or product recall — in real time can be critical.)
- More efficient and effective scheduling of assets and labor, including dynamic dock-door redeployment
- Data capture — shipment arrival, on time/in full, shipment departure

There are many other use cases for mobility tools in the consumer product manufacturer's enterprise — these are just two of the more common scenarios. Indeed, companies are finding more and different uses for mobility every day. In a business environment characterized by speed and short cycle times, the ability to be able to make better, fact-driven decisions more quickly is a necessity.

ESSENTIAL GUIDANCE

At IDC Manufacturing Insights, we write a lot about the IT industry's third major platform of growth — built on mobile, cloud, social business, and big data/analytics technologies. These four "pillar" technology areas of growth are generating a lot of interest from consumer products manufacturers even if, collectively, there is some uncertainty in terms of how and when to adopt various pieces of the technologies. Of the four technology areas, mobility appears to be both the most obvious and the area that has been significantly deployed in various forms across sales and supply chain organizations for years. The primary reason that mobility is discussed so frequently as an "emerging" technology is that the opportunity for greater adoption

remains significant and the "threat" from consumer-grade smartphones is unclear. Indeed, as we have discussed in this white paper, companies have looked into using these consumer-grade devices within the business only to find too often that they are not durable enough to function reliably over a reasonable period of time.

For the consumer products manufacturer, there are a number of factors to consider when looking at mobility. We have talked quite a bit about the business drivers for these tools — speed, agility, and the importance of capturing information completely and reliably — but not as much about how to proceed. We suggest that businesses looking to make investments in mobile technology consider the following three points:

1. **Remember that you are a brand company, not a technology company**, and while there may be some allure in trying to "do it yourself," you should consider working with a qualified technology partner to select, deploy, and manage mobile devices.

2. The reality is that consumer-grade smartphones have a place — it just isn't everyplace. These devices will not be satisfactory replacements for purpose-built, ruggedized devices — in the supply chain or in sales. Certainly, smartphones may be useful complements to these devices, but they are unlikely to be replacements. Therefore, consider **using the right device for the right task.**

3. Although BYOD may be appealing for "consumption" tasks and/or non-mission-critical business processes, **proper management of devices and security of data** can prove to be problematic and generate unanticipated costs.