



E-COMMERCE AND REPRODUCTIVE HEALTH SUPPLIES: FAMILY PLANNING IN THE DIGITAL AGE



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Organization Bio

The Institute for Reproductive Health at Georgetown University (IRH) has over 30 years of experience in designing and implementing evidence-based programs that address critical needs in sexual and reproductive health. The hallmark of our work is translating scientific data into simple and practical guidance for clinic- and community-based reproductive health programs. Through partnership with international and local organizations, IRH strives to: expand family planning choices to meet the needs of women and men worldwide; advance gender equality by helping women and men across the lifecycle learn about and take charge of their reproductive health; and involve communities in reproductive health interventions that improve their wellbeing. This work touches many cross-cutting themes within reproductive health such as Family Planning, Adolescents, Gender Equality, Fertility Awareness, Strategic Scale-up, Mobilizing Technology for Reproductive Health, and Monitoring, Learning & Evaluation. IRH goes beyond research and development of new reproductive health tools and focuses on introduction and scale-up of sustainable approaches.





E-COMMERCE CASE STUDIES SERIES

This is the overview report accompanying a series of seven case studies written to provide the reproductive health (RH) supplies community with a deeper understanding of the current landscape and future potential of obtaining RH supplies through e-commerce. Each case study highlighted in this report focuses on either one specific country (India, Kenya, Mexico, and the United States) or one new and underused RH technology (emergency contraception, female condoms, and the Standard Days Method®). These case studies are descriptive only, and do not advocate for or against e-commerce as a means to distribute RH supplies.



EXECUTIVE SUMMARY

Customers around the world are connecting to the internet and finding a world of products and services available at their fingertips. Over 46% of the world's population went online in 2015, many of them to shop.¹ With the click of a button and a payment mechanism, customers can buy almost anything. The size of the overall global e-commerce marketplace is enormous; business-to-consumer online sales reached an estimated US \$1.5 trillion¹ by the end of 2014.² Given this phenomenal growth, reproductive health (RH) supplies and information have also become more available online, giving customers new channels to obtain these essential products and services.

In recognition of the potential importance of e-commerce, the Institute for Reproductive Health (IRH) at Georgetown University partnered with seven organizations to examine RH supplies in an internet age. IRH and partners wrote case studies describing the current environment and potential for e-commerce sales of a wide range of RH supplies in four countries—India,

Kenya, Mexico and the United States (U.S.)—and examined three underused family planning (FP) methods—emergency contraception (EC), female condoms, and the Standard Days Method® (SDM)—from a global perspective.

This series of cases illustrates the current extent of RH supplies' availability via e-commerce and the likelihood of expanding it in the future. It also provides insight into the hindering and enabling factors that exist within and across different settings and for diverse FP methods globally, explores findings concerning e-commerce infrastructure and regulatory issues, and presents possible areas for future research.

The four country case studies share a common theme of rapid increases in internet availability and use, especially through advancements in mobile technology. However, prospects for e-commerce of RH supplies also reflect the different contexts of a developing country (Kenya), emerging market countries (India and Mexico) and a fully developed, thoroughly online country (the U.S.). E-commerce of RH supplies exists at varying stages in all four countries but is likely to expand in each of them.

The three studies of underused FP methods highlight how their unique characteristics affect their potential for online expansion. For each of the methods, we identified potential benefits for distribution through e-commerce, which increases visibility, product information, and access.

ⁱ All monetary amounts are in United States dollars, unless specified otherwise.

KEY HIGHLIGHTS

➤ **Infrastructure:** For RH supplies to reach the end customer, a complex infrastructure system must be in place, from internet access to payment mechanisms to last-mile delivery. While globally each of those components is growing, many places are still missing one or more required pieces of this puzzle. For example, in certain countries, mail delivery is not routinely offered to street addresses, which can hamper delivery.

➤ **Regulation:** Over- and under-regulation both emerged as barriers to access. Over-regulation decreases the availability of many methods online, and under-regulation may leave customers without trust in online sellers. Even when written regulations do not hinder online provision, confusion about regulation can cause both buyers and sellers to shy away from online sales.

➤ **Information Provision:** For all methods, particularly underused ones, the internet can be an entry point for customers to learn more about their RH options. However, sorting through the accuracy of information online can be difficult for even the most sophisticated users, and research suggests that interpersonal communication is critical for customers.

➤ **Customer Profile and Preferences:** Customer behavior is complex. People are motivated by convenience, anonymity, and increased method choices, but in many places, they have concerns about deliveries and payments. Many consider buying RH supplies online, but they assess whether an online purchase is better or worse than going to the nearest health center or pharmacy.

➤ **New and Underused Methods:** Online sales will not immediately transform underused methods – such as EC, female condoms, or SDM – into frequently purchased methods like male condoms, but the internet can bring these methods to new customers and increase overall product awareness.



CASE STUDIES & OVERVIEW OF E-COMMERCE OF RH SUPPLIES

This series of reports is intended to:

1. Prepare the RH supplies community for a future in which global growth of e-commerce will impact how RH supplies, services, and information are accessed by end users; and
2. Provide a “map” of the e-commerce landscape through which the RH supplies community can

consider key trends, opportunities, and challenges of digital marketplaces as platforms for the sale of RH supplies.

This overview report describes both the present status of and future prospects for e-commerce and RH supplies. It is intended only to be descriptive and advocates neither for nor against e-commerce sales of RH supplies.

This summary report is accompanied by seven case studies, covering in detail a selection of methods and countries. Case study authors relied on a variety of research techniques, including desk and internet research

Table 1. Case study leads.

Case Study*	Partners/authors
India	Kaarak Enterprise Development Services Pvt. Ltd.
Kenya	iHub Ltd.
United States	IRH
Mexico	MexFam
Emergency Contraception	The International Consortium for Emergency Contraception (ICEC)
Standard Days Method	Cycle Technologies
Female Condoms	Universal Access to Female Condoms Joint Programme (UAFC)

* See: <http://irh.org/e-commerce-for-rh-supplies-case-studies>

and key informant interviews. We encourage interested readers to find the link to these more detailed reports provided in Table 1.

BACKGROUND

- Commercial sales of RH supplies are increasing worldwide, giving women and men another channel to obtain contraceptives and other supplies.
- E-commerce is growing worldwide, particularly in the developing world.
- Data on exact sales of RH supplies via e-commerce is difficult to obtain, due the proprietary nature of commercial sales data.

Ensuring reliable supplies of contraceptives is crucial if the goal of FP2020ⁱⁱ – expanding access to modern contraception to an additional 120 million women in less than five years – is to be reached. Retail sales of contraceptives are an important way to expand access and complement free or subsidized sources of FP methods. In areas of rising incomes, retail sales account for a growing share of contraceptive distribution. E-commerce accounts for a relatively small but growing proportion of those sales. In many settings, the time could be right for RH supplies to join the broad range of goods sold via e-commerce.

The role of retail sales in increasing availability of RH supplies is well documented. Based on a recent analysis

of Demographic and Health Surveys (DHS) data from 1992 through 2012, the private sector has contributed to an increased use of modern contraceptives around the world, primarily short-acting methods. In the last 20 years, between 40% and 49% of modern contraceptive users relied on the private sector in Asia and Latin America, with a smaller proportion, between 27% and 30%, in Sub-Saharan Africa.³

India's experience is a valuable example of the growth of this category; in recent years the overall commercial market has grown, as more Indians decide to adopt and pay for spacing methods of FP.⁴ The India case study estimates the current total annual commercial market at 1 billion male condoms, 32 million cycles of oral contraceptives (OCs), 18 million EC doses and 10,000 female condoms. This market for spacing methods is currently projected to increase; India has a large youth



ⁱⁱ FP2020, an outcome of the 2012 London Summit on Family Planning, is a global partnership that supports the rights of women and girls to decide whether, when, and how many children they want to have.



INDIA:

India's RH e-commerce market, dominated by male condoms, is vibrant but still quite small (under \$2 million) relative to the estimated \$100-130 million in conventional channels for RH sales. However, it has gained momentum and is likely to expand rapidly. Two recent industry reports estimate the total e-commerce market size at between \$13.6 billion²⁰ and \$16.4 billion,²¹ approximately tripling in size over the last five years. India's enormous potential market size for RH supplies suggests a proportionately large potential for obtaining these products through e-commerce.

population likely to follow a trend toward increased age of marriage and female education. While currently only 1% of retail sales for spacing methods occur online, both the proportion and the overall market are expected to grow.

Access to the internet has grown dramatically in the last five years and is projected to continue to increase rapidly worldwide. Some statistics from the case study countries illustrate this important trend:

- In India, internet indicators have improved rapidly over the past decade. Internet users rose from 50 million in 2007 to over 300 million in 2015 and are predicted to reach 500 million by 2018-19.⁵ India has one of the fastest-growing rates of internet traffic in the world (33% compound annual growth rate).⁶
- In Kenya, more than half of the total population is online, and the percentage of adults of reproductive age is even higher. In 2014, 26.2 million Kenyans used the internet, an increase of 23% over the previous year.
- In the U.S., almost 250 million Americans already use the internet to communicate and explore websites.⁷ The internet-based economy accounts for 4.7% of the U.S. economy – a proportion exceeded by only three

other countries in the world (the United Kingdom (UK), South Korea and China).⁸

Equally important is the increase in the number of people who use internet-enabled devices other than laptop or desktop computers. The mobile device industry is in a high-growth phase – a total of 3.6 billion unique mobile subscribers were tallied at the end of 2014.⁹ That figure represents more than half of the world's population.¹⁰ It is projected that by 2020, one billion additional subscribers will bring mobile access rates to 60% of the world's population. Importantly, inexpensive smartphones are becoming widely available in emerging markets where customers previously had no access to the internet.

In both established and developing markets, smartphones are quickly shifting the paradigm for accessing media and information, making internet use more mobile-centric.¹¹ Again, the case studies serve to illustrate this important point. India, for example, is expected to surpass the U.S. in 2016 with over 200 million smartphones, and mobile telephone connections in Kenya reached 33.6 million in 2014 with a mobile penetration rate (percent of total potential customer population) of 78%. Worldwide, a growing portion of these mobile users have smartphones.

Major investments are being made in e-commerce.

Some examples are:

- Estimates of investment in Indian e-commerce show an upward trend from \$55 million in 2010 to \$305 million in 2011 and over \$4 billion in 2014. The primary recipients of this investment are large online marketplaces such as Snapdeal, Flipkart, and Amazon.¹²
- The Communications Authority of Kenya estimates the value of e-commerce in Kenya at \$42.2 million.¹³ E-commerce has spread over various platforms including online marketplaces, service delivery, taxi booking, and property and hotel listings.
- The U.S. is moving toward e-commerce so rapidly that according to a recent study, "retailers in nearly every sector are investing in capabilities to meet growing shopper demand to purchase goods via e-commerce."¹⁴ The U.S. Census Bureau valued the 2014 U.S. e-commerce market at nearly \$300 billion,



KENYA:

Kenya's e-commerce market is still developing and is limited by problems with logistics and delivery systems. There are currently only three online pharmacies in Kenya; only one sells FP products, not including male condoms. However, three other online sources of male condoms were found.

While cash predominates as the main means for purchase (90% of payments), the use of the mobile phone payment system, M-PESA, has facilitated the expansion of delivery services in Kenya and could become an important enabling factor for online sales of contraceptives.

accounting for 6% of the \$5 trillion overall U.S. retail market.

Alternative payment systems, such as M-PESA in Kenya and Paypal in the U.S., are bringing new users into the global marketplace and enabling internet sales.

Access to online information is also facilitated by the growth of internet-enabled smartphones. Mobile apps that facilitate the use of information-based methods (such as SDM and TwoDay Method®) are now available directly on individuals' phones through global marketplaces such as the Google Play Store and the iTunes App Store. In addition, while it is outside the scope of this study, the additional information available on websites and mobile apps can help customers find and choose RH supplies.

In view of these compelling trends, this review asked what the implications are for the RH supplies community as e-commerce increases globally. What opportunities does e-commerce present for increasing availability of contraception, including new and underused methods? What risks does it present for quality assurance of commodities and information provided to the customer?

FINDINGS

This shift to online purchasing is already having an impact on health products. One survey shows that globally, among online shoppers, customers spend an average of 22% of their disposable income online.¹⁵ As an example of a highly developed e-commerce market, U.S. health and personal care e-commerce revenue was estimated to reach \$19.7 billion in 2015.¹⁶ As this shift in customer buying behavior becomes more common globally, more customers are likely to turn to digital marketplaces to obtain contraceptives, including new and underused RH supplies.

RH supplies already available on the internet include male condoms, EC, OCs, pregnancy tests, and CycleBeads®. They can be purchased from online marketplaces that sell a broad range of goods such as Amazon and JUMIA, dedicated FP websites, and alternate channels for brick and mortar pharmacies and clinics.

While data tracking e-commerce sales of RH supplies over time is generally lacking, it is clear that these products are now widely available in e-commerce markets globally. Male condoms in particular appear to be available online almost universally. Other methods face limitations depending on their unique characteristics. EC and other hormonal methods are limited by prescription requirements in some countries. Underused methods may be limited by lack of customer information, which decreases demand and discourages suppliers from offering them widely. Some methods, such as injectables, currently require the assistance of a health professional in most settings.

All four country case studies found e-commerce sales of FP methods in varying degrees. While the range of RH supplies available online is currently quite narrow in some countries such as Kenya (limited to OCs, EC, and injectables from one online market and three online sites providing male and female condoms), it is extremely diverse in others, such as India and the U.S., with at least 15 brands of male condoms and many brands of OCs, EC, and female condoms available through multiple e-commerce markets.



UNITED STATES:

E-commerce in the U.S. holds potential for expanding contraceptive access not only by reaching new customers, but also importantly, by expanding customer access to product options. It has a mature e-commerce market in many categories, low barriers to entry for new sellers, innovative approaches to rapid delivery and an expanding online market for health and personal care products. Over-the-counter contraceptives are readily available for U.S. customers through various online marketplaces, some of which are purely virtual, while others are e-commerce subdivisions of traditional brick-and-mortar drugstores.

Infrastructure

When discussing e-commerce, several types of infrastructure are crucial to enable successful sales. The first is internet infrastructure. As discussed above, in this area we found rapid improvement and expansion globally, particularly where smartphones are permitting a leap into e-commerce that bypasses the fiber optic and landline internet common in developed countries. The global nature of the internet, particularly large web shops such as Amazon.com and Alibaba.com, and the extensive reach of some delivery systems support the global availability of RH supplies via e-commerce. However, in some countries, there were barriers to RH suppliers accessing this infrastructure freely. For example, in the U.S., one hindrance cited was bias or fear of backlash among a few e-commerce platforms that refused ads or deliveries for contraceptives. In Mexico, although RH supplies were available online, search functionality is poor, and it is difficult for customers to find their method of choice without knowing the specific brand name or drug formulation.

The second is payment infrastructure. Here too, research found positive trends, such as the emergence of mobile

wallet payment systems, which co-exist with well-established cash-on-delivery systems. Mobile wallets are a facilitating factor in countries such as Kenya and India. Even while these systems are emerging, the high prevalence of cash-on-delivery provides a solid basis for maintaining and expanding online sales as the mobile wallet systems mature. More mature and highly banked markets such as the U.S. or Mexico, where significant proportion of the population has purchased online with a credit card, debit card, or PayPal, have benefited from the rapid expansion of electronic payment systems.

E-commerce still requires physical infrastructure to fulfill online orders. In this area, challenges in product delivery, particularly to hard-to-reach rural populations, were found. This lack of rural infrastructure could be a significant limiting step for e-commerce in some countries. For example, in Kenya, Mexico, and India, despite rapid expansion, infrastructure for e-commerce is still largely an urban phenomenon. Both India and Mexico have seen large investments in e-commerce and the internet sector, which could address some of these problems.

Some methods are more impacted by physical infrastructure limitations than others. Products such as male and female condoms can be distributed within existing delivery services, since they are available from local and international sellers and have a long shelf-life. For EC, on the other hand, speed of delivery or advanced purchase is paramount. In developed markets there are vendors who guarantee two-hour delivery, but in other markets EC must be marketed as a product to be purchased in advance of need. For CycleBeads, the improvement of internet infrastructure allows the product to bypass the limitations of physical infrastructures; SDM can now be offered entirely via mobile and digital technology such as smartphone apps and websites.

Regulation

Regulation is a complicated issue for RH supplies in general and for e-commerce sales in particular. Overregulated markets can inhibit market growth and broad access. This regulation can take several forms. In India, for example, the government has significant influence on retail pricing, reducing incentives for new sellers to enter the market.



MEXICO:

Mexico's internet-based e-commerce is expanding rapidly, with more than half of the country online and a total market value of more than \$12 billion. A review of websites confirmed the feasibility of making online purchases for short-acting non-clinical FP methods, but found unevenness in the quality and type of information provided as well as difficulty searching for RH supplies online. Only 23% of Mexican women use non-clinical short-acting methods that are suitable for online sales. Young adults are more likely to use "internet-friendly" FP methods than their older counterparts and also more likely to make online purchases. These younger adults are an increasing segment of the Mexican retail customer population, which could lead to an increase in online sales.

In other markets, particularly in developed countries, restrictions require prescriptions for some contraceptives or enforce age barriers (e.g., prohibiting adolescents from purchasing contraceptives online). For EC in particular, the requirement for a prescription for certain types of EC and other restrictive laws and regulations, such as age limits, constrain online access.

There are some positive trends in this area. In the U.S., prescription products are increasingly available online, especially for refills. Major fillers of birth control prescriptions like Planned Parenthood, many drug store chains, health maintenance organizations, and student health centers allow customers with a prescription filed in their system to order their monthly refills online. Some sites have developed alternative prescription processes, with physicians available to prescribe online.

However, in markets where regulation is low, customers

may lack the trust required to make online purchases and payments. While no specific evidence of counterfeit or sub-standard RH supplies was reported in any of the case studies, this is a global concern for many methods sold online such as EC. In Mexico, there is current no existing regulation of e-commerce.ⁱⁱⁱ Any product, regardless of quality, can be sold online, which can lead to unsafe products and a lack of customer trust. A lack of regulation is also a challenge for CycleBeads digital products; fertility trackers available online are not regulated for accuracy or quality, which can lead to customer confusion. For e-commerce to expand, online customers need to trust that they are protected from poor quality, fraud, or theft.

In some markets, regulations are not well known by sellers or customers or are subject to change. In India, because e-commerce of contraceptives is relatively new, there is significant legal uncertainty among key stakeholders. For instance, several company representatives and pharmacists interviewed were uncertain about which methods could be sold legally online and the legality of selling to minors under age 18. In the U.S., despite the fact that EC is available without a prescription, online vendors have encountered incidents in which Google has not allowed vendors to purchase ads for EC, and PayPal has refused to process payments.

Information Provision

Currently, some websites provide high-quality consultation services. Online EC vendors, for example, offer a range of counseling and screening services such as chat rooms, medical screening carried out by physicians who write prescriptions, or detailed counseling and instructions for women seeking to buy EC among other RH supplies. Given the advances in telemedicine for client consultation, often in remote areas, there are likely to be opportunities to enhance the quality of online access to RH supplies through established methods for telemedicine.¹⁷

All three of the method-specific case studies emphasized the importance of e-commerce's ability to facilitate the exchange of information, offer guidance on method

ⁱⁱⁱ Currently in Mexico there is no specific regulation of practices in e-commerce, though an amendment to the Telecommunications Act now considers digital platforms as a space regulated mainly for data management and privacy. See Mexico case study.



EMERGENCY CONTRACEPTION:

EC is sold online through several mechanisms: e-commerce marketplaces (such as Amazon.com), and pharmacy chains with an online presence. EC is unique in that rush deliveries or purchases in advance of need are critical. EC is widely offered online and well-established as an e-commerce product in many middle and high-income countries. Many mainstream online pharmacies now carry it along with their other health products. EC is available online in North, Central and South America, Europe and Asia, but no cases of online availability in Africa could be found.

options and how to use them, and in some settings provide access to phone screening and counseling to address the need for interpersonal communication and support. Some methods seem to require additional instructions. Online sales of female condoms, for example, are hindered by the need for instructions for first-time use, although this could likely be overcome with appropriate information on websites or apps. All four country case studies described the importance of interpersonal communication as a positive part of e-commerce of RH supplies, providing examples where online access can be combined with information dissemination and counseling with the added benefit of anonymity.

It can also be difficult for customers to accurately assess information online and make a fully informed decision about RH supplies. However, allowing users to share experiences and information can be a powerful tool. In many places, new web and mobile apps are directly aimed at informing purchasing decisions, either by providing customers with information or helping customers navigate contraceptive options. The use of e-commerce allows customers to upload feedback on their preferences and concerns, which vendors can then use to provide additional information and targeted marketing.

While online marketplaces and general vendors (Amazon, Target, CVS, and Drugstore.com) have simply added RH supplies to an existing portfolio of health-related products, there is evidence of commitment to women's health among RH-dedicated online sellers. Both general vendors and dedicated sites show promise in making RH supplies available through this channel.

Customer Profile and Preferences

Infrastructure and regulations are only part of the picture. E-commerce is driven by customers, and customers have a large range of concerns and priorities. Stakeholder and customer interviews revealed questions around confidentiality, cost, and trust.

Young customers. One factor driving the growth of e-commerce and RH supplies is purely demographic. There is an overlap between the tech-savvy youth cohort who use e-commerce and those who have relatively high levels of unmet need for short-acting spacing methods – methods that are conducive to e-commerce sales. In the U.S., teenagers are most at risk of unintended pregnancy and also most likely to be online, though they may lack access to a payment mechanism. In Mexico and India, as in many countries, young people are more likely to both use short-acting methods and to be online. While only one-third of contraceptive users in India choose a spacing method, this is a large potential commercial market: an estimated 59 million married women of reproductive age are currently using spacing methods. These trends are not universal; in the U.S., long-acting reversible contraceptives (LARCs), though not likely to be offered online, are gaining in popularity. Overall, demand for short-acting methods is likely to remain high.

Urban population. In addition to demographic factors, urbanization may also drive e-commerce outcomes, as the urban environment facilitates both internet access and rapid delivery of products to customers. In Kenya, for example, there was a high use of spacing methods in urban areas, combining both the method choices and the logistical environment most suited to e-commerce. In Mexico (78% urban) and India (32% urban in 2014, projected to be 50% in 2050) the emerging youth cohorts in urban areas are potential customers for internet



STANDARD DAYS METHOD® (SDM) VIA CYCLEBEADS®:

This method is available online in two formats. The first is physical CycleBeads, which can be ordered through the U.S.-based CycleBeads website. The second is through mobile and digital tools such as the CycleBeads smartphone app and CycleBeads Online, a web-based service. Both face similar challenges resulting from lack of method awareness and negative perceptions of natural methods. However, the digital versions overcome some logistical challenges of the physical product. Physical CycleBeads must operate in a global market where few distributors, high shipping costs, and difficulties creating a business model from a one-time purchase product are limiting factors. Digital forms of CycleBeads are more easily made available worldwide in a cost-effective way, and have, to date, been downloaded more than 150,000 times.

sources of short-acting methods. Second only to China in the number of urban dwellers, India's urban areas are expected to grow by 404 million people between 2014 and 2050.¹⁸ All over the world, rural-to-urban migration is occurring rapidly. At this point, more than half of the world's population now lives in urban areas (54% as of 2014), and by 2050, 66% will be urban dwellers. This suggests potential growth for e-commerce in general, including of RH supplies.¹⁹

Privacy. While users stated that they appreciated the privacy and anonymity of online access, in some settings they had concerns about lack of privacy at the point of delivery. In many contexts there is still stigma around either FP in general or specific methods, such as female condoms. In India, customers' concerns about privacy at clinics and pharmacies may drive them toward online sales. But privacy at delivery can also be a problem for online sales, and many Indian companies are taking

measures to protect customer anonymity with discrete unmarked packaging.

More choice. Customers appreciated the increased choice of methods online. In India, for example, online offerings include 14 brands of domestic and foreign male condoms (including latex-free male condoms), four brands of female condoms (two domestic, two foreign), and vaginal contraceptives; two brands of EC and one brand of OCs are also sold online. However, for customers to seek the range of products available, they first need to be aware of the selection and of the method itself, which can be a challenge for underused FP methods.

Ease of purchase. Issues of convenience and cost were also cited as a facilitating factor for e-commerce of FP methods, especially where government FP services are focused on specific population segments and entail long waiting times or informal surcharges. Markets for FP are segmented within each country; low-income populations primarily access FP through government clinics, while those with higher incomes mainly access products through the private sector. Competition with government-subsidized or free FP methods was cited as an impediment to online commercial access in Kenya and India, as was the high—and at times, prohibitive—cost of delivery for low-income customers. However, although there is wide availability of free or low-cost government-supplied contraceptives, few women surveyed in Kenya suggested that the cost of buying contraceptives online is an issue for them. E-commerce sales are expected to reach a different segment of the market than government provisioning. Convenience may be a persuasive selling point, given potential clients' experience of long waiting times at public facilities.

This competition with free FP markets may be more of a concern on the supply side, where suppliers and manufacturers may hesitate to enter a market where there are free or subsidized products available. For example, in India, despite the limited selection of free spacing methods from government clinics, the availability of these free contraceptives sources may undermine use of e-commerce.

Trust. Customers cited concerns of trust in product or service. In many places, people are used to receiving



FEMALE CONDOMS:

Female condoms: Female condoms are sold through a variety of websites²² and have been found in countries as diverse as India, China, the Netherlands, and the U.S. Online sales of female condoms are expected to start in the near future in Nigeria, Costa Rica, and other countries. Despite success in making female condoms available online in many countries, it is unclear whether the online presence of this method has led to significant rates of online purchases. Online sales of female condoms share some of the hindering factors related to other RH supplies, such as lack of infrastructure for rural deliveries. They are also hindered by a lack of product awareness and the need for instructions for first-time use. However, the lack of availability offline may ultimately spur online sales as product awareness increases. In low-resource countries where female condoms have been distributed for free or sold at a highly subsidized price with donor support, it is a challenge to build a sustainable commercial market, let alone an e-commerce market. Female condom manufacturers are exploring sustainable business models and in doing so, exploring e-commerce as a viable option.

FP through health services. This may be for regulatory reasons—they must visit a doctor to ensure insurance coverage—or informational purposes—they want to ask a question. For example, a consistent message from stakeholders interviewed in Kenya was that e-commerce of RH supplies should provide information and counseling, due to a perception that some women may need face-to-face interaction when they first adopt a FP product.

New and Underused Methods

The results of this investigation suggest that e-commerce is not a panacea for underused methods. The knowledge, attitudes, and practice issues that impede access to these methods are considerable both offline and online. However, online approaches may increase awareness and change attitudes for some audiences more cost-effectively than traditional information campaigns, making it a particularly useful approach for methods that may not be widely available through other FP providers.

Prescription contraceptives. In some countries, particularly in the U.S. and Europe, well-established and ethical online systems have been developed for the routine access of prescription contraceptives that comply with clients' local medical and regulatory requirements. The practice of online refilling of prescriptions is already well established. For prescription contraceptive methods that require multiple cycles (such as OCs, patches or rings), there is clear potential to expand the role of e-commerce for resupply.

Cost and lack of product awareness were prominent constraints described by the method-specific case studies. Cost was especially salient for EC and female condoms, and awareness was especially important for female condoms and CycleBeads. All three method case studies found various forms of stigma that hindered access to and use of the methods via e-commerce (e.g., conflation of EC with abortifacients, perception of difficulty of use for female condoms, and negative perceptions about “natural methods”). Interestingly, all of the above constraints to e-commerce also apply to distribution of these methods in a conventional, offline context.

Timeliness. Among the three methods, EC has the unique constraints of a short timeframe within which it is effective and, in some settings, regulatory restrictions on use. E-commerce in developed countries can, at a high cost, expedite delivery or promote obtaining EC in advance of need at a much lower price.

E-commerce is likely to remain a means for distribution that runs in parallel to (and does not replace) offline sales and programming of underused RH supplies.

CONCLUSIONS AND IMPLICATIONS

The current landscape for e-commerce of RH supplies varies considerably within and among countries, and future prospects for online sales of RH supplies within countries are similarly varied. The same is true for underused methods of FP sold online in several countries. Consequently, those interested in how online availability of RH supplies may expand must note specific situations in which this expansion would take place, with a focus on enabling and hindering factors.

Our findings show that trends in infrastructure (broadly defined to encompass all aspects of provisioning from internet search to product delivery), regulations of all kinds, and customer profiles and preferences are key factors that drive the availability of RH supplies online. While the specific nature of these factors vary by country and method, each is crucial in determining the type and scale of RH supplies online. A strong contributor to customer behavior is the availability and accessibility of information on RH topics online. Information is both a motivator for customers (they hear about methods before purchase) and an enabler for use (they are able to learn more about how to use methods and ask questions after choosing them). All of these factors are expected to remain important in the near future.

This report is intended to spark conversation on e-commerce and FP. This is a dynamic field that is quickly evolving. Within a short time, the findings from this study could be out-of-date. Many questions would benefit

from additional research. Of particular interest for future inquiry are the following areas:

- **Information provision - current and future state:** How do women and men prefer to receive information and counseling online and what supportive infrastructure encourages correct use? For sites that currently provide information, how accurate and helpful is the content? How can information on underused methods be disseminated through e-commerce?
- **Infrastructure requirements to facilitate e-commerce:** What are the pros and cons of global versus local websites in supplying RH services? How will electronic payment options such as mobile wallets expand e-commerce for RH supplies? How can delivery systems be improved to address customer concerns about privacy and security? What solutions can ensure reliable “last-mile” delivery systems for RH supplies, particularly for rural customers?
- **Demographic research to identify actionable opportunities to expand online access to contraceptives:** For example, research could identify segments of the population such as young adults who spend a great deal of time online and who are also in high-need of access to short-acting contraceptives. This group may be particularly likely to use e-commerce for RH supplies.
- **RH supplies potential assessment:** This study did not attempt to rank or categorize methods according to their e-commerce potential. However, important factors impact a method’s suitability such as shelf-life, prescription requirements, need for rush orders, existence of current commercial market, and product awareness. Future research could refine those themes into an assessment metric with recommendations by method.
- **Broaden the geographic reach:** Illustrative countries and methods were chosen to explore global questions and broadly applicable trends. More research could, however, be done on additional countries to validate our conclusions in other contexts – of particular interest would be a country in the Middle East or Central Asia.



- **Leveraging e-commerce approaches for traditional health systems:** More research is needed on effective ways to use e-commerce approaches to extend the reach of existing health facilities, and to facilitate resupply of ongoing FP users who currently obtain their method from clinics.
- **Multi-country study of the e-commerce regulatory context for RH supplies:** Comprehensive research is needed on the status of regulations affecting access to RH supplies online across a diverse sample of countries to better understand trends that hinder or facilitate access.
- **Case study-specific follow up:** Each of the case studies raised unanswered questions, given the constraints and goals of this research. For example, more research would be required to assess the true extent of internet purchasing by language and geography in India, to learn more about the online availability of EC in Latin America, or to assess whether Kenya's experience is truly representative of other East African countries. Specific research agendas could be built around filling these and other gaps.
- **Social marketing of contraceptives online:** As e-commerce becomes more and more available to clients who are not in the top economic tiers,


programs offering contraceptives at significantly reduced, subsidized costs are likely to be interested in offering their products online. Research on the feasibility of this approach is needed.

We would like to thank all our partners and their stakeholders for their continued enthusiastic engagement with this topic and look forward to participating in the on-going conversation about e-commerce as a potential channel for expanding access to RH supplies.




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E-COMMERCE OF REPRODUCTIVE HEALTH SUPPLIES IN INDIA



E-COMMERCE OF REPRODUCTIVE HEALTH SUPPLIES IN INDIA

E-commerce of Reproductive Health Supplies in India. March, 2016. Washington, D.C.: Institute for Reproductive Health, Georgetown University for the Reproductive Health Supplies Coalition (RHSC) and U.S. Agency for International Development (USAID).

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Organization Bio

Kaarak is an advisory and professional services organization operating in the social and economic development sectors. An entrepreneurial venture fueled by a passionate team of experienced and dynamic professionals, Kaarak is headquartered in New Delhi, India and strives to make a significant and sustainable impact on the lives of people and populations in collaboration with leading development actors across India and South Asia. Kaarak's diverse clientele includes United Nations (UN) agencies, small and medium enterprises, governments and non-governmental organizations (NGOs).

Authors Bios

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Mini Thakur is an international development expert with over 16 years of experience including research, monitoring and evaluation, and advising for international development agencies including UN Women, ILO, UNICEF, Oxfam, and CARE. Mini's work has spanned a wide range of development issues from the ground level to international and regional levels. Recent engagements have focused on health, gender, women's empowerment, social protection, and decent work. Mini holds a Master in Migration Studies from University of Sussex and a Post Graduate Diploma in Rural Development from Xavier Institute of Social Service.

Dustin Robertson has been a development sector professional with Kaarak for over two years. He has participated and led numerous research studies on diverse development issues including public health, gender, education and bonded labor. Before joining Kaarak, Dustin co-authored the UN Programme document *Social Innovation in Public Health in the Latin America-Caribbean Region* in the Economic Commission for Latin America and the Caribbean. Dustin holds a Master of Public Health from Aix-Marseille University and a Bachelor Arts from Franklin College.

ⁱ The voluntary survey was not intended to be representative, but rather to uncover relevant factors and perspectives. The online survey was sent (using Google Forms) to people within Kaarak's professional and/or personal networks. Participants were ages 22-45, with a statistical mean of age 31.1, 59% male and 41% female. Fewer than 10% reported any online FP purchases.



E-COMMERCE CASE STUDIES SERIES:

This report is one of seven case studies, written to provide the reproductive health (RH) supplies community with a deeper understanding of the current landscape and future potential of obtaining RH supplies through e-commerce. Each case study focuses on either one specific country (India, Kenya, Mexico, and the United States) or one new and underused RH technologies (emergency contraception, female condoms, and the Standard Days Method®). These case studies are descriptive only, and do not advocate for or against e-commerce as a means to distribute RH supplies.



EXECUTIVE SUMMARY

The objective of this case study is to examine the current landscape in India for e-commerce of reproductive health (RH) supplies and to consider the implications for the future. The traditional distribution of RH supplies (government, pharmacies, and other sources) is included, but the primary focus of this report is on e-commerce for spacing methods of family planning, including new and underused RH supplies where data is available. India's enormous potential market size for RH supplies suggests a proportionately large potential for obtaining these products through e-commerce. India's RH e-commerce market — dominated by male condoms — is vibrant but quite small (less than \$2 million)ⁱⁱ relative to the estimated \$100-\$130 million in conventional channels for RH sales. However, e-commerce appears to be growing, and sellers now offer five spacing methods online. Investment is expanding in both internet infrastructure and online markets.

Despite this investment, there are constraints to further growth, including lower delivery capacity in rural areas and competition from free government RH supplies and subsidized, socially marketed supplies. In addition, while electronic payment systems such as mobile wallets are increasing, cash-on-delivery payment is the most prevalent (45% of transactions), with implications for future expansion. Customers' concerns about privacy at clinics and pharmacies may drive them toward online sales, but they also have concerns about privacy at the delivery point. In response, many companies are taking measures to protect customer anonymity.

ⁱⁱ All monetary amounts are in United States dollars, unless specified otherwise.

ENABLING factors	HINDERING factors
<ul style="list-style-type: none"> ✓ The demand for spacing methods has increased due to a large youth population, increased education for women, and later age of marriage. ✓ Customers have increased access to online payment and cash-on-delivery, enabling them to pay for products at their doorstep. ✓ Massive investment in e-commerce companies has rapidly increased internet access and use, and access to credit card and mobile wallet payment systems is increasing. ✓ Internet use across India has grown, driven by an increase in the number of users and of internet-enabled devices. ✓ More information and a broad selection of methods are available online compared to those available in traditional shops and government clinics. ✓ Trends point to a potential expansion to new market segments, such as urban women. ✓ The privacy and anonymity associated with online shopping for RH supplies is appreciated by customers, which may drive more customers online. 	<ul style="list-style-type: none"> ✓ The ambiguous legal context for e-commerce – including potential restrictions of online sales for minors or of hormonal methods without a prescription – deters online sellers and makes e-commerce a confusing space for customers. ✓ Controlled pricing and small profit margins may limit incentives for companies to pursue e-commerce. ✓ Perceived lack of privacy during delivery may deter customers from ordering RH supplies online. ✓ Cash-on-delivery, while a boon for customers, is a risk for sellers, as customer may reject the product or not pay. ✓ Delivery capacity in rural areas is low due to problems with logistics and physical infrastructure, placing a strain on distribution of products purchased online. ✓ Relatively low use of spacing methods of family planning (FP), which are most conducive to e-commerce, could limit sector growth.

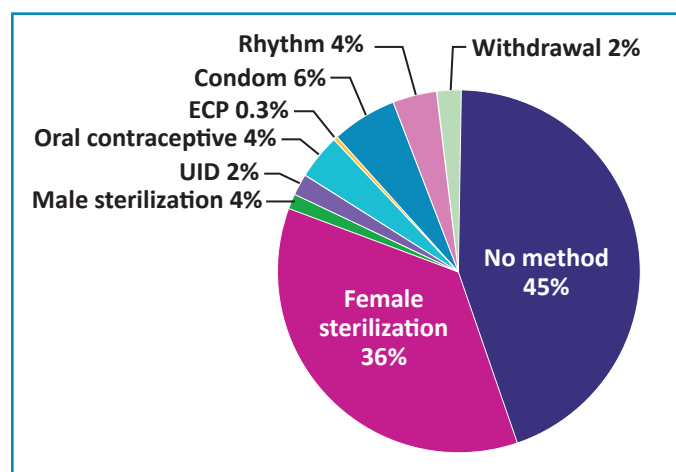
CONTEXT

India has the world’s second largest population at 1.3 billion.¹ Although poverty and inequality remain widespread in India, the country has an upwardly mobile middle class, rising standards of living, and a young population (the largest youth population in the world at more than 350 million people ages 10-24).² These factors mean that there are more Indians entering their reproductive years with the means to purchase RH supplies.

In the past, FP was largely provided by the government of India. Permanent methods (female sterilization in particular) dominate, accounting for two-thirds of FP use among India’s 323 million married women of reproductive age.³ While only one-third of contraceptive users in India choose a spacing method, this is a large potential commercial market for India. An estimated 59 million married women of reproductive age are currently

using spacing methods (See **Figure 1**). In the past, the commercial market for RH supplies was very limited; however, in recent years, the overall commercial market has grown as more Indians decide to adopt and pay for spacing methods of FP.⁴

Figure 1. FP method use among married women 15-49 years



Source: India DHS 2007-08.

Table 1. Market size of RH products in India

	Estimated Volume (in pieces)			Estimated value of commercial market
	Non-commercial (free government distribution & social marketing)	Commercial	Total	
Male condoms	1.4 billion	1 billion	2.4 billion	\$100-130 million
OCs	81 million	32 million	113 million	\$30 million
ECs	7.5 million	18 million	25.5 million	\$29 million
Female condoms	Information not available	10,000		Insignificant

Source: 2014-2015 annual report of Ministry of Health and Family Welfare, Government of India; Industry experts, Kaarak analysis.

The sale of RH supplies from non-government sources has fallen within the domain of social marketing organizations; but more recently, commercial brands have recognized the huge potential of this market and now sell over one billion RH supplies – including male condoms, oral contraceptives (OCs) and emergency contraception (EC) – every year. Based on various sources of information, the estimated market size of the overall RH supplies for spacing methods, except those requiring clinical assistance, is shown in **Table 1**.

E-commerce Market

E-commerce is a rapidly-expanding, multibillion-dollar segment of the Indian economy. While still relatively small on the global scale and in comparison to neighboring China, Indian e-commerce has picked up momentum and is likely to expand rapidly. Two recent industry reports

estimate the total e-commerce market size at \$13.6⁵ to \$16.4 billion,⁶ and it has approximately tripled over the last five years. India ranked fifth in business-to-consumer commerce within the Asia-Pacific region, with total sales worth \$10.7 billion in 2014 – impressive but well behind China, the regional leader with \$328.4 billion.⁷ Geographic coverage of e-commerce varies within India. Large urban cities and more affluent regions dominate. However, orders can be sent to rural and peri-urban areas through private delivery companies such as FedEx, and through the Indian postal service. Deliveries can take 2-5 days in urban areas and 1-2 weeks in rural areas.

The exact size of the market for RH supplies sold online in India is not known, but based on current data it is estimated to account for only around 1% of the national retail market for all RH supplies (see **Table 2**).ⁱⁱⁱ

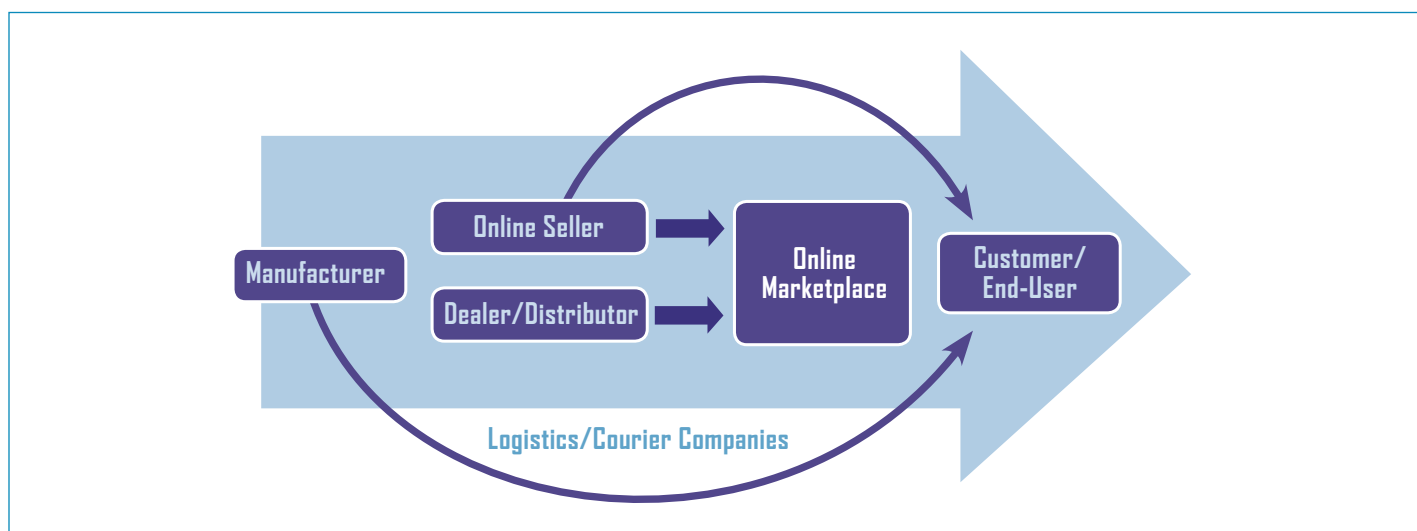
Table 2. Estimated E-commerce market size of RH products in India

	Total Commercial Market Size (products sold)	E-commerce Market size, calculated at 1% (products sold)	Total Value of Commercial Market	Value of E-commerce Market calculated at 1%
Male condoms	1 billion	10,000,000	\$100 million - \$130 million	\$1-1.3 million
OCs	32 million	320,000	\$30 million	\$300,000
ECs	18 million	180,000	\$29 million	\$290,000
Female condoms	10,000	1,000	Insignificant	Insignificant
Total				\$1.6 to 1.9 million

Source: Kaarak analysis

ⁱⁱⁱ By applying this crude benchmark proportion, which was corroborated within the industry and during stakeholder interviews, to the size of the total commercial market of RH supplies (Table 2), the value of the e-commerce market for RH supplies is a maximum of just \$1.9 million per year, with male condoms as the leading product. The market size for the new and underused methods considered in this study is still quite small. EC is selling in significant numbers, but others such as female condoms have very small numbers of customers. No data was available for Cycle Beads. <https://www.pwc.in/assets/pdfs/publications/2014/evolution-of-e-commerce-in-india.pdf>

Figure 2. Structure of online RH product marketing



FINDINGS

As shown in **Figure 2**, manufacturers of RH supplies are connected to the customer via e-commerce sellers and logistics courier companies. Within the e-commerce market for RH supplies, sellers can be classified into three basic categories: 1) retailers or online sellers, 2) online marketplaces, and 3) the manufacturers themselves.

Online Sellers

Online sellers operate much like traditional pharmacies or department stores, replacing conventional retailers in the value chain. Some traditional retailers sell products online in addition to their current offline sales. These sellers can be sub-classified into three groups depending on their product portfolio: 1) general health products, 2) sex/pleasure products, and 3) everyday items and grocery products. The names of their websites usually indicate the products they sell and have a huge impact on search engine optimization, a crucial factor in e-commerce.

➤ **Health product online sellers** sell mainly health products including a range of RH supplies. They generally have the widest selection of RH supplies and typically carry multiple brands of male and female condoms, OCs, ECs, and other products such as vaginal contraceptives and pregnancy tests, all without prescription. Websites include: easymedico.com, clickoncare.com, and themedicals.co.in.

➤ **Sex/pleasure product online sellers** sell products related to sexuality, highlighting excitement, pleasure, and passion. In addition to RH supplies, they often sell lubricants, lingerie, and sex toys. They generally offer fewer options but typically have a range of male, and sometimes female, condoms. Websites include pleasureraja.com, naughtyat9.com, and purepassion.in.

➤ **Everyday products and grocery online sellers** carry a limited range of RH supplies and sell them along with other fast-moving consumer goods and everyday items such as groceries. They generally carry only a few of the most popular brands and varieties of male condoms. Websites include bigbasket.com, peopleeasy.com, and needsthesupermarket.com.



One online seller said during an interview, “Whenever someone types ‘buy condom’ into Google, we want to be the first company that shows up.” Thus, the website is simply called **Buymecondom.com**.



Online Marketplaces

Although they emerged somewhat later than U.S.-based Amazon and eBay and China-based Alibaba, online marketplaces are the most significant e-commerce actors in India. The three most prominent online marketplaces and their market shares are shown in **Table 3**. In return for a commission, these websites facilitate transactions between sellers and customers. The sellers may be manufacturers, wholesalers, distributors, retailers, and even other online sellers. In fact, some online sellers distribute simultaneously on their own websites and online marketplaces.

Manufacturers

Manufacturers make up the third important category of online sales of RH supplies. As a relatively contraceptive-secure country, India has multiple manufacturers of popular products, some of which export significant quantities abroad. Manufacturers of three top-selling male condom brands made in India allow customers to purchase directly from their websites. Moods, Skore, and KamaSutra are available from their respective company websites.⁸ Some products are sold at significant discounts, as much as 20% below the Maximum Retail Price (MRP). Other manufacturers do not sell directly from their websites but provide links that take the customer straight to an online marketplace.^{iv}

There are numerous factors influencing the success of online sales of RH supplies. Some factors are positive (enabling) and some are negative (hindering). Some are both positive and negative, depending on the perspective (customer or distributor/seller).

Enabling Factors

Favorable Demographics

India has a large youth population, which is likely to follow the trends toward increased age of marriage, women's education, and longer intervals between marriage and first birth.⁹ It also has an upwardly mobile middle class and rising standards of living.¹⁰ These

Table 3. RH products available on top-three online marketplaces.

Name	Founded	Market Share	Male condoms	Female condoms	Other methods
Flipkart	2007	44%	14 brands, many varieties	2 brands	None
Snapdeal	2010	32%	7 brands, many varieties	1 brand	None
Amazon.in	2013	15%	15 brands, many varieties	2 brands	None

Source: Economic Times

factors mean that an increasing number of young people entering their reproductive years both need spacing methods and have the means to purchase them. This younger age group is also the population most likely to use technology and the internet, a combination that bodes well for the future of e-commerce of RH supplies.¹¹

Growing Acceptability of Online Payments

The number of people using credit and debit cards has grown steadily in recent years. In 2011, 17.5 million people had credit cards. Today that number is 21.5 million.¹² In addition, customers have become more accustomed to and comfortable with online payments. Mobile money ("mobile wallets") is a relatively underused payment method in India, but there are signs that use will increase. Major mobile companies, including Vodafone and Airtel, have entered into this market.¹³ Certain analysts predict that mobile wallets will be to India what credit cards are to the West.¹⁴

Cash-on-delivery

Cash-on-delivery is a popular payment method in India wherein customers order products but only pay for them when products arrive at their doorstep. Cash-on-delivery in India means that e-commerce can be carried out much the same way as traditional types of delivery (e.g., pizza). Many customers in India prefer this method, as it addresses several obstacles to e-commerce including:

^{iv} For example, Durexindia.com redirects the consumer to Amazon.in where their products can be purchased. Cupid Limited on the other hand, redirects shoppers to Flipkart.com. Other RH supplies such as ECs and OCs are not currently available online from manufacturers. However, Today Women's Contraceptive can be purchased from the company website <http://carencure.in/>.

1) privacy and security concerns with entering payment information into websites, 2) desire to see products before paying, 3) absence of alternate payment methods, and 4) lack of trust in online sellers. Approximately 45% of all e-commerce transactions in India involve cash-on-delivery.¹⁵

“
An e-commerce customer shared: “I just like
to see and feel the product before I buy.”
”

Massive Influx of Investment in E-commerce

Investors have made increasingly large commitments in this sector. Estimates of investment in Indian e-commerce show a trend from \$55 million in 2010, \$305 million in 2011, and over \$4 billion in 2014. The primary recipients of this investment are the large online marketplaces, such as Snapdeal, Flipkart, and Amazon.¹⁶

Rising Internet Use, Users, and Internet-Enabled Devices

Internet indicators have improved rapidly over the past decade. The number of internet users rose from 50 million in 2007 to over 300 million in 2015, and is predicted to reach 500 million by 2018-19.¹⁷ India has one of the fastest internet protocol (IP) traffic growth rates in the world (33% compound annual growth rate).¹⁸ Equally important is the growing number of people using internet-enabled devices other than laptop or desktop computers. The number of smartphones and tablets continues to increase: smartphones totaled 140 million in 2014 and are predicted to reach 651 million by 2019; tablets reached 2 million in 2014 and are likely to reach 18.7 million in the same 5-year period.¹⁹



INFORMING THE CUSTOMER

In order to help customers make informed decisions about RH and RH supplies, e-commerce companies offer a variety of resources. Examples of these include:

- Informative sections, including content in Hindi²⁰
- Help lines and/or question and answer (Q&A) platforms that go beyond customer support to offer guidance from health professionals²¹
- Blogs and articles related to RH and RH products²²
- Interactive content, including games, to inform and entertain customers²³

The information available from the sources can range from general to specific. Overall they help customers make more informed choices about RH products.

Access to Product Information and Privacy

One major difference between online shopping and traditional retail purchases of RH supplies is that face-to-face interaction is not required. Studies show that purchasing RH supplies in pharmacies is often embarrassing for both male and female clients, especially unmarried youth. But e-commerce of RH supplies has its pluses and minuses with regard to information and privacy. On one hand, the online shopper feels less pressured and more relaxed, as embarrassment and fear are reduced. However, unlike obtaining RH supplies through pharmacies or government services, customers cannot directly consult a health professional about their questions or concerns. To compensate for this, some online companies take measures to reassure customers and help guide them in decision-making. The amount

^v Common examples include: details and specifications of each product, pictures of the product packaging, customer reviews and feedback, helpline numbers and/or online chat allowing customers to ask questions and connect with health professionals. In addition, customers who are shopping online can easily search for other information on the web.

of information and support available varies significantly. Some companies provide very little while others have comprehensive websites.^v

Greater Range of Choices

E-commerce has an advantage over traditional retail outlets in product range. Typical pharmacies carry 3-6 brands of male condoms. They also usually carry 1-2 types of OCs and ECs, but female condoms are very rare. E-commerce expands options because customers can buy from any company, regardless of location. The range of products currently available online in India includes 14 brands of domestic and foreign condoms (including latex-free condoms), four brands of female condoms (two domestic, two foreign), and vaginal contraception. In addition, two brands of EC and one brand of OCs are sold online without a prescription.

Expanded Reach to New Market Segments

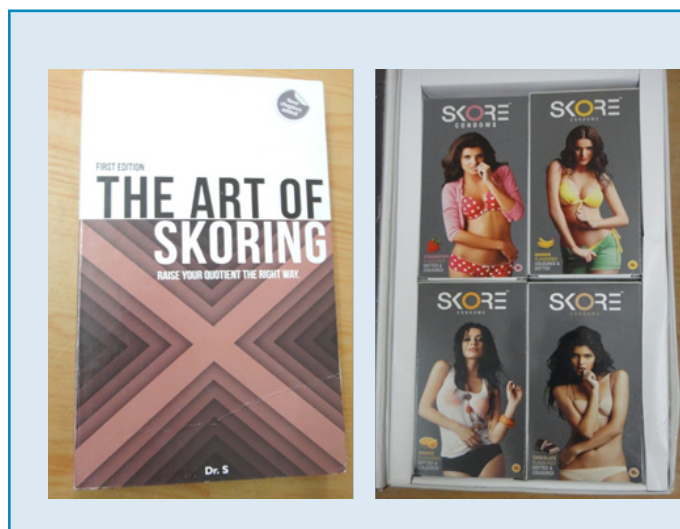
Gender barriers may be reduced via e-commerce—up to 40% of customers for some online sellers are women. E-commerce may also be able to provide greater access to RH supplies for unmarried youth.

Hindering Factors

Laws and Regulations

Because e-commerce is relatively new, there is significant legal uncertainty among key stakeholders. For instance, several companies and pharmacists interviewed were uncertain about which RH supplies could be sold legally online and the legality of selling to customers under age 18. While RH supplies are relatively normalized in India, some companies have had difficulty because these products are often sold along with sexual products that are seen as obscene. The legality of selling prescription drugs online is also contentious. In October 2015, hundreds of thousands of pharmacies across India observed a one-day strike to protest the issue.²⁴ In January 2015, a suit was filed against a major online market, Snapdeal, for selling prescription drugs online. Among the list of drugs named were I-Pill and Unwanted-72, two of India's most popular ECs.²⁵ The company no longer sells these products, but they are available from other websites.

Figure 4. Discrete packaging of RH supplies purchased online: outside packaging and inside contents.



Controlled Pricing

All companies in India (online or otherwise) must respect the MRP for their products. Companies can sell below MRP, but e-commerce RH supplies are sold either at MRP or sometimes at a discount (1-20%). These price restrictions and the overall low value of products mean that e-commerce companies may have difficulty making profits on these products alone. From the consumer side, e-commerce of RH supplies does not usually offer a major price advantage over buying from traditional outlets. Moreover, in spite of the limited selection, the availability of free RH supplies from government sources may undermine use of e-commerce.

Lack of Privacy at Time of Delivery

While e-commerce offers an important advantage over traditional sales in terms of privacy during purchase, it cannot guarantee privacy at delivery. E-commerce companies recognize that RH supplies are more sensitive than grocery products and use discreet packaging and other measures to ensure the privacy of their customers, as seen in **Figure 4**. Nonetheless, many customers may still see delivery as risky and may not opt for home delivery.

Cash-on-delivery From the Company Perspective

While customers want to pay cash-on-delivery, e-commerce companies frequently complain of high rates of returned goods after a customer refuses to purchase the item when it arrives at their doorstep. The rate of

Table 4. Comparison of three main sources of FP methods, offline and online

Key Factors	Government of India FP and Social Marketing	Traditional pharmacies	E-commerce
Price	Free or small fee	At or slightly below MRP*	At or slightly below MRP
Ease of access	Distributed in communities	Omnipresent shops	Anywhere in India with courier, but easier in urban areas
Ease of purchase	Free or nominal one rupee fee	Purchased with cash or by card	Requires internet access, fixed address, a card/bank account and/or mobile phone
Selection/availability	Limited range of products	Products vary by location	Widest range of methods
Information at point of sale	Mostly competent health care staff	Information provided by pharmacist	Information varies by website
Social barriers	Fear or embarrassment at point of service; issues for minors and unmarried persons obtaining services	Fear or embarrassment at purchase; issues selling to minors and unmarried persons; customer has to ask for the method	Fear of and sometimes actual lack of privacy at time of delivery
Quality	Perceptions of inferior quality	Trust in quality is high; customer can see the product at the shop	Quality of products a concern, but relieved by COD

*MRP as required by the Government of India

returned goods varies. One company reported a return rate of 30-40% on these orders, but others claimed lower rates such as 2-4%. In any case, cash-on-delivery is viewed as a nuisance and hindrance by e-commerce companies and industry experts alike.²⁶

Logistics and Physical Infrastructure

Delivery of products, a crucial element of e-commerce, is fairly reliable in India, especially in urban areas, and is provided through private companies as well as the government-run India Post. However, the reach of e-commerce companies is much lower in rural areas, where the majority of Indians reside. Thus, improvements in physical infrastructure such as roads and transport systems will be required if e-commerce of RH supplies is to reach all of India at an affordable price.

Low Use of Spacing Methods

One obstacle for e-commerce of RH supplies online is the low use of spacing methods, especially new and underused methods. Although currently used by only 18% of married women of reproductive age, there is likely

to be a greater demand for spacing methods in the future given India's demographic structure.

For the purpose of e-commerce, non-clinical spacing methods are the most pertinent. These methods include male and female condoms, OCs, EC and vaginal spermicides. The three main channels in India for distribution of these spacing methods are the government FP program and social marketing, traditional pharmacies, and the emerging e-commerce market. As shown in the **Table 4**, a comparison of these three channels reveals some of the strengths and weaknesses of e-commerce.

CONCLUSIONS

This case study sheds light on opportunities and obstacles to e-commerce as a way of expanding access to RH supplies. Although it is relatively young and quite small in comparison to the conventional channels, the e-commerce market for RH supplies in India is expanding with an estimated current annual volume of more than 10.4 million condoms and other methods with an annual \$1.9 million value.



PROTECTING PRIVACY:

Good Practice, Innovation, and Adaptation for Survival

RH supplies pose extra challenges for companies in India, largely due to taboos and sensitivities about sex. All Indians, but especially unmarried Indians, need privacy and secrecy when it comes to buying or receiving RH supplies. Companies recognize this and emphasize that customers' privacy will be protected. Examples include:

- Shipping products in discreet (sometimes double) packaging that gives no indication of the contents. Pictures of RH supplies purchased online can be seen in **Figure 4**.
- If the company's name is too revealing, an alternative name will be printed on the return address.
- Similar precautions may also be taken with credit card statements where non-descriptive language may describe the product such as 'medical supplies' or 'healthcare items.'

Company/brand	Shipping name
BuyMeCondom.com	BMC (abbreviation)
CondomPoint.com	Unified Prints (parent company name)
SKORE Condoms	TTK Protective Devices Limited (parent company name)
Kama Sutra Condoms	J.K. Ansell Limited (parent company name)
Sexpiration.com	No name—only address is given on package

RH supplies are sold online by three major market actors—online retailers, online marketplaces, and manufacturers—all of which have potential for expansion. Through these three categories, customers can purchase a wide range of RH supplies online: male condoms (estimated market value of \$1-1.3 million), OCs (estimated market size up to \$300,000), and some new and underused

methods including ECs (estimate market size up to \$290,000), and female condoms (insignificant sales at present). Vaginal contraceptives are also sold online, but CycleBeads® are not. HLL, the manufacturer and distributor, sold CycleBeads online initially, but they are no longer available.

As shown below, several enabling factors are holding

ENABLING factors		HINDERING factors
<ul style="list-style-type: none"> ✓ Favorable demographics ✓ Increased acceptance of online payments ✓ Cash-on-delivery - customers can see the product before purchase ✓ Rapid investment in e-commerce ✓ Increased internet use, users, enabled devices ✓ Access to product information ✓ Increased selection of products ✓ Expansion to new market segments, e.g., women and unmarried youth ✓ Privacy (shopping experience online) 	<p>Higher Impact</p> <p>Lower Impact</p>	<ul style="list-style-type: none"> ✓ Laws and regulations ✓ Controlled pricing ✓ Sometimes lack of privacy at delivery ✓ Cash-on-delivery - refusals cost company revenue ✓ Poor logistics and physical infrastructure in rural areas ✓ Relatively low use of spacing methods

constant or trending positively toward an expansion of e-commerce for RH supplies. In contrast, while some hindrances may diminish, others are likely to persist.

India's potentially enormous retail market for RH supplies suggests a proportionately large potential for obtaining these products through e-commerce.

FUTURE RESEARCH

The findings from this case study suggest a large opportunity for the sale of RH supplies through e-commerce. However, results showed that e-commerce is still a small proportion of the overall market, with several important factors hindering growth. To better understand how the potential for growth will interact with these factors, critical follow-up areas recommended for future research include:

➤ **Assessment of the end-user experience of online buying:** Further research with end-users to identify factors that limit demand for RH supplies over e-commerce, particularly for new and underused methods. How do customers find out about methods and sites, and how do they decide to purchase?

➤ **Further understanding of the regulatory implications on e-commerce:** Research to clarify India's legal context for RH supplies within the e-commerce sector, especially concerning access to hormonal methods currently available without prescription.

➤ **Assessment of the potential for electronic cash transfers:** What impact, if any, do mobile wallets have on expanding e-commerce for RH supplies? This research could examine the growth of these alternative payment methods and highlight both infrastructure requirements and potential changes in customer behavior.




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E-COMMERCE OF REPRODUCTIVE HEALTH SUPPLIES IN KENYA



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E-commerce of Reproductive Health Supplies in Kenya. March, 2016. Washington, D.C.: Institute for Reproductive Health, Georgetown University for the Reproductive Health Supplies Coalition (RHSC) and U.S. Agency for International Development (USAID).

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Organization Bio

iHub, Nairobi's innovation hub, catalyzes the growth of the Kenyan technology community by connecting people, supporting startups and surfacing information. iHub nurtures an African innovation and entrepreneurship ecosystem that challenges and influences technology, since we believe that African innovation will play a critical role in shaping the future of technology globally. iHub Research supports the iHub's overall mission through discovery of uses and approaches to technology in Africa, experimentation towards knowledge creation, and sharing insights for improved decision making by technology stakeholders. iHub Research conducts qualitative and quantitative studies, as well as monitoring and evaluation work on technology, innovation and entrepreneurship, and the intersection of governance and technology in Africa. Find out more about iHub Research at www.ihub.co.ke/research.

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E-COMMERCE CASE STUDIES SERIES

This report is one of seven case studies, written to provide the reproductive health (RH) supplies community with a deeper understanding of the current landscape and future potential of obtaining RH supplies through e-commerce. Each case study focuses on either one specific country (India, Kenya, Mexico, and the United States) or one new and underused RH technologies (emergency contraception, female condoms, and the Standard Days Method®). These case studies are descriptive only, and do not advocate for or against e-commerce as a means to distribute RH supplies.



EXECUTIVE SUMMARY

This case study examines the current Kenyan landscape for e-commerce of reproductive health (RH) supplies and considers the implications for its future. Half of Kenya's population is now online, with significant increases in internet users attributed to the reduction in data bundle prices and availability of affordable internet-enabled phones. The landscapes of online activity are therefore evolving. The estimated value of e-commerce is \$42.2 million.ⁱ While data is limited and e-commerce is still relatively new, it is likely to expand rapidly, which could imply potential growth across other African nations.

Despite the availability of a wide range of family planning (FP) methods from public and private health facilities, pharmacies, and other outlets, Kenya has a contraceptive prevalence rate (CPR) of 65.4% for use of any method and 60.9% for use of modern FP methods, well below the target of 70% set by the Kenyan Ministry of Health for 2015. The internet has the potential to provide wider access to FP, but data on online access to RH supplies is very limited. There are only three online pharmacies, and only one sells FP products excluding male condoms. However, three other online sources of male condoms were found. Although e-commerce is relatively new and very small, the e-commerce market for RH supplies appears to have potential for expansion.

ⁱ All currency amounts are in United States dollars, unless stated otherwise.

ENABLING factors	HINDERING factors
<ul style="list-style-type: none"> ✓ Rising internet use, users and internet-enabled devices across Kenya may set the stage for e-commerce growth. ✓ E-commerce institutions such as online platforms and online marketplaces with some sales of RH supplies are emerging. ✓ Growing availability of non-cash payments such as M-PESAⁱⁱ could facilitate the growth of simple financial transactions. ✓ Potential for online educational information on RH supplies could increase access to product information and counseling. 	<ul style="list-style-type: none"> ✓ Lack of laws and regulations to protect customers purchasing via e-commerce channels reduces customer trust. ✓ Inadequate logistics and weak distribution systems for online sales deters both customers and sellers. ✓ Limited government resources allocated to both e-commerce and RH supplies. ✓ High costs for both RH supplies and delivery of products purchased online limits the growth of the sector. ✓ Persistent limited internet access, particularly in rural areas.

CONTEXT

Kenya's current population of 47 million is projected to more than double over the next 35 years. According to the United Nations, Kenya will be home to 66 million in 2030, and 97 million in 2050.² The current total fertility rate (a measure of average number of children per woman over her lifetime) is 3.9, which varies from 3.1 in urban areas to 4.5 in rural areas, where almost 25% of the population lives. The population is young; over 40% are under 15 years of age.³

The 2014 Kenyan Demographic and Health Survey found a contraceptive prevalence rate (CPR) of slightly over 65% among sexually active unmarried women ages 15-49 for use of any FP method, and 61% for use of modern methods.⁴

As shown in **Table 1**, a wide range of methods are currently being used with significant variation between married and unmarried women in rural and urban areas. Most of these methods are readily available in public health facilities while some can only be bought from private pharmaceutical outlets. The most commonly offered temporary modern methods of FP in health facilities are oral contraceptives (OCs) (available in 95% of facilities offering FP services), the 2- or 3-month progestin-only injectables (95% of facilities), and the male condom

(92% of facilities).⁵ Injectables are the most prevalent contraceptive method, but the use of implants is growing. Some stakeholders who were interviewed for this case study stated that method use and choice is driven by cost, since most of the FP products are provided for free by the government or are heavily subsidized by donors. Others believe that trends in use and choice are driven by age and reproductive needs of the woman, with older women using more long-term methods.

The percent of women using spacing methods, such as OCs or male and female condoms, is important because only such temporary and non-clinical methods of FP are likely to be offered via e-commerce. As shown above in **Table 1** and **Figure 1**, the majority of sexually active unmarried women living in urban areas rely on short-acting spacing methods. This trend could result in an increase in e-commerce provisioning of RH supplies because urban residents are far more likely to use the internet.

FP Challenges

Several studies conducted in the last decade have identified obstacles to full accessibility of FP methods, representing a wide range of factors. According to a 2007 study,⁷ costs associated with long-acting methods are a key hindrance to accessing those methods. Women regularly encountered formal and informal user fees at

ⁱⁱ An agent-assisted, mobile phone-based, person-to-person payment and money transfer system

Table 1. FP method use (percent of women, ages 15-49), with methods available online highlighted.

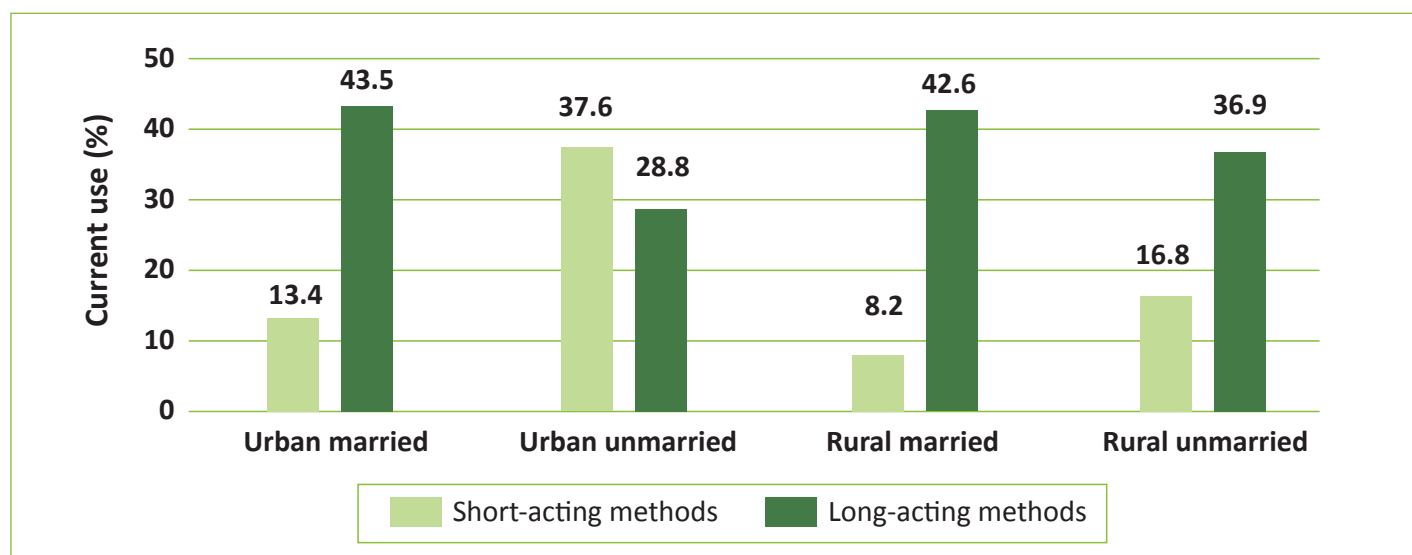
Contraceptive use	Married Urban	Sexually-active Unmarried Urban	Married Rural	Sexually-active Unmarried Rural
Any method	61.8	70.3	55.5	58.8
Female sterilization	2.1	0.5	3.9	3.9
Intrauterine device	4.7	1.4	2.6	0.9
Implant	12.0	8.6	8.6	4.4
Injectable	24.7	18.3	27.5	27.7
Oral contraceptives	10.7	7.0	6.2	6.2
Male condoms	2.6	29.6	1.9	10.6
Female condoms	0.0	1.0	0.0	0.0
Lactational Amenorrhea Method (LAM)	0.1	0.0	0.1	0.0
Any traditional	4.9	4.1	4.6	4.9
Not using	38.2	29.7	44.5	41.2
Total	100	100.2*	99.9*	99.8*

Source: Kenya DHS 2014. * Not 100 % due to rounding error.

both public and private facilities despite the policy that government-provided FP services and supplies must be offered free to clients. At that time, facilities charged about \$0.50 for OCs. It is not clear what websites would charge for the same product. A 2010 analysis⁸ revealed the top four reasons why women who say that they want

to avoid pregnancy are not using FP: 1) fear of side effects and health concerns (43%), 2) opposition from husbands/partners or perceived religious prohibition (16%), 3) having sex infrequently (14%), and 4) postpartum reasons (i.e., menses not returned) (12%). Some women (6%) stated that lack of access (distance or costs) was the reason for

Figure 1. FP method use by type (percent of women, ages 15-49).



Source: Table 3.9 in KNBS KDHS 2015 monograph on key indicators.

not using FP.⁹ Online availability of FP information and commodities could help address some of these concerns. Education, including online information and counseling, could increase women’s understanding of pregnancy risk and the often-transient nature of side effects. Although women surveyed did not mention most of these issues, analysts attribute the high level of unmet need to inadequate service provision, FP commodity stock-outs due to weak distribution systems, cultural and knowledge barriers, and low levels of empowerment and decision-making among women.¹⁰ Poor services and stock-outs could motivate women with the requisite finances and technology to turn to e-commerce for efficient, reliable access.

In 2014, Kenya’s Ministry of Health commissioned the National Survey on Male Involvement in Family Planning and Reproductive Health,¹¹ which sought to assess men’s attitudes and beliefs, the extent to which men ages 15-54 are involved in decisions, and main barriers to men’s involvement. The results demonstrated negative attitudes toward and low male involvement in FP and RH. The low involvement among men was attributed to perceptions that FP is a woman’s responsibility. Negative attitudes were based on misperceptions, such as the belief that FP use causes excessive bleeding, swelling of legs, and weight gain among women. The majority of men opposed to FP believed that it causes infertility, cancer, and low libido in women. Some Christian teachings in Kenya oppose the use of permanent FP methods, but generally support birth spacing methods and natural methods.¹² Again, accurate information online could help shift their attitude and encourage male involvement.

As shown in **Figure 2**, in Kenya, one can obtain RH supplies from public health facilities that have FP clinics, or from private entities including retailers, health practitioners, and social franchisers (social marketing agencies).

The social franchisers, such as Population Services International (PSI) and Marie Stopes International (MSI), in addition to running their own self-sustaining clinics, provide FP products to some community-based organizations, wholesalers, retailers (including kiosks, lodges, pharmacies, bars), and commercial distributors.

They primarily serve the underserved areas in the country, such as informal settlements and rural areas.

E-commerce Market

E-commerce has the potential for rapid expansion in Kenya. Although in its infancy, it has been steadily growing over the past few years. For e-commerce to grow, not only for FP but in general, people must trust the technology. The population currently using e-commerce is young, busy, and “tech-savvy,” and has disposable income to spend at their convenience.¹³

In 2014, 26.2 million Kenyans used the internet, an increase of 23% over the previous year. More than half the population of Kenya is now online, and if the numbers only applied to adults of reproductive age, the percent would be even higher. The expansion was mainly due to the reduction in data bundle prices and availability of affordable internet-enabled phones. During the same one-year interval, the total wireless and fixed (wired) internet subscriptions also increased by 24.8% and 20.5%, respectively. Total wireless broadband subscriptions increased from 2.4 million to 4.2 million, and the increase was mainly attributed to the growth in the Global System for Mobile Communication (GSM), which almost doubled from 2013 to 3.4 million in 2014.¹⁴ Mobile telephone connections reached 33.6 million in 2014 with a mobile penetration rate of 78%. A growing portion of mobile users has smartphones. As of June of 2015, almost 60% of all phones sold in the country—an estimated 1.8 million devices – were smartphones.

The Communications Authority of Kenya estimates the value of e-commerce as \$42.2 million.¹⁵ E-commerce has spread over various platforms including online marketplaces, service delivery, taxi booking, and property and hotel listings. Other common e-commerce opportunities include social media platforms such as Facebook and Instagram, which are successfully used to advertise and sell products such as clothing, jewelry, and electronics. In Kenya, there are 4.5 million people active on Facebook every month, and 95% of them are on a mobile device.¹⁶ These figures are impressive and could lead to expanded e-commerce of RH supplies.

FINDINGS

E-commerce includes only limited sales of RH supplies and services but could have the potential to expand sales to new customers and increase the volumes sold to existing customers. A number of factors affect this potential; some enable expansion while others hinder it.

Enabling Factors

Rising Internet Use, Users, and Internet-Enabled Devices

The rapid expansion of internet connections, online users, and mobile phones enables vendors to reach wider markets and makes it possible for goods and services to be traded in a whole new way. Many companies are introducing innovative e-commerce services. These include Petty Errands, Yum, Hello Food, and Mama Mikes Online. Customers place orders via these companies' platforms, and their orders are then sourced and delivered. Whether such shopping services could eventually include RH supplies remains to be seen. Online marketplaces are popular across Kenya for buying and selling products; marketplaces like JUMIA, OLX, Cheki and Rupu are the largest. The expansion of these marketplaces is likely driven by the wider use of smartphones.

Emerging Online Platforms

Kenya's online platforms, including large marketplaces such as JUMIA and OLX, are generally available 24 hours a day, seven days a week, except in the case of delivery

"The prospect for e-commerce is very high. Stores are too expensive because the supply is low and the cost per square foot is too high compared to the cost of goods. Access to retail in certain areas is bad hence the need for e-commerce. So there is a huge case for consumables being brought online especially if they are all being sold in one area of the country."

Peter Ndiang'ui, Country Manager OLX



WHO ARE THE ONLINE BUYERS IN KENYA?

Typically they are people ages 35 and younger. University students constitute the largest proportion of users of e-commerce platforms (like the online marketplaces OLX and JUMIA) and a strong correlation was identified between education and use of these platforms.

services that often have a cap on their operating hours.

Each has a slightly different role within the e-commerce system. JUMIA, for example, in addition to giving sellers an e-store, is responsible for processing payments and deliveries, advertising the site, interacting with customers, and providing warehouse facilities for those merchants who opt for it. This makes it possible for merchants to provide their products at a lower price. OLX, on the other hand, only provides a portal for merchants to sell their products and does not handle any transactions between the merchant and the customer.

This rapid growth of e-commerce in sub-Saharan Africa is driven by poor physical access to retail outlets. Since the RH supplies community faces similar challenges in traditional service and commodity provision, e-commerce may emerge as a way to avoid these on-the-ground problems.

Trends in Methods of Payment

Mobile money, especially Safaricom's M-PESA service, has become increasingly popular in Kenya. M-PESA allows users to store money on their mobile phones in an electronic account and deposit or withdraw money in the form of hard currency at any one of M-PESA's numerous agent locations. By March 2011, M-PESA reached over 13.8 million registered users (over one-third of Kenya's population) through 27,000 M-PESA agents throughout the country. In 2014, the total value of deposits for the mobile money through the agents grew by 22.8% to \$1.013 billion. The use of M-PESA has also facilitated the expansion of delivery services in Kenya and could



JUMIA PAYMENT METHOD

Approximately 90% of payments are cash-on-delivery, 2% are debit or credit cards, and 8% are by M-PESA. Since there is a heavy reliance on cash, most online transactions happen at the end or beginning of the month – closer to pay day. There are fewer transactions in the middle of the month.

become an important enabling factor for online sales of contraceptives.

Potential for Education, Access to Product Information and Counseling

A consistent message from stakeholders interviewed was that e-commerce of RH supplies should provide information and further counseling. However, while women may need face-to-face interaction when they first adopt a FP product, it is not usually necessary when they obtain re-supplies of the same method. Subsequent supplies could be ordered online without counseling. Some RH websites in other countries offer online interactions between clinicians and customers for first-time users and additional information for all users. Kenyan online sellers could explore this model in the future. In addition, e-commerce websites could serve as a source of information and guidance for FP.

Hindering Factors

Relatively High Costs for Product and Delivery

There are structural issues that would need to be addressed before e-commerce could serve as a viable alternative to traditional outlets. These challenges include logistics, payment platforms and delivery of products. On the customer side, incentive to purchase online is diminished by the fact that RH supplies are distributed for free by the government. In the context of wide availability of free or low cost government-supplied contraceptives,

the cost of buying contraceptives online is an issue for customers. However, it is not clear how big this constraint is. The characteristics of people who already go online to order products and services are different from those who go to public facilities. Convenience, therefore, may be a persuasive selling point.

A big hurdle lies in logistics and delivery of products by online sellers. The prohibitive cost of delivery can only be addressed if a reliable national system is put in place—for example, the postal service. The success of e-commerce requires the government to invest in technological infrastructure and to build good transport networks to ensure delivery of goods.¹⁷ Initiatives such as OkHi are working to create a uniform address system (street names and house numbers) similar to those in countries where e-commerce thrives.

Remaining Problems with Payment Systems

In spite of the expansion of digital payments by debit and credit cards and mobile money such as M-PESA, there are still issues related to online purchases. In particular, there is significant concern about the security of the internet, especially among debit and credit card holders. Many strongly believe that the online marketplace is not safe from theft and could result in hidden fees or credit card fraud.¹⁸ To overcome this, most e-businesses offer the cash-on-delivery payment option, which gives the customer the opportunity to safeguard their money and confirm their satisfaction with the product before payment.

The Overall Landscape for E-commerce and FP Method Distribution

E-commerce is still a new phenomenon in Kenya and consequently, detailed information on this market is relatively sparse. There are currently only three online pharmacies in Kenya. As shown in **Table 2**, although many pharmacies have websites with details of their products and services, only three provide an opportunity for online purchases. Of these, only one sells FP products and none sell condoms. Aside from these, three online sources of condoms were found; see **Table 2**.

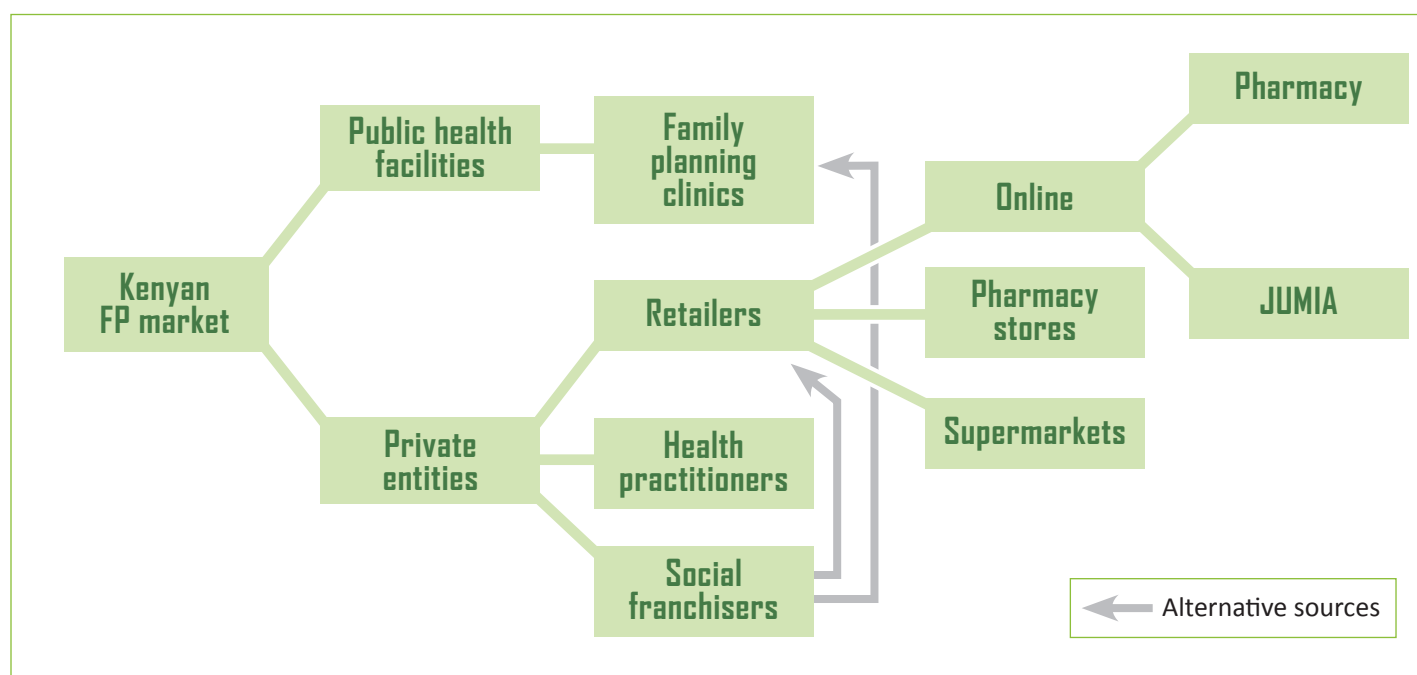
Table 2. Online sources of FP products in Kenya.

Site	Products	No. of brands	How it works
Haltons: www.haltons.co.ke	OCs, EC & injectables,	varies	Haltons' website displays all medical products registered in Kenya and provides some information on product and medication use. Customers can search for and select their medical product online and then will get a call from a pharmacist for information exchange. They can then pick up their medications in a store or request delivery.
Dial-a-condom delivery, Kenya: www.facebook.com/dialacondomdeliveryKenya	Male condoms	varies	Customers can make contact through the Facebook page and specify the brand and quantity of male condoms they need. The order will be delivered the same day.
JUMIA: www.JUMIA.co.ke	Male condoms	one	JUMIA showcases male condoms online. The customer orders male condoms and JUMIA delivers them and processes payments, most frequently cash on delivery.
Condoms Kenya: http://condoms.co.ke ; Facebook.com/pages/Condoms-Kenya	Male condoms		Websites currently in development.

The most common RH supply found online was the male condom, which is sold in three of the four online sites in Kenya. However, while male condoms are the most common FP product online, sales remain low. Dial-a-condom currently makes only up to four deliveries a week, and customers are mostly people who want to be discrete

about their purchase. Similarly, despite a marketing arrangement with Durex, JUMIA, a company with 1,500 to 2,500 unique sales a day, sold only approximately 80 male condoms in 2014. It is important to note that approximately 70% of male condoms distributed are free, Government of Kenya condoms.¹⁹ At present, only one

Figure 2: The FP market in Kenya.



pharmacy, Haltons, distributes RH supplies online. Since they have introduced this e-commerce service recently, it is difficult to determine what tactics will be most successful.

CONCLUSIONS

This case study reveals some of the opportunities and obstacles to e-commerce as a way of expanding access to RH supplies in Kenya. Although it is relatively new and very small, the e-commerce market appears to have potential for expansion.

Based on the findings from this case study, three main issues should be considered for the FP and e-commerce field.

- First, free or low cost government-supplied contraceptives are widely available. However, given women’s experiences of long waiting times at public facilities, those who can afford to are likely to look for RH supplies and services elsewhere, including online. These people have different priorities than those who obtain their RH supplies through public facilities, and may be attracted by the convenience of e-commerce.
- Second, a consistent message from the various stakeholders was that e-commerce should provide information and counseling on FP and other RH supplies. However, while women may benefit from face-to-face interaction when they first adopt a FP method, they may not need it for subsequent resupply


of the same method. In addition, the internet presents opportunities to provide information and guidance.

- Third, there is a need for structures to be put in place for e-commerce to serve as a viable alternative to traditional sources of FP methods. These include logistics, payment platforms, and mobile networks with existing providers.

FUTURE RESEARCH

The findings from this case study suggest an opportunity —albeit limited—for the sale of RH supplies through e-commerce. However, results showed that e-commerce is still a new territory, and there is not much data available in this market. To better understand the scope and scale of this opportunity in Kenya, some critical follow-up areas recommended for future research include:

- **An exploration of the online buying habits of Kenyan population, specifically women:** Understanding the Kenyan customers’ buying behavior is a necessary element for successful growth of e-commerce. An exploratory analysis should include information on pricing of products and the willingness of customers to buy RH supplies based on price.
- **Further understanding of customer needs for information and online counseling:** Looking at what kind of internet information and counseling women and men would want if they chose to purchase RH supplies online would elucidate the initial findings

ENABLING factors		HINDERING factors
<ul style="list-style-type: none"> ✓ Growing internet use, users and internet-enabled devices ✓ Emerging e-commerce institutions and online platforms ✓ Growing availability of non-cash payments, such as M-PESA ✓ Potential for education, access to product information and counselling 	<p>Higher Impact</p>  <p>Lower Impact</p>	<ul style="list-style-type: none"> ✓ Lack of laws and regulations to protect customers ✓ Inadequate logistics and problems with payment systems ✓ Limited government resource allocation to both e-commerce and RH services and commodities ✓ Relatively high costs for product and delivery ✓ Limited internet access

regarding the need for online interactions between clinicians and customers for first-time users. For example, would they like a phone call from a medical expert or just an interactive exchange of information online? Would they prefer to receive face-to-face counseling at first but then be able to buy the product online without counseling? Further research could look into currently available information, and identify gaps and opportunities.

➤ **Assessment of the RH community in Kenya to understand the existing systems for FP product distribution:** This study raised many unanswered questions around how the existing RH community can leverage e-commerce. Further research could, for instance, explore if and how the RH community in Kenya can capitalize on the existing e-commerce systems to get FP and RH supplies to women. This case study was only able to touch the surface, but a deeper dive into the Kenyan RH landscape at all levels, with a focus on the potential for reaching women via e-commerce, would be beneficial.




Endnotes

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E-commerce of Reproductive Health Supplies in Mexico. March, 2016. Washington, D.C.: Institute for Reproductive Health, Georgetown University for the Reproductive Health Supplies Coalition (RHSC) and U.S. Agency for International Development (USAID).

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Organization Bio

Mexfam is the Mexican Family Planning Association. It was established in 1965, and has evolved considerably since then. Currently, Mexfam provides services through the following programs: 1) The Rural Community Program, 2) The Urban Community program, 3) The Young People program, and 4) Medical Services Clinics.

Authors Bios

Laura Violeta Chávez Guadarrama is an advocate in the National Autonomous of Mexico University. She has worked on projects in human rights, sexual and reproductive rights, gender, and equity since 2000. She is currently a Manager of the Resource Mobilization, which applies her knowledge in national and international human rights law.

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E-COMMERCE CASE STUDIES SERIES

This report is one of seven case studies, written to provide the reproductive health (RH) supplies community with a deeper understanding of the current landscape and future potential of obtaining RH supplies through e-commerce. Each case study focuses on either one specific country (India, Kenya, Mexico, and the United States) or one new and underused RH technology (emergency contraception, female condoms, and the Standard Days Method®). These case studies are descriptive only, and do not advocate for or against e-commerce as a means to distribute RH supplies.



EXECUTIVE SUMMARY

This case study examines the current Mexican landscape for e-commerce of reproductive health (RH) supplies and considers the implications for its future. E-commerce in Mexico is expanding rapidly; more than half of the population is online, and e-commerce has a total market value of more than \$12 billion.ⁱ The potential market for online sales of family planning (FP) supplies depends on several factors, including internet usage growth, demographic trends, and current and future use of methods suitable for distribution via the internet. These factors are highly interconnected. For example, according to the 2014 Mexican National Survey of Demographic Dynamics, more than 75% of women who use contraception use permanent and long-acting reversible contraceptive methods (LARCs), which require a clinician to insert. Women who use non-clinical, short-acting methods that are suitable for online sale tend to be young adults who are online in greater numbers than their older counterparts.

A review of websites confirmed the feasibility of making online purchases for short-acting FP methods and assessed the adequacy of information, reliability and ease of purchasing, and navigation within the websites. This review found no instances where a prescription was required for procuring hormonal methods. The assessment did find unevenness in the quality and type of information provided to customers, and revealed inconsistency in search capabilities across websites. Despite some problems – cumbersome search protocols and the lack of adequate information – a wide range of hormonal and barrier methods appear to be readily available online. In addition, Mexico's e-commerce market is primarily used by younger age groups. As Mexico's large youth age cohorts enter early adulthood, there is a clear potential for an increase in clients who obtain RH supplies through e-commerce, especially short-acting FP methods.

ⁱ All monetary amounts are in United States dollars, unless specified otherwise.

ENABLING factors

- ✓ Demographic trends favour an expansion of e-commerce as the large youth cohort, many of whom are internet users, reach adulthood.
- ✓ Internet use has increased, particularly among youth, through a rapid growth in users and internet-enabled devices.
- ✓ Rapid increase in e-commerce in other sectors of the economy suggests the potential for future growth of the sale of RH supplies online.
- ✓ Online payment systems to support e-commerce are increasingly available to customers.

HINDERING factors

- ✓ Insufficient laws and regulations decrease customer trust in e-commerce and could deter purchases.
- ✓ Electronic payments methods are not universally available to all potential customers.
- ✓ Some pharmacy websites require customers to provide personal information to complete RH purchases online, which concerns customers who value privacy.
- ✓ Persistent, poorly-designed search protocols and inadequate access to product information online prevents customers from finding RH supplies and information.
- ✓ Spacing methods, which are prime for e-commerce distribution, are a relatively small portion of methods used.

CONTEXT

According to the World Bank, Mexico is an “upper middle income” country, with a Gross Domestic Product (GDP) of \$1.3 trillion and a Gross National Income (GNI) of \$16,710 per capita.¹ Mexico currently has a population of 127 million, with 34 million women of reproductive age (ages 15-49).² Mexico is considered a young country; 28% of the total population is under age 15 and 50% is under age 28.³ Although young, Mexico is well on its way toward a demographic transition; the largest age cohort is ages 10-14, with reduced cohorts for ages 0-9, reflecting a potential decline in fertility rates.

In Mexico, 70% of women of reproductive age who are married or in union report contraceptive use. According to the 2014 National Survey by the Instituto Nacional de Estadística y Geografía (INEGI), 98.7% of women ages 15-49 have heard of at least one contraceptive method, regardless of whether they have ever used a method.⁴ Among married or in union women of reproductive age, 66% were using modern methods.⁵ The percentage is significantly lower among women in rural areas, especially women from indigenous cultural groups with low levels of education.⁶

Market data for FP use is limited, and no figures were available for 2015. As of 2011, the contraceptive market

in Mexico was valued at \$293 million.^{7,8} According to an interviewed expert in the pharmaceutical industry, purchases of Oral Contraceptives (OCs) dropped over 4% from September 2010 to September 2011, which indicated a switch to other methods. Companies such as Schering, Pfizer, Wyeth, Abbott, Janssen, and Asofarma offer injectables, hormonal patches and OCs; and a wide

Table 1. FP method use (women, ages 15-49), 2014

FP Method	Percent
Female sterilization	49.9%
Copper Intrauterine Device	15.6%
Male condom	13.3%
Injectables	5.5%
Oral Contraceptives	4.2%
Implants	3.2%
Vasectomy	2.6%
Withdrawal	2.4%
Fertility Awareness Methods	2.3%
Patch	0.8%
Emergency Contraception	0.1%
Female condom	0.1%
Hormonal Intrauterine Device	0.1%
Total	100.0%

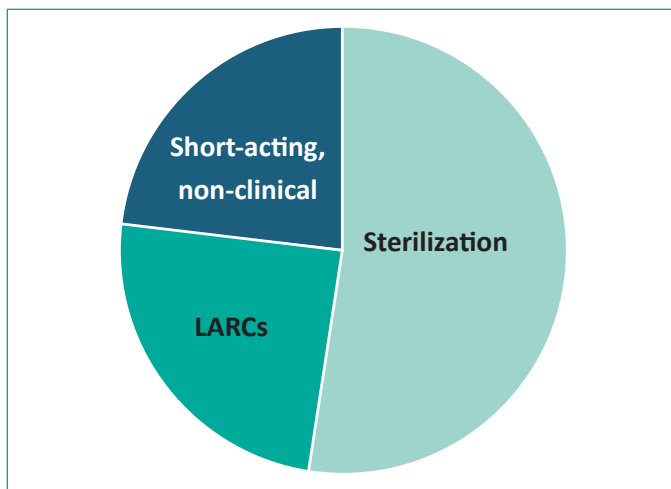
Source: INEGI, National Demographic Dynamics Survey, 2014.

range of condoms are available in many colors, flavors, textures, and prices under brands such as Trojan, Sico, Simi, and Prudence. According to estimates, about 180 million Trojan male condoms were sold in 2010.

As shown in **Table 1**, based on the 2014 Mexican Survey of National Demographic Dynamics, there are an estimated 16.5 million users of contraception.⁹ More than 75% of current method use consists of female or male sterilization (49.9% and 2.6% respectively) and LARCs that require a clinician for insertion, such as intrauterine devices (IUDs) or implants. This method mix, which is skewed toward permanent and long-acting methods, may explain the above-mentioned decline in demand for OCs reported in 2011. As shown in **Table 1** and **Figure 1**, less than one in four women are using short-acting spacing methods that do not require a nurse or a doctor. These women are considered potential clients for obtaining RH supplies through e-commerce. The most common methods likely

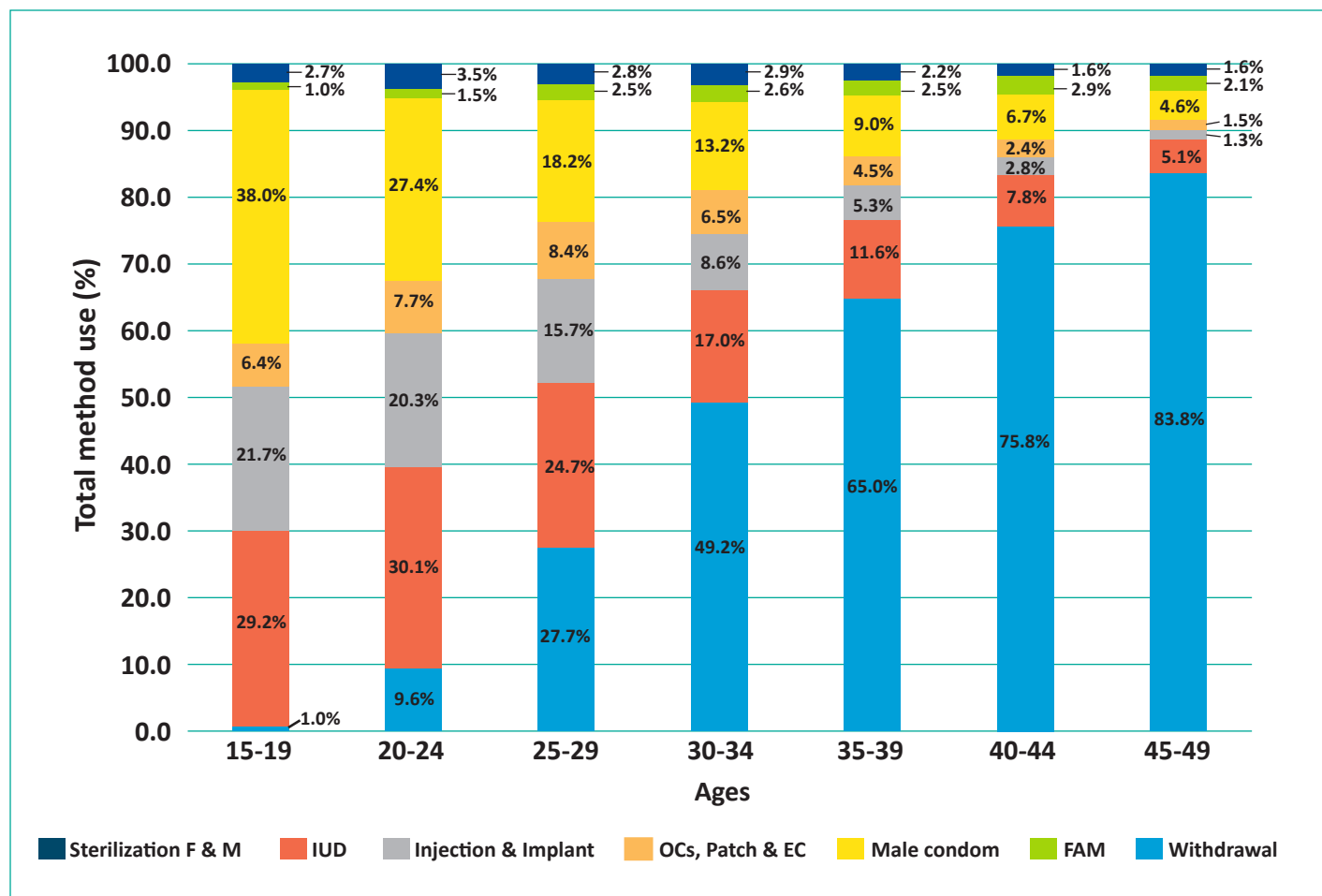
to be offered through e-commerce are OCs (over 600,000 women, 4.2% of all users), male condoms (more than 2 million women, 13.3% of all users), and fertility awareness methods (FAM) (380,000 women, 2.3% of all users).

Figure 1. Grouped FP method use (Mexican women ages 15-49, 2014)



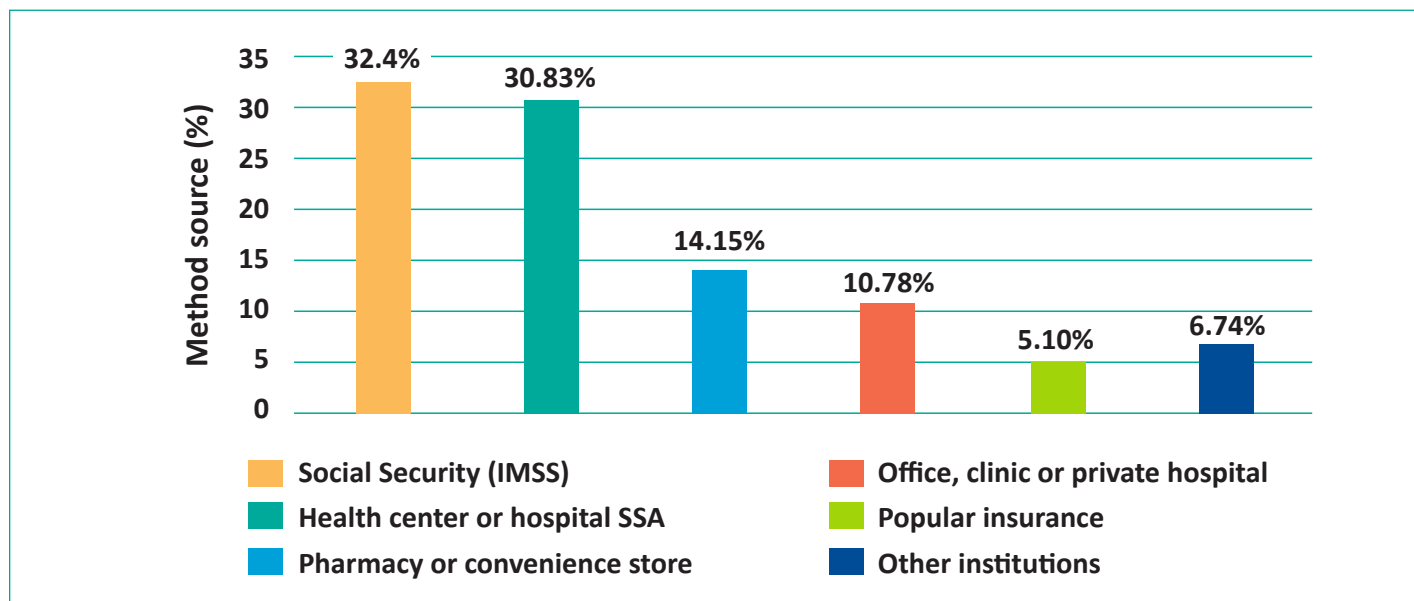
Source: INEGI, National Demographic Dynamics Survey, 2014.

Figure 2. 2014 changes in FP method mix by age group, 2014



Source: INEGI National Demographic Dynamics Survey, 2014.

Figure 3. Changes in FP method (women, ages 15-49)



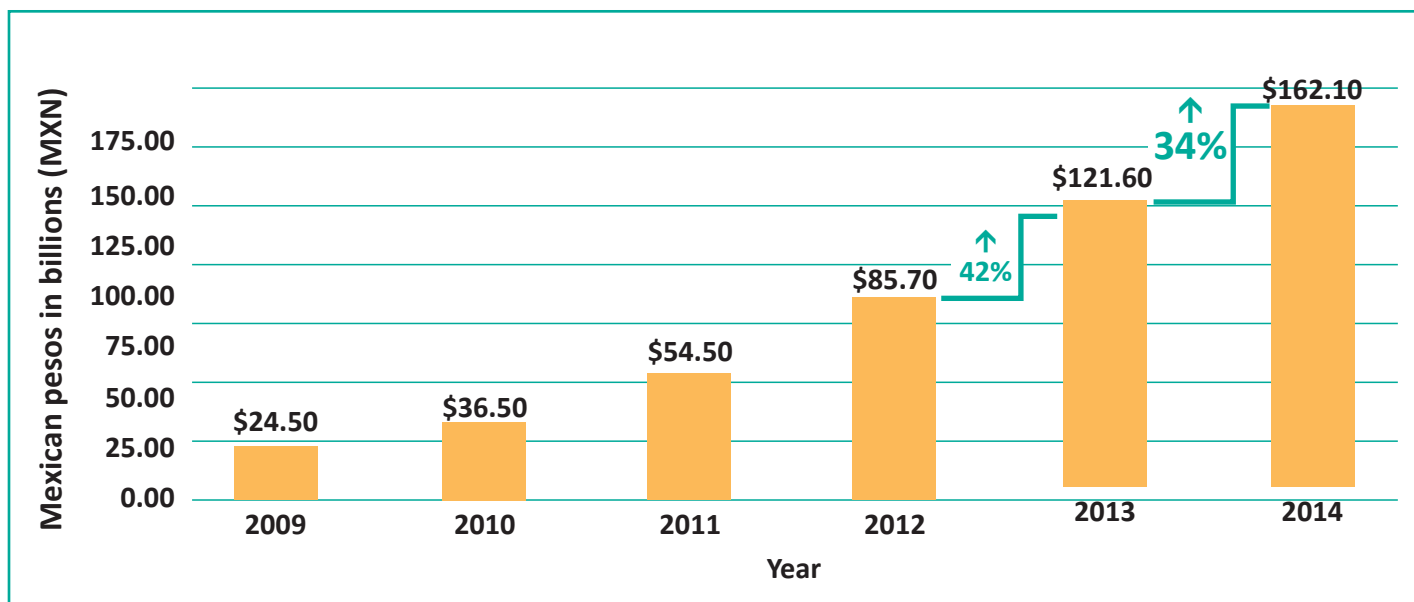
Source: INEGI, National Demographic Dynamics Survey, 2014.

Based on the 2014 Mexican Survey of National Demographic Dynamics, the method mix shifts with the age of the user. As **Figure 2** illustrates, the youngest age groups are also the most likely to use short-acting methods. Additionally, the majority of Mexican women rely on government insurance to obtain their RH supplies. As shown in **Figure 3**, more than 75% of women obtain their method of contraception from a national or local health delivery venue. Fewer than 15% of women obtain their method from a pharmacy.

E-commerce Market

According to a 2015 study of e-commerce by the Mexican Association of the Internet, A.C. (AMIPCI), the estimated market value of e-commerce is increasing rapidly.¹⁰ It rose by 34% from 2013 to 2014, generating revenues of \$12.2 billion.¹¹ An earlier study by the Interactive Advertising Bureau of Mexico (IAB) found that 66 million Mexicans were internet users as of 2014, which represents 55% of the total population, compared to 30% in 2009.¹²

Figure 4. Evolution of e-commerce market, 2009-2014*



Source: Mexican Association of the Internet, A.C. (AMIPCI). * \$1.00 USD = 13.28 MXN

In AMIPCI’s 2015 study, 75% of all internet users said that they had made an online purchase in the first three months of 2015.¹³ Customers ages 18-34 bought more online than those age 35 or older. Over half of shoppers (57%) acquired products on the internet from international stores; 64% from the United States (U.S.), 36% from Asia, and 13% from Latin America.¹⁴

On average, the top category for online purchases was travel, followed by sporting events and wellness products. The three most common forms of online payment were debit cards (32%), credit cards (30%), and PayPal (23%).¹⁵ Major firms such as Walmart of Mexico and Central America (Walmex), Comercial Mexicana, Grupo Famsa, Soriana, Liverpool, Sears, and Palacio de Hierro are turning toward e-commerce as their websites have started to generate substantial revenues.¹⁶

FINDINGS

There are no concrete figures on the size of e-commerce of RH supplies; however, it appears to be quite small (less than 1%) of the market for RH supplies. Estimates place the value of the e-commerce market for RH supplies at under \$553,000 per year.¹⁷

Three sources of RH supplies through e-commerce were found: 1) companies that produce and distribute pharmaceuticals and FP methods;¹⁸ 2) large retail stores and supermarkets that carry FP methods (including Superama and Wal-Mart de México); and 3) two major

pharmacies (Farmacias del Ahorro and Farmacias San Pablo). In addition, an analysis was conducted of the websites that enable RH supply purchases for seven identified FP methods: OCs, injectables, contraceptive patches, implants, male condoms, female condoms, and emergency contraception (EC). The analysis considered key factors such as the adequacy of information, reliability and ease of purchasing, and comfort of navigation for the customer.

Based on a review of websites offering RH supplies online (see **Table 2**), in most instances a prescription was not required for hormonal methods.¹⁹ The review found inconsistencies in the quality and type of information provided online and in search methods for RH supplies across the websites. In some cases, a generic search did not work, and a potential customer had to search using brand names. Most websites provided delivery at various levels of cost, some with a minimum purchase requirement. Some websites require a detailed registration, including personal data and contact information, which may inhibit those who want privacy from moving forward with a purchase. Additionally, some websites offer access to medical counseling services.

Mexico’s three largest online markets are Mercado Libre, eBay, and Amazon.ⁱⁱ The Argentina-based Mercado Libre only offered male and female condoms and the contraceptive patch Ortho Evra. Amazon and eBay offered a wider variety of non-hormonal products and male and female condoms from India, the United Kingdom (UK),

Table 2. Websites offering RH supplies online

Platform	Male condom	Female condom	OC	Hormonal Patch	EC	Ring	Injectables
Mercado Libre	x	x		x			
eBay	x	x					
Amazón	x						
Superama	x		x	x		x	x
Walmart	x		x				
Farmacía del Ahorro	x		x	x	x		x
Farmacías San Pablo	x		x		x		

ⁱⁱ Mercado Libre is an Argentina-based company which facilitates purchase, sale, payment, and auction with a presence in 13 countries in Latin America, including Mexico. eBay facilitates online purchases and auctions (www.ebay.com). Amazon was founded in the U.S. and sells online in multiple countries.

China, Thailand, and the U.S. Amazon offered more in-depth and diverse information on RH supplies, presenting information from the actual manufacturers. All three provide shipping; some offered free international shipping with a minimum purchase. Prices seem similar, but no data is provided on costs per unit.

RH supplies are also available through the websites of major supermarkets Superama and Walmart. Superama is a large supermarket chain with a pharmacy branch that has been allied with Walmart since 2008. Superama's portal is clearly organized into sections, which makes it easier to search, but the customer cannot make a generic search and must know the brand name before making the purchase. No information was found related to contraindications or side effects. A variety of hormonal methods were available without a prescription, including an injectable contraceptive. The Walmart site also offers pharmaceutical products, including four types of hormonal contraceptives. There were six brands of condoms available in different forms at varying costs, with a total of 47 options.

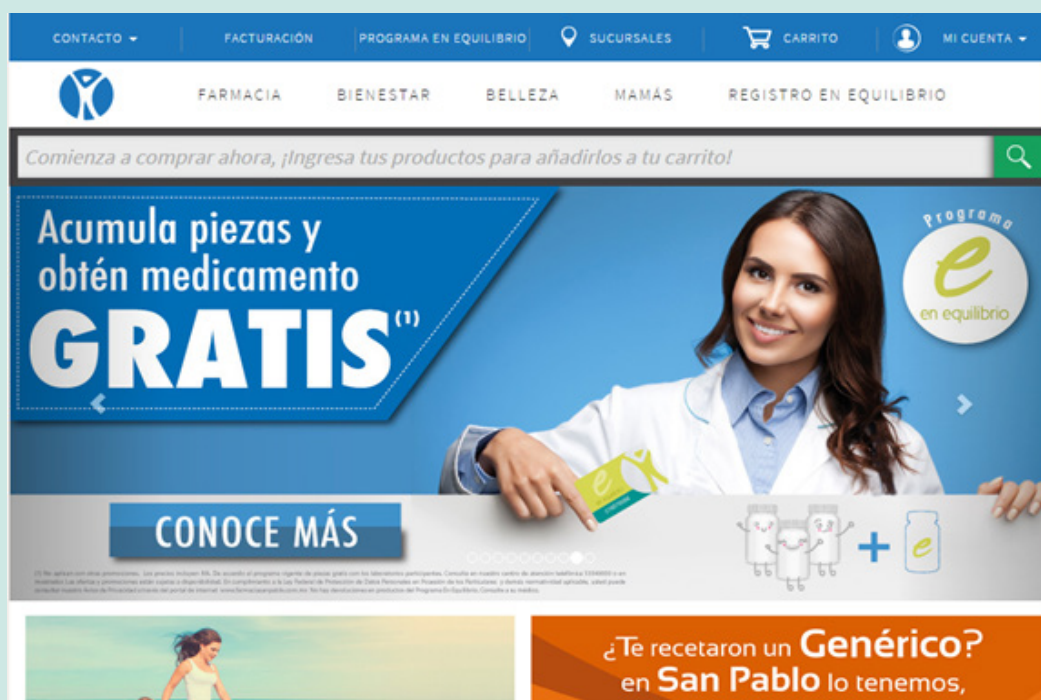
In addition, RH supplies can be found on two pharmacy websites, Farmacia del Ahorro and Farmacias San Pablo. General words, such as "contraception" resulted in

confusing search findings. Fast and efficient searches on these sites require customers to know the active formula, the specific name, or a trademark of a drug. The section for Sexual Health includes a sub-section for "Condoms," which contains the most common brands of male condoms. Prices vary from one pharmacy to the other. In order to make online purchase from these pharmacies, a customer must register or create an account, which requires entering personal data such as date of birth, name, postal code, email address, and a personal password. However, these online pharmacies provide online consultations, which other websites do not offer.

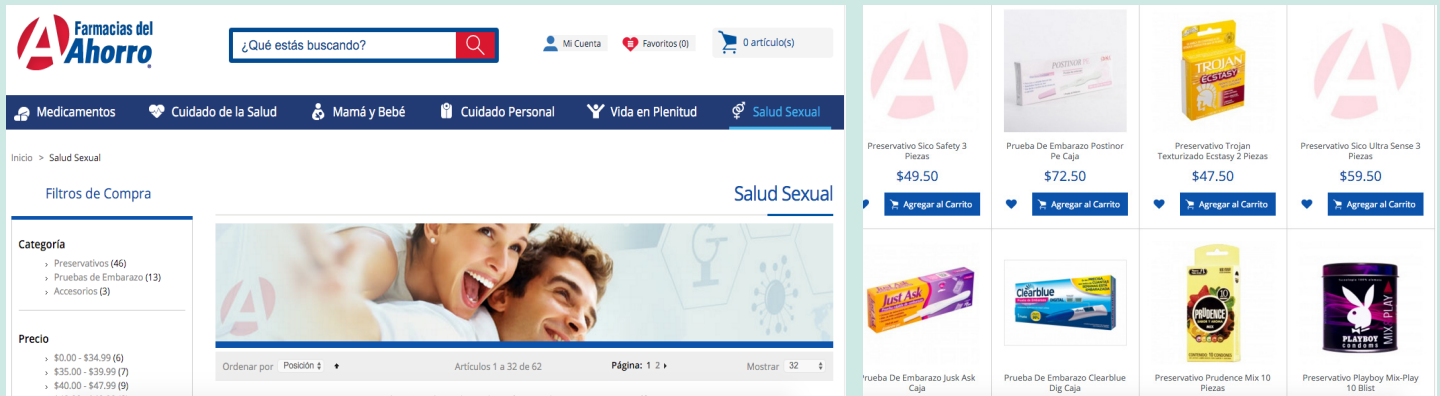
Enabling Factors

Favorable Demographics

Findings from recent surveys of internet users show that younger age groups are more likely to make purchases online. Demographic studies also show that the younger age groups are more likely to use short-acting FP methods, most of which can be sold online. There is a potential for growth in the number of young women among less affluent populations who will have increased online access to RH supplies through their internet-enabled mobile devices.



Yasmin OC is available on the Farmacia San Pablo website



Condoms and pregnancy tests are available on the Farmacias del Ahorro website

Rapid Increase in Internet Use and E-commerce

Like its northern neighbor, the U.S., Mexico is experiencing dramatic increases in the number of people with access to the internet, including internet-enabled cell phones. It is estimated that, by 2020, e-commerce will double in size.

Availability and Acceptability of Online Payments

A significant proportion of internet users, especially those in the younger age cohorts, report making online purchases with debit cards, credit cards, and PayPal. While there are concerns about online security, the infrastructure for online transactions is available.

Hindering Factors

Laws and Regulations

There is no specific regulation of practices in e-commerce. Almost anyone can buy and sell all types of products through the internet, which can contribute to an unsafe marketing environment for customers. This situation may undermine consumer confidence in portals like eBay and MercadoLibre, where it is possible to buy various contraceptive methods without regulation.

Electronic Payment Methods

Despite the existence of credit and debit cards and PayPal, the development of e-commerce is limited by a lack of universal access to electronic payment methods.

Lack of Privacy at Pharmacy Websites

Pharmacy websites' registration requirements ask for personal information. This may inhibit online purchase of sensitive RH supplies. E-commerce growth in Mexico will require the collaboration of government and private sector to provide greater security in all transactions and to improve public confidence in both privacy protection and anti-theft measures.

Cumbersome Search Protocols and Inadequate Information

Based on the website review conducted, generic searches did not yield useful results. Until companies develop platforms with a more user-friendly search process and purchasing interface, and with more complete information on contraception, it will be difficult for this market to grow.

Low Use of Spacing Methods

Short-acting spacing methods are the most favorable for online sales. These methods include male and female condoms, OCs, EC, hormonal patches, and vaginal spermicides. As found in the India case study, one obstacle for e-commerce of RH supplies is the relatively low use of short-acting spacing methods. Although currently used by only 23% of women using FP, there is likely to be a greater demand for spacing methods in the future as Mexico's youth cohort reaches adulthood.

CONCLUSIONS

E-commerce in Mexico is growing rapidly and has the potential to become a reliable source for procuring RH supplies. However, this area is largely without government oversight or regulation. The retail e-commerce market is primarily used by the younger age groups who also have the highest use of short-term FP methods. As Mexico's large youth cohorts enter early adulthood, many of them may obtain RH supplies through e-commerce channels.

FURTHER RESEARCH

This case study uncovered several areas that would benefit from further inquiry and research.


➤ **Regulation and oversight:** This case study does not make policy recommendations, but future research could explore the benefits and drawbacks of collaboration between the government and private sectors to provide quality assurance and security in all transactions. Would this collaboration improve public confidence in making purchases online?

➤ **Customer behavior:** Mexican customers obtain most of their RH supplies through the health care system. It would be interesting to explore whether that trend has been stable or whether new channels are gaining popularity and influence.




Endnotes

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E-commerce of Reproductive Health Supplies in the United States. March, 2016. Washington, D.C.: Institute for Reproductive Health, Georgetown University for the Reproductive Health Supplies Coalition (RHSC) and U.S. Agency for International Development (USAID).

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Author Bio

Jennifer John is an independent consultant who managed research for and drafted the United States case study. Through her consultancy, Gender Lens Capital, Jen channels her insights and network in the gender lens investing field to projects and activities that will increase the quantity and sophistication of capital moving with a gender lens. This is an outgrowth of her work as Program Director of the Women Effect Investments initiative at Criterion Institute. Here, she ran a field building effort to mobilize diverse stakeholder support into a movement around building gender expertise as an investment discipline. Jen has an MBA from the University of Michigan's Ross School of Business, where she was selected to receive the merit-based Women's Leadership Council Scholarship and to work as a Teaching Assistant in the Strategy Department. Her work on gender lens investing began here with academic studies sponsored by Michigan's Finance and Gender Studies Departments. She earned her BA from Dartmouth College, where she managed programming for Dartmouth's Center for Women and Gender.





E-COMMERCE CASE STUDIES SERIES

This report is one of seven case studies, written to provide the reproductive health (RH) supplies community with a deeper understanding of the current landscape and future potential of obtaining RH supplies through e-commerce. Each case study focuses on either one specific country (India, Kenya, Mexico, and the United States) or one new and underused RH technology (emergency contraception, female condoms, and the Standard Days Method®). These case studies are descriptive only, and do not advocate for or against e-commerce as a means to distribute RH supplies.



EXECUTIVE SUMMARY

This case study examines the current landscape in the United States (U.S.) for e-commerce of reproductive health (RH) supplies and considers implications for the future. The U.S. has rapidly moved toward e-commerce, and “retailers in nearly every sector are investing in capabilities to meet growing shopper demand to purchase goods via e-commerce.”¹ The U.S. Census Bureau valued the 2014 U.S. e-commerce market at nearly \$300 billion, accounting for 6% of the \$5 trillion overall U.S. retail market.² While brick-and-mortar transactions continue to dominate the U.S. retail market, e-commerce is making significant headway with sales growing 15% annually and likely to double every five years.³ As a result, a number of e-commerce interventions to connect customers to their preferred contraceptive method have emerged in recent years.

To understand this U.S. landscape of e-commerce for family planning (FP), it helps to categorize contraceptive goods and services into three separate groups: over-the-counter products, prescription products, and information-based service provision. Many over-the-counter contraceptives are readily available through online marketplaces, some purely virtual and some e-commerce subdivisions of traditional brick-and-mortar drugstores. Meanwhile, though access is complicated by the U.S. Food and Drug Administration (FDA) regulations, prescription products are increasingly accessible online, especially for refills. A handful of websites have also emerged that provide “workarounds” for U.S. customers trying to purchase prescription contraceptives without visiting a health facility. Finally, new informational web and mobile applications (apps) now provide the basis for information-based FP methods, such as the Standard Days Method® with its associated app, CycleBeads®, and the TwoDay Method®.ⁱ

ⁱ Although they are an important part of the e-commerce landscape, in order to maintain a focus on RH supplies, websites and apps offering only RH information are not included in the scope of these case studies.

ENABLING factors	HINDERING factors
<ul style="list-style-type: none"> ✓ Rapid e-commerce expansion in recent years has resulted in extensive supportive infrastructure and a large number of Americans who are comfortable buying products online. This, and other factors, suggest that e-commerce will continue to grow rapidly across all product categories. ✓ U.S. market trends suggest online sales of health and personal care products are poised for fast growth compared to other product categories in the coming years. ✓ E-commerce lowers barriers to entry for RH and FP retailers, opening the door for increased competition among these retailers and greater product diversity. ✓ Expanded insurance coverage and federal funding programs lower the price of certain RH supplies for American customers, which may render the market more attractive for potential FP online retailers. ✓ Trends in internet use among the U.S. population suggest a market with under-exploited opportunities for online sales of RH supplies to key American demographics. ✓ Online resources can now help customers navigate contraceptive methods and brands placing potential customers “one click away” from points of sale. ✓ Americans have access to a variety of delivery services for products purchased through e-commerce, including a burgeoning industry of rapid and on-demand delivery. 	<ul style="list-style-type: none"> ✓ Medical prescription requirements persist for some methods, and e-commerce vendors have limited ability to sell the methods that first require consultation with a health care provider. ✓ Long-acting reversible contraceptives (LARCs) are not suitable for online sales; their use in the U.S. is increasing, which could limit the size of the online FP market.

CONTEXT

Demand in the U.S. for FP products is substantial and steady. According to the Centers for Disease Control (CDC), for the period 2011-2013, 90% of the 43 million American women seeking to avoid pregnancy used contraceptives – a proportion virtually unchanged since the 2006-2010 period.⁴ As shown in **Table 1**, the majority of women obtain their method of FP from their doctor or a Health Maintenance Organization (HMO), while 17% obtain their method from a drugstore.⁵ As of 2013, most women in the U.S. were able to obtain contraception through full or partial coverage by private or public insurance, but nearly one in five women did not have coverage for FP and had to pay out of pocket.⁶

The U.S. has more than 60 million women of reproductive age – ages 15-44 – of whom more than half (52%) are

Table 1. Sources of FP in the U.S.

Source	%
Private MD/HMO	61.0%
Drugstore/other	17.0%
FP Clinic/Planned Parenthood	10.0%
Community Health Center	6.0%
School/College	3.0%
Don't Know	2.0%
Total	99.0%*

Source: A. Salganicoff et al. Kaiser Family Foundation 2014.
 * Does not add to 100 percent due to rounding error.

not at risk of pregnancy, because they don't have a need or are using a permanent or long-acting reversible method, such as an intrauterine device (IUD) or implant. The remaining 48% represent the primary potential market for online FP products. As shown in **Table 2** and **Figure 1**, these women are either using reversible short-term methods such as oral contraceptives (OCs), emergency contraception (EC), male or female condoms, or relying on withdrawal. Some, despite being at risk of pregnancy, are not using any method of FP.

E-commerce Market

In the U.S., e-commerce is quickly gaining market-share over traditional retail marketplaces. The U.S. Census Bureau valued the 2014 e-commerce market at nearly \$300 billion, accounting for 6% of the \$5 trillion overall retail market.⁷ While brick-and-mortar transactions continue to dominate retail, e-commerce is making significant headway with sales growing 15% annually and likely to double every five years.⁸ According to the U.S. Department of Commerce, this double-digit growth compares to only 3-5% growth for the overall retail market, positioning e-commerce for continued market-share growth.⁹ Sales channels for e-commerce include both web-only entities and traditional brick-and-mortar retailers with an additional web presence. For both physical goods and digital content, Amazon is the largest seller, accounting for 26% of e-commerce sales in 2014.¹⁰

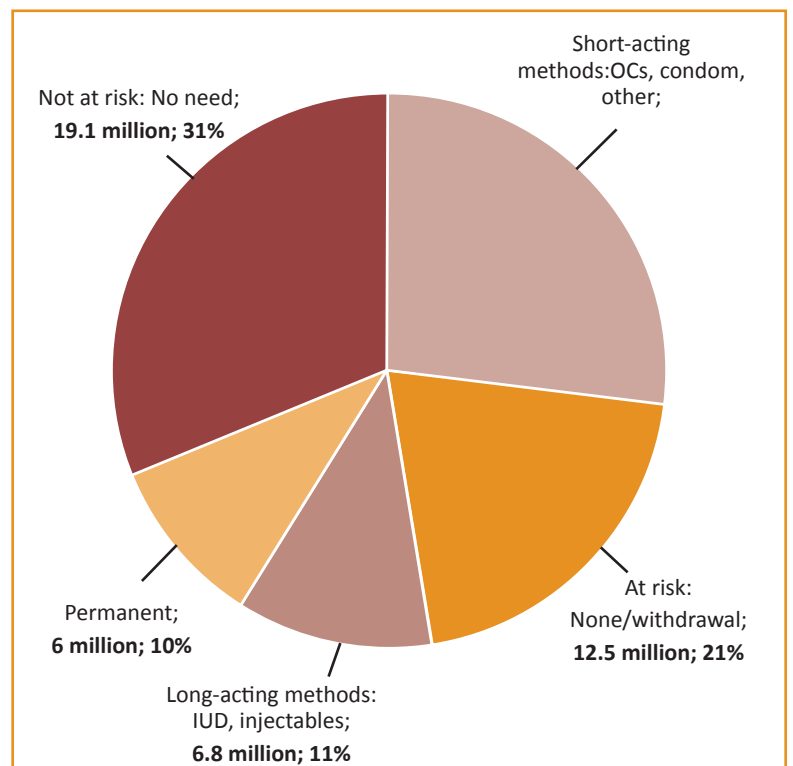
The U.S. market is moving toward e-commerce so quickly that "retailers in nearly every sector are investing in capabilities to meet growing shopper demand to purchase goods via e-commerce, with a variety of new business models emerging."¹¹ With nearly 75% of internet users already shopping online, this growth will largely stem from existing customers buying even more.¹² Mobile devices (smart phones and tablets) are a particularly interesting growth platform: mobile purchases are increasing at a faster rate than

Table 2. FP method used during month of interview (women ages 15-44), 2011-2013.

Method	Percent of women
Oral Contraceptive Pill (OCs)	16.0%
Tubal (female sterilization)	15.5%
Male Condom	9.4%
IUD	6.4%
Vasectomy (male sterilization)	5.1%
Withdrawal	3.0%
Injectable	2.8%
Vaginal Ring	1.2%
Fertility awareness-based methods	0.8%
Implant	0.8%
Patch	0.4%
Emergency Contraception (EC)	0.2%
Other Methods	0.2%
No method, at risk of unintended pregnancy	6.9%
No method, not at risk of pregnancy	31.4%
Total	100.0%

Source: NHSR No. 86 Nov. 10, 2015

Figure 1. FP method use (women ages 15-44), 2011-2013.



Source: CDC Nov 10, 2015 Table 1.

their desktop counterparts and accounted for 11% of sales in 2013. They are expected to reach 35% in 2017.¹³

FINDINGS

The FP retail market offers buyers a wide array of products with various brands for each type of method, whether sold through the traditional health care sector or through commercial channels.¹⁴ Importantly, a thriving FP market does offer customers a range of options so that individuals can choose the best method for themselves.¹⁵ Since e-commerce can contribute additional sales channels and greater product variety for customers, it holds the potential for expanding contraceptive access not only by reaching new customers but also (and perhaps more importantly) by expanding product options. A number of e-commerce interventions for connecting customers to their preferred contraceptive method have emerged in recent years.

To understand the landscape of e-commerce for RH supplies, it helps to think about contraceptive goods and services as falling into three groups:

1. Over-the-counter products
2. Prescription products

3. Information-based service provision

Over-the-Counter Contraceptives Online

Over-the-counter contraceptives are readily available through various online marketplaces, some of which are purely virtual while others are e-commerce subdivisions of traditional brick-and-mortar drugstores. Online prices tend to be lower, but many then require the customer to pay additional shipping costs.¹⁶ Many retailers with online and physical sales channels have different contraceptives available online versus in-store. Many also offer the option to go online to check whether a desired product is in stock at a local store.¹⁷ **Table 3** shows examples of well-known contraceptive online marketplaces for U.S. customers and the products they carry.

A new e-commerce phenomenon for over-the-counter RH supplies is the concept of contraceptives “on demand.” These supplies are easily selected and purchased via a web or mobile application, delivered to your exact location any time of day and transported so that the delivery contents are anonymous, often even to the person delivering the package.¹⁸ Many major drugstores are moving in this direction as well via partnership with on-demand courier services.¹⁹

Table 3. Examples of contraceptives available from online marketplaces in 2015.

Marketplace	Condoms		Spermicides					Sponge	Emergency Contraception	
	Male	Female	Film	Foam	Gel	Jelly	Insert		Plan B	Take Action
ACareOT.com	X		X	X	X	X	X	X		
Amazon.com	X	X	X	X	X	X	X	X	X	X
Condomania.com	X	X								
Condomjungle.com	X	X								
CVS.com	X		X	X	X	X	X	X	X	X
Drugstore.com	X	X	X	X	X	X	X	X	X	X
LuckBlake.com	X	X								
Pharmapacks.com	X		X	X	X	X	X			
RiteAid.com	X		X	X	X	X			X	
SirRichards.com	X					X	X			
Target.com	X		X	X	X				X	
Walgreens.com	X	X	X	X	X		X	X	X	X
Walmart.com	X						X	X		



Drugstore.com offers female condoms online.

Prescription Contraceptives Online

Importantly, the U.S. medical industry draws a distinction between pharmaceuticals and medical supplies, with pharmaceuticals subjected to close regulation by the FDA and unique transfer restrictions, as products move along the industry’s supply chain. This distinction applies to RH supplies as well. Some FP pharmaceuticals, like OCs, require a prescription and some, like EC, are sold over-the-counter.

Prescription refills are increasingly available online. Major fillers of FP prescriptions, like Planned Parenthood, many drug store chains, and student health centers allow

customers with a prescription to order their monthly refills online. On the other hand, a handful of sites have emerged to provide “workarounds” for U.S. customers who want to purchase prescription FP without visiting a health care provider. Amid growing frustration about the need for a prescription and the annual exam often required to get a prescription, some customers report turning to such websites based in countries like Canada, where prescriptions are not required.²⁰ Online research revealed over 20 websites promising OCs to American customers without a prescription.

Service Provision Online for Information-Sensitive Products

Both web and mobile applications are an increasingly popular medium for U.S. customers opting for information-based FP methods (See the case study on CycleBeads for examples of web and mobile apps in the U.S.). The internet is bringing FP information sources to existing and would-be customers.

E-commerce already includes RH supplies and services but has the potential to expand sales both to new customers and at greater volumes to existing customers. A number of factors affect this potential; some enable expansion while others hinder it.

Enabling Factors

Extremely Rapid E-commerce Expansion

Although it currently accounts for only 6% of the U.S. retail

Figure 2. Condoms-on-delivery.



In a handful of major cities, male condom companies have launched pilots of on-demand delivery services. L. Condoms promises 1-hour delivery of its eco-friendly, socially responsible male condoms via bike messenger 24-hours a day to customers in San Francisco and Manhattan. The concept is catching on – sales have increased 500% in the past year.

Online refill services, e.g., via mobile apps.



market, e-commerce sales channels are growing rapidly, and it is reasonable to assume that the well-established and steady-growth RH supplies market will grow along with it.²¹ Online retail sales are projected to grow 57% by 2018.²² With nearly 75% of U.S. internet users already shopping online, this growth will largely stem from existing customers buying more products.²³ Mobile devices (smart phones and tablets) are a particularly interesting growth platform – mobile purchases are increasing at a faster rate than desktop counterparts, accounting for 11% of sales in 2013 and set to hit 35% in 2017.²⁴ In addition to traditional credit and debit cards, the emergence of payment mechanisms like PayPal and Apple Pay facilitate the expansion of online services.²⁵

E-sales of Health and Personal Care Products Poised for Growth

The market category of “health and personal care” items seems poised for rapid e-sales growth in the coming years relative to other retail categories, which bodes well for online sales of RH supplies. E-commerce penetration varies significantly across product categories in the U.S. While the \$300 billion health and personal care market is second only to groceries in overall sales volume, it has experienced a comparatively slow transition online relative to many other product categories.²⁶ This is

consistent with an industry distinction between “durables” and “consumables.” While e-commerce penetration happened earlier with durables, sales of consumables are now growing.²⁷ In keeping with this trend, online health and personal care sales – presumably including RH supplies – are expected to grow at a much faster rate than traditional drug store sales.²⁸ Already, 36 million U.S. customers shopped online for health and personal care products in 2014, up from 20 million in 2010.²⁹

Lowering Barriers to Entry for RH and FP Retailers

E-commerce presents an intriguing possibility for lowering barriers for retailers to enter the FP market. Specifically, start-up contraceptive companies can establish an online presence and reach significantly more customers at a lower fixed cost than was previously possible through brick-and-mortar sales. This is making room for differentiated products like eco-friendly male condoms that, fueled by online marketing, are emerging as e-commerce for RH supplies becomes more pervasive.³⁰ Naturally, it also fosters increased competition, which has the potential to lower prices, increase product options, and encourage retailers to expand marketing efforts.

Expanded Insurance Coverage for FP

The U.S. FP market is unique when it comes to pricing. First, the U.S. Department of Health and Human Services Office’s Title X Family Planning Program enacted in 1970 is a federal grant program dedicated to providing comprehensive FP and related public health services. Of the 38 million women in need of FP in 2013, 20 million were eligible for subsidized contraceptive services and supplies through Title X based on income level and age.³¹ This population is increasing, rising 17% from 2000 to 2010.³² In 2013, public funding for FP services totaled \$2.37 billion.³³ Second, millions of women have historically relied on private health insurance coverage to make contraceptive services and supplies more affordable.³⁴ The implementation of the Affordable Care Act in the U.S. has made FDA-regulated contraceptive products and services more affordable for most women with private health plans by eliminating all co-pays on the provision of all FDA-approved contraceptives.³⁵ This opens up a range of contraceptive drugs, devices and

services to 27 million privately insured women at no extra cost to them.³⁶ Because of the price incentives they provide, these programs may boost overall consumer demand for contraceptive goods and services; this could increase the market’s attractiveness to emerging e-commerce platforms and prompt them to prioritize sales of RH supplies.

Population Trends That Favor E-commerce

The majority of the population uses the internet (78%) or social media platforms (74%), though rates vary demographically.³⁷ For example, 97% of people ages 18-29 use the internet, but only 77% living on less than \$30,000 per year use the internet.³⁸ Meanwhile, contraceptive needs and use rates also vary demographically. Across age segments, the proportion of women at risk of pregnancy who are not using a FP method is highest among those aged 15-19 (18%) and lowest among those aged 40-44 (9%).³⁹ Overlapping trends in internet use and the need for RH supplies across key demographics presents interesting opportunities for e-commerce to expand contraceptive access. For example, teenagers are most at risk of unintended pregnancy and most likely to be online.

Online Help for Customers to Navigate Contraceptive Options

The internet is bringing a myriad of FP information sources to existing and would-be contraceptive customers. Although websites and apps offering only RH information are not included in the scope of the case studies, they are an important part of the e-commerce landscape; in many cases, they encourage users to move to the next step—purchase of contraceptives online.

As shown in **Figure 4**, the internet can expand access to health care services through tools such as video visits with providers online. Many RH supplies require a face-to-face consultation with a medical professional. However, some providers, particularly those with a mandate to expand FP access, are looking for innovative ways to expand the reach of their services. This interest may reasonably result in broader demand for RH supplies and services accessed through e-commerce channels.

Table 4 presents several new web and mobile apps

directly aimed at influencing purchasing decisions, by providing customers with information or helping them navigate FP options.

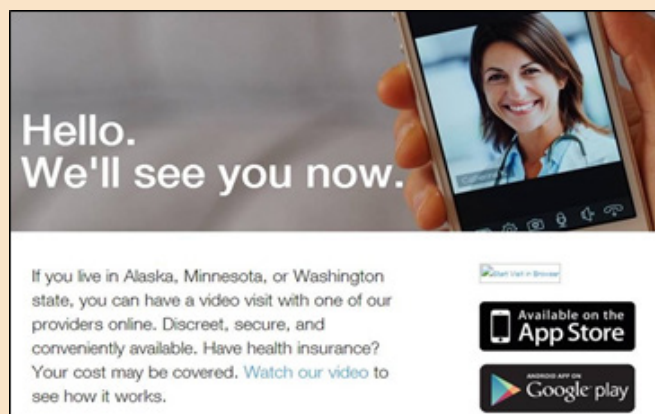
A New Era of Delivery

Recent innovations in the package delivery industry show potential for expanding access to RH supplies. The U.S. delivery system is already well-established. It reaches nearly the entire population and could therefore expand access to RH supplies to customers who face physical or social barriers to access. Delivery can provide anonymity for would-be customers who may not want to be publicly identified. Already, national delivery giants like Fed Ex, UPS, and USPS have achieved geographic saturation with delivery trucks on “almost every block in America.”⁴⁰ Meanwhile, recent innovations in package delivery are expanding the system’s reach. New players like Postmates and Instacart offer comprehensive, on-demand local delivery services, largely enabled by ubiquitous smart phone use in the United States.⁴¹ Emerging transportation alternatives like Uber and Lyft bring their driver infrastructure as a competitive advantage into the historically hard-to-crack market, replacing scheduled pick-up and delivery with instant services.⁴² Amazon recently introduced two new concepts – Sunday deliveries and deliveries by drones—further expanding delivery services.

Table 4. Examples of apps that provide information services for FP.

App	Function
condomfinder.com	Helps users locate nearby free condoms.
CDC Contraception App	Helps physicians prescribe the right contraceptive for women.
Plan A Birth Control	Helps women prepare for a consultation with an OB-GYN, in order to choose the right contraceptive.
mypillapp.com	Reminds women to take their daily OC pill via phone alarms.

Figure 4. Online video ‘visits’



State regulations permitting, Planned Parenthood offers patients video “visits,” bringing one-on-one information exchanges to clients who could not or would not have spoken with a skilled provider otherwise.

Hindering Factors

Medical Prescription Requirements

The FDA requires prescriptions for a number of RH supplies, including popular OCs, despite ongoing debate over the appropriateness of these requirements. Sometimes, prescriptions even require proof of annual pap smears, which could represent a burden for many women.⁴³ Obtaining prescriptions is a key barrier for many women. Some e-commerce providers offer online consultations that meet strict state regulations and circumvent the prescription barrier.ⁱⁱ These solutions to the prescription problem are not widespread, and e-commerce is unlikely to replace clinic-based consultations, at least in the short-term. However, as noted above, e-commerce has made it easier for many women in the U.S. to refill their



In September 2015, Postmates and Walgreens announced an official partnership for same-day delivery. Walgreens made the shift as part of its effort to stay current with evolving consumer demand, in which convenience is increasingly important for maintaining a competitive edge.

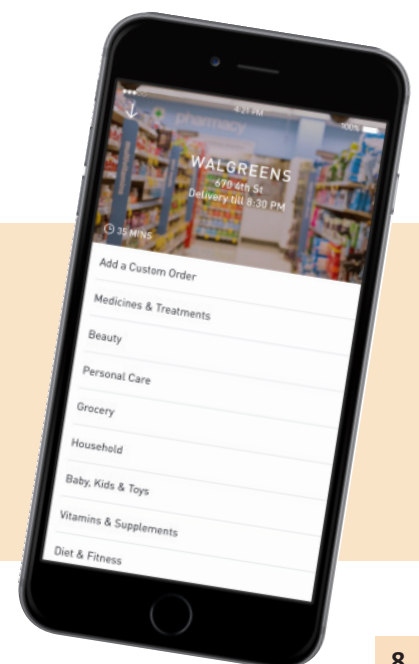
prescriptions; a growing number of major drug stores, like CVS and Walgreens, fill prescriptions online, and have established refill request systems.⁴⁴


Greater Use of LARCs, Which Are Not Suitable for Online Sales

LARCs, like IUDs and implants, are gaining popularity among women in the U.S. Usage rates are up from 2.4% in 2002 to 12% in 2014.⁴⁵ The FP community encourages the use of LARCs because of their efficacy, and these methods require an in-person consultation with a trained medical professional for insertion.⁴⁶ As the number of women using LARCs rises, the number of women using OCs, male or female condoms and other short-term contraceptives — the most likely products sold online — could commensurately decrease.

CONCLUSIONS

On balance, based on the mix of enabling and hindering factors, e-commerce of RH supplies is likely to grow and will complement traditional fixed clinical settings and pharmacies as a source of contraceptives. A mature offline market for RH supplies and a robust, innovative infrastructure for online purchases make the U.S. a likely place for this sector to expand. However, regulatory and legal factors that affect prescription requirements or insurance coverage will continue to influence access and availability.



ENABLING factors		HINDERING factors
<ul style="list-style-type: none"> ✓ Rapid e-commerce expansion ✓ Online sales of health and personal care products poised for growth ✓ Lowering barriers to entry for RH and FP retailers ✓ Expanded insurance coverage for FP ✓ U.S. population trends that favor e-commerce ✓ Online help for customers available ✓ New era of rapid deliveries 	<p>Higher Impact</p>  <p>Lower Impact</p>	<ul style="list-style-type: none"> ✓ Medical prescription requirements ✓ Increasing use of long-acting reversible contraceptives (LARCs), which are unsuitable for online sales

FUTURE RESEARCH

Findings of this case study suggest a market opportunity around e-commerce for RH supplies that industry players spanning both the FP and e-commerce markets will likely gravitate towards. To better understand the scope and scale of this opportunity in the U.S., some critical follow-up areas of research recommended for future research include:

- **A comprehensive analysis of the U.S. family planning market:** The last publicly available report is from the 1990s, meaning those looking to shape the U.S. FP market are operating with limited insight. Signs point to a market opportunity around e-commerce sales channels and contraceptives, and such a report would make this opportunity more clear.
- **A research study to understand FP within the current and future state of overall U.S. healthcare market:** Due to changes like industry consolidation and government reform, such as the Affordable Care Act, the U.S. healthcare industry is changing quickly. Dynamics relevant to this study include trends like incentivizing preventative care and efficiency overhauls in medical product delivery systems.

- **Demographic research to hone-in on “low-hanging fruit” for expanded access to contraceptives through e-commerce campaigns:** Due to great diversity across the U.S. population, certain segments are particularly high-need in terms of contraceptive access or are particularly primed for e-commerce for FP products. Drivers vary from geographic location to internet use behaviors and more. Better understanding of these drivers and the opportunities their overlaps present points the way to the most attractive opportunities for e-commerce to expand contraceptive access for U.S. customers.
- **Opportunity assessment for marketing and awareness campaign(s):** The U.S. e-commerce infrastructure and buying habits seem primed for purchasing family planning products via e-commerce. Strategic awareness-raising could accelerate the process. A review of social media strategies may drive high-need populations towards under-used marketplaces. A landscape map of quality online information sources may reveal critical gaps. An opportunity assessment for TitleX program facilitation online and e-commerce platform partnerships could greatly expand the program’s scale of impact.

ⁱⁱ See the emergency contraception case study, which describes the development of effective online counseling in the U.S. with physicians, which circumvents the prescription barrier.


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E-COMMERCE AND EMERGENCY CONTRACEPTION



E-COMMERCE AND EMERGENCY CONTRACEPTION

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Organization Bio

The International Consortium for Emergency Contraception (ICEC) works to expand access to and ensure safe and locally appropriate use of emergency contraception (EC) worldwide, within the context of family planning (FP) and reproductive health (RH) programs, with an emphasis on developing countries. ICEC serves as an authoritative source of information about EC, offers technical and advocacy support to international and country-level organizations, facilitates information sharing and networking among its members and with other groups, and provides a platform for generating new ideas and strategies related to EC service delivery, advocacy, information, education, and communication efforts. ICEC was founded in 1995; as of 2016, it is hosted by Management Sciences for Health.

Authors Bios

Elizabeth Westley has led ICEC since 2005. Prior to becoming the ICEC Director, Elizabeth held positions at Family Care International, EngenderHealth, and the Population Council, focusing on both family planning and maternal health issues. She received her Masters of Public Health at Hunter College.

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E-COMMERCE CASE STUDIES SERIES

This report is one of seven case studies, written to provide the reproductive health (RH) supplies community with a deeper understanding of the current landscape and future potential of obtaining RH supplies through e-commerce. Each case study focuses on either one specific country (India, Kenya, Mexico, and the United States) or one new and underused RH technology (emergency contraception, female condoms, and the Standard Days Method®). These case studies are descriptive only, and do not advocate for or against e-commerce as a means to distribute RH supplies.



EXECUTIVE SUMMARY

This case study presents current trends, potential advantages, and challenges related to the use of e-commerce for the distribution of emergency contraception (EC). EC is an important “second-chance” method widely available around the world. It is generally available without a prescription, but some forms of the medication still require one in some countries. This research confirmed that EC can be purchased online in a number of European, North American, and South American countries, as well as in some Asian countries; there was no evidence of online access in Africa. Currently EC is sold online through several mechanisms, including e-commerce marketplaces (such as Amazon.com) and pharmacy chains that sell medical products online. In addition, a global reproductive health (RH) advocacy organization, a U.S.-based clinic network, and specialized online vendors in the U.S. are selling EC online. For various reasons, EC is not available online in some countries in Europe and elsewhere. Key challenges that emerged include the cost of the drugs and shipping, stigma (around online sales of medicines and RH supplies), and prescription requirements. In restricted environments where EC is not available through established channels, online access offers unique opportunities for women to access EC.

Figure 1. EC as advertised online in India



ENABLING factors	HINDERING factors
<ul style="list-style-type: none"> ✓ Availability of the internet, e-commerce, and delivery systems is growing in many countries. ✓ The privacy and anonymity associated with shopping online is particularly valuable for EC customers. ✓ Opportunities to exchange information online can enable further sales of EC. ✓ Screening and counseling is available for customers on some sites, giving customers a way to access EC outside of the “brick and mortar” health system. 	<ul style="list-style-type: none"> ✓ The timing of delivery and the short functional timeframe for taking EC mean that customers have to either pay for fast shipping or buy in advance. ✓ The cost of the product and fast delivery is not cheaper than offline sources, giving customers less incentive to buy online. ✓ Payment, shipping, and delivery can be difficult or impossible in some countries and regions, particularly when further complicated by the need to have rapid access to EC. ✓ Stigma and bias against EC can cause disruptions in the supply chain, particularly when large companies like Amazon or Paypal do not support sales. ✓ Restrictions by age, country, or prescription needs can hinder customer access.

CONTEXT

EC refers to several methods that can be used to prevent pregnancy after sex.¹ EC is effective in preventing a substantial proportion of pregnancies when used promptly (within 4-5 days for most products) after unprotected intercourse. It is an especially important option in cases of sexual coercion or rape, and in settings with low availability of routine contraceptives or frequent stock-outs. As shown in **Box 1**, there are several kinds of EC pills. ECs have no medical contraindications or medically serious complications. Some women experience transient side effects including altered bleeding patterns, nausea, headache, abdominal pain, breast tenderness, dizziness, and fatigue. ECs will not harm an existing pregnancy.

The most common regimen, levonorgestrel (LNG), reduces pregnancy risk by at least half and possibly by as much as 80-90% for one act of unprotected intercourse. The ulipristal acetate and mifepristone regimens are more effective than the levonorgestrel regimen. Regular oral contraceptives used as EC (the “Yuzpe regimen”) are less effective. Concurrent use of some other drugs may reduce EC’s efficacy. **Unless specified otherwise, this report refers to LNG types of EC.**

Data is available for EC distribution through social

Box 1. Types of EC



THE FOUR MAIN TYPES OF EC:

- **Levonorgestrel-only (LNG) pills**
- **Ulipristal acetate pills**
- Pills with both **progestin and estrogen** (the “Yuzpe” regimen made up of OCs)
- **Mifepristone**, used for EC in Armenia, China, Russia, and Vietnam.

LNG, ulipristal acetate, and mifepristone are considered “dedicated” EC products. Only the LNG form of EC is on the World Health Organization’s (WHO) Model List of Essential Medicines. EC is included in around half of countries’ national medicines lists or formularies.

marketing and donor procurement, but owing to its proprietary nature, private sector data for EC sales could not be obtained. Currently, social marketing and major donors are estimated to distribute or sell 4-5

ⁱ Insertion of an intrauterine device (IUD) is also considered an EC but is not considered in this case study.



“HOW LONG AFTER SEX SHOULD I TAKE EMERGENCY CONTRACEPTIVE PILLS?”

Even though EC is often called the “morning after pill,” it may be effective for up to 5 days (120 hours) after unprotected sex. The sooner ECs are used, the more effective they are.

Source: <http://ec.princeton.edu/questions/ectime.html>

million tablets per year (see **Table 1**). EC stakeholders have concluded that, while social marketing and donor procurement of EC is substantial, it is small relative to total private sector EC sales.

Currently there are about 100 commercially available brands of EC available throughout the world.¹ For example, many EC brands are available in North America, with more than six introduced within the last four years.

While EC products are registered and available in most countries (over-the-counter in more than 50), a 2014 analysis of survey data from 45 countries found that rates of EC use were low. In some countries, fewer than 3% of women who had ever had sex have used EC. In countries

where EC is well established, such as Colombia, France and the U.S., more than 10% of women age 15-44 have used EC, but use remains low in many other countries.²

E-commerce for EC

E-commerce, which is expanding globally for all types of health products, may increase EC use.

EC is sold with three levels of restriction in e-commerce:

No prescription required, legally registered product

Many websites in the U.S. and Europe, and some in Latin American countries, sell the non-prescription, over-the-counter form of EC in basically the same manner as any other online product. Women appear to be motivated to obtain prescription EC online to avoid clinic visits, and for expedience and privacy. In non-prescription environments, EC can be sold behind the counter with some required screening, or over-the-counter with no screening.ⁱⁱ Women may find behind the counter access challenging as it requires some level of screening by the pharmacist. In these situations they may find online access more appealing.

Prescription required, legally registered product

A few online vendors sell the forms of EC that require a prescription (the ella brand in the U.S., and the LNG

Table 1. Estimates of global EC sales/distribution by social marketing and donor sectors.

Sector	Year	Amount	Source
Social marketing: Population Services International (PSI)	2013	In 2013, PSI distributed 3.3 million EC pills.	http://www.psi.org/program/emergency-contraception-pills/
Social marketing: DKT International	2014	For calendar year 2014, DKT International distributed 3.2 million EC pills	http://www.dktinternational.org/wp-content/uploads/2013/06/2014-December-Sales.pdf
Donor Procurement	Two-year total for 2014-2015	UNFPA, USAID, MSI, IPPF and other agencies procured 4.8 million EC pills for this two-year period.	http://www.myaccessrh.org

ⁱⁱ EC was a “dual label” product in the U.S. – in other words, it was available without a prescription for some women, while a prescription was required for younger women (and the age at which a prescription was required changed several times). The dual label meant the product had to be kept behind the counter to allow for age screening by the pharmacist or pharmacy tech.

Table 2. Types of EC Currently Available in US and Canada.

EC product name	Year introduced	Primary distribution area
Aftera	2014	United States
AfterPill	2014	United States
EContra Ez	2015	United States
Levonorgestrel Tablets	2009	United States
My Way	2012	United States
Next Choice One Dose	2012	United States
Plan B One-Step	2011	North America
Take Action	2014	United States
Ella	2010	United States, Israel, Asia

product in some European countries), using a system whereby licensed physicians screen women through online consultations, sometimes with additional telephone back-up.

Product sold in “illegal” environments

Although EC is legally available in most countries, there are some countries where access is restricted by law or regulation (age restrictions, for example). In these environments, online distribution sometimes circumvents the lack of legal access through normal channels such as pharmacies and clinics.

Types of E-commerce Suppliers

- 1. Large drugstore chains, supermarket chains, and online drugstores**, such as Walmart.com, Drugstore.com, and Target.com, sell a legally-registered EC product generally without a prescription.
- 2. Marketplaces**, including Amazon.com, e-Bay.com and Craigslist.org, typically sell a legally-registered EC product without a prescription.
- 3. Dedicated online sellers**, such as Women Help Women, Kwikmed.com, Project Ruby, Afterpill.com, and Family Planning Health Services, Inc., sell a legally-registered product either with or without a prescription.

- 4. Black-market and underground websites** sell EC in countries where legal access is restricted, such as the Philippines and Malta.

Large Drugstore Chains, Supermarket Chains, and Online Drugstores

Globally, drugstore and supermarket chains and online drugstores sell EC. A few sites operate internationally and vary their services to comply with national laws and regulations. Some of these sites, generally in countries where EC is kept behind the counter (such as the United Kingdom [UK]), require the user to complete an online assessment, typically a brief medical history, prior to ordering. For non-prescription purchases, the assessment questions generally focus on non-medical issues such as timing of unprotected intercourse. In prescription environments, the assessment questions focus on medical factors such as smoking, heart problems, and blood pressure (Switzerland, Health Express). In the U.S., where LNG EC is fully over-the-counter, no screening is provided.

For those countries in **Europe** where EC is not available through a country-specific online retailer, such as Albania, Armenia, Finland, Belgium, Spain, and Luxembourg, users can purchase EC from sites in other countries, such as the



Free shipping on all orders!

ORDER IN 4 SIMPLE STEPS


STEP 1 Select birth control product[†]

STEP 2 Register if you're a new customer, or login

STEP 3 Complete the free online consultation

STEP 4 Checkout. It's that simple!

†We will walk you through the selection process if you don't know which product to choose.

 **ella**[®]
Price: \$67.00/tablet
ella[®] el•uh\ (ulipristal acetate, 30 mg tablet)

LEARN MORE

ORDER NOW

On the Ella manufacturer's website (<http://www.ellanow.com/>) you can order ella through an online prescription service (<https://www.prjktruby.com/emergency-contraception/>).

Source: <https://www.prjktruby.com/emergency-contraception/>

UK.ⁱⁱⁱ In **North America**, there are many online avenues to purchase EC, including large drugstore chains like CVS and Target, and online drugstores such as www.drugstore.com. EC is available from online drugstores in Canada; sites require a copy of the original prescription once customers have placed their orders. In **Latin America and the Caribbean**,^{iv} EC can be purchased through large drugstore chains based in Mexico and Brazil.

The availability of EC online in **Africa** and **Asia** was not clearly established by this research and warrants further inquiry. While no online retailers that sell EC were found in Africa, there is evidence that e-commerce for RH supplies is growing in parts of Africa and may eventually include EC (see Kenya case study).

Marketplaces

Amazon.com, the large, U.S.-based online marketplace, has evolved from being only a vendor that sells products itself to becoming a platform for other sellers as well. Amazon dominates online space and wields significant influence. One manager of a small dedicated online vendor of EC reported that Amazon inappropriately restricted the ability of his company to sell EC via the Amazon platform, due to mistaken ideas about regulation. There is some anecdotal evidence that some individuals are selling EC through the less-regulated informal marketplace Craigslist, with listings of small quantities of EC at a very low price.^v

“The founder of Kwikmed commented on selling RH products online: **“This is such a massive market with so many women of reproductive age.”**”

Due to language restrictions, EC availability in **Asia** was not reviewed, but there is emerging e-commerce for EC in China. The Chinese marketplace, Alibaba, sells bulk pharmaceuticals globally, including cartons of 500 packs of EC. EC is also available online in other Asian countries, such as India (see India case study).

Dedicated Online Purveyors

There are several dedicated online purveyors of EC, the majority of which are located in the U.S. One of these, Utah-based Kwikmed, is possibly the earliest online

ⁱⁱⁱ This is not the case in Germany, where EC cannot be distributed through online or mail order channels. Women in Germany still need to visit a brick-and-mortar retailer in order to obtain EC.

^{iv} In Mexico, some pharmacy chains offer home delivery, free mailing, and delivery in two hours, depending on location. In Brazil, although EC purchase requires a prescription, anecdotal evidence suggests that many of these pharmacies ignore the prescription requirement because Brazil does not require the retention of a prescription by the pharmacy for each pack of EC sold. In Peru and Chile, EC is not sold online, but a customer can call one of the large pharmacy chains, place an order, and EC will be delivered to their home, typically by motorcycle, at which point the customer pays for the product.

^v While the phenomenon of women buying birth control on Craigslist has been documented in the popular media (e.g. Huffington Post: http://www.huffingtonpost.com/2012/03/08/craigslist-contraception_n_1326743.html) this does not appear to be a major phenomenon that affects the market for EC; at any one time very few sellers are offering EC.



The founder of Afterpill.com noted, “Access is not just availability. It is also affordability. That is why we think an e-commerce platform can reduce barriers. ...[O]nce the age barrier fell, online access made sense.” Another selling point beyond price is the privacy offered online: “You don’t want to be judged. Privacy is a benefit that we built into our product.”



vendor of drugs requiring prescriptions, starting with Viagra in 2001.^{vi} Kwikmed offers ella, a form of EC that currently requires a prescription in the U.S. Kwikmed’s niche is selling medications that require a prescription; prescription-writing services are integrated into its e-commerce model. It has a well-established mechanism for online screening by licensed physicians, and works with the regulatory structures and pharmacy boards in each state. Kwikmed’s business in ella has been slow, but with increased commitment to marketing from a new distributor, sales have been growing.

In 2014, Kwikmed developed a spin-off website called Project Ruby to sell prescription and non-prescription RH supplies to a youth market, though due to state regulations they ship only to those years 18 and older. This new venture sells oral contraception (OCs) and EC. It also offers a “buy one/give one” opportunity for customers to support access to contraceptives and EC for women in developing countries through a partnership with Population Services International (PSI)

Two non-profit online vendors are motivated by the cause of improving women’s health, one serving women in Wisconsin and the other focused on women around the world who face barriers to accessing RH supplies. Both have expressed willingness to provide their products free-of-charge to women who cannot afford to pay for them and value access over profits.

^{vi} The founder commented that he started to work in this space in the very early days of WebMD, when people were just starting to seek medical advice and potentially products online.



A COMMITMENT TO A REPRODUCTIVE HEALTH MISSION BY MANY OF THE VENDORS

While marketplaces and general vendors (Amazon, Target, CVS, and Drugstore.com) have simply added EC to an existing portfolio of health-related products for the purpose of making money, there is evidence of particular commitment to women’s health among dedicated online vendors.

Two for-profit vendors appear to be strongly mission-driven. The founder and CEO of Kwikmed became so interested in the idea of online access to RH supplies that he founded a spin-off called Project Ruby, which sells EC and oral contraceptive pills in the U.S. with a focus on young people. The second for-profit online vendor, Afterpill.com, has a mission to make EC available in a non-judgmental, discreet, and non-stigmatized environment, at a lower price than usually available.

Also in the U.S., a small clinic network based in Wisconsin took a strong and early interest in expanding access to EC. Because of its belief that low knowledge of the product is the primary hurdle preventing use, Family Planning Health Services (FPHS) established a telephone hotline (1-800-ECFIRST), clinic services, and a retail website. FPHS receives state family planning funds, and their system was initially set up to sell only to people with a Wisconsin zip code, since the payment system was linked to state insurance. When EC went off prescription, FPHS started selling to customers around the country, some of whom purchased in bulk. FPHS continues to sell EC online in small quantities.

A more recent entry is Afterpill.com, which has the specific goal of selling EC online at a substantially lower price than that offered by brick-and-mortar stores.^{vii} While EC in drugstores generally sells for \$40-\$50,^{viii} Afterpill.com offers a version of the LNG (non-prescription) product for \$20 with \$5 shipping and handling. The company does not offer expedited shipping but relies on the United States Postal Service (USPS). Because of this, the product is sold with the intention that it should be purchased in advance and kept on hand.

A fourth dedicated vendor is Women Help Women, located in Canada and the Netherlands. Women Help Women was founded by people involved in the effort to offer abortion services in restricted settings (Women on Waves and Women on Web). The organization sells EC and other RH supplies (e.g., male and female condoms, OCs) for the cost of a small donation, shipping products directly from a manufacturer in India to customers around the world.^{ix}

Black-Market and Underground Sites

In exploring the availability of EC via ‘black-market’ e-commerce channels, it appears that people were using the popular user-generated news site Reddit to find information on EC access. In Malta, a European country with no EC access, a British website offers express delivery to Malta residents. In the Philippines, a company called Medical Services has sold a number of restricted or banned RH supplies online.^x

Some manufacturers use Facebook to promote their product, including Norix in Bangladesh, Econ in Nepal, and Zybella in Ghana. However, there was no evidence that these sites are actually selling EC online.

FINDINGS

This case study demonstrates how various factors enable or hinder the growth of EC sales via e-commerce. While many of these factors influence traditional offline sales, some are specific to online distribution.

Enabling Factors

Widespread Availability of the Internet, E-commerce, and Delivery Systems

EC is available online in North and South America, Europe, and Asia. An extensive investigation for Africa or Asia was not conducted, but there was some evidence of availability in Asia. As with other online purchases, the online availability of EC relies on widespread internet access, a sizable population with disposable income, reliable payment and delivery systems, and a favorable regulatory environment.

Privacy

Internet purchases can be made privately, without direct contact with other people. Many customers value this privacy due to the stigmatization of purchasing RH supplies, particularly EC, in drug stores. As one reviewer on Amazon wrote, “no need to go to the pharmacy and have some male kid ask you if you have any questions about use.” Many online purveyors also take steps to make deliveries private as well.

Screening and Counseling on Some Sites

A range of services are often offered alongside sales. Because the LNG form of EC is offered over-the-counter in most countries, no screening or counseling is required. Until recently, a prescription has been required in all countries for the ulipristal acetate-based EC, such as

^{vii} Afterpill is unique in that it offers a private label EC product that is made in the U.S. by a contract manufacturer in accordance with all USFDA regulation while the other EC vendors are selling another company’s product and are not taking on the risk of manufacturing.

^{viii} All currency amounts are in United States dollars, unless noted otherwise.

^{ix} The director of this organization explained that while they do send a lot of their products to women living in restricted settings, they have customers in a large range of countries, including migrant women who are unfamiliar with the accessibility of EC in their host countries. For instance, many Polish women living in Western Europe contact Women Help Women seeking to buy products that they could legally access where they are currently living.

^x In both countries, there was evidence that users were using Reddit. Persons received excellent and accurate advice from the Reddit community, including detailed information about using progestin-only pills as EC and using the IUD or oral contraceptive pills going forward.

the ella brand; in mid-2015, the product became non-prescription throughout Europe and no longer requires screening or counseling.

Online vendors offer a range of counseling and screening services, from none at all (for the big chains that are selling non-prescription EC) to highly customized medical screening carried out by physicians or other health providers who write prescriptions. For the online vendor selling a prescription product in the U.S., regulations in some states require that the physician screening the patient must reside in that state. Therefore, companies have developed an extensive roster of consulting physicians in multiple states. Women Help Women, for example, offers detailed counseling and instructions in multiple languages for women seeking to buy RH supplies. These consultations may end with the woman being advised to buy products locally rather than via the online vendor, as the mission of the vendor is to provide the best services in the timeframe needed.

The above-mentioned Malta website offers online consultations with doctors based in the UK. The Philippines website offers consultations and requires purchasers to call for purchase, but it was unclear whether any advice or counseling is provided.

Hindering Factors

Timing of Delivery and the Need for Rapid Access

Delays caused by delivery mean that EC may arrive too late. In response, some vendors guarantee two-hour delivery, while others market EC as a product to be purchased in advance of need. Because of this reality, pharmacies and shops may provide the quickest access compared to clinical settings, where there may be long waits, and online orders (where the customer has to wait for delivery). Kwikmed, the U.S.-based vendor selling prescription EC, offers expedited, tracked delivery for a cost of \$67. In the UK, there is a service that offers delivery within two hours by courier for ~\$28, with all fees included. For other vendors, such as Afterpill.com and Women Help Women, that are unable to get EC to women within a rapid timeframe, the emphasis is on planning ahead and buying EC in case of future need. “Planning to have an emergency” may seem counterintuitive, and both of these vendors stressed that a low price is critical to motivate women to buy a product that they may not currently need. Afterpill.com sells its EC product in single packs and packs of three, while Women Help Women offers packs of 6 or 13 EC pills.

Table 3. Varying costs of EC

Vendor	Cost of EC
Afterpill.com (U.S.)	\$20 (+\$5 for standard shipping/handling)
FPHS (Wisconsin, U.S.)	\$35 (includes standard shipping)
Women Help Women (Global)	Donate \$32 for a pack of six pills; donate \$43 for a pack of 13 pills
Kwikmed (U.S.)	\$67 (includes shipping/handling plus medical consultation)
Farmacia del Ahorro (Mexico)	\$5 - \$7.50
Target.com (U.S.)	\$49.99
Amazon.com (U.S.)	\$25.00 - \$29.90
DrEd.com (United Kingdom)	\$31
121doc (Austria)	\$75
Webapoteket (Denmark)	\$11 - \$16

Cost

The cost of EC varies widely around the world.³ It appears that online access does not substantially lower the cost. Online prices charged by large chains are similar to prices in their brick-and-mortar stores. One exception is Afterpill.com, whose mission is specifically focused on offering a lower-cost product (see **Table 3**). In addition, a few sellers offer EC online on Craigslist in the U.S. for a much lower price than can be found elsewhere. A cost-related issue specific to higher-income countries in Europe and North America is insurance or other coverage. In the UK, for instance, EC can be accessed for free if a woman visits a National Health Service clinic, but in pharmacies and online the cost of EC is not covered. FPHS generally is able to enroll women (living in Wisconsin) in state insurance schemes that allow them to access EC at a subsidized price; however this is difficult within an online environment. Kwikmed provides its customers with the paperwork necessary to file a claim with their insurance company but does not directly handle insurance issues.

Shipping adds significantly to the cost of online products. Afterpill.com does not offer expedited shipping, a decision made to minimize cost. Kwikmed prefers expedited and tracked shipping for their products because of risk of theft

or loss. For international vendors, the cost of shipping can be extremely high. Therefore, both the cost of the drug and the cost of shipping are high in many settings, putting EC out of reach for vulnerable populations, such as poor women and youth.

Stigma and Bias

While purchasing EC on the internet allows women to avoid the stigma of asking for EC from a clinical provider or pharmacist, we found evidence that systemic bias has created challenges for online vendors. These challenges include Google's decision not to allow vendors to purchase ads for EC, PayPal's refusal to process payments for medicines and Amazon's repeated refusal to allow AfterPill.com to sell its product on Amazon.com.^{xi}

Prescription Restrictions

The requirement for a prescription for certain types of EC, and other laws and regulations such as age restrictions, represent constraints to online access of EC. For example, in Ireland, a man was fined over \$1,100 pounds for offering EC online.⁴ Where it has occurred, the elimination or reduction of these restrictions has contributed to increased access to EC via e-commerce.

ENABLING factors	Higher Impact ↑ ↓ Lower Impact	HINDERING factors
<ul style="list-style-type: none">✓ Widespread availability of the internet, e-commerce, and delivery systems✓ Privacy and anonymity✓ Possibility of information exchange✓ Screening and counseling available on some websites		<ul style="list-style-type: none">✓ Timing of delivery given short timeframe for EC to be effective✓ Cost of product and delivery✓ Payment, shipping, and delivery issues✓ Stigma and bias✓ Prescription restrictions

^{xi} Like Kwikmed, Afterpill has faced significant barriers. For instance, the company posted a video on YouTube which was removed repeatedly by Google (which owns YouTube) with the claim that EC was a prescription product and could not be featured.

CONCLUSIONS

The e-commerce environment is in a period of rapid change and growth with implications for EC access globally. EC is well-established as an e-commerce product in most middle and high-income countries. Many mainstream online pharmacy vendors carry it along with their other products. There was no evidence of online access for EC in Africa and little information on Asia, although it is clear that e-commerce has a strong foothold in China and is emerging in Africa. Online access to EC is influenced by different levels of national regulation and restrictions. Overall, in environments where e-commerce is well established and EC is available without a prescription, EC is likely to be available online. Online systems have been developed to comply with required legal requirements for prescription medicines, including certain types of EC and other RH supplies, in some Latin American countries and the U.S.

There is evidence of genuine commitment to improving women's health among dedicated online vendors of EC. While it has clearly benefited from the work of these vendors and regulatory decisions to permit over-the-counter sales, EC availability online has increased largely on its own without major support from policymakers or advocacy by the RH community. Moving forward, the EC sector will continue to support wider knowledge of and access to EC and other RH supplies via e-commerce within the framework of national and international regulations.



FUTURE RESEARCH

The major findings from this case study suggest that e-commerce for EC seems to be making important strides with minimal input from the policy/non-governmental organization sector. The challenge going forward will be to support wider access to EC and other RH supplies via these new channels, while at the same time respecting the desire by regulators to restrict access to poor-quality products. To better understand and build on the scope and scale of EC via e-commerce, some critical follow-up areas of work recommended include:


- **Total market for contraceptives:** Integrating e-commerce into dialogue and strategy related to the total market for contraceptives, with the goal of both fostering and appropriately regulating online access, and recognizing the increasing importance of e-commerce for the health sector. The Reproductive Health Supplies Coalition, ICEC, and other global coalitions may be good venues for these conversations.
- **Market size and potential for online selling of EC:** Learning more about the size of the on-line contribution to sales in the context of the total market, recognizing the challenges of obtaining private, commercial sector data broadly.
- **Further understanding the importance of the exchange of information for EC online:** Findings suggest customers like to communicate with other people. Customers who have used EC give advice in online communities like Reddit or leave comments on the sites of online vendors. Further research is needed to assess the content, accuracy, tone, and helpfulness of these online interactions.
- **Ongoing surveying of EC online:** Continuing to track online access to contraceptive products over the next five years, with an additional focus on Asia and Africa.

Endnotes

1. Outside the United States, about 100 emergency contraceptive products are specifically packaged, labeled, and marketed. December, 2015. <http://ec.princeton.edu/questions/dose.html#dose>
2. Palermo et al. 2014. <https://www.guttmacher.org/pubs/journals/4007914.html>, Westley et al. 2013. <http://www.cecinfo.org/custom-content/uploads/2013/08/Westley-Kapp-et-al.-Review-of-global-access-to-EC-IJGO-2013.pdf> and Westley and Schwarz 2012 <http://www.arhp.org/publications-and-resources/contraception-journal/may-2012-1>.
3. What price for peace of mind? Is access to emergency contraception affordable and equitable for women in developing countries? October, 2015. Washington, D.C.: Reproductive Health Supplies Coalition Annual Meeting. Presentation.
4. See <http://www.irishtimes.com/news/crime-and-law/courts/district-court/man-fined-1-000-for-advertising-sale-of-morning-after-pill-1.2450341>

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Credit: Peter Wijngaart (on assignment from Rutgers)

E-COMMERCE AND FEMALE CONDOMS



Credit: Peter Wijngaart (on assignment from Rutgers)

E-COMMERCE AND FEMALE CONDOMS

E-commerce and Female Condoms. March, 2016. Washington, D.C.: Institute for Reproductive Health, Georgetown University for the Reproductive Health Supplies Coalition (RHSC) and U.S. Agency for International Development (USAID).

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Organization Bio

Rutgers is an international center of expertise on Sexual and Reproductive Health and Rights (SRHR) founded and based in the Netherlands, where most primary and secondary schools use its sexuality education packages. Rutgers applies its expertise worldwide, supports various international partners to improve sexual and reproductive health and the acceptance of sexual rights and gender equality in their countries, approaches sensitive issues in a positive way, and has gained a wealth of experience in making sexuality and sexual and reproductive rights a topic of discussion within different cultural contexts.

Rutgers is co-founder and consortium partner in the Universal Access to Female Condoms Joint Programme (UAFC). This international programme started in 2009 with the aim to make female condoms accessible, affordable and available for all. Four organizations (Oxfam Novib, Rutgers, i+solutions and the Netherlands Ministry of Foreign Affairs) combined their knowledge and expertise in working with civil society organizations, supply chain management and procurement, and advocacy on SRHR at in-country and international levels to make this woman-initiated prevention method against unintended pregnancies and STIs, including HIV, available to all.

Authors Bios

Saskia Husken has been an advocacy officer at Rutgers in the Netherlands since early 2013. She leads the advocacy component of the Universal Access to Female Condoms Joint Programme (UAFC). Saskia holds a Masters of Science in International Development from the University of Nijmegen, the Netherlands, and worked on HIV programming and gender issues in Zambia, Cameroon, and Tanzania for 10 years. Since 2000, Saskia has been advocating for youth participation and sexual and reproductive health and rights worldwide. Her involvement in female condoms is combining her areas of expertise and interests, as she believes that access to a variety of female condoms, an empowering dual protection method, should be available to all.

Alexandra Rijke is a freelance researcher working on qualitative research projects in the fields of social sciences and the humanities. Alexandra holds a Masters of Science in International Development Studies and a Masters of Arts in Gender Studies. In addition to her work as a freelance researcher, Alexandra is currently a PhD candidate at the Cultural Geography department of Wageningen University, where she is analyzing the relationships of Palestinians and Israelis with the material barriers existing in the West Bank.



E-COMMERCE CASE STUDIES SERIES

This report is one of seven case studies, written to provide the reproductive health (RH) supplies community with a deeper understanding of the current landscape and future potential of obtaining RH supplies through e-commerce. Each case study focuses on either one specific country (India, Kenya, Mexico, and the United States) or one new and underused RH technologies (emergency contraception, female condoms, and the Standard Days Method®). These case studies are descriptive only, and do not advocate for or against e-commerce as a means to distribute RH supplies.

Velvet female condom package by HLL for e-commerce via Buymecondom.com India.



EXECUTIVE SUMMARY

This case study report presents current trends, potential advantages, and challenges related to the use of e-commerce for the distribution of female condomsⁱ. Several female condom stakeholders (advocates, manufacturers, and retailers) currently use e-commerce to distribute this product, while others have expressed an interest in using e-commerce in the future. Female condoms are currently sold online in India, China, the Netherlands, and the United States (U.S.). Most (potential) e-commerce customers live in the U.S., Europe, China, and large cities in countries such as India and Nigeria. In these places, customers benefit from the growing number of female condom brands available online (frequently a greater number of options than at their local pharmacy) and the ease and privacy of online ordering. The female condom market has historically been dominated by one brand; the emergence of new female condom products is likely to lead to wider distribution and/or lower prices, increasing the viability of e-commerce for female condoms.

Despite some uptake in selected locations, suppliers face challenges in increasing online sales. Some of these challenges are customer-related. For example, many women and men are not familiar with female condoms or their correct use. Demonstration of how to insert and use female condoms correctly is essential for uptake and sustained use. Such instructions are time consuming, but results from female condom programming around the world show that interpersonal communication is essential for good uptake. Online videos and learning materials can instruct people in places where there is sufficient bandwidth, but they may not fully replace the interaction and confidentiality of live instructions. Historically, female condoms are associated with sex workers, resulting in stigma against the product itself. There are also challenges to suppliers in the female condom market. Because female condoms have been subsidized in most developing countries, internet sales are hampered by the lack of a viable commercial market. E-commerce is likely to gain importance as a means for distribution that runs parallel to, and does not replace, offline sales and programming around female condoms.

ⁱ More information on female condoms can be found at www.femalecondoms4all.org and www.fcni.org.

ENABLING factors ⁱⁱ	HINDERING factors
<ul style="list-style-type: none"> ✓ Availability of female condoms via e-commerce is growing. ✓ Ordering female condoms online is easy for customers, and can increase access to the method. ✓ Customers can preserve their anonymity when they purchase female condoms via e-commerce. ✓ Using the internet as an information channel can increase awareness of the product. ✓ Producers or distributors have the opportunity to provide information on the use of the product. 	<ul style="list-style-type: none"> ✓ A general lack of product awareness hinders the potential for e-commerce growth for female condoms. ✓ The lack of interpersonal communication, which can introduce customers to the product and provide instructions for correct use, may deter first-time users from purchasing female condoms online. ✓ The lack of commercial markets in areas where female condoms are free or subsidized by non-governmental organizations or governments makes it difficult to establish online sales. ✓ Continued product stigma associated with sex workers is hindering widespread use and online sales. ✓ Perceived difficulty of using the method persists. ✓ The lack of universal access to the internet, particularly among women in low resource settings, will have a continued impact on online sales of female condoms. ✓ Gender inequality – including existing gender norms, patterns of gender relations, roles male and female roles and relationships, and related issues of power and inequality – is considered a primary issue which underlies all other hindering factors.

CONTEXT

Female condoms are made of a soft, thin material that fits inside a woman’s vagina. Like male condoms, female condoms are a barrier method, protecting against unintended pregnancy and sexually transmitted infections (STIs), including HIV, by keeping the penis and sperm from contact with the cervix and vagina. Unlike male condoms, female condoms cover parts of the external female genitalia, providing additional protection from STIs. Most female condoms are pre-lubricated and easily adapt to body temperature. A female condom can be inserted prior to sexual intercourse, is not dependent on a male erection, and can remain in place after ejaculation. The effectiveness of female condoms is comparable to that of male condoms; failure rate is about 5% in perfect use and 21% in typical use.¹

Female condoms have several contraceptive advantages. They are effective in preventing pregnancy, provide contraception only when needed, and do not disrupt the

users’ fertility. They offer an alternative for people who do not wish to use a hormonal contraceptive. Female condoms have no known side effects or risks (although people who are allergic to latex are advised not to use latex female condoms), and can be used by people of all ages. Most importantly, female condom use can be initiated by women themselves, contributing to women’s empowerment. Women and girls are at greater risk of STI/HIV infection than men and boys due to biological differences, but also due to gender inequality, sexual norms and socio-economic barriers to access resources. Women and girls often lack information about sexual and reproductive health, and they are unaware of the risks associated with their own or their partners’ sexual “behaviors.” Women who do recognize their vulnerability are often powerless to protect themselves. Women who receive information and counseling, and who learn to use female condoms, may be able to protect themselves even if their partners refuse to use a male condom.²

ⁱⁱ These factors are listed in no particular order, since their importance differs by context.

Table 1. Types of female condoms and Availability Online.

Product Name	Regulatory status	Primary area of distribution	Availability online
FC2	WHO/UNFPA prequalified	145 Countries	Yes
Cupid	WHO/UNFPA prequalified	36 Countries	Yes
Cupid 2	Functionality study finished Results submitted to UNFPA		
HLL Velvet	WHO/UNFPA prequalified	India, Australia, Bahamas, Nepal, Brazil	Yes
VA w.o.w.	Functionality study finished Results submitted to UNFPA	Argentina, Brazil, Germany, India, Indonesia, Portugal, South Africa, UK	Yes
Woman’s Condom	WHO/UNFPA prequalified	China, South Africa, Malawi, Zambia	Yes
Phoenurse	CE marking	Brazil, Mexico, Kenya, South Africa, Eritrea, Sri Lanka, Papua New Guinea	
Air FC	CE marking	Germany, Chile, Colombia	

Source: www.fcmi.org

E-commerce for Female Condoms

Setting the Stage: Global Female Condom Sales and Distribution

According to data from the Reproductive Health Interchange (RHInterchange),³ approximately 239 million female condoms (with a market value of \$153 millionⁱⁱⁱ) have been procured since 2000; and since January 2014 a total of 48.3 million female condoms have been shipped by United Nations (UN) agencies and other international partners. Data for private sector sales, both online and offline, was not available. Data at RHInterchange is entered on voluntary basis and does not include private sector and other shipments. Although the numbers are still relatively small compared to other contraceptives, in recent years sales of female condoms have been rising steadily. New female condom brands and products are entering the global market, and retail markets have grown in some middle- and high-income countries.

Since 2013, two types of female condoms have been prequalified by the World Health Organization (WHO) and the United Nations Population Fund (UNFPA): the “FC2” female condom from the Female Health Company (currently available in 145 countries), and the “Cupid” female condom from Cupid Ltd. (currently available in 36 countries). Since March 2016, the HLL Velvet

female condom from HLL Life Care Limited in India, and the Woman’s Condom from Dahua Shanghai Medical Apparatus Co. Ltd. in China have also received WHO/UNFPA prequalification status. Prequalified products are approved for bulk procurement by UN agencies and other international procurers. In addition to these four prequalified female condoms, a range of other female condoms are at various stages of development and market access (see **Table 1**).

A large proportion of the global supply of female condoms is handled by a few bulk purchasers or major funders for distribution via the public sector. The major procurers are UNFPA, the United States Agency for International Development (USAID), the Global Fund to Fight HIV/AIDS, TB and Malaria, and International Planned Parenthood Federation (IPPF). They supply female condoms on behalf of governments or in-country programs. Female condom programs initially focused on female sex workers, while current programs—supported by organizations such as UNFPA, Population Services International (PSI) and the Universal Access to Female Condoms joint programme (UAFC)—focus on the general population. In addition to commercial sales and free distribution via the public sector and commercial sales, female condoms are distributed at subsidized prices via social marketing programs.

ⁱⁱⁱ All currency amounts are in United States dollars, unless otherwise noted.

Figure 1. Examples of female condoms currently available online.



Photo Credit: Peter Wijngaart, Rutgers

FINDINGS

Female condoms can be found for sale online on a variety of websites in many countries, including India, China, the Netherlands, and the U.S. In Nigeria, Costa Rica, and other countries, online sales of female condoms are expected to start in the near future. The global nature of the internet and the far reach of some delivery systems demonstrate the global availability of female condoms via e-commerce. The four prequalified female condoms (the FC2, the Cupid, the HLL Velvet, and the Woman's Condom) are sold via the manufacturers' websites and can be found on third-party websites such as Amazon.com, Alibaba.com, and Ebay.in (see images of types of female condoms available in **Figure 1**). Prices of female condoms differ by market with a higher price on websites aimed at the U.S. and EU markets, where a pack of four Cupid condoms sells for ~\$8.00 on Amazon.com, and a lower price on websites aimed at the Indian and Chinese markets, with a pack of four Cupid condoms selling for less than \$3.00 on Ebay.in. Analysis of the relationship between female condoms and e-commerce is relatively new, and more online research is necessary to determine the actual presence of female condoms online.

While the use of female condoms is increasing offline, three main factors hinder their use: overall lack of product

awareness, the relatively high price of female condoms, and cultural barriers.⁴ First, knowledge and use of female condoms among many groups in different countries is still low, particularly in areas where the unmet need for contraceptives is high. A recent survey in Nigeria showed that men and women, particularly in urban areas, increasingly know about female condoms, but only 1.3% of men and 1.1% of women responded that they had used a female condom during their last sexual contact with a non-regular partner.⁵ Secondly, the price of female condoms can discourage widespread uptake. Indicative prices from the Access RH Product Catalogue show \$0.54 for the FC2 and \$0.35 for the Cupid.⁶ Female condom prices are higher than male condom prices, largely due to higher production costs and lower volumes. The problem is circular: vendors cannot negotiate a lower price due to the small market and the lack of a significant increase in demand, which is mostly caused by the high price. While the return on investment of female condoms has been demonstrated,⁷ female condoms remain low on the list of donor and government investments. Thirdly, culture has an impact on female condom demand and use. Persisting myths and misconceptions — for example, that this is a product for sex workers — need to be constantly addressed and dispelled. Experience from UAFC country programs in Cameroon, Mozambique and Nigeria shows



The Cupid female condom Facebook page.



that a general acceptance of female condoms can be realized once initial questions, concerns, myths, and misconceptions are properly addressed.⁸

Analysis of female condoms programs, literature, and stakeholder interviews shows various factors that influence the relationship between the availability, accessibility, and use of female condoms and e-commerce. While most of these factors are also at play in “traditional” (offline) female condom distribution, some are specifically enabling or restricting for female condom distribution via e-commerce.

Enabling Factors

Increased Availability

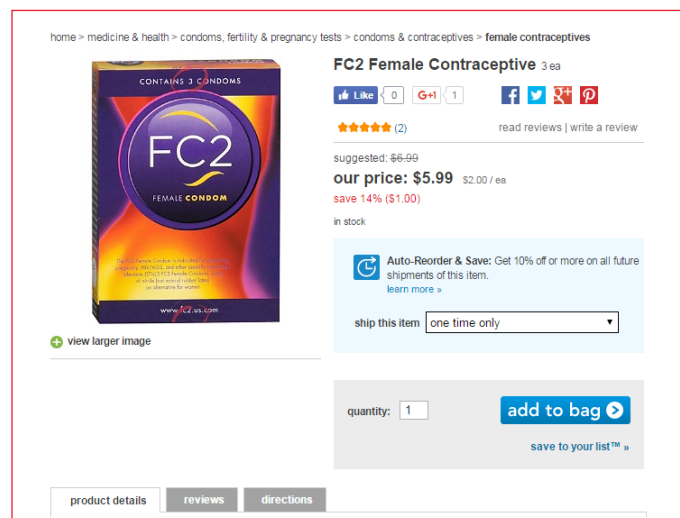
Increased availability was the most common advantage that respondents mentioned when asked about the use of e-commerce to distribute female condoms. This was the case in Europe and the U.S. where the product is rarely found in shops, but where it is available online via a large array of websites (see **Figure 2** for an example). Women in these contexts may search online for a hormone-free barrier method of contraception, such as the female condom. Manufacturers, distributors, and non-governmental organizations (NGOs) involved in female condom programming and advocacy felt that e-commerce could increase the availability and sales of female condoms in these contexts.



A female condom manufacturer commented: “The female condom is not very well known in Europe and the U.S. so it is very difficult to convince a retailer to carry the product in their stores. So, many distributors went around that problem by selling the product via their website.”⁹



Figure 2. FC2 female condoms available at drugstore.com.



Ease of Access for the Customer

The second advantage of e-commerce for female condoms mentioned by respondents was the ease of ordering a female condom via e-commerce. This advantage of e-commerce was mentioned by respondents working in the U.S., Europe, Asia, Africa, and Latin America.



A respondent from a Dutch shop selling female condoms, both online and offline, said: *"It is so easy; it is just a click away, at whatever time you find the most suitable and you get it delivered at home."*



Anonymity

Buying RH supplies, including female condoms, can be an uncomfortable situation. One producer observed, when speaking about the U.S. context, that customers appreciate the anonymity: "You do not have to leave your house and go to a store. Customers in the U.S. can be a bit embarrassed and do not want their business to be out in the open like that."¹¹ This advantage of e-commerce was also mentioned by respondents working in Europe, Asia, Africa, and Latin America.



Online reviewers of e-commerce sometimes express regret that offline sources seldom offer female condoms. For example, *"Can't believe I waited so long to try this. It's fantastic! Easy to use, adds to the sensation in my humble opinion, easy for him and doesn't interrupt the process like (male) condoms do. And feeling much less untidy afterwards is another big bonus. Not going to be shy about using this anymore! Just wish they were sold in stores. Women should have equal ease of access to products intended for them anyway."*¹⁰



MALE VERSUS FEMALE CONDOMS?

Female condoms are often compared to male condoms. Since e-commerce is so successful with the distribution of male condoms, why should it not be successful for female condoms as well? However, there are differences between the products that should not be overlooked.

➔ **The first is product awareness.** Male condoms have been around for decades and have been promoted and subsidized by governments since the 1980s. People are aware of male condoms and look for them online. For female condoms to become as successful as male condoms via e-commerce, product awareness must increase significantly.

➔ **Secondly, marketing messages are important.** Respondents felt that female condoms should not compete with male condoms. Instead, they should be marketed as a choice for women, a product that addresses the challenges that male condoms cannot (such as the willingness of the man to use it), and as an alternative to short-term, non-hormonal contraceptives. One manufacturer explained: "It is about women's empowerment and providing them with a method that is controlled by themselves."

Increased Awareness.

Product awareness is a complicated and very important issue for female condoms. The lack of product awareness hampers offline sales, and respondents argued that this challenge can be addressed by e-commerce to a certain degree. The presence of female condoms online helps to increase overall awareness of the product. If female condoms appear next to male condoms during an online search for "condoms" on a large web shop, awareness of the product increases. As explained by one respondent: "It helps make the product more known; it normalizes it."¹²

Private Provision of Information.

In some circumstances, private provision of information is essential. One respondent gave the example of a customer in a drugstore, where “the last thing you want is an explanation from the lady behind the counter, with a queue of other people standing behind you.” In e-commerce, you can design your website to ensure consumers get all the information they need, at their own pace, in the privacy of their own home.”¹³ Some manufacturers use their website or the websites of distributors to provide the customers with more information. This includes the use of video clips on how to use the product, which customers can watch where, when, and as often as they want.

Hindering Factors

Gender Inequality

For many reasons, especially the feminization of the HIV/AIDS epidemic in the 2000s, there is an increasingly urgent need to “increase women’s ability to negotiate safer sexual relations, combat gender discrimination and violence and increase access to female-controlled prevention methods such as the female condom.”¹⁹ However, women’s sexuality and empowerment remains a challenging topic in many societies. Lack of gender equality continues to pose a barrier to access to RH supplies worldwide, and to female condoms in particular.

For example, respondents in India cited the lack of freedom for women as one of the biggest constraints on the sale of female condoms both offline and online. As explained by a local NGO representative, “women are not supposed to be going online and logging onto websites where they can see about condoms and sex.”²⁰ In India, it is almost impossible for women to have such a product delivered to them, either at home or at work, due to the associated stigma.

Lack of Product Awareness.

All respondents identified this as the most important barrier to the sale of female condoms via e-commerce. In the U.S., Europe and China, and in wealthier urban areas of Nigeria and India, it was mentioned as the key hindering factor. One manufacturer explained, “As long as you do not have any product awareness and then [no]

brand awareness, it is very difficult to get people to go to your website and actually purchase the product.”¹⁴



As explained by one respondent: “Practically, challenges are the availability of electricity and the ability to use computers that are not infected with viruses that might get your bank account information. People might be reluctant to use e-commerce to make a purchase because of this.”¹⁵



Lack of E-commerce Infrastructure

While the world seems more connected online than ever, there are still many areas and populations that do not have safe and reliable internet, electricity, banks, roads, petrol, delivery cars, and registered addresses for home deliveries. While in many countries in Africa and Asia there are large areas where the necessary infrastructure is available, not all people living in these areas will have the knowledge and financial resources to use them. Furthermore, most people in rural areas do not have the necessary infrastructure for e-commerce.

Most factors that hinder the sale of female condoms via e-commerce are not specific to the product but are related to all online sales. One manufacturer wondered about the exclusion of certain groups because of this. “You have to look carefully at who uses e-commerce ... compared to higher-priority consumers. Do they have access to a bank account or credit to be able to purchase something?”¹⁶

Lack of Interpersonal Communication

Several respondents asserted that it would be extremely difficult to get first-time users to buy female condoms via e-commerce. Female condoms are a new product to most women and men. Face-to-face (interpersonal) contact with first-time users can reassure them of the effectiveness of the product and provide proper instructions for insertion and use. One manufacturer said, “Whether it is through a friend or through a training or through a doctor, that does not matter. But person-to-

person contact is crucial in making up someone’s mind in buying the product, let alone buying it online.”¹⁷ The majority of respondents expressed concern that with the growing use of e-commerce as a source of female condoms, these first-time users would not have the benefit of interpersonal communication.

Lack of a Commercial Market

Female condoms have been distributed on a large scale by international organizations and governments in low-resource contexts. However, in these countries where increased product awareness exists, female condoms were not sold for the full commercial price. They were either given away for free or sold for a highly subsidized price. One producer explained, “This makes it very difficult...to build a sustainable market where you have a repeat customer who is going to come back for more product for the commercial price, let alone a sustainable e-commerce market.”¹⁸ However, respondents felt that there are other contexts and customers who would have the financial resources to purchase female condoms at commercial price, creating a sustainable offline and online market.

Product Stigma

In many countries, early introduction of female condoms focused on providing sex workers with a tool to halt the spread of HIV and AIDS. While such high-risk populations may remain a target for some female condom programming, the product itself has suffered from association with these programs and the stigmas

surrounding sex work. As respondents mentioned, a woman carrying a female condom is often considered to be a sex worker.


Perceived and Actual Difficulty of Use

The design of female condoms is inherently linked to one of the most culturally sensitive parts of a woman’s body: the vagina. This poses a special challenge for the marketing of female condoms, particularly in some developing countries where cultural norms discourage women from touching their genitalia. Although research shows that women who have received proper instructions find it easy to use, some women require practice and patience to use female condoms correctly. If women perceive female condoms as being difficult to use or against their cultural values, they will be unlikely to purchase the product online.

CONCLUSIONS

Female condoms are available via e-commerce on a global scale, but this does not mean that they are purchased via e-commerce on an equally large scale.

There are major regional differences. In certain high-resource settings, such as the U.S., Europe, China and large cities in India and Nigeria, e-commerce is a viable method of selling all types of products. However, female condoms sales are hindered by an overall lack of product awareness. Most people simply do not know about female condoms and, as a result, do not search for or buy the product, either offline or online. In low- and middle-

ENABLING factors		HINDERING factors
<ul style="list-style-type: none"> ✓ Increased availability ✓ Ease of access for consumer ✓ Anonymity ✓ Increased product awareness ✓ Private provision of information 	<p>Higher Impact</p>  <p>Lower Impact</p>	<ul style="list-style-type: none"> ✓ Gender inequality (underlies all) ✓ Lack of product awareness ✓ Lack of e-commerce infrastructure ✓ Lack of interpersonal communication ✓ Lack of commercial market ✓ Product stigma/Perceived and actual difficulty of use

income settings, demand creation programs could use a social marketing approach to educate customers on product benefits and approach priority customers with tailored messages and pricing. In low-resource settings, product awareness may have been increased by government programs in which female condoms are distributed via health care facilities and NGOs (either through free distribution or social marketing), but there still are other factors that would prevent e-commerce from becoming a viable distribution channel. Some countries or settings lack e-commerce infrastructure – such as the lack of safe and reliable internet connection, roads, and petrol – and a commercial market for female condoms. In addition, the stigma associated with the product and the unequal position of women in these settings would limit e-commerce sales.

On the other hand, e-commerce can complement distribution approaches such as free or subsidized distribution via the public sector and NGOs, commercial sales via shops, and sales via social marketing. Using the full range of distribution approaches can help reduce the barriers identified in this analysis. For example, e-commerce allows customers to upload feedback on their preferences and concerns, which vendors can then use to adapt their messaging both online and offline. A more vibrant online market will contribute to a larger overall retail market for female condoms.

FUTURE RESEARCH

Based on this analysis, further research is recommended to gain better insights into product awareness through e-commerce in high-resource areas, such as Europe, U.S., China, and large cities in other countries such as India and Nigeria.

- **The scope, scale, and potential of distributing female condoms via e-commerce:** Some critical follow-up areas of research include the connection between offline programs and online sales: Are sales higher in places with greater experience and familiarity with female condoms, or are online sales higher in areas that lack offline availability? And how do past programs run by donors or others influence present sales? .
- **Product awareness through e-commerce in high-resource areas:** What do we know about female condoms in Europe, U.S., China, and large cities in other countries such as India and Nigeria. As female condoms are an underused product in both high and low-resource settings, increased investment is needed for both offline programming and online promotion.
- **Variations in e-commerce experience between brands:** As more brands and manufacturers enter the market, their experience with online sales may differ in significant ways, particularly as competition drives product and price differentiation. Further research could determine best practices among manufacturers' approaches and product offerings.



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E-commerce and CycleBeads. March, 2016. Washington, D.C.: Institute for Reproductive Health, Georgetown University for the Reproductive Health Supplies Coalition (RHSC) and U.S. Agency for International Development (USAID).

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Organization Bio

Cycle Technologies is a Washington, D.C.-based social impact consumer product and technology company. Since 2002 Cycle Technologies has worked with researchers, scientists, and health providers to bring to market sustainable technologies that meet family planning needs globally.

Author Bio

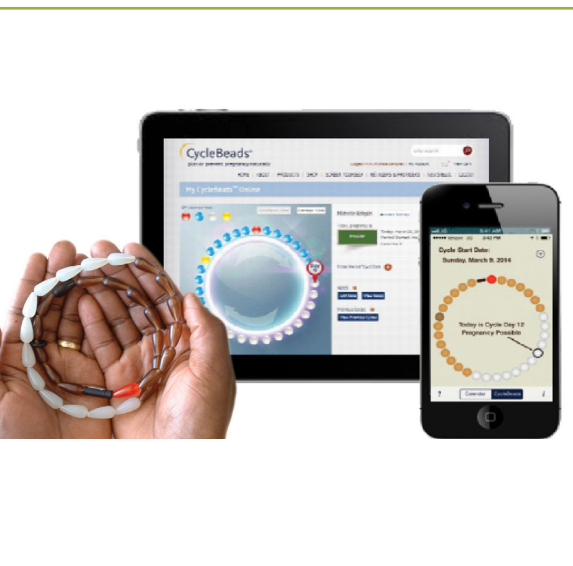
Leslie Heyer founded Cycle Technologies in 2002. Prior to her life as a social entrepreneur, Leslie was on the founding management team of two software companies and managed advertising accounts for global brands. She received her MBA from Harvard Business School, a BA from Georgetown University, and was recently named a Top 50 Most Talented Social Innovator globally by the World Corporate Social Responsibility Congress.





E-COMMERCE CASE STUDIES SERIES

This report is one of seven case studies, written to provide the reproductive health (RH) supplies community with a deeper understanding of the current landscape and future potential of obtaining RH supplies through e-commerce. Each case study focuses on either one specific country (India, Kenya, Mexico, and the United States) or one new and underused RH technology (emergency contraception, female condoms, and the Standard Days Method®). These case studies are descriptive only, and do not advocate for or against e-commerce as a means to distribute RH supplies.



EXECUTIVE SUMMARY

This case study report reviews the experiences, opportunities and challenges of e-commerce as it relates to the reproductive health (RH) product CycleBeads®. The primary objective is to examine the current landscape and future implications of using e-commerce as a channel for expanding access to CycleBeads. The report provides key findings from reviews of existing literature and research, internal company documentation, and interviews with distributors and non-governmental organizations (NGOs) involved in providing CycleBeads.

CycleBeads products support the use of the Standard Days Method® (SDM) of family planning (FP), an underused method suitable for couples who wish to use unobtrusive, non-hormonal methods of FP.¹ CycleBeads are available in two versions:

1. A color-coded string of beads
2. A recently developed set of three digital tools²

The physical CycleBeads are, in some ways, an ideal product for the internet age – small, lightweight, and non-prescription, with a long shelf-life. However, their international distribution is limited by logistical barriers such as few distributors, high international shipping costs, and a difficult revenue model with a product that is a low cost, one-time purchase.

By contrast, the digital forms of CycleBeads are more easily made available worldwide and can be accessed directly online through dedicated websites or marketplaces, such as Google Play and iTunes. These digital products were developed to take advantage of advances in technology and have the added benefit of overcoming some of the barriers faced by the original physical CycleBeads product. However, the digital products compete with a number of “fertility apps,” “ovulation calculators,” and “period trackers,” which can make it difficult for consumers to differentiate this product from others offering similar information within this space. Lack of awareness of SDM and CycleBeads has limited the market penetration of both the digital tools and the physical product. For all FP methods, access to the internet has changed how people learn about and access RH supplies. In the case of CycleBeads, technology has also changed the product itself.

ENABLING factors

HINDERING factors

Original CycleBeads (Color-Coded String of Beads)

- | | |
|---|--|
| <ul style="list-style-type: none">✓ Increased awareness and popularity of fertility awareness methods (FAM) can enable online sales to grow.✓ Websites and online tools can act as a dedicated informational resource for users who are new to SDM or FP.✓ Online selling allows for a more cost-efficient distribution outlet by cutting out traditional retail costs. | <ul style="list-style-type: none">✓ A lack of product awareness prevents customers from learning about or purchasing CycleBeads online.✓ Continued adverse perceptions about “natural methods” discourages users from seeking FAM online.✓ The business model, built around a one-time purchase product, is challenging to sustain financially.✓ Many countries still lack the infrastructure necessary to support online purchasing and delivery.✓ Lack of local distributors results in high costs for international shipping in most countries. |
|---|--|

New Generation of CycleBeads (Digital Tools)

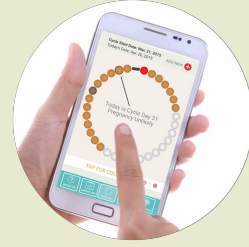
- | | |
|--|--|
| <ul style="list-style-type: none">✓ A large dedicated market for the CycleBeads app through the app stores for iPhones and Android smartphones increases the number of people who can easily access SDM.✓ Digital tools allow for fast and efficient product improvements, which support the online user.✓ Digital tools provide an informational resource for existing or new customers.✓ Digital distribution increases the cost efficiency of the product. | <ul style="list-style-type: none">✓ The online and app world is an unregulated and cluttered market, making it difficult to build awareness and trust with users, and to differentiate from competition.✓ There is limited return on the investment, since customers expect low-cost or free web services and apps.✓ There is a need for dedicated staff to provide product maintenance and support on an ongoing basis. |
|--|--|



Original tools



Online app



Smartphone apps

Source: <http://www.cyclebeads.com/>

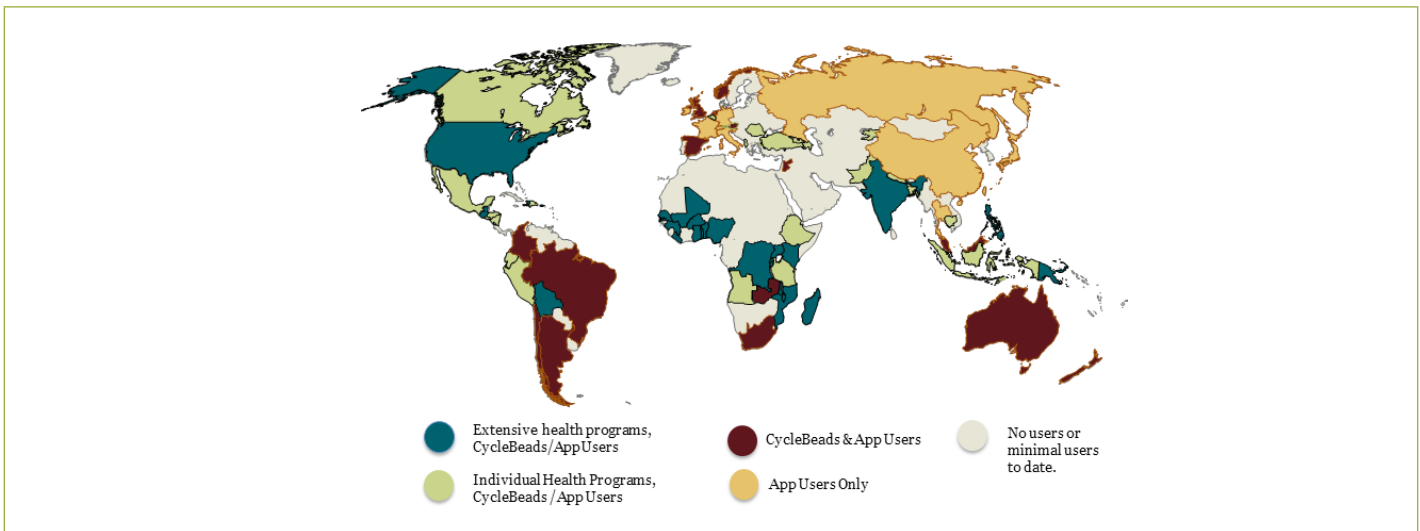
CONTEXT

The CycleBeads tools are based on SDM, a method for women with cycles between 26 and 32 days long. They help women track their menstrual cycles and identify the days when pregnancy is possible. To facilitate use of this method, a woman can use physical CycleBeads (a color-coded string of beads) or a range of digital tools including the CycleBeads smartphone apps (iPhone and Android), CycleBeads Online (an internet-based subscription service), and CycleTel™ (a short-message service-based [SMS] product). SDM is 88% effective in typical use and over 95% effective with perfect use.⁴ It has no side effects, and research shows that it is easy to use and can be offered through a wide range of channels.^{5,6,7} It has broad cultural acceptability in a variety of contexts, including areas where other contraceptive options may not be widely accepted.^{8,9} There is evidence that SDM brings new users to FP. Most CycleBeads users have not

used FP before.^{10,11} Both the physical CycleBeads and the digital products can be accessed at low cost. Couples who have not used barrier methods in the past or have used them inconsistently find that CycleBeads improves use of barrier methods on fertile days.¹² These attributes make SDM and CycleBeads an important addition to the range of FP methods.

Access to FAM information and supporting tools is increasing as more people have internet access. This growth is partially fueled by the increase in inexpensive smartphones, particularly in emerging markets where customers previously had no access to the internet. A good example is India, where the number of smartphones is expected to reach 200 million in 2016. Meanwhile, in established markets, smartphones are shifting the paradigm for consumer media and information access, making internet use more mobile-centric.¹³ Global marketplaces such as the Google Play Store and iTunes

Figure 1. CycleBeads Worldwide Usage



App Store provide a central location that can aggregate millions of potential users. As of 2015, Android users from almost every country in the world can download free apps, and paid apps are available to customers in 135 countries through the Google Play Store.¹⁴ Since a wide range of fertility awareness websites and apps can be readily accessed or downloaded, this trend can be expected to increase the visibility of FAMs.¹⁵

Physical CycleBeads Products

Cycle Technologies is the licensed commercial company responsible for the manufacture, distribution, and brand management of all products based on SDM. The company works with manufacturers in Hong Kong, India, and Peru and through in-country distributors, health programs and retailers to provide CycleBeads globally. It also distributes directly to end users via a website (www.CycleBeads.com) with a particular focus on the U.S. and Canada.

CycleBeads are available in more than 60 countries through health programs, including many in Africa, Asia, and Latin America. Over 3.75 million sets have been distributed, approximately 300,000-400,000 annually.^{16,17} The commercial distribution channels vary widely, based on a given program’s focus and the populations that

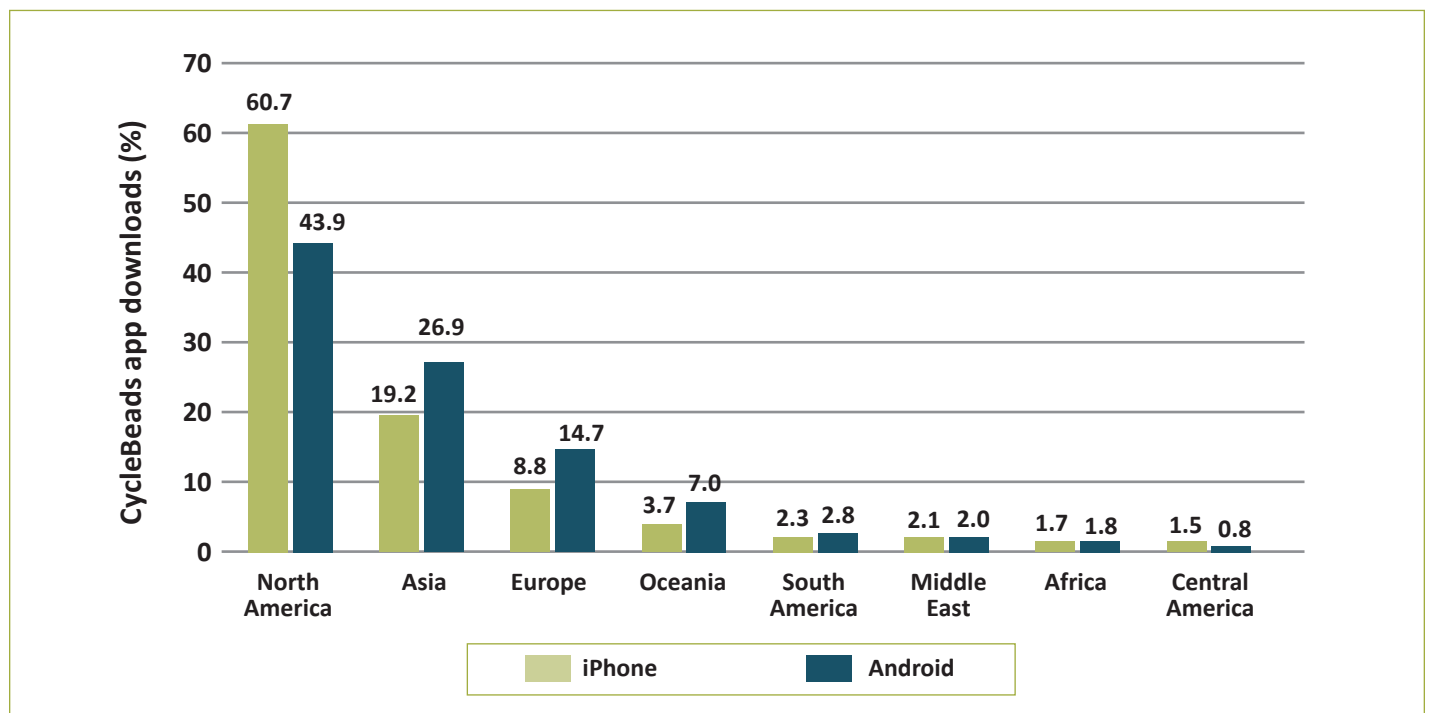
it reaches.¹⁸ Key international procurement agencies include the United States Agency for International Development (USAID), the United Nations Population Fund (UNFPA), and International Planned Parenthood Federation (IPPF). Current usage and distribution varies significantly by country, with the highest distribution of physical CycleBeads in Democratic Republic of Congo, Nigeria, Philippines and the U.S.¹⁹

Digital CycleBeads Products

Cycle Technologies has also developed a range of digital tools including apps for iPhone and Android smartphones (launched in 2010 and 2011 respectively), and an online service (launched 2012). Researchers from IRH have also tested the SMS-based service, CycleTel, in India and Kenya. To date, the smartphone apps have been the most widely used and appear to offer the most potential for growth with more than 100,000 downloads since launch, over 50,000 of these in 2015. See **Figure 2**.

In countries where access to smartphones is widespread, users have begun to use SDM via smartphones rather than purchase the physical CycleBeads tools. As shown in the **Figure 3** in North America, where 85% of adults ages 18-29 own smartphones,²⁰ sales of physical sets of CycleBeads

Figure 2. CycleBeads iPhone and Android apps: percent of new users by region, 2014-2015.



Source: Cycle Technologies

have dropped significantly as smartphone downloads have increased.²¹ This increase is likely due to a number of factors including convenience, cost (a free version of the app and a free trial of the subscription service are offered), and the availability of additional features such as proactive notifications and period reminders.

FINDINGS

E-commerce and Physical CycleBeads

For physical CycleBeads, e-commerce provides a valuable opportunity to increase availability and awareness among potential users and providers, and to lower cost. However, online distribution is hindered by a difficult revenue model (a low priced, one-time purchase), a lack of awareness of SDM, and challenges of international logistics.

Awareness

The CycleBeads.com website receives an average of 127,000 visits per month with 41% of visits from the U.S., 17 % from India, 5% from Kenya, and the remainder primarily from English-speaking countries such as Australia, Canada, Indonesia, the Philippines, South Africa, and the United Kingdom.

Online customers who have ordered through the CycleBeads.com website have cited “internet search” as the most common avenue of product discovery, followed by “friends and family,” and “health providers”

as a distant third.²² Almost 80% of traffic to the website comes from organic search;²³ 18% from direct links, and the remainder from referrals and social media.²⁴

It is clear that people are searching for FP information online. On Google, worldwide searches for multiple terms related to “family planning” and “contraception” (in English) ranged from 1 million to 30 million per month in 2014. For “CycleBeads” (and common spelling variations), the search is approximately 2,200 searches monthly worldwide.²⁵

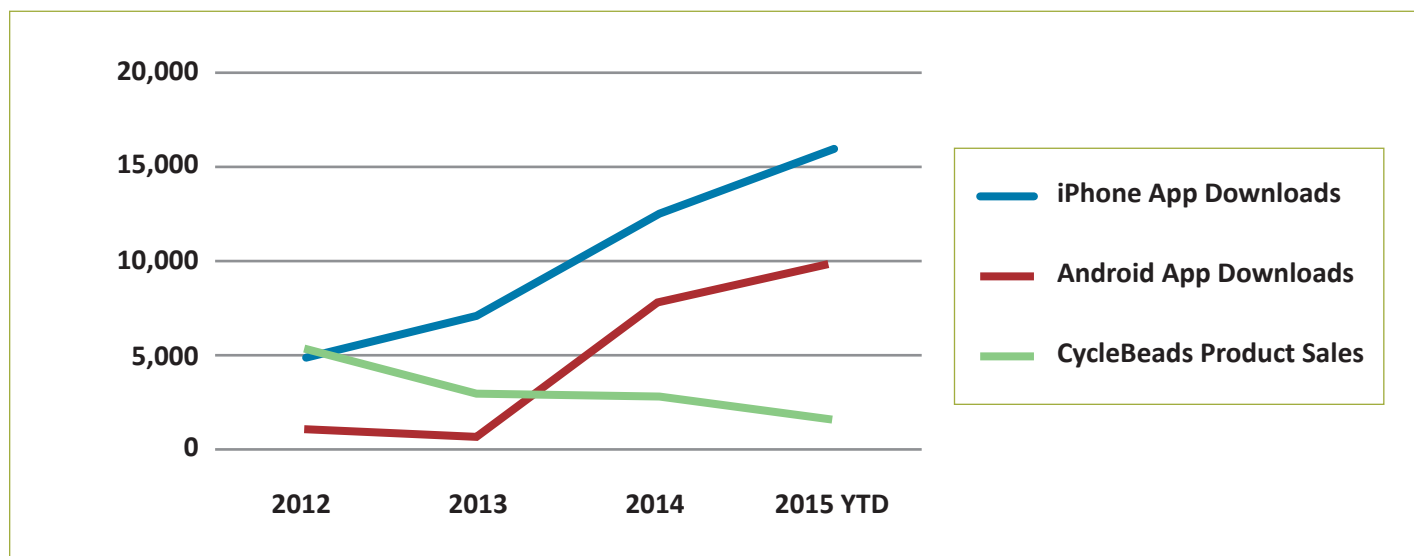
Even when purchases are minimal, an e-commerce website can facilitate offline sales. A distributor in the Philippines who operates an e-commerce website explained during an interview:



“Very few have actually purchased through the web, and we do not have this component of tracking visits in the website. But we do get hits and have been able to supply individuals and schools through the web.”²⁶



Figure 3. CycleBeads iPhone and Android app downloads, and CycleBeads product sales for North America.



Source: Cycle Technologies

In the U.S., the CycleBeads.com website receives 5-10 emails per month asking for a recommendation for a retailer or health provider where CycleBeads can be procured in a specific U.S. location. A feature on the website which enables people to locate a health provider or retailer by state, is used by 225-250 people per month.²⁷

Lack of product awareness is a critical challenge that will need to be addressed if CycleBeads are to become widely available both online and offline. Overcoming negative attitudes and misinformation, and increasing awareness of SDM and CycleBeads, are major processes that require extensive education, communication, and advocacy. Many health providers and potential users have negative attitudes and incorrect information about FAM. Despite strong evidence that the efficacy of SDM is comparable to other user-directed methods, negative opinions persist. For example, a public health nurse at a U.S. clinic commented: *“We don’t really recommend them (fertility awareness methods). We recommend something stronger.”* These attitudes affect both offline and online distribution and make education about these types of methods essential.²⁸

While general awareness is a challenge for the physical CycleBeads, it does not seem to be insurmountable in the e-commerce context. As suggested by a web manager in India,

“Building awareness about the site was a challenge but that could easily be overcome with more advertising and awareness-raising activities.”²⁹

Availability

E-commerce can enhance availability in places where there is a lack of distribution through offline channels. Potential users often seek a local retailer or health provider, but if unavailable, they will instead order online. Other users find the convenience and privacy of ordering online a key benefit.

“In India...most people don’t buy contraception online (though in the study we found that they loved the privacy of online purchase).”³⁰

In some cases, global e-commerce websites can even meet demand in places where e-commerce is not commonly used. For example, in 2014-2015, a limited number of orders were placed and fulfilled through the U.S.-based CycleBeads.com website to countries where e-commerce is not well established, such as Afghanistan, Ghana, El Salvador, Malta, and Nigeria.

In many markets however, challenging payment systems, inadequate fulfillment capabilities, and limited internet access have constrained e-commerce development. In contrast to markets where e-commerce is well-established, these attributes can make it difficult to manage a website effectively or profitably. It should be noted that the development of innovative payment systems (e.g. cash-on-delivery in India, direct bank deposits in Philippines,³¹ M-PESAⁱ in Kenya, and PayPal in North America and beyond) is changing the landscape.

Informational Resource and User Support

A website presence may provide comprehensive information which potential users can review privately at any time. For a unique RH product like CycleBeads, education is critical. Google Analytics reveal that visitors to the CycleBeads.com website spend an average of one minute on the website. By contrast, those who visit key informational pages such as the frequently-asked questions (FAQ’s) (2,751 monthly visitors), research (1,074 monthly visitors), and product-specific pages (2,000-3,000 monthly visitors per page) spend an average of 4-5 minutes on those pages, indicating that viewers are seeking specific information and reviewing it carefully.

ⁱ M-PESA is an agent-assisted, mobile phone-based, person-to-person payment and money transfer system popular in Kenya. It allows users to store money on their mobile phones in an electronic account and deposit or withdraw money in the form of hard currency at any one of M-PESA’s numerous agent locations.



WEBSITE PRESENCE AS INFORMATION RESOURCE

A website presence can also provide users with a resource to ask for more information. Through the CycleBeads.com website, Cycle Technologies receives 30-40 queries per month via email and contact form submissions from individuals in various countries. Questions range from method-related topics to highly personal situations.³² Offering this resource requires that one or more specialists be available to respond to customers' inquiries. *"Another challenge is that we need a dedicated person for something like this. A helpline is crucial because people don't understand what CycleBeads are from the ads."*³³

Cost-efficiency

Providing CycleBeads through e-commerce is more cost-efficient than offering it through retailers or health providers. A traditional retail model relies on "pull through"³⁴ to continue carrying products and therefore requires marketing to both the retailer and provider

as well as to the end-user. Additionally, many retailers require a 40% profit margin to carry products. On the other hand, potential users can be directed to a website via relatively low cost advertising in both the U.S. and in developing countries;³⁵ e-commerce also reaches a larger potential audience.

While cost-efficiency is a benefit of distributing CycleBeads through e-commerce, the cost for overall education and demand-generation, including offline promotion and support, should not be overlooked. In the table above, the costs of marketing to end users through e-commerce reflects the costs for customer acquisition using online advertising. However, it does not take into account that online customers may have been exposed to offline education and information.

Limited Return on Investment

Given the cost for establishing awareness of a new FP option, it is always challenging to find a model that will provide a reasonable return on investment. CycleBeads, as a one-time, low-cost purchase, is even more challenging for distributors than other RH supplies. While e-commerce makes it possible for retailers or providers to cover their costs in a market where e-commerce is already well established, it is not as financially attractive

Table 1. Comparison of historical costs for CycleBeads distribution in U.S.: retail distribution versus e-commerce (cost per set in USD).

CycleBeads Distribution Costs	Retail cost	E-commerce cost
Cost of CycleBeads	\$ 1.40	\$ 1.40
Shipping to central fulfillment center	\$ 0.45	\$ 0.45
Cost of packaging	\$ 1.00	\$ 1.00
Storage	\$ 0.25	\$ 0.25
Kitting	\$ 0.35	\$ 0.40
Shipping to retailer	\$ 3.00	Not applicable
Marketing to retailers	\$ 12.00	Not applicable
Customer service (logistics)	\$ 2.00	\$ 2.00
Marketing to end users	\$ 15.00	\$ 6.50
Client support (information)	\$ 0.75	\$ 1.25
Total product cost	\$ 36.20	\$ 13.25

Source: Cycle Technologies

as products that are purchased repeatedly. Furthermore, some discount e-commerce websites price CycleBeads so competitively that other retailers cannot compete, further reducing potential distribution. Several websites in the U.S. stopped carrying CycleBeads, complaining that discount websites made it impossible for them to cover costs.³⁶



“I think it’s important to have CycleBeads out there. I want my customers to have this. But I can’t compete with these guys. I can’t even cover my costs at those prices.” (U.S.-based e-commerce distributor, commenting on discount retailers on Amazon).



E-commerce Opportunities for the CycleBeads Digital Tools

Offering SDM through online tools, such as the CycleBeads smartphone app and CycleBeads Online, offers unique opportunities to increase access to FP. However, there are also challenges to a fully online model.

Distribution and Access

Given the increasing levels of internet access and cellphone use around the world, there is a significant opportunity for wider availability of CycleBeads. 84% of

people in emerging and developing nations now own a cellphone of some type, according to Pew Research.³⁷ While growth of mobile networks is spreading and more and more people have access to cell phones and the internet in developing countries, there are still large gaps. Rural areas lag behind urban areas, poorer people lag behind more wealthy people, and women have more difficulty acquiring technology than men, especially smartphones.³⁸

Product Improvements

Product improvements can be developed and implemented quickly. Online and mobile applications allow the consumer a direct communication channel to the company. Cycle Technologies’ customer service receives feedback, suggestions, questions, and concerns on a daily basis. Problems are often resolved directly between the company and the user. Feedback from users is evaluated quickly and applied to the product where appropriate. Upgrades and improvements to the CycleBeads app can be implemented quickly, not only because of direct communication with users, but also because programming an update or fixing a program flaw of a digital product can be done without retooling a factory and distributing physical products through logistics systems. An upgrade is available to consumers as soon as it goes live online or through the app market. This ease of product modification encourages continued development of improved function and features.

Additionally, given the nature of software as compared to a physical tool, the online product can be more proactive than the physical CycleBeads product—providing a



STANDING OUT IN A CROWD - POTENTIAL USERS ARE OFTEN CONFUSED BY SIMILAR PRODUCTS AND TOOLS

- “How do I know this is reliable? I’ve seen four other period trackers and they all have different information about which days are fertile.”
- “Can’t I can get this for free on WebMD?”
- “How is this any different than the other 8 period trackers I have on my phone?”



CYCLEBEADS: THREE EXAMPLES OF GOOD PRACTICE, INNOVATION, AND UNEXPECTED FINDINGS

- Mobile technology has the potential to completely change the distribution and business model for CycleBeads. It has become increasingly clear that as mobile technologies (and particularly smartphones) proliferate, this method can be offered entirely via mobile device in a variety of settings.
- In many cases, e-commerce websites like CycleBeads.com are resources for information and advocacy even if they have limited sales. For example, in the Philippines and the U.S., while dedicated e-commerce CycleBeads websites may have limited sales to end users, they provide information to support use of the method when women access it through health and government programs.
- The CycleBeads.com website receives significant traffic from a number of different countries. Additionally, as a result of this website, the company receives calls and emails from users and potential users from all over the world asking questions. While local e-commerce websites may be more readily found, it appears that people are comfortable with contacting a global website as well. This suggests that a global website can efficiently educate potential users and support actual users of CycleBeads wherever they are.

woman with alerts for fertile days, reminding her to enter her next period date, and allowing her to access information in her preferred language.

The digital-tools environment changes and evolves daily. Keeping up with the latest updates to the platforms—as well as potential innovations for the app and consumer

demands – involves continued monitoring, development and upgrades to apps. In other words, an app is rarely a finished product.

Informational Resource

As with e-commerce, information about the method and the product is readily available to an end user. In the case of smartphone applications, much of the information is embedded in the app directly and is therefore “at the user’s fingertips.” This allows the requisite guidelines for use to be available directly to the consumer without having to make a visit to a health clinic. Since CycleBeads does not rely on prescription or obligatory consultation and can be used correctly with basic guidelines, mobile apps can provide the complete information-based FP solution. As with the mobile apps and online services, educational and informational resources can easily be kept up-to-date with no need to reprint materials or deal with the logistics of educating health providers.

Cost-efficiency

Cost savings and efficiency are also benefits of having SDM available through mobile devices and computers. It significantly cuts production costs that are normally associated with a physical product, including costs for manufacturing such as freight logistics and distribution, storage, sale, and distribution to end users. Once the application or online service is built, the cost for managing it is limited to maintenance, marketing, and customer service.

However, the business model is challenging. Over 90% of health apps are available for free, and those that do charge tend to have a very low price.³⁹ Consumers are therefore unlikely to download an app that charges. Possible solutions are in-app upgrades that are paid for by the customer or advertisements that appear in the app. Other models are needed to help FP apps be sustainable.

Unregulated, Cluttered Market

There are over 165,000 mHealth⁴⁰ apps for iOS and Android devices,⁴¹ and dozens of “period” or “fertility” trackers. CycleBeads is different from competitors in that it can claim that the method it supports can be used for pregnancy prevention, based on a large body of research on SDM. However, the language used by many of the

other apps in this area can be confusing to customers. While “period trackers” typically make disclaimers that the apps are “not for contraception,” that is not always clear to the user.

There is very little oversight regarding the claims made by these apps and the information they provide. Unlike for physical products, a traditional network of distribution does not exist. Therefore, the trade structure for digital tools is underdeveloped and has few regulations and specifications. Mobile apps need only to be accepted by the app market (the iTunes App Store and Google Play Store) to be made available, but the markets do not vet the methods upon which a mobile app may be based. Making clear the distinction between CycleBeads – a tool to accompany SDM – and “period trackers” – which are designed only for tracking or pregnancy planning – is a challenge.

CONCLUSIONS

In offering the physical CycleBeads product through e-commerce, there are a number of opportunities and challenges. E-commerce has made it possible for potential customers to find out about the product and procure it, even when it is not readily available in their local healthcare or retail setting. It has also provided a resource for information and support for both existing and potential customers. However, it has been challenging to generate sufficient demand from online platforms to sustain a viable business model. Additionally, in many low-resource areas of the world, the lack of internet infrastructure and delivery systems has made it even more challenging to successfully offer CycleBeads tools through local e-commerce websites.

Table 2. Historical costs for CycleBeads smartphone app downloads

Activity	Cost
Ongoing maintenance	\$0.75
Marketing to end users*	\$1.00
Client support	\$0.75
Total download cost	\$2.50

* Customer acquisition costs for online marketing vary significantly by geography and demographic. Costs range from: \$.40-\$2.00 per download.

Technology is changing how people become aware of FP products and services and how they access them. In the case of CycleBeads digital tools, technological advancements have allowed for the development of new products to complement the physical product and new modes of distribution. CycleBeads can be offered entirely via mobile technology like smartphone apps or websites. The digital landscape is still changing and evolving; challenges of payment and accessibility in local languages and markets remain in many countries.


FUTURE RESEARCH

The findings from this case study suggest that while offline information and distribution continues to be important, e-commerce is promising channel for this CycleBeads. The challenge going forward will be to increase awareness of CycleBeads and SDM to allow for wider access while keeping in mind the need for information for this method to be consistently available for the end user. To better understand the scope and scale of both the physical and digital CycleBeads sales via e-commerce, some additional research could explore a number of questions, including:


- **Having a central online hub:** Can a global website be better leveraged to support CycleBeads access and use in a wide variety of countries? Specifically, what pros and cons exist compared to local websites?
- **Understanding the impact of mobile technology on user interest for underused FP methods:** How does mobile technology affect interest and demand for underused technologies—especially fertility awareness-based methods that can be offered entirely via mobile devices?
- **Staying aware of the offline needs:** What offline support do distributors and end users need for successful e-commerce distribution?

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