IMPORTANT NEW DEVELOPMENTS IN HYGIENE ABSORBENT PRODUCTS AND RAW MATERIALS

PRICIE HANNA
A consulting firm specializing in nonwovens and hygiene absorbent products, wipes, key raw materials and related fields.

Services that we offer:

- Strategic planning support enriched by extensive market and technology information

- Specialized in-house information and data models
  - global and regional supply/demand outlook
  - manufacturing costs and capacities for end use products, nonwoven technologies and raw materials

- Customized assistance to clients is provided by experienced consultants with uncompromising respect for client confidentiality
MEGA HYGIENE TRENDS driven by consumer priorities

Comfort
- Needs and priorities
- Innovations
- Impacts
- Opportunities

Secure
- Needs and priorities
- Innovations
- Impacts
- Opportunities

Discreet
- Needs and priorities
- Innovations
- Impacts
- Opportunities

Convenient
- Needs and priorities
- Innovations
- Impacts
- Opportunities

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MEGA HYGIENE TRENDS: COMFORT

- Needs and priorities
- Innovations
- Impacts
- Opportunities
END USER NEEDS AND PRIORITIES - COMFORT

- COMFORT - Underwear-like feel
  - Soft
    - Silky, smooth – like ladies’ lingerie
    - Lofty, fuzzy – like cotton knit underwear
    - Flexible, cushioning
  - Skin Dryness
    - Maintain dry topsheet against skin
  - Cool
    - Breathable, air flow to maintain dry skin
    - Prevent body heat build up over time of use, especially for active adults
    - Prevent body sweating inside product
INNOVATIONS – **COMFORT**

► **Softness**

- **Silky, smooth** – lingerie
  - Bicomponent nonwovens with polyethylene sheaths
- **Lofty, fuzzy** – cotton knit
  - High loft, crimped bicomponent spunbond
  - Carded air through bonded with bicomponent fiber
  - Purified, hypo-allergenic cotton fiber in carded topsheet

► **Flexible, cushioning**

- Example: SCA’s Libero Touch diapers
INNOVATIONS – COMFORT

► Softness

Example: Avgol’s nonwoven portfolio for topsheets

• Silky, smooth – silk touch, cushion and visual softness

Avgol Lux Bi-Component

Silk touch, highly uniform, spunbond Bi-Component fabrics from Avgol delivers excellent cushion and bulky soft touch as well as visual softness, thanks to soft pattern, mechanical and elongation performance properties.

• Lofty, fuzzy – cotttony bulkiness

Avgol Ultima Fabrics

The ultimate non-woven top sheet solution - a combination of silky soft Bi-Component fabric with cotttony bulkiness delivered through hydro-entanglement technology.

Avspun® Dimple

Market leading, cotton-soft bulky fabric with good tensile performance and elongation properties, delivered through the hydro-entanglement combination process, with dimple patterning and additional treatments to further enhance softness.
INNOVATIONS - COMFORT

► Skin Dryness
  • 3D Topsheets – soft, bulky with distinctive bonding for skin health
  • Example: Topsheet on Kimberly-Clark’s Huggies Little Swaddlers

GentleAbsorb® Liner
The GentleAbsorb® Liner has tiny pillows that provide a cushiony layer of protection between your baby’s skin and the mess.

Huggies® Little Snugglers Diapers help keep your newborn’s perfect skin clean and healthy.
INNOVATIONS - COMFORT

► Skin Dryness
  • **3D Topsheets** – soft, bulky with bonding patterns for skin health
  • Other examples: topsheets on Kao’s *Merries* diapers in Japan and Parasol’s designer diapers

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**Kao’s Merries skin friendly topsheet**

**Parasol’s e-commerce diapers**

Our ultra-soft top sheet, combined with a thinner design and thoughtful features, means your baby feels at home no matter where you are in the world.
Skin Dryness

Huggies® DryTouch® Liner

DryTouch® Liner

The DryTouch® liner† in Huggies® Little Movers Diapers absorbs moisture on contact, providing comfortable movement for your moving baby.

† Except for Size 6
INNOVATIONS – COMFORT

Cool

• Breathable, Air Flow
  – Diapers with elastic waistbands: Spandex strands/bands
  – Pants with breathable stretchable outer cover: Spandex strands, apertured elastic film/nonwoven laminates or elastic netting/nonwoven laminates
  – Example: Procter & Gamble’s Pampers Diaper Pants (in Asia)
GLOBAL & REGIONAL IMPACTS OF NEW DEVELOPMENTS
- COMFORT

• Three strong Asian trends are rapidly becoming global

1. Ultra-soft materials with silky, smooth feel

2. Preference for pants vs. taped diapers
   • Diaper pants and adult pants

3. 3D topsheets for skin dryness
   • Kao’s soft 3D topsheet has become the standard for premium diapers in Western markets and China.
MEGA HYGIENE TRENDS: SECURE

- Needs and priorities
- Innovations
- Impacts
- Opportunities
END USER NEEDS AND PRIORITIES - SECURE

• Gentle and enduring elastics
  – Non-irritating to skin
    • No red marks from elastics or nonwoven gathers
    • Not uncomfortably tight
  – Product does not leak or sag during use
    • No open gaps at back waist
    • Effective waistband elastics to hold up heavy, wet diaper
    • Elastic materials maintain stretch over long hours of use and exposure to body heat
INNOVATIONS - *SECURE*

► Gentle and enduring elastics
  
  • No skin irritation from elastics or nonwoven gathers

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*Super Soft & Stretchable*

MamyPoko Pants Extra Soft is equipped with cotton-like Extra Soft material for ultimate comfort with almost no irritation.

Its softer and stretchable waistband and leg gathers also enables your baby's skin to breathe comfortably and preventing unwanted red marks on your baby's skin.
INNOVATIONS  -  SECURE

• Gentle and enduring elastics

  – Product does not leak or sag during use
    Example: Procter & Gamble’s Pampers diapers with Extra Absorb Channels™ to prevent sagging
INNOVATIONS - SECURE

- Recent innovations with future growth potential

  - H.B. Fuller’s *Conforma™* adhesive for stretch nonwovens
    
    Introducing Conforma Adhesive
    
    Three-layer structure
    
    1. Nonwoven top sheet
    2. Conforma™ adhesive
    3. Nonwoven back sheet
    
    Conforma™ adhesive—the latest in adhesive technology that is designed to enable next generation product designs to look and feel like cotton underwear. A conformable fabric created from Conforma adhesives is an attractive choice for producers as disposable articles continue to evolve into the soft, stretchable, and comfortable engineered products that consumers want.

  - Suominen’s *FIBRELLA Lite™* stretchable spunlaced facing for elastic components

  - Mitsui Chemical’s *ISuper™* proprietary stretch nonwoven technology for diaper backsheet and side gathers for a gentle, snug fit.
INNOVATIONS - SECURE

• Gentle and enduring elastics

  - Product does not leak or sag during use
    360° stretchy waistbands for no waist gaps

Examples:
  - Unicharm’s *Moony Man* and *MamyPoko* diaper pants
  - Procter & Gamble’s new *Pampers Easy Ups* training pant with elastic strands
GLOBAL & REGIONAL IMPACTS OF NEW DEVELOPMENTS
- SECURE

• Stretch waistbands or tape-fastening ears are global criteria for premium quality baby diapers and adult incontinence pants

  – Examples: Procter & Gamble’s *Pampers Baby Dry Pants* in India and Hengan’s *Anerle* tape-fastening diapers in China
MEGA HYGIENE TRENDS: DISCREET

- Needs and priorities
- Innovations
- Impacts
- Opportunities
END USER NEEDS AND PRIORITIES - DISCREET

• DISCREET UNDER CLOTHING

► Body-hugging, thin
  – Flat, smooth skin contact
  – Underwear design shapes
  – Ultra-thin absorbent pad that is not bulky or too wide between legs

► Priority for active adults
  – Not visible under clothing

► Aesthetic preference for training pants in some regions
  – Not visible under clothing
INNOVATIONS - DISCREET

• Not Detectable Under Clothing
  ► Body-hugging, flat materials and underwear style below-waist cuts

• Premium Adult Pants - Apertured Elastic Film as Stretch Engines
  ► SCA’s TENA Lady Pants Discreet
  ► Kimberly-Clark’s Depend Silhouette Active Fit Pants
  ► Unicharm’s Lifree Slimwear Sawayaka Absorbent Underwear
  ► Elleair’s (Daio) Attento Sports Pants
GLOBAL & REGIONAL IMPACTS OF NEW DEVELOPMENTS
- DISCREET

• Western premium adult pants with apertured film/laminates are recently penetrating the high-income Asian markets.

• However, pants made with elastic strands are the dominant adult pant design worldwide.

Unicharm’s Lifree Slimwear Sawayaka Absorbent Underwear

Diao’s Attento Sports Pant

- New material! The entire stretch film adopted ※ except for the absorber part.

The stretchy material is placed over the entire surface, it fits the body in a lot of moving scenes. In the sense of cloth underwear, it does not stand out from the top of the pants.
MEGA HYGIENE TRENDS: CONVENIENT

- Needs and priorities
- Innovations
- Impacts
- Opportunities
END USER NEEDS AND PRIORITIES – CONVENIENT

• E-commerce
  – Fast Purchasing and Free Delivery
  – Subscription Services Reordering Devices
  – Mobile Apps and Reordering Devices

• Easy to use
  – Quick product checking or changing
INNOVATIONS - CONVENIENT

• E-Commerce
  – Fast purchasing, reordering and delivery
    • Amazon Prime – free shipping for members
      – Diaper delivery in 2 days
      – Dash Buttons one touch reordering
      – 20% discounts for diaper subscriptions
    • Walmart
      – Expedited delivery of diapers in 3 days
      – Free standard shipping on orders over $50
    • Target
      – Expedited delivery of diapers in 2 days
      – Free standard shipping of diapers in 3 days
      – 5% discounts and free shipping for subscriptions
    • CVS
      – Free 2 day shipping for orders over $39
      – Ship & Save subscriptions with up to 20% discounts
INNOVATIONS - CONVENIENT

• E-Commerce
  – Home Delivery Subscriptions
    • Diaper and adult incontinence product subscriptions
      – major retailers
      – manufacturers
      – e-commerce websites
      – baby diaper and adult incontinence specialty websites
      – medical supply dealers (adult incontinence only)
  – Mobile Apps
    • For price comparisons, availability checks and product orders
INNOVATIONS - CONVENIENT

► Easy to use - Quick product checking or changing

- Kimberly-Clark's Huggies Pull-Ups
- Pampers Easy Ups
- 360° Stretchy Waistband
INNOVATIONS - CONVENIENT

- Easy to use - Quick product checking or changing (Continued)

Example: Kimberly-Clark’s *Depend Adjustable Underwear*

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**Depend® Adjustable Underwear**

*FOUR SIDE TABS* securely close after perforated sides are opened. They adjust for a snug, comfortable custom fit.

*SIDE PERFORATIONS* can be opened for easy changing, even with your pants and shoes on. Perforations can also be left closed, allowing Adjustable Underwear to be slipped on and off.
GLOBAL & REGIONAL IMPACTS OF NEW DEVELOPMENTS
- CONVENIENT – E-COMMERCE

• E-commerce in China is larger than in the U.S. and growing faster
  - E-commerce has driven the rapid expansion of the premium diaper segment in China
    - Chinese parents order high quality diapers made in Japan from Tmall.com (Alibaba Group)
    - Kao and Unicharm are expanding their premium diaper manufacturing capacity in Japan to supply Chinese demand.

• Diaper penetration is still low in India but E-commerce has already become a driving force.
  - Parents in Indian cities order diapers from Flipkart and Firstcry.com.
CHANGES IN COMPETITIVE STRUCTURE AND DYNAMICS
OPTIMIZING “GO TO MARKET” STRATEGIES

• Mergers and Acquisitions in Hygiene Industry
  – SCA divests South East Asia, Taiwan and South Korea hygiene businesses to Vinda International of China. SCA owns majority of Vinda shares.
  – SCA hygiene business spin-off planned in second half of 2017
  – Domtar acquisition of HDIS (incontinence e-commerce business)
  – Unilever acquisition of Seventh Generation

• E-Commerce Developments
  – Amazon’s growth strategies
  – Walmart acquisition of Jet.com
  – Walmart considering investment in Flipkart
Evolving Market and Technology Opportunities for Hygiene Products and Raw Materials

Comfort
- Soft, Loft, Cushiony, Dry and Cool = Comfort

Secure
- Gentle, Enduring Stretch = Secure

Discreet
- Fit and Shaped so Undetectable Under Clothing = Discreet

Convenient
- Time-saving Purchasing & Delivery and Ease of Use = Convenient
RELEVANT SUBSCRIPTION REPORTS
BY PRICE HANNA CONSULTANTS

• Global Outlook for Hygiene Absorbent Products and Key Raw Materials in 2015, 2016 and 2021
  (Coming soon: Will be published in February 2017)

  (Immediately Available: Published in August 2016)

• Global Outlook for Hygiene Absorbent Products and Key Raw Materials in 2013, 2014 and 2019
  (Published in February 2015)

• Outlook for Barrier Nonwovens and Film in Global Medical Markets 2014-2019
  (Published in August 2014)

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