How to leverage precision converting amid nonwoven product price pressure

Nonwoven hygiene, medical and home care products must meet buyer requirements for sustainability, quality, brand reputation and price. It’s a tall order. To succeed, converting efficiency matters more than ever, says Adrienne Green, Web Industries Inc.

Whether it’s diapers, feminine hygiene products or disposable cleaning products, consumers are constantly looking for the best value. Does the product catch their eye with an attractive print? Does the packaging advertise sustainability claims? How’s the quality? And, of course, what is the price? These are just a few of the key questions many shoppers consider, often in a matter of seconds, before grabbing a hygiene or home care product off the shelf (or clicking it online) and adding it to their cart.

In another important nonwovens market, the disposable medical products business, similar factors are on purchasers’ radars. What value will this product deliver for its usable life with patients and healthcare providers? How well does this purchase fit under the umbrella of the organisation’s sustainable purchasing program? Is the price justifiable given budget constraints?

Behind the scenes in the supply chain, a myriad of decisions must be made to address every one of these purchasing criteria, and each brand or private label must consider which value proposition will resonate most with diverse buyer personas. This article explores how collaboration with an outsource manufacturing partner can help hygiene, medical nonwoven and home care products companies achieve important objectives such as brand differentiation, competitive pricing and speed to market. It also will discuss how precision converting can contribute to sustainability initiatives.
PRICE-PER-DIAPER SNAPSHOT

<table>
<thead>
<tr>
<th>Top-tier Diaper Brand A</th>
<th>Top-tier Diaper Brand B</th>
<th>Eco-friendly Diaper Brand</th>
<th>Private Label Brand</th>
</tr>
</thead>
<tbody>
<tr>
<td>£0.19 (US$0.24)</td>
<td>£0.23 (US$0.29)</td>
<td>£0.25 (US$0.31)</td>
<td>£0.08 (US$0.10)</td>
</tr>
</tbody>
</table>

Source: Author’s research. List prices before tax on 16 September 2019. Online search of a major U.S. big-box retailer’s website for size 2 diapers in pack quantities ranging from 29 to 42 diapers.

Facing price pressures

Price pressure is as intense as ever, particularly with the confluence of rising consumer expectations and raw material price increases. Nonwovens Markets, a Fastmarkets RISI business, predicts gradual price increases across the four types of nonwoven materials tracked on its price indices. In recent years, SMS and spunbond nonwoven material prices have remained below the price heights of the last decade, but indications are they could be on the rise.

Both top-tier brands and private labels are courting savvy consumers who want the most for their money. For example, private label shoppers expect appealing printed designs and good performance from value-priced nappies. Additionally, brands promoting eco-friendly products rarely command a large price premium, especially in this digital age with consumers comparing prices online and seizing the deal du jour. (See table.)

Consumer access to a plethora of brand choices puts pressure on personal and home care product brands and private label owners to deliver more feature-function differentiation while maintaining competitive pricing. “Today’s baby diaper market has grown increasingly complex with changing customer preferences. Ongoing advancements in the fabric used in a diaper, absorption capabilities and special user-friendly features of diapers have led competitors to gain higher market share,” said Mordor Intelligence in its “Baby Diapers Market – Growth, Trends and Forecasts (2019-2024)” report overview. “Growing demand for natural and hygienic products is forcing manufacturers to develop bio-based disposables diapers, which is also projected to propel market demand.”

Mordor Intelligence further stated: “Brand awareness and product differentiation play a key role in gaining a strong position in the diapers market.” The researchers pointed to “emerging international markets, fierce competition from large players and an increase in sales through e-commerce channels.”

At the end of the day, even with the mounting pricing pressure and differentiation strategies, each personal and home care product manufacturer has to get its finished goods through the supply chain and ready for fulfilment by retailers as efficiently as possible.

Leveraging efficiency

A contract manufacturing organisation (CMO) with specialized equipment, technologies and capabilities under one roof can help hygiene, medical nonwoven and home care product companies manage costs and differentiate their product lines, even amid rising raw material prices. Along the way, improved efficiencies can also lighten their environmental footprint and help meet sustainability objectives. After all, sustainability involves not only using more eco-friendly inputs but also reducing waste, fossil fuel consumption, greenhouse gas emissions and packaging. Taking advantage of recycling opportunities throughout the manufacturing supply chain also is an important facet of the sustainability big picture.

Material selection and process design

A converting partner should start any engagement with a nonwovens product manufacturer by seeking to understand the product requirements. This insight allows the converter to propose an appropriate solution that meets the customer’s requirements and enables the brand to achieve its market and product goals. This can apply to recommendations for raw materials as well as production processes. For instance, if a brand owner is interested in using more bio-based raw materials, a converter can advise on optimal blends of biodegradable content and traditional inputs to achieve acceptable material strength for proper product performance. The converter also can present helpful considerations about the environmental impact of different material and processing paths. In some cases, a conventional nonwoven material may require less chemical or energy consumption to be converted into the finished product than a renewable raw material. A good CMO will run trials to test different options and validate that the product specifications are met.

Thinner, down-gauged materials are increasingly popular because they offer a more conformable fit and consume less content (i.e., polymers, adhesives and other raw materials). Converters working with these need advanced material handling capabilities to avoid major performance issues such as web breaks, ink strike-through and product deformation. Skilled CMOs utilise automated equipment and technologies to control tension and necking throughout the material web to avoid such issues.

Regardless of the raw materials selected for the hygiene, nonwoven medical or home care product — whether a diaper, face mask, surgical gown, sanitary napkin or home cleaning product — there are some sustainable practices to look for in an outsource manufacturing partner. Here are just a few:

- End-of-roll and trim scrap recycling
- Cardboard (i.e., raw material packaging) recycling
- Packaging component reuse (pallets, cores, core plugs, end boards, roll support frames)
- Environmental management system certification (ISO14001 and certification by other third parties such as DNV GL)
- Willingness to partner on programs for recycling or reducing packaging

Large-format spooling

Large-format spooling (LFS) is one of the most compelling converting capabilities to hit the nonwovens market in recent years.>
It is particularly relevant in light of brands’ and private label owners’ need for greater efficiency and price competitiveness. For example, Web Industries’ LFS capability at its Indiana facility can handle raw material master rolls of up to 60 inches (5 feet) in outer diameter (OD) and up to 120 inches (10 feet) wide. The company then can slit and spool these materials into rolls of up to 48 inches (4 feet) OD and up to 33 inches (2.75 feet) wide. Newer extra-large-format spooling, or XLFS, capabilities enable Web to handle master rolls of up to 72 inches (6 feet) OD and up to 124 inches (10.33 feet) wide. These materials are then slit and spooled into rolls of up to 60 inches (5 feet) OD and 50 inches (4.17 feet) wide.

The large spools that LFS and XLFS produce enable much longer runs between splices, resulting in greater production line efficiency. There are fewer material-handling steps, thus less labour is required, thereby reducing overall converting costs. Figure A provides a comparison of run-time efficiencies between large and very large rolls and traditional pancake rolls for three materials commonly used in personal hygiene products.

LFS also has environmental sustainability advantages. It enables the converter, brand owner or private-label owner to reduce the overall number of rolls being received and shipped, which minimises the use of packaging materials. In addition, by shipping fewer but larger raw and converted material rolls, manufacturing partners can reduce their transportation needs, resulting in lowered fuel consumption and exhaust emittance.

High-speed multi-colour flexographic printing

Brands and private label owners gain both flexibility and product differentiation when they work with a CMO that can print unique designs onto the nonwoven material of their choice. As with LFS, large-format wide-web multi-colour flexographic printing offers many efficiency advantages. For example, for rolls over 6 feet wide, sitting in-line after printing reduces costs and increases yield when compared to converting smaller-width rolls. Customers can source larger material rolls and sustain longer print runs.

When printing on personal product nonwoven materials — especially thinner, down-gauged materials — it’s important for the converter to:

- Carefully adjust all tension controls to prevent web breaks, wind quality issues, product deformation or excessive neck-in.
- Utilise web and central impression drum cleaning equipment to prevent print defects caused by loose fibres and ink strike-through.
- Be able to work with both water- and solvent-based inks with corona treatment for optimal ink application.

Conclusions

There are major price pressures facing brands and private label owners that specialise in nonwoven medical, hygiene and home care products. Consumers and institutional buyers demand strong value for their price per unit. They have extensive choices with easy ability to compare prices, features, functionality, and end-user reviews of these products. Buyers also are increasingly concerned about the environmental sustainability of their products and the supply chains that produce them. To compete amid these challenging dynamics, nonwoven products companies have opportunities to gain meaningful efficiencies and cost savings when they partner with a one-stop CMO. In particular, there are material handling, labour-saving and sustainability benefits to printing, slitting and spooling extra-large material rolls at high speeds, with automation, all under one roof. SNW

Adrienne Green is director of sales for the Personal and Home Care division of Web Industries Inc., a provider of precision converting and outsource manufacturing services. She can be reached at agreen@webindustries.com.