



MOBILE SOLUTIONS:

Improving **Supply** **Chain** Efficiencies

Panasonic

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MODERN
MATERIALS HANDLING

Panasonic

Mobile Solutions: Improving Supply Chain Efficiencies

AS COMPANIES STRIVE to meet the ever-changing needs of their customers in today's global economy and omni-channel environment, more of them are leveraging mobility solutions to streamline their shipping and distribution operations.

"We will have the opportunity to track and trace many more activities. The challenge will be to make sure we are focused on the areas that will yield the greatest benefit to the customer and to our operational efficiencies.

We don't want to simply automate a non-value-added process; we must first lean out our processes."

—Sr. Supply Chain Management; Wholesale; \$250M-\$500M in annual revenues

To examine how mobile solutions are being utilized in warehousing, logistics, distribution and manufacturing facilities, or with remote or field operations, 185 managers involved in the purchase and usage of mobile and wireless solutions were surveyed about the challenges they face in managing supply chain activities, and how mobile devices and applications can improve process proficiencies and accuracies.

This report shares the results of the survey to help supply chain managers better understand the types of mobile solutions being adopted and where they are being deployed, identify those areas that are in greatest need of upgrades, and outline the plans for acquiring and revitalizing critical mobile applications. The survey further supports the need for mobile systems as a means of sharpening inventory management procedures, fulfilling more orders rapidly and correctly, gaining

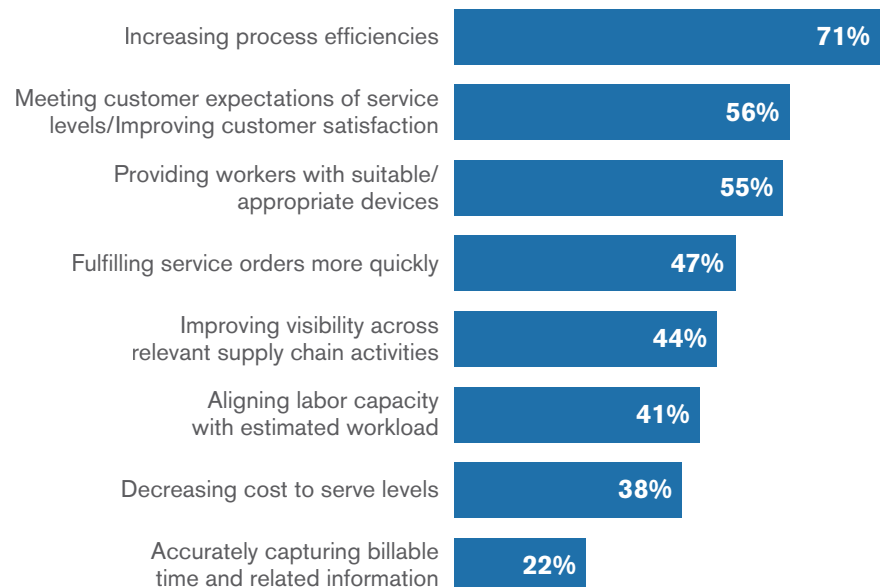
greater control over operational costs, and improving customer service and support.

Materials handling and operations managers are challenged by the need to improve operational efficiencies

It's no surprise to hear that managers face a litany of obstacles in running their day-to-day operations. Improving competencies in warehousing, logistics, distribution, manufacturing or field operations ranks as the top issue for most. Servicing customers is also a primary concern of materials handling and supply chain executives, which is not surprising given the ever-increasing service level expectations of customers. The challenge of equipping workers with devices suitable for tackling the necessary tasks as well as fulfilling orders quickly and efficiently is also closely linked. (Figure 1)

FIGURE 1

Challenges facing warehouse and logistics managers



“Increased usage of 2D bar codes, if properly encoded, will decrease labor at the receiving dock. In addition, extending scanning to the driver will allow courier-like tracking.”

Executive management;
Warehouse and
Transportation Services:
<\$50M

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To further understand the challenges faced by materials handling and supply chain managers, the key operational areas were examined. The findings revealed the areas in greatest need of improvement involve warehouse and DC procedures, shipping and receiving practices, and activities involving fulfillment centers. (Figure 2)

FIGURE 2

Operations in need of improvement

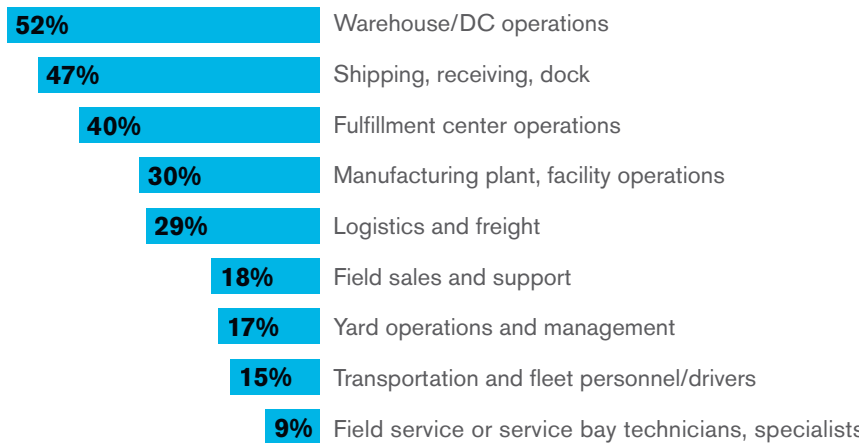
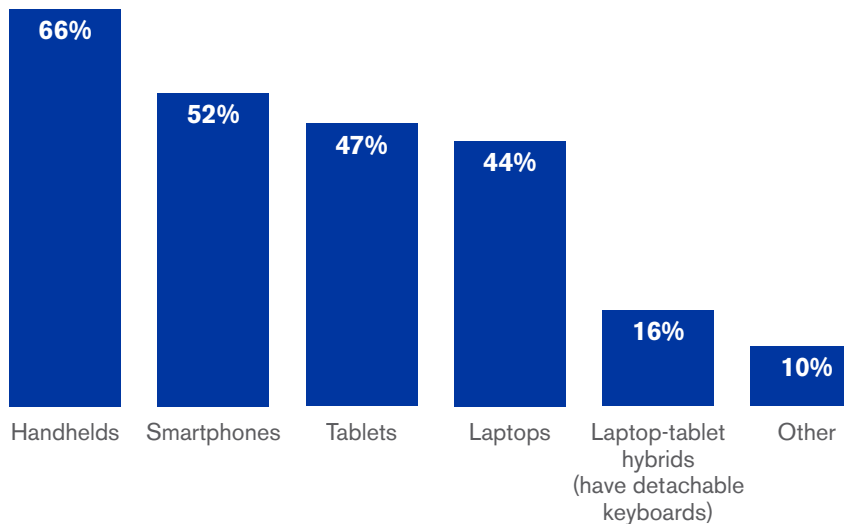


FIGURE 3

Mobile devices currently in use



The Critical Nature of Mobile Solutions in Warehouses and Field Operations

Mobile technology is already regarded by managers as a conduit to improving processes across the end-to-end supply chain.

Materials handling and operations managers are finding productive use for wireless solutions in manufacturing, warehouse, logistics and the field. There is extensive use of Handhelds, likely due to their compact and lightweight size. Of note are laptop-tablet hybrids with detachable keyboards, which is a newer device form-factor, is also beginning to be seen in use. (Figure 3)

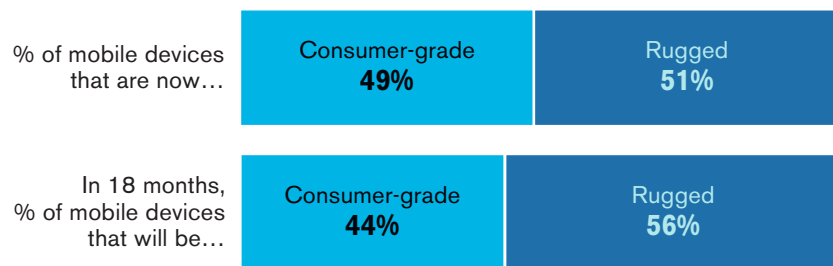


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Of the types of devices currently being employed, companies are using, nearly equally, consumer-grade and rugged devices. However, we will likely see a gradual shift in this trend to rugged devices as mobile devices become more widespread in these harsh environments, where consumer-grade devices can't withstand the impacts of bumps, drops, liquid spills and grime of a warehouse or distribution center. (Figure 4)

FIGURE 4

Use and adoption of consumer-grade and rugged mobile devices



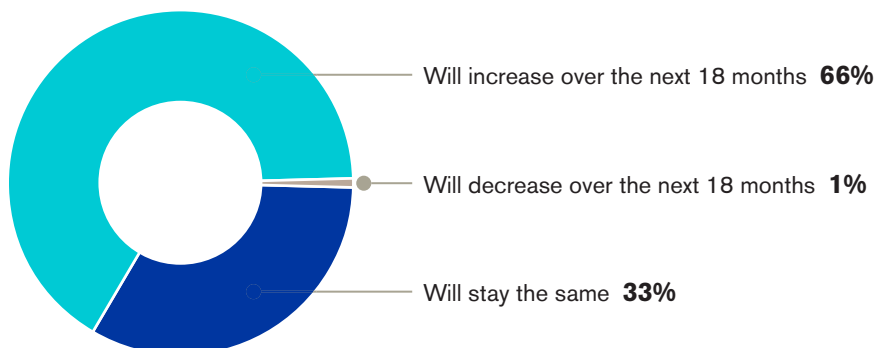
Applications and investments in mobile technology will spread

Just as nothing stands still in the supply chain or materials handling, neither does mobile technology. In the upcoming months, companies plan to broaden their use of mobile solutions in many operational areas. The following two charts provide further insight into managers' plans for the future.

Mobile is so important to the future of operations in warehouse and DC facilities that in the upcoming 18 months, the majority of organizations surveyed (66%) assert they will be increasing investments in mobile technology. Additionally, most others (33%) say that spending on mobile technology will remain on par with recent spend levels. Only 1% say they will cut spending on mobile solutions. (Figure 5)

FIGURE 5

Companies' investment plans for mobile solutions over next 18 months



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“We are going to use the mobile technology to increase our productivity and profitability.”

—Executive management;
Electrical Equipment;
\$1B - \$2.5B

“We feel that mobile systems will enable real-time updating of orders and inventory and improve on speed and accuracy.”

—Logistics, Distribution,
Operations Management;
Industrial Equipment;
\$250M - \$500M

Most notably, handhelds and tablets are being earmarked for acquisition. Interestingly, laptops and laptop/tablet hybrids are equal in plans to acquire during the next 18 months. (Figure 6)

FIGURE 6

Mobile devices planned to acquire during the next 18 months

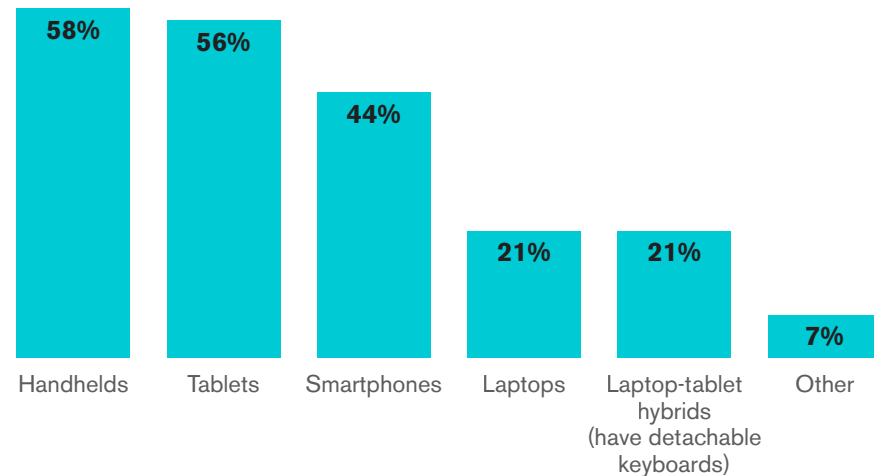
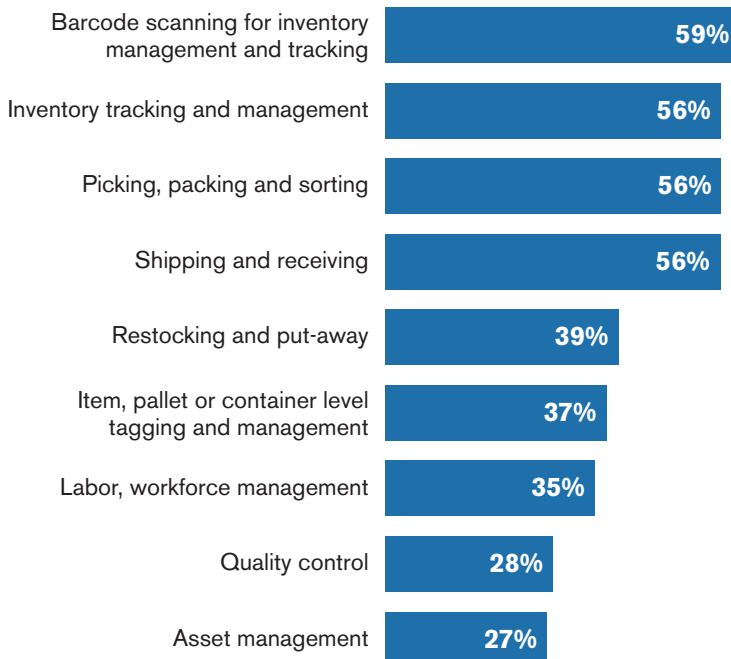


FIGURE 7

Applications for which mobile devices will primarily be implemented, upgraded, refreshed or expanded



The applications for which mobile devices will largely be employed include bar code scanning, inventory management, picking and sorting, and shipping and receiving processes. (Figure 7)

Interestingly, these applications coincide with the primary challenges identified by managers earlier in the survey. (Figure 1)



“We’re only upgrading warehouse and shipping at this time, but we’re hoping future implementation of tracking at the manufacturing level will improve overall efficiencies.”

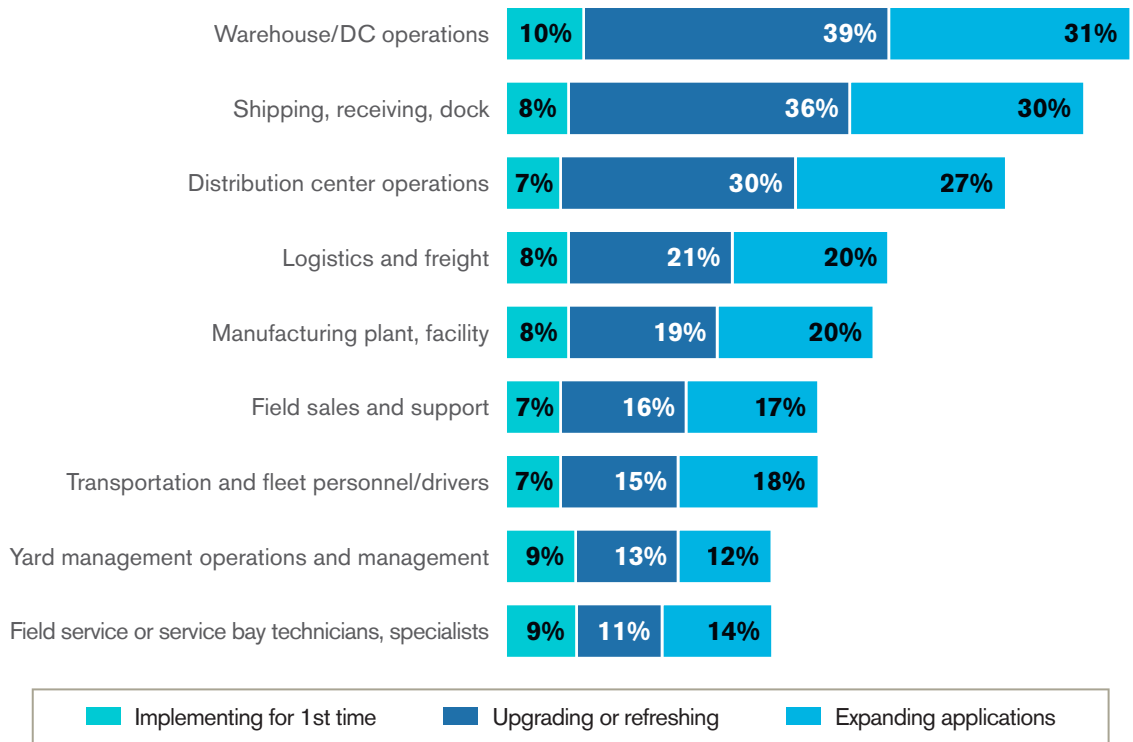
—Consultant; Consumer goods; <\$50M

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As stated, most logistics operations in today’s business environment are already using mobile devices for key functional procedures. However, many managers acknowledge that their mobile solutions and applications in warehouse, shipping and distribution center operations are prime for upgrading. Other areas that will receive upgrades to devices and expansion of mobile applications are logistics and freight, and in manufacturing facilities. By either adding mobility in these areas –or, upgrading existing mobile solutions—companies are able to create a more streamlined, end-to-end supply chain. (Figure 8)

FIGURE 8

Managers’ plans for using mobile devices



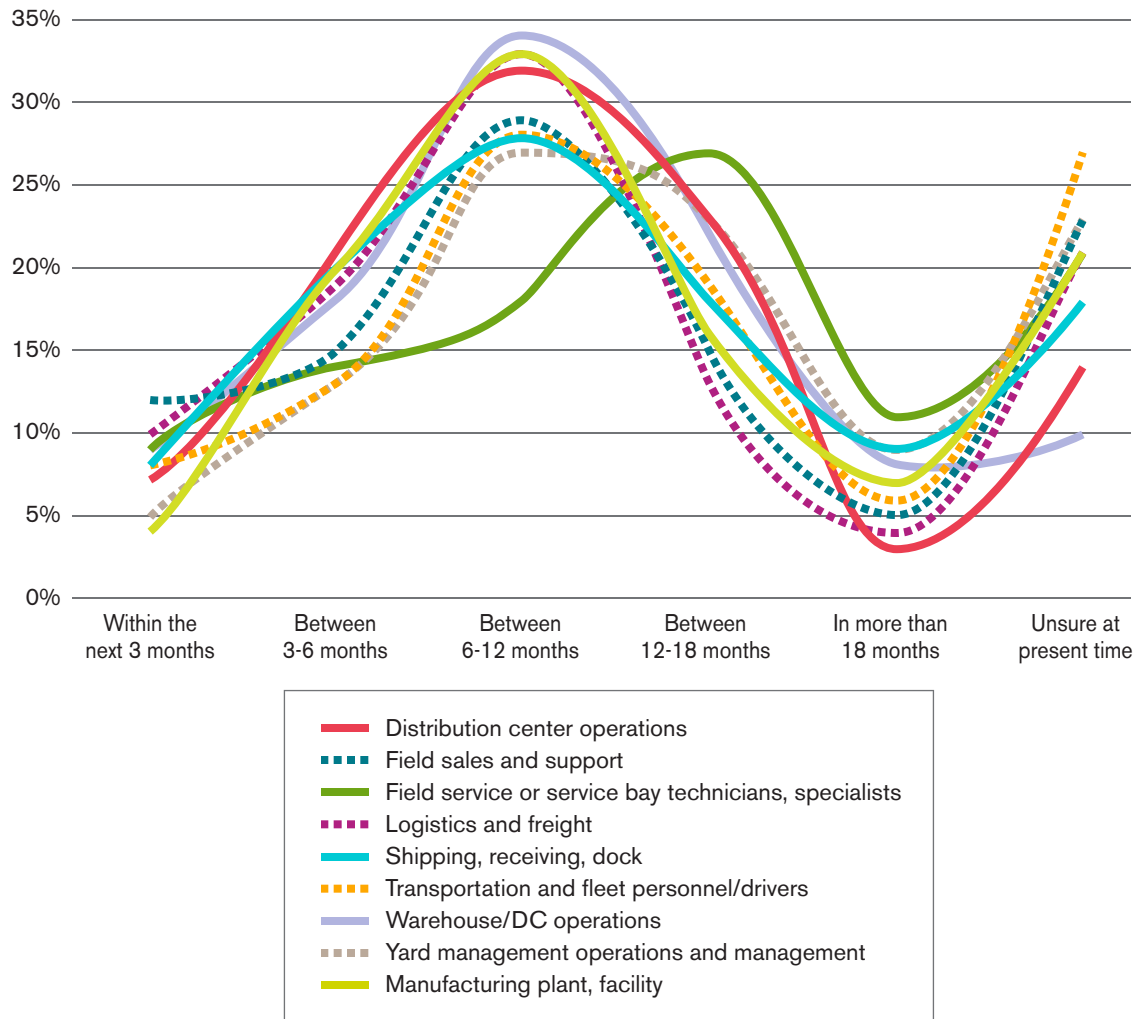


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As substantiated in the accompanying graphic (Figure 9), most companies expect to implement, upgrade and/or expand their use of mobile devices and applications across their entire materials handling and logistics operations in the next six to 12 months. The timeline for supplying field service technicians and specialists with mobile devices is seen to be a bit further out as these workers are more likely to be outfitted between 12 to 18 months. However, the data further shows that the evaluation and purchase process for mobile solutions is continuous.

FIGURE 9

When usage of mobile devices/applications will be implemented/upgrading/expanded



“Mobile provides speed, accuracy and agility so we can turn orders faster and meet our ever-increasing demands to provide product component source information to support sustainability or quality claims.”

—Executive Management; Apparel; \$250M-\$500M

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Reliability and design of device are critical purchase requirements

With such a substantial focus and increased investments being placed in mobile technologies companies use a range of criteria when evaluating mobile devices for purchase. Connectivity, uptime and reliability, and product design (in particular, screen display) are all decisive factors. Other key issues that come into play include scanning capabilities and accuracy; battery life; compatibility with existing enterprise resource planning (ERP) platforms; and durability (shock/dust/water resistant). (Figure 10)

FIGURE 10

Characteristics considered most important when evaluating mobile devices for purchase

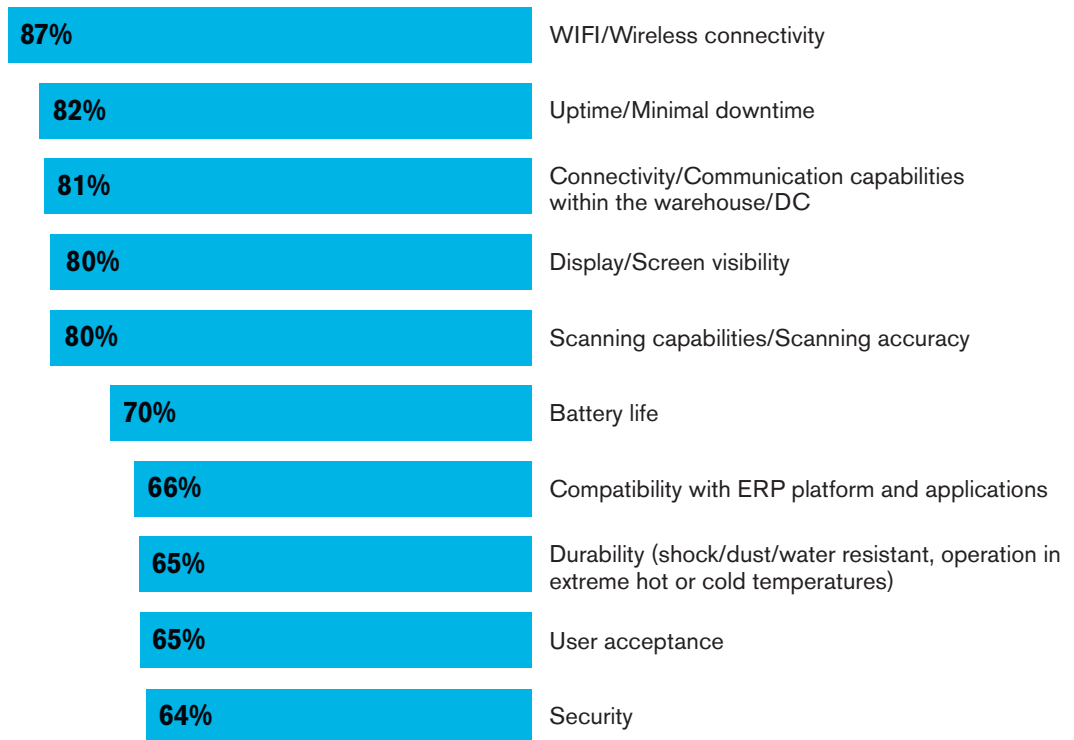
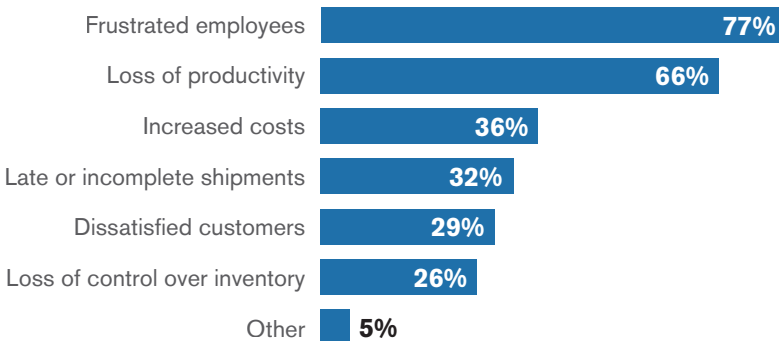


FIGURE 11

The impact when mobile devices fail to function properly



These results are not surprising as mobile solutions unable to satisfy these conditions can have a calamitous effect across the supply chain. Poorly functioning equipment not only jeopardizes an organization’s capacity to meet customer needs or achieve optimal productivity levels, but when technology fails, worker output and satisfaction fall right along with it. Downtime tends to compound the problem even further, resulting in added production and order processing costs, shipping delays, and lost revenue. (Figure 11)



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The outlook is bright for the future for mobile devices and applications in logistics

There's little question that the role of mobile devices in warehouses, logistics, manufacturing facilities, and field service operations is expanding. As the breadth of applications for wireless solutions proliferates and the functionality of the mobile device technology advances, the organization's need for mobile solutions grows exponentially. Successful, modern warehouse operations make use of wireless mobile technology and warehouse printers to support the product as it makes its way through the warehouse, for example, and inventory can be tracked from the information on bar codes on the item, package or pallet, and on locations in the warehouse area.

According to VDC Research, the greatest drivers of warehouse mobility right now include improving service quality, improving workforce productivity, and achieving cost-effective track and trace. Our survey results track with this. Application modernization is also coming into play in the warehouse, where organizations want solutions that will help them more quickly deliver new applications and functionality. In response to these needs, vendors are developing mobile applications that can interact more fluidly with other applications and respond dynamically to the surrounding environmental data. These applications are helping shippers gain seamless integration of workflows and applications across multiple channels, react more intuitively (e.g., via smart alerts and prompts), and attain improved levels of customer service.

As the market continues to shift, and as shippers ask for more real time information and flexible IT (information technology) infrastructures and tools to help them adjust to these changes in a more agile fashion, mobility will gain an even stronger footing across the end-to-end supply chain. Omni-channel shipping

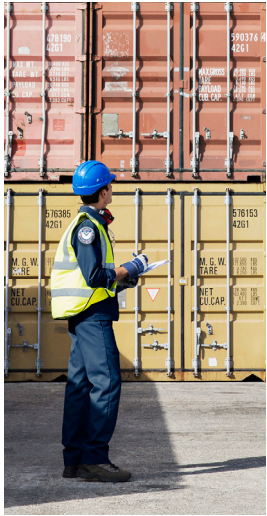
strategies, for example, shift the distribution focus to the item level, thus exposing the cost of errors and increasing the importance of compound KPIs (i.e., the "perfect order"). To be able to best respond to these shifts, companies will turn to enhanced mobile solutions – better performing devices, integrated applications, and enhanced wireless and cellular connectivity infrastructure that help them work smarter, better, and faster in today's demanding business environment.

Methodology

This research was conducted by Peerless Research Group on behalf of Modern Materials Handling for Panasonic Corporation. This study was executed in September/October 2016, and was administered over the Internet among subscribers to Modern Materials Handling magazine.

Respondents were qualified for working at a company either currently using or planning to use mobile or wireless solutions to help manage warehouse, logistics, distribution, manufacturing, or field operations processes and for being involved in the evaluation and/or purchase of mobile or wireless solutions for use in these areas.

Respondents are predominantly top corporate executives, upper level warehouse and logistics management, and directors of supply chain operations. Six out of 10 respondents work for a manufacturing company. The study encompasses a breadth of industries that includes food and beverage, industrial machinery, chemicals and pharmaceuticals, and computers and electronics. The other forty percent are in wholesale, retail, transportation services, 3PLs, and consultants. Businesses of all sizes are represented in the study. •



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Contact info

If you would like help in determining the right mobile device and solution for your supply chain operations, warehouse or distribution center, Panasonic can provide you with industry expertise and mobile field engineers to consult.

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