

Profitability largely hinges on efficiency, both in production and business processes. No wonder many respondents place a lot of importance on reliable Manufacturing Execution Systems (MES). The presence of a top-class MES is seen as boosting improvements not only in production, but also in operations, maintenance, and business planning.

Besides energy prices, raw material availability and cost are having a significant effect on profitability. The tissue industry is a low-margin business where cost fluctuation has an immediate impact on profitability.

Tissue manufacturers are in raw material competition with other industries, notably the containerboard and cardboard industries, which due to higher sales margins are in a better position to buy at higher price levels. This creates a profitability pinch also from the supply side.

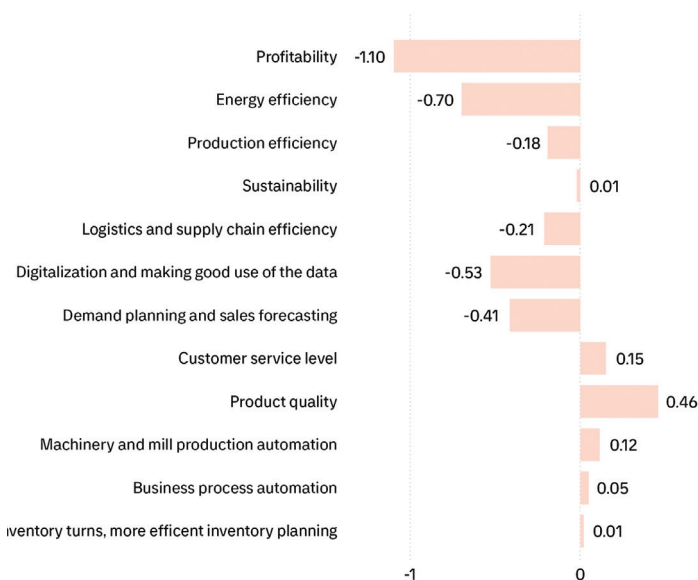
Tissue mills struggle most with energy and raw materials

In contrast with the enterprise level, at mill level, energy and raw materials were seen as the biggest and most imminent problems in the industry. Regarding energy, skyrocketing prices were the main source of concern, while raw material sourcing suffered not only from rising prices but also from declining availability. The combined effect of the rising cost of doing business and the importance of managing the supply chain more efficiently leads companies to seek tighter closeness to their markets.

How are we performing on urgent issues?

It is interesting to see how tissue companies see themselves performing in some of their key areas of concern.

Sustainability gets the most mentions as the most important improvement area, but a gap analysis reveals that companies nevertheless seem satisfied with their present performance. In fact, they slightly exceed their own expectations between urgency and perceived performance. In contrast, profitability performance is seen as clearly worse, by far topping the list of the gravity of shortcomings. Companies are also dissatisfied with their performance on energy efficiency at a rate of twice those of demand planning and forecasting, and digitalization and making good use of data.



One way of interpreting this is that respondents approach issues alternately from a profitability and a sustainability angle.

A somewhat striking finding is that around a third of companies see themselves as sustainability forerunners, while one in five are not paying much attention. The rest consider themselves as following trends with more moderate investment.

Interestingly, **product quality** is an area where most companies exceed their own expectations. Respondents are also satisfied with their present level of customer service.

Nearly six in ten respondents consider organization, processes, and know-how to be their most important areas of improvement investment.

Digitalization a key success enabler in a turbulent market

The tissue industry is undergoing perhaps one of its biggest business environment changes in history. There is war in Europe. We are just recovering from the Covid pandemic that at a stroke upended all business plans. Cost pressures are mounting, and both the demographics of the target markets and end-customer behaviours are changing. We are seeing a real litmus test of success for the entire industry.

Digitalization has undeniable importance in such circumstances. Companies can clearly see the helpfulness of digitalization in both the hard and the soft side of the business – machine monitoring, optimization and maintenance, as well as demand forecasting and helping react to rapid market changes.

When asked about their key focus areas in digitalization and applying new technologies within the next 12 months, nearly nine out of ten respondents mentioned production.

A basic requirement for realizing the benefits of digitalization is to have a reliable MES in tissue mills. As a development area, implementing or improving the MES solution is considered important by one-third of respondents.

The following areas, in order of importance, are maintenance, energy, supply chain management, and Sales & Operations Planning (S&OP). Quality issues and sales are areas where digitalization is seen to be of least help.

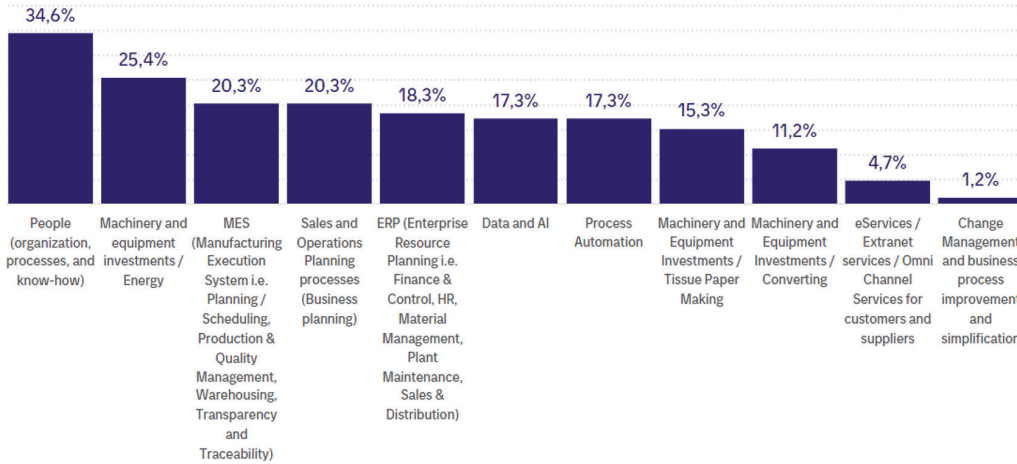
Market maturity seems to play a role in how the issue of digital improvements is approached. Less mature markets seem to focus on production efficiencies, while more mature geographies emphasize a more bird's-eye view by looking for better usage of data in overall decision-making.

Artificial intelligence (AI) is a hot topic in today's digital world, and the technology is being adopted by tissue industry forerunners as well. From a list of corporate-wide functional areas, production and manufacturing seem to use the technology most, with 40 per cent of respondents naming those areas. Interestingly, "none" was the next most common answer, indicating that nearly a third of respondent companies are not using AI in any of their business or production functions.

There seems to be high demand for creating a reliable digital trail of operations to determine the correct KPIs for keeping abreast of actual production and product quality performance.

“ In my view, sustainability is included in material and energy efficiency – so if you want to improve your material and energy efficiency you are at the same time improving your sustainability.”

To summarize, when considering your development areas, in which areas are improvements most necessary?



The most room for improvement is in people, with equipment and systems a close second

Initiatives grouped under the heading “People” – meaning organization, processes and know-how – is by far the highest focus area to improve.

Depending on the respondent’s location, workforce issues also came into play – scarcity of workers and their low skill level played a role.

Knowledge sharing and collaboration are crucial to increasing efficiency at mill level, together with efficient use of data, and realizing the benefits of digitalization.

Machinery and Equipment, Process Automation and Systems investments are largely on the same significance level. Interestingly, development needs in systems, such as MES, ERP and S&OP, process automation and data & AI are seen as more important than investments in tissue or converting machinery.

Companies expect to invest in energy efficiency in the coming years. Remembering the probable overlap between profitability and sustainability, most of the respondents are planning capital investment in reducing plant emissions, and on-site investments in green energy, such as their own solar panels or wind turbines.

The most crucial investments relate to new equipment to reduce energy in production, on-site green energy sources and on-site power and steam generation equipment. Smart energy tracking and automation are high on the agenda, too.

A closer look at Sales & Operations Planning

Sales & Operations planning is an interesting area, which merits a closer look.

Different kinds of optimization and planning work are at the centre of S&OP in order to respond to the uncertainties caused by an unpredictable and volatile market situation. By role, CEOs and Manufacturing and Operations have different priorities when it comes to developing S&OP.

Manufacturing and Operations, rather understandably, look at the issue from a narrower point of view. Their main concern is optimizing demand and supply balance. CEOs, for their part, emphasize a more overall approach – automated sales forecasting and understanding customer demand fluctuation.



CEOs and the shop floor see things differently

An interesting finding is that in some important areas, top management and line management have clear differences of opinion. We already mentioned Sales & Operational Planning, the goal of which differs significantly between CEOs and Manufacturing and Operations respondents. Another such difference is development priorities. Reflecting the development areas the respondents chose earlier in the questionnaire, it seems that the most important focus is on “people”, that is, organization, processes, and know-how.

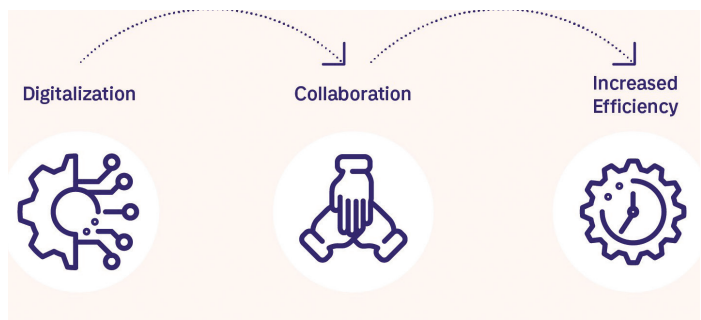
However, there is a significant difference in what CEOs prioritize. Perhaps somewhat surprisingly, their number one priority is MES, which is a key enabler of building a truly data-driven company.

TIPS for Tissue for a profitable tissue business

TIPS is Tietoevry’s ERP (Enterprise Resource Planning) and MES (Manufacturing Execution System) which is specifically designed for the industry sector comprised of pulp, paper, fibre, packaging and tissue. It allows the successful planning, selling, execution and operation of production and warehousing. With the resulting efficiencies and high-quality level, companies can meet customer requirements in full and on time while maintaining business profitability.

TIPS contains automation interfaces, as well as integration to local and corporate-level data storage repositories. TIPS automation integrates to automatic warehouses, AGVs, tissue roll producing machines and converting lines. Large amounts of process data including quality profiles are collected, stored, and used for quality control and process optimization. Data can be used for both on-premise analytics and AI, as well as delivered to a cloud for machine learning and similar purposes such as digital twins.

The latest addition to the TIPS solution family is TIPS OMS (Operations Management System), which is a great example of breaking through corporate silos through knowledge sharing and collaboration. OMS significantly increases efficiency in the mill production environment through real-time data, dashboard visibility into production, and seamless communication between mill teams.



“The tissue industry has been without major innovations for many years, both in new products and in new process and management technologies. So, I understand that the sector deserves a true turnaround in all aspects.”



Download the white paper for a more thorough analysis

A white paper digging deeper into the issues the tissue industry is facing today is available for download on Tietoevry’s website at www.tietoevry.com/tipstissue.

You can find more information on the TIPS for Tissue solution for a profitable tissue business on the same website – or better still, come visit us in hall 8A, booth 51E at Tissue World in Duesseldorf, March 28-30, 2023.