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INNOVATION MARKETPLACE

Dual-Market Scaling Strategies for Impact

A WHITE PAPER

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The *Every Woman Every Child* (EWEC) Innovation Marketplace is a strategic alliance of development organizations including Grand Challenges Canada, the Norwegian Agency for Development, the U.S. Agency for Development and the Bill & Melinda Gates Foundation. The EWEC Innovation Marketplace selects and supports the scaling of promising innovations that address high mortality and morbidity health conditions for women, children and adolescents in low- and middle-income countries.

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INTRODUCTION

Over the past few years, a new business model for scaling early stage innovations has arisen in the global health community called a 'dual-market strategy' in which innovators introduce a similar product or service in both high-income countries (HICs) as well as low- or middle-income countries (LMICs). The drivers behind the emergence of the dual-market strategy include the challenges faced by innovators to attract investment capital for scaling in LMICs and the ambitions of companies headquartered in HICs to become relevant in wider markets and to deliver their solutions to impact lives in LMICs. This white paper examines the dual-market strategy in greater detail to identify insights and issues. It discusses opportunities for donors and grant funders to collaborate with private investors by implementing blended finance approaches, and explores other considerations relating to this model to assist innovators.

The ideas expressed in this white paper evolved from expertise developed while studying scaling and in working with funders and innovators through the *Every Woman Every Child* (EWEC) Innovation Marketplace, a strategic alliance of development organizations consisting of Grand Challenges Canada, the Norwegian Agency for Development, the U.S. Agency for Development and the Bill & Melinda Gates Foundation – an initiative housed at Grand Challenges Canada. The points made should be interpreted as scholarly observations, rather than as an agenda endorsed by the EWEC Innovation Marketplace partners.

1. DEFINING THE DUAL-MARKET STRATEGY

A dual-market strategy is a business model in global health in which for-profit companies introduce the same or a similar product in both HIC markets and LMIC markets, and that the returns from high-income markets help to enable the operations in low-income markets. Whether the product originated for the purpose of solving problems in HICs or in LMICs, its introduction in HICs facilitates its distribution in LMICs in multiple ways. The product is priced differently in each market – higher in HICs and lower in LMICs. In some instances, the products marketed to LMICs are modified slightly from the HIC versions to make them easier to use, more affordable or contextualized for LMICs (e.g., with language translation or adapted to cultural contexts, health system workflows, skill level, etc.) In all cases, the products introduced in different markets draw from the same innovative concept and evidence base.

A dual-market strategy differs from other approaches to scaling health technologies in LMICs because the innovation is usually first introduced into HIC markets targeting relatively resource-rich customers, and is introduced to LMICs relatively soon after or even concurrently with commercialization in HIC markets. This approach is faster than the traditional approach that causes delays in LMIC impact, where companies first aim to dominate HIC markets before turning their attention to LMIC markets, usually after several years. While LMIC-only technologies may be significantly cheaper by design, their ability to lead to best potential outcomes for impact is limited, as these strategies are not sufficient to attract and mobilize the type and level of capital needed to scale today. We also include innovations defined as 'reverse innovations'[1] – the opposite of this approach – where products designed with a "frugal innovation"[2] lens for LMICs increase the potential for financing the scale up of the innovation by expanding their accessibility to a much wider market in HICs. Reverse innovations are likely to become more common in the coming decades as the pace of innovation in LMICs accelerates.

2. BENEFITS OF THE DUAL-MARKET STRATEGY

Dual-market strategies have three main benefits. First and importantly, as a result of the anticipation of profitability, they have the ability to attract and channel diverse sources of investment to scale up an innovation. Since sales in HICs potentially generate much higher returns, private investors may be attracted to the project even during early stages when the company's approach, including its technologies, is not fully proven. Private investors (such as individuals or venture capital firms, especially in HICs where the venture capital sector is more established) may take product development risk in exchange for the potential of earning a high return, even when commercialization is a few years away. Dual-market ventures are also attractive to a subset of early-stage public and philanthropic funders that consider the long-term financial viability of projects as integral to investing decisions. For these funders, the long-term profitability of the venture serves to demonstrate the potential for long-term self-sustainability and continuation of the innovation beyond their funding. All in all, a dual-market strategy makes the investment attractive to multiple funders in the critical early stages, some of which would not have the ability to invest without the promise of financial returns, and others who cannot fund innovations that cannot become self-sustaining.

Second, patients and other buyers in LMICs often prefer to access the same products as those sold in HICs so as to quell any concern, real or perceived, that solutions designed or marketed solely to LMICs tend to be of poorer quality. If executed with the right amount of contextualization and training, this mechanism has the potential to ensure that LMIC markets have access to the latest health innovations, in line with those offered in HIC markets. It also has the potential to not only create access to the initial product, but also to any potential subsequent improvements made in the future.

Lastly, and further justifying the strategy for HIC market investors, who may initially see this as a distraction from their main goal of earning high returns on their investments, there are cases – especially where the HIC market strategy involves direct sale to a patient/customer – where there could be brand benefits in HICs from this approach. In particular, millennial buyers consistently express a preference for brands with ethical aspirations and motivations that go beyond the benefit they may themselves receive for the product or service[3].

3. TYPES OF DUAL-MARKET STRATEGIES

Under the umbrella of 'dual market strategy,' there are three main models: pure cross-subsidy, independent self-sustaining and synergistic.

A PURE CROSS-SUBSIDY MODEL

This business model is often called 'the Robin Hood strategy'. In this model, a product or service is first introduced into a HIC market and the profits garnered from the revenue generated from the sales of this product or service are used to subsidize the sales (or even donation) of the same product or service into an LMIC market. The product or service is then sold at a lower price in the LMIC than in the HIC – typically, a price that is lower than the product's total cost of production (including delivery and other costs). In some instances, the product or service offered in LMIC markets may even be offered free of charge to customers. Thus, the cross-subsidy model uses profits from HICs to support the offering in LMICs.

B INDEPENDENT SELF-SUSTAINING MODEL

In this model, the introduction and profits of the product or service into HIC and LMIC markets are kept independent, and the business model for the LMIC setting is designed to be self-sustaining, meaning that the product price in the LMIC covers its total costs (including cost of goods, delivery, sales and other costs, often termed 'variable costs') and may generate a profit, although significantly less than the comparable HIC market. As such, the model ensures that the profits accrued in the LMIC will continue to support the sales of the product or service in the LMIC and may even justify some level of investment by the private sector in that market – usually lenders, as opposed to equity investors. However, the profits are not usually sufficient to cover future research and development investment costs necessary for future product improvements or market-building activities.

In independent self-sustaining models, therefore, the product or service's introductions into HICs and LMICs are separate. At the same time, access to the product or service itself and access to any product improvements rely on the health of the HIC-based business and the support of the HIC-based management team for certain functions.

C SYNERGISTIC MODEL

The synergistic model seeks to draw mutual benefits from the introduction of a product or service in both resource-rich and low-resource markets at once. For instance, one challenge of scaling up health innovations is their long lead times for development, trials and certification before they are ready to go to market. Synergistic models may use the access to multiple markets to overcome challenges of this sort. For example, trials conducted in both LMICs and HICs can lead to more robust evidence and can contribute to multiple regulatory approvals, such as CE (Europe) and FDA (U.S.). Products (including diagnostics that rely on machine learning) may benefit from testing on diverse populations to develop a higher-quality product that is relevant to more patients and more markets, with both monetary and impact benefits. Thus, synergistic models ensure mutualism between HIC and LMIC markets, as the lower economics earned in LMIC markets are outweighed by these non-monetary benefits.

4. CHALLENGES OF DUAL-MARKET STRATEGIES

Dual-market strategies continue to face several challenges, including (1) the legitimacy of the practice, (2) the evolution of corporate priorities, (3) the difficulty of achieving true self-sustainability and synergies and (4) the appropriateness of differences in treatment for certain types of health conditions.

When products are sold in resource-rich HIC markets at higher prices, the payers are usually the government of the HIC or private health insurance providers. Given the universal push for lower pricing, these governments and insurance providers may prefer cost savings as opposed to subsidizing sales in LMICs, despite the humanitarian intention. The argument is against the use of taxpayer money or insurance policyholder funds to subsidize access for citizens of other countries. Uninsured patients who pay for these expenses out-of-pocket in HICs may also view the practice as unfair, especially when they have limited means themselves. Thus, questions in HICs about the legitimacy of dual-market strategy practices may arise, especially when the cross-subsidy model is utilized. Further, while variable costs of the product or service may be covered with the self-sustaining model and while there are long-term benefits to the strategy for the synergistic model, companies may require grant funding to mitigate questions of legitimacy. In line with this challenge, donors and funders for LMICs may be reluctant to provide non-dilutive funding to private companies, due to the limited number of known established successes, perceived dilution of impact strategy, the need to designate funds solely for LMIC activity or for other regulatory reasons.

Separately, the long-term priorities of corporations seeking to scale up products may shift over time with changes in management, or after a corporate transaction (such as raising capital from new investors, or a merger or acquisition transaction). Initially, a corporation may support the LMIC participation irrespective of other HIC market opportunities. However, particularly for the cross-subsidy approach, the corporation may eventually face pressures from shareholders, including investors, to pursue opportunities where higher profits can be earned. For example, pressure may arise to redirect the capital devoted to the LMIC strategy toward the development of new products targeting HIC markets. Stakeholders may even pressure the corporation to distribute excess funds to shareholders as dividends. The evolution of corporate priorities may thereby also challenge the longevity of dual-market strategies, even when management team members or a subset of shareholders support the strategy.

A further common challenge of dual-market strategies is effective management of self-sustainability or synergies. Even when self-sustaining, corporate activities in LMICs will require continued access to capital, companies new to the strategy may not be aware of the full suite of mission-driven or local financing options that could be available for this purpose and may feel that this approach limits the company's overall capacity to use this capital for more profitable purposes. Similarly, the pursuit of synergies may be impeded by many factors. For example, when a company runs simultaneous clinical trials in HICs and LMICs, the regulatory processes of the involved countries can require different clinical trial designs, leading to an escalation of regulatory costs that outweighs synergistic benefits.

Other challenges that may need to be mitigated or monitored include price arbitrage, market shaping through price monopoly or legal/regulatory limitations on price discriminations[4]. Further differences in contexts and the need to nurture entirely different networks of actors in each market may challenge the abilities of corporations, especially early stage or smaller companies that are pursuing dual-market strategies to achieve real synergies for mutual benefit of the countries and markets in question.

5. CHOOSING A TYPE OF DUAL-MARKET STRATEGY

Ideally, companies would all have an opportunity to choose the synergistic approach as it is optimal for all parties involved, including companies, populations in both HICs and LMICs and investors, and therefore least likely to suffer some of the criticisms of the strategy, given the scope of aligned interests. However, there are many instances where the choice of this strategy is unlikely or at least difficult to realize. In such cases, most funders favour the independent, self-sustaining model to the pure cross-subsidy model, as the latter is most likely to fail in the event of an economic downturn, change of management or in the face of HIC market stakeholder challenges.

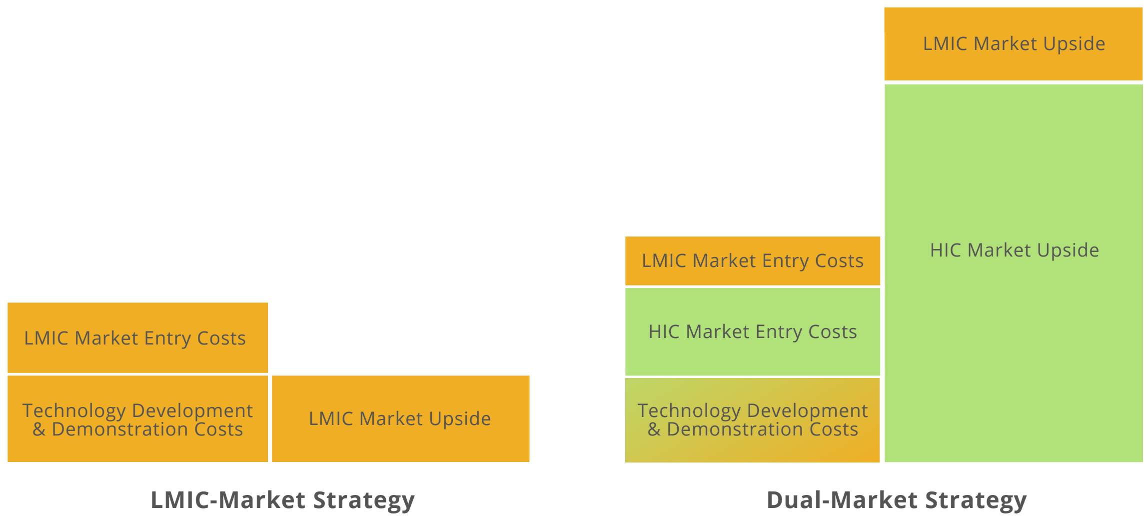
That said, there are also instances when only a pure cross-subsidy model is possible. In these cases, it may be helpful to request a direct donation towards the LMIC strategy, potentially as part of a social responsibility strategy.

6. DUAL-MARKET STRATEGY – AN OPPORTUNITY FOR CAPITAL EXPANSION IN GLOBAL HEALTH

Dual-market strategies are particularly effective when they leverage low marginal costs and network effects. Technologies characterized by high initial technology development and demonstration costs, and subsequent low marginal costs for diffusion and operation (such as digital technologies and a subset of other healthcare products and technologies) are ideally suited for this scale-up approach. This approach limits risks of legitimacy, shareholder objections, and the draining of management capacity and resources.

Because there is the potential of a strong value proposition for both private sector investors and donors, these strategies offer an opportunity for collaboration between these two groups that has the potential to result in significantly more impact for the same level of investment for funders. Ultimately, the financing tools relevant for such innovations may include the entire suite of those discussed in our financing instruments white paper in this series[5]. If utilized more frequently, dual-market strategies leveraging blended finance could result in an increase in the types, sources and amount of capital available for scaling health technologies in LMICs – an outcome that is critically needed in light of the current poor progress toward the achievement of Sustainable Development Goal 3, a problem that has worsened with COVID-19. The concept is illustrated in figure 1 below at the company level.

Figure 1. The Impact of Dual Market Strategy on Financing Strategies



The figure represents the case of a technology that has a high initial development and demonstration cost that must be financed irrespective of the target market. In this specific example, the LMIC market upside from the product is insufficient to justify private investment. As such, without a dual-market strategy, donors must fund the entire product development and demonstration costs, as well as the market entry cost in LMICs. Once the product is in the market, there is an opportunity for some financing, primarily from mission-driven lenders at low interest rates, but the organization may find it difficult to thrive as it cannot finance new product innovations without further grant capital, which may be elusive.

When using a dual-market strategy to achieve scale in LMICs, we note that there is a significant value proposition for private investors created by the additional HIC focus. In such a case, participation by donors (shown in green) in the early and riskier stages of the project may encourage companies to make commitments to make a technology accessible in all or a subset of specific LMICs, often termed 'Global Access Commitments' or 'Intellectual Property Rights'. (Note that such rights would need to be designed in a manner that takes the interest of all stakeholders into account, including investors, donors, the company and patient beneficiaries.) As illustrated, the costs of market entry in LMICs may be reduced by market entry in HICs because some of the activities required are also needed for HIC markets, such that they are mostly borne by investors interested in the return potential of the venture.

In the most ideal scenarios, donors remain involved with the company as it scales, and enable the company to grow its impact in LMIC populations in multiple geographies via grants, to enter new markets and to contextualize new innovations that are developed by the company.

That said, we note that market entry costs in LMIC markets can be significant when technological adjustments are needed to contextualize products, when demonstration trials are needed, or to build capacity for distribution by bolstering the capabilities of local ecosystem partners. They also require access to local networks of collaborators that donors and technical assistance platforms are generally better positioned to provide relative to private sector investors, making collaboration a critical component of this strategy. In the illustration the synergies accrue to all involved, as the presence of donor capital also has a small positive effect on investors (reduced dilution early on), which justifies the company's ability to sustain the LMIC strategy. While some donors may view this as a negative, we argue that the small positive effect on the company enhances the chance of long-term success as it provides the CEOs of these companies with stronger arguments to convince their commercially-oriented investors to support the dual-market strategy.

This framework is applicable whether the innovation initially originates from an HIC or an LMIC, and irrespective of which market is targeted first. The only requirement for this framework to be applicable is relative economics of each component of the strategy.

7. DUAL-MARKET STRATEGY – FOCUS ON OVERLAPPING NEEDS FOR HIGH IMPACT

The heart of the opportunity behind a dual-market strategy arises from the overlap of health needs of patients in HIC and LMIC markets. Priorities such as preventing maternal postpartum hemorrhage, diagnosing and treating childhood pneumonia, preventing and managing newborn prematurity, facilitating access to diagnostics and treatments for sexually transmitted infections, providing access to menstrual hygiene products and addressing non-communicable diseases – among other common needs – are universal needs for women, children and adolescents.

A product may be an incremental innovation on health outcomes for a patient in a HIC through, for example, workflow or cost efficiency. At the same time, the product may carry the potential to be a revolutionary, disruptive innovation, given the current standard of care in an LMIC. Likewise, a solution designed for LMICs to leverage limited resources can create cost efficiencies that are equally valued in HICs, and also assist HICs in addressing their own inequalities related to race, gender and wealth. The early involvement of the global health donor community for financing in these approaches can enable these mutually beneficial and relevant solutions to scale.

8. EXAMPLES OF SUCCESSES

Recent successes in global health highlight the benefits, risks and costs of the dual-market strategy approach. For example, Babylon Health has successfully adopted the strategy in bringing their UK-based solution to Rwanda, in addition to expanding to the U.S. and other HICs nearly concurrently.

Babylon Health is a digital healthcare platform that provides patients with artificial intelligence (AI)-powered remote consultations to doctors via messaging and video through its mobile application. Babylon Health is a UK-based company that started in 2013 as a subscription business model for private healthcare services. Supported by donors like the Bill & Melinda Gates Foundation, the company was able to bring their technology platform to Rwanda in a 10-year partnership with the national government, registering as **Babyl**, a subsidiary of Babylon. Babyl, the LMIC entity, solves issues of access in Rwanda by addressing the shortage of doctors and Rwanda's desire to leverage its limited healthcare workforce efficiently. Many opportunities worked in Babyl's favour: Rwanda's tax incentives, the structure of the healthcare system, growing broadband investment, relative political stability, political commitment and high coverage by national health insurance (93%). Many of these enabled Babyl to overcome challenges, such as building a non-smartphone USSD (Unstructured Supplementary Service Data) version to compensate for lack of smartphone coverage, building central call centres to overcome lack of widespread infrastructure and even altering the name to accommodate cultural perceptions. Today, Babyl offers 3,500 consultations per day, available in all districts, and enjoys higher daily volumes compared to weekly volumes in the UK. Concurrently, the main corporation has extended its reach to Canada, the U.S. and Saudi Arabia. It has reached unicorn status and is valued at $2Bn after its latest $550 million Series C round.

There are also multiple multinationals with successes, including General Electric, which financed a $13M Healthcare Skills and Training Institute in Kenya in 2016; the corporation has also achieved positive synergies with other non-health related aspects of the business.

Earlier-stage companies adopting these dual-market strategies with early signs of success include Mobile ODT and GestVision, each targeting a broad group of diverse LMICs based on their networks and LMIC market demand for their products.

Mobile ODT[6] has created the EVA System based on AI and machine learning technology with an accuracy similar to that of leading experts. The device is a colposcope linked to a smartphone that screens for cervical cancer, uploading images to a secure online data management system for doctors to examine. Mobile ODT's system has provided accessible visual assessments for over 40,000 patients in over 27 countries. Their primary markets are the United States, Europe, India and African countries. Their financing comes from several private investment sources, including venture partners OrbiMed, DAI, TARA Health Foundation and the Laerdal Million Lives Fund; the company was recently awarded a prestigious Small Business Innovation Research Authority grant of US $2.3 million by the United States National Cancer Institute (NCI) and also recently secured non-dilutive funding for a large-scale pilot project in Kenya, in collaboration with GE Healthcare. This technology had the high early cost to develop and demonstrate the technology, with low costs to diffuse the device and app that were highlighted as a good candidate for this strategy.

GestVision[7] is a company developing the GestAssured© test, to aid in the diagnosis of preeclampsia. The test is based on the Congo Red Dot (CRD) technology licensed from Yale University. Given preeclampsia affects women in the United States as well as globally in low-income markets, the company envisioned a dual market strategy where the U.S. market can provide commercial sustainability to allow pursuit of markets in developing nations. GestVision has raised over US $12 million in private capital in the last 5 years from investors that include Cooper Surgical. Irina Buhimschi, one of the inventors of CRD technology, has lead trials in LMICs and has demonstrated the potential of the test to aid in the diagnosis of preeclampsia. These studies were possible due to grant opportunities (such as those by the Grand Challenges organizations), demonstrating the various types of support needed for a successful dual-market approach.

CONCLUSION

Dual-market business models introduce products or services at higher prices in HICs and lower prices in LMICs. Dual-market scaling approaches include pure cross-subsidy, independent self-sustaining and synergistic models, and may unlock collaboration among funders and investors towards significantly expanding the amount of capital available to increase the number of leading technologies scaling in LMICs. With SDG 3 (the Sustainable Development Goal dedicated to Good Health and Well-being) becoming even more difficult to address due to health system challenges like COVID-19. This form of collaboration – allowing investors, donors, company management teams and patients across the world to benefit – has the potential to expand the total amount of capital available for global health purposes by bringing more players to the table[8]. Initial priorities must include participating and sharing success stories to convert new and experienced participants in the health sector towards greater collaboration, while maintaining their own true nature on the risk/reward/impact continuum.

REFERENCES

1. Govindarajan, V. & Trimble, C. (2012). Reverse innovation: create far from home, wine everywhere. *Boston: Harvard Business Press*.

2. Weyrauch, T. & Herstatt C. (2017). What is frugal innovation? Three defining criteria. *Journal of Frugal Innovation*

3. Chatzopoulou, E. & de Kiewiet, A. (2020). Millenials' evaluation of corporate social responsibility: The wants and needs of the largest and most ethical generation. *Journal of Consumer Behaviour*

4. Fisher W. W., Syed T. (2017). Stanford University Press. Infection: The Health Crisis in the Developing World and What We Should Do About It. Chapter 3: Differential Pricing

5. Devadas, D., Thériault, A., and McGahan, A.M. (2021). Financing Instruments for Innovators to Scale Health Innovations in Low- and Middle-Income Countries, *Every Woman Every Child Innovation Marketplace White Paper*

6. Mobile ODT. Retrieved on July 24, 2019, from https://www.mobileodt.com/

7. GestVision. Retrieved on July 24, 2019, from https://gestvision.com/

8. Mangham, L.J. & Hanson, K. (2010). Scaling up in international health: What are the key issues? *Health Policy Plan,* 25(2), 85-96

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