An Evaluation of Operational Performance in Warehousing, Distribution and Manufacturing
Manufacturing, warehousing and distribution professionals are under more pressure than ever to deliver value to their enterprises. At the operations level, facilities managers and supply chain professionals are focused on reducing costs and overhead, boosting productivity, improving profit margins, improving inventory management and achieving greater inventory accuracy.

At the same time, the success of their facilities is being measured by how well they perform in key areas, such as on-time delivery, order accuracy, order fill rate, throughput and cost per order.

In short, they are doing more with less while the pressures to compete and perform increase. Those conditions present challenges to end users of material handling solutions and an opportunity for material handling solutions and technology providers.

In August 2010, the Integrated Systems and Controls (ISC) Council of Material Handling Industry of America (MHIA) conducted a study of manufacturing and warehousing/distribution professionals. The results lead to several conclusions:

Current systems are meeting current demand for many: A majority of respondents are satisfied with their current processes and systems. However, 34% of warehousing/distribution respondents and 48% of manufacturing respondents were only somewhat satisfied or not at all satisfied. No more than 5% were extremely satisfied with their processes and systems.

Those systems may be inadequate for future needs: Over the next 12 months, manufacturers and warehousing/distribution professionals alike expect to grapple with growing demand, recruiting and retaining skilled and qualified workers and the need to lower their cost per unit through innovation and more efficient processes.

Investments have been planned: More than half of all respondents (54%) plan to make a capital equipment investment in material handling equipment, systems and software during the next 12 months.

While traditional material handling and logistics products predominate, end users want automation: Racks, lift trucks, dock equipment and totes and containers topped the list of planned expenditures for the coming year. Yet more than half of manufacturing and warehousing/distribution respondents voluntarily associated automation with the types of solutions that would improve the performance of their facilities.

Cost Control and Efficiency Are Key: Improving operations is top of mind for the coming year. The number one focus is on lowering costs (42%) followed by improving productivity (30%). Improving profit margins, improving inventory management and achieving greater inventory accuracy were each cited by more than 20% of respondents.
Process improvements and investments

The vast majority of manufacturers (89%) and warehousing/distribution professionals (85%) plan to undertake process improvements during the next 12 months.

Projects are planned across all of the functional departments in those facilities, with a special emphasis on the production line (44%) in manufacturing and order picking (49%) and receiving (47%) and shipping (41%) in warehousing/distribution (see charts).

The primary emphasis in both manufacturing and warehousing/distribution is on improving the fundamentals of operations, such as re-engineering internal processes and retraining the workforce. For instance, 70% of manufacturers and 64% of warehousing/distribution professionals indicate they will alter their internal picking processes while roughly half of warehousing/distribution professionals will focus on retraining their employees in all departments.

Asked to indicate the degree of labor intensity present in their facility, a majority of respondents indicate some level of automation in every key material handling related function or department. However, very few departments are fully automated.

Receiving and shipping, order-picking and putaway are the areas of functionality with the least amount of automation in both manufacturing and warehousing/distribution facilities.

However, equipment, technology and software purchases are included in roughly 20-60% of those projects, depending on the functional areas. When it comes to planned capital equipment investments, traditional material handling products such as rack, shelving and lift trucks top the list of planned expenditures during the next 12 months. Still, both manufacturers and warehouse/distribution professionals are planning to invest in automatic identification technologies, such as bar codes, RFID and supply chain software as well as conveyors, ergonomic assist devices, controls, overhead handling equipment and automated storage technologies.

Half of manufacturers and warehousing/distribution professionals indicate that they benchmark their operations against other companies. Of those that benchmark, 60% benchmark themselves against companies across different industries and 84% benchmark against their competitors. On-time delivery is the most important metric (30%) used for benchmarking, followed by cost per order (21%) and order fill rate (20%). Labor costs, inventory on hand and order accuracy were each cited by more than 10% of respondents.
Summing up
Looking over the survey as a whole, several key takeaways important to the material handling and logistics industry emerge.

- Many respondents anticipate growth in 2011 due to new customer demands, orders and new business.
- At the same time, those respondents are also concerned about their ability to recruit and retain a workforce with the skills required to get the job done.
- Although a majority of respondents say they are satisfied with their current systems and processes, an equal number state they are far from excellent in the metrics and operations that matter most to their companies, such as on-time delivery, picking, shipping and receiving.
- A significant number of respondents say their operations could be improved with automation, including automatic identification, software, automated storage solutions and robotics.

Methodology, respondents and their facilities
A survey was e-mailed in August 2010 to lists compiled by DC Velocity (www.dcvelocity.com), Modern Materials Handling (www.mmh.com) and MHIA. A total of 655 qualified responses were received, including 446 (68%) respondents from warehousing/distribution and 209 (32%) from manufacturing. Respondents represented industries as varied as food, beverage and tobacco, pharmaceutical, apparel, consumer electronics and machinery. All respondents were involved in purchasing decisions for material handling equipment and related systems, technologies and services. Affinity Research Solutions (www.affinityresearchsolutions.com) completed the survey on behalf of ISC.

Eighty percent (80%) worked in large facilities with 100 or more employees while 20% worked in small facilities with fewer than 100 employees. The average facility was between 332,000 square feet (warehousing) and 357,000 square feet (manufacturing).

ISC is an Industry Group of MHIA. ISC members are the Industry’s leading suppliers of integrated material handling and controls systems and is comprised of members of the Automated Storage/Retrieval Systems (AS/RS), Automatic Guided Vehicle Systems (AGVS), Conveyor & Sortation Systems (CSS), Order Fulfillment Solutions (OFS), and Supply Chain Execution Systems & Technologies (SCE) Industry Groups of MHIA. They supply systems worldwide and in virtually every major manufacturing and distribution sector. To learn more about ISC, visit www.mhia.org/isc.