



Exmobaby and First-Time Moms

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Exmobaby Product Overview

Exmovere Holdings is moving into biosensor enhanced baby monitor products and apparel branded as 'Exmobaby'. These products will initially include manufacturing and marketing of comfortable and non-invasive "smart garments". The baby garments – pajamas, sleepers, and other apparel – will contain fully integrated, cutting edge sensor technology. Biosensor technology will monitor the vital signs and movements of baby at critical times for baby's health, as well as throughout the day. In addition, the fully integrated capabilities built in to the clothing and apparel will provide wireless communication and evaluation of information for the parents.

Based on patents licensed from Sensatex and Georgia Tech, Exmobaby is the world's only baby sleep garment that does not depend on a human being to communicate how a baby is feeling. Thanks to embedded electrocardiogram, skin temperature, moisture and movement sensors, the Exmobaby system wirelessly transmits a baby's vital sign data to a PC located within 100 feet.

From there, Exmobaby software can detect patterns, anomalies and emotions. It also can alert smartphone users, including parents, nannies, physicians and any other selected care providers. Normal baby monitors depend on a person to pay attention to a microphone and speaker system. Exmobaby will pay attention while a baby sleeps, even if everyone else is asleep too.

For example, if the baby in the picture below gets too rowdy with the dog, Exmobaby will alert parents and other caregivers that baby needs attention.



Baby monitors have made a mark with their presence in the minds of mothers with new born babies and toddlers. But, they still require parent interaction, “monitoring”, and some type of human intervention. The increased incidence of pre-mature births (about 13%) has heightened these parents’ concerns for their child’s safety. And, there have been significant increases in infant-related health concerns over the past 3-5 years, creating even more concern in the minds of new parents.

For first-time parents, parents of premature babies, and all parents of newborns Exmobaby will provide a unique experience. Biosensor devices will be integrated into the child’s garments. Wireless transmission of data and information will be sent to the nearest personal computer or laptop. As the child’s condition or movement changes, text messages (through SMS cell technology) or email alerts (through wireless internet connection) will be sent to parents. The new technology and its application to baby clothing and apparel provides new opportunities for baby and moms to interact, as well as new opportunities to learn more about moms reactions to baby’s inputs.

Consumer-based research with biosensor input

Technology has become an increasingly integral part of marketing research and gathering customer feedback. With the internet and computer technology quantitative surveys, recruiting potential audiences, and collecting data are easier, faster and less costly than ever before. Marketing research has also brought in sensors and biotechnology equipment to specific studies to better understand how individual consumers react to marketing stimulus materials, videos, advertisements, and actual product usage. Thus far, though, all of these technologies have been focused on the end user or final consumer.

Where there are roles played by others in the decision process – for example in relationships between parents and children, care providers and seniors, or pets and their owners – the marketing research field continues to rely on more traditional tools. Surveys and quantitative research are typically done with the “gatekeeper” or decision maker in the relationships, where the actual purchasing power resides. Specifically in terms of how the latest technologies are used to perform research, the approach used tends to focus more on the gatekeeper with only limited opportunities for the end consumer to provide feedback as part of the process.

One of the most talked about gatekeeper roles in the family is the position moms hold relative to their children. Some analysts argue that the role of the gatekeeper is waning and that more children have opportunities to buy things for themselves. And, more advertising is targeted at younger children, tweens and teens today than in the recent past. However, for newborns and infants, parents are still the decision makers. We all know that new babies, infants and toddlers can’t speak for themselves or offer opinions to help mom make decisions. Although, some parents would argue that their babies know how to let mom know their happiness, frustration, anger, hunger and many other emotions through their behaviors. First-time mothers in particular have a lot to worry about and think about as they make decisions for their new babies.

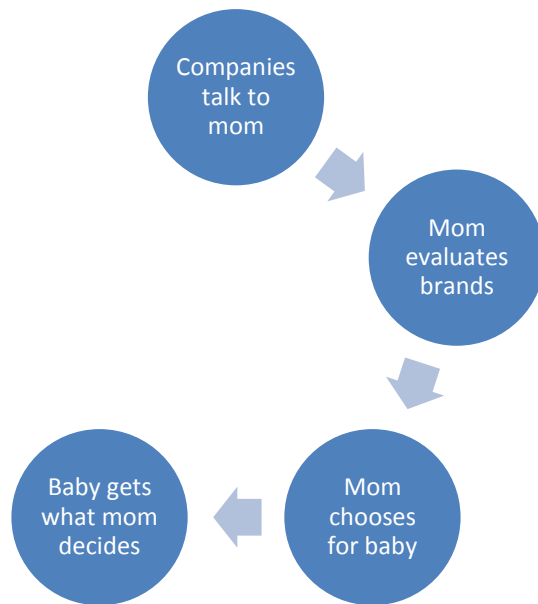
Traditional marketing and packaged goods companies take the gatekeeper approach with first-time moms as they evaluate alternatives for the things new babies need. For example, diapers are often promoted at the hospital in the maternity ward after mom gives birth. According to a recent article in the New York Times, even the Walt Disney Company has started using hospital reps to promote its Cuddly Bodysuit to new parents. More than one diaper manufacturer or producer of goods and services for infants have built newborn welcome kits filled with the company's branded products and hospitals have given these to new parents for decades.

The positioning of the products and brands, though, continues to revolve around the new parents and how they perceive the brands, products or services. The marketing research used to gather feedback about the products and brands also primarily involves moms and other gatekeepers, typically without direct feedback from the new baby. If baby was considered to be part of the research process, today's marketing research professionals would be challenged to come up with a way to collect and interpret the baby's feedback. They would still have to rely on mom and her interpretations.

There is no shortage of criticism about this type of marketing approach. "This is taking advantage of families at an extremely vulnerable time," said Jeff McIntyre, director of national policy for the advocacy group Children Now. As gatekeepers for their babies, new mothers may be especially vulnerable to this kind of marketing tactic. If you can convince mom that something is good for her baby, or if you can convince mom that your Cuddly Bodysuit is extra soft! durable! has better sizing!... like the recent Disney reps have done (as noted in a recent New York Times article, [click here](#)) then the approach can help drive sales.

One assumption, though, that is key to this approach is that any feedback or reaction baby has to the garment, diaper, food or music (as examples) will first be received and interpreted by mom, and that mom will know what to do with that reaction. Obviously, newborns, infants or very young babies cannot tell us what they want or need. Because they have not been in this gatekeeper role before, first-time mothers may have more difficulty with this part of the process.

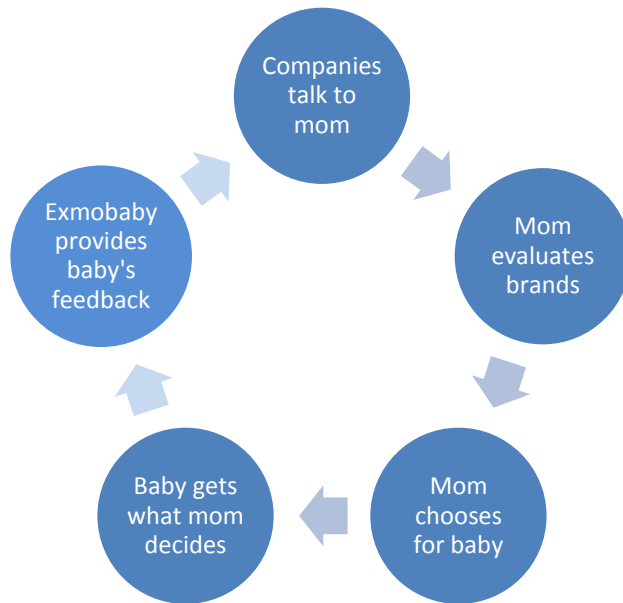
Current Process



What if a newborn or infant could provide reliable, objective feedback? Would new, first-time mothers make different decisions about the products they buy for their babies? And, how would first-time mothers adapt to their baby's wants and needs?

These types of questions can now be answered with the new Exmobaby biosensor pajama. If the pajama is used as part of a marketing research process with first-time moms in particular, companies that make products or offer services for babies will know more about moms and how to communicate with them. Positioning a product for babies based on biophysical feedback from infants themselves, as well as on changes in mom's behavior can play a key role in helping market products and brands to new parents.

New process



One of the clear advantages of this approach will be to provide a rationale for marketing baby and infant products that is based in facts and substance. Companies will not need to rely solely on convincing mom in her gatekeeper role that the brand or product is best for her baby. With the use of Exmobaby biosensor pajamas, baby can now be part of the process. And, as first-time mothers rely on baby's actual feedback, there will be less guessing, cause for concern about choices, and a stronger, more reliable sense of well being.

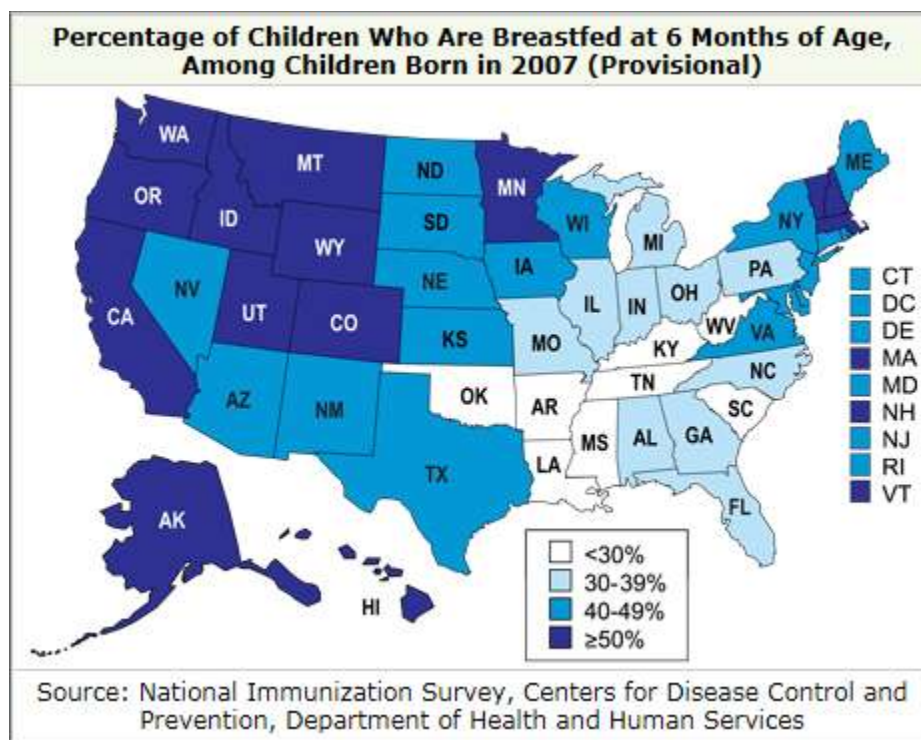
Baby Formula

To better illustrate how Exmobaby can be used in a marketing research environment, consider the following example.

New babies need nourishment and first-time mothers have choices between breast feeding, different types of formula and different brands.

Exmobaby monitors baby's heart rate, pulse and several other biophysical indicators that show how baby is doing. As first-time mothers experiment with feeding choices, they can now watch baby's biofeedback to gain a fact-based understanding of what baby is feeling.

Case A: Many new mothers are frustrated with the breast feeding process. According to the U.S. Center for Disease Control (CDC) and medical research, breastfeeding is not only good for baby but is good for mom too. There are natural and biophysical benefits for both. And, according to the latest surveys from the CDC, only 1/3 of babies in the U.S. are exclusively breast fed at 3 months of age. And, there are only a handful of states where children at 6 months of age are breastfed. The World Health Organization recommends breastfeeding exclusively until 6 months of age.



Do first-time mothers give up too soon? What if baby was actually not hungry when mom tried to breast feed? Without Exmobaby, all first-time moms can do is guess. With Exmobaby and the biosensor feedback provided, new mothers will be able to make decisions based on facts and a better understanding of what state of mind or condition baby is in.

Case B: In some situations and for a variety of reasons, first-time mothers are not able to breast feed their newborns. Formula – many different brands and types of formula – are available in today's baby and infant products market. The World Health Organization estimates that formula sales worldwide amount to approximately \$8 Billion.

First-time mothers often choose a formula for their baby based on a pediatrician's recommendation, hospital and maternity ward recommendations, or word-of-mouth among friends and relatives.

The only way moms will know if the baby likes one brand or type of formula over another is to continue feeding baby the same thing over a period of time. If first-time mothers do not make a direct connection between the formula and baby's behavior, they may miss a signal or indicator. Switching baby formulas can happen, but typically requires weeks or months and only happens if mom senses or guesses that baby is tired of one brand or type of formula. As the gatekeeper at that point, mom may decide to switch the formula.

What if mom had immediate bio-feedback on baby's reaction to one or more types of formula? Would first-time mothers make different decisions about what brands to use if they knew how other babies reacted?

There are many other types of products and services where Exmobaby can play a key role to help understand how baby is feeling and to help understand how mom is making decisions. The following table hypothesizes about potential contributions from Exmobaby biofeedback from both baby's and mom's perspective.

Product/Brand	Exmobaby Role	Mom's Decisions	Company Guidance
Diapers	Is baby comfortable?	Best brand for my baby Requires me to do less changing Easier for baby to sleep My baby does not like plastic diapers	Babies sleep better Mom's less tired Cloth diapers are best
Apparel	Does baby react to colors? Is baby's skin sensitive? Does baby like hats? Are long sleeves okay?	Clothing fits well Baby is not too warm or too cold My baby does not like hats	Design and content is good No hats please
OTC	Does baby react to one brand or chemical? Is the OTC prep having the intended affect?	Less worry about potential allergies Brand priorities What works and what doesn't	Effectiveness Brand recognition
Nightlight	Is baby agitated? Does light at night make baby uncomfortable? Is pink light better than blue light?	Turn night light on or off Buy only blue lights	Lights on is good (or not) Stop making pink lights
Car seat	Is baby comfortable? Can baby relax?	Feeling of security and protection Need to exchange for other product	Security of product

A complete list of recommended products for new parents to buy for baby's first two months is available here: <http://www.thenewparentsguide.com/essential-baby-products-basics-twomonths.htm>

Categories recommended for evaluation include Car Seat, Stroller, Furniture, Clothing, Diapers and Cleanup, Feeding, Bathing, Sleeping, Safety and First Aid.

These categories and types of products, as well as the above examples, represent only some of the many possible products and services where Exmobaby can play an important role. Providing fact-based feedback on baby's reaction to products and brands can help mom understand more quickly what is needed or how baby is reacting. First-time moms may be able to make decisions and choose the "right" product for baby much faster. As a result, baby, mom, and the whole household will benefit.

So, Exmobaby can actually shift and change the paradigm for marketing research where first-time moms, new parents and other care givers are involved. Rather than assume that mom knows what baby is feeling, and how that impacts her choices, the research process can now be expanded to include more information and more direct "communications" from the end user.

Biosensors in the pajamas also provide a continuous record of baby's biophysical condition. In that respect, marketing researchers who use the new paradigm will actually have a built-in pre-evaluation set of indicators. And these will also be fact based. Rather than use a battery of questions or research which relies on mom's memory to understand the pre-stimulus condition of both mom and baby, Exmobaby can now provide a fact-based, real time baseline. Comparing the biosensor record after baby is exposed to alternative brands, products, attributes, experiences, etc. can then be used to develop a truer pre- to post-comparison. In addition, Exmobaby can be used as a tool to help model or understand the differences between "test" and "control" stimuli. If babies wearing Exmobaby pajamas produce different biophysical signals and information post-stimulus compared to both their own baseline and a control cell, that provides confirmation for the marketing research study that baby's input is not only valuable, but a key part of the process.

Illustrations and Potential Insights

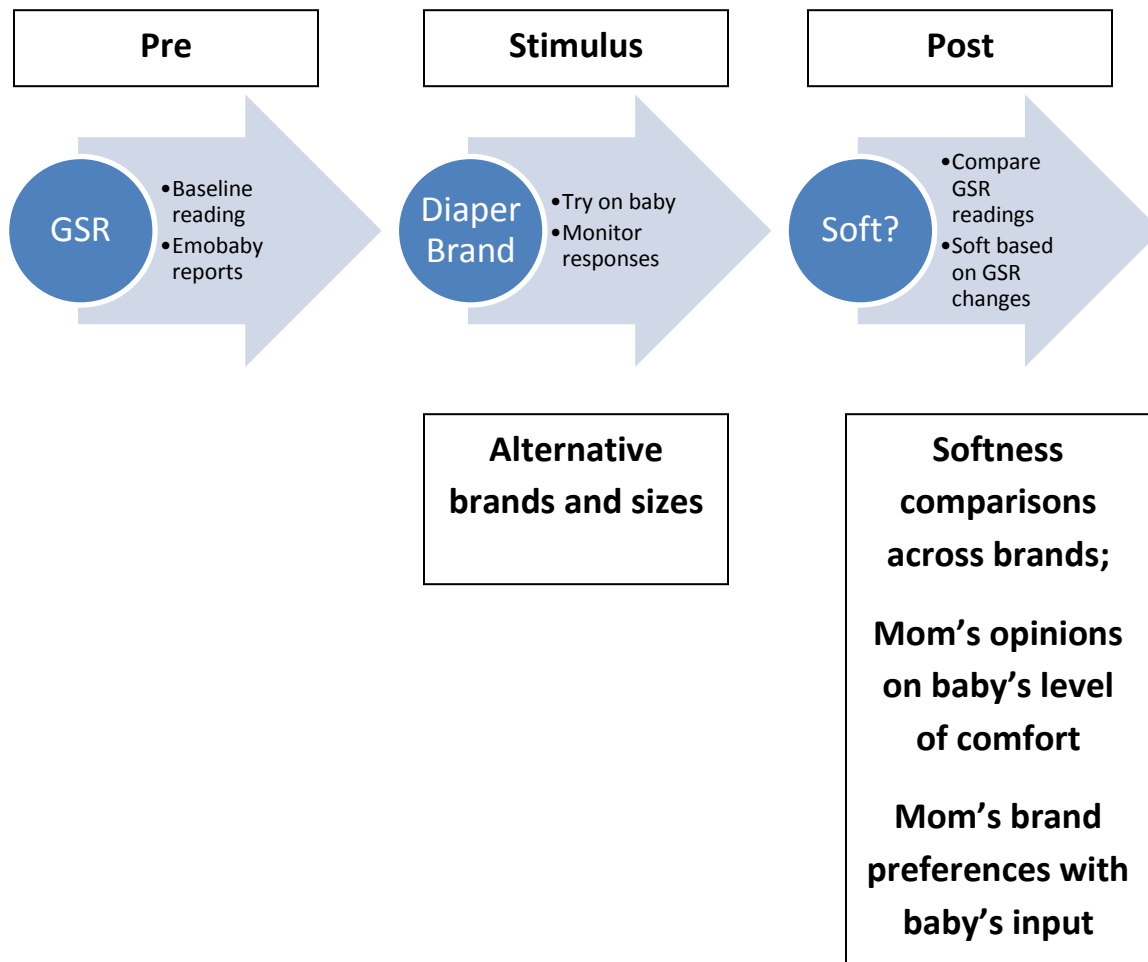
To further illustrate the power of Exmobaby smart garments and biophysical information as part of the research process, consider the question, "What is soft?" In the broader field of psychophysiology, a definition of softness has been proposed as "a decrease in Galvanic Skin Resistance over time". (Source: David Bychkov, Universita' dell'Immagine, Milan, Italy, Nov. 10, 2004)

For babies, the Exmobaby garment provides the sensors needed to record and report the GSR data needed to evaluate products for their "softness". First-time mothers can see

whether or not their baby thinks a product is “soft” or not based on the data collected with Exmobaby.

Some babies prefer cotton diapers and become irritated with the disposables, no matter which brand. Mom may become frustrated with the process of buying and trying different brands until they find one that the baby is comfortable with. Using Exmobaby in a market research study, and based on the definition of softness proposed here, testing alternative brands and disposable diaper products can identify which brands are actually “soft” from the baby’s perspective.

Research Schematic



Up to this point in time, marketing research professionals have had to build up a body of knowledge about the roles of first-time moms as gatekeepers and how they make decisions for their babies. Exmobaby opens up an entirely new frontier where baby provides inputs and marketing insights, alongside of and at the same time as mom's inputs. As with any new frontier, exploration and development requires bold steps to move the current boundaries outward.