



Digital Divide Data

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As Digital Divide Data (DDD) entered its ninth year of operations, its leadership had ample reason to be pleased with the company's progress. Since its inception in 2001 as a small IT outsourcing company with a dozen employees in Cambodia, DDD had grown into an internationally recognized, nonprofit social enterprise. A 2008 recipient of the prestigious Skoll award for social entrepreneurship, DDD and its staff of 500 served clients in the United States and Western Europe from two offices in Cambodia and one in Laos. Its annual operating revenues hovered around US\$2 million, and it had trained and provided scholarships to over 1,300 disadvantaged youth.

DDD's social mission was to help economically disadvantaged young adults, some of whom were physically disabled. DDD trained and employed young Cambodians and Laotians in IT outsourcing, with the goal that they would graduate from DDD and continue to earn competitive wages for themselves and their families. DDD recruited recent high school graduates whose prospects for jobs and post-secondary education were limited, due to lack of resources or disability. The company provided its recruits with computer training as well as English classes required for DDD's work—data entry and digitization—and gave scholarships to all recruits to study for a business- or technology-related degree at a local university. After three to four years working at DDD, the operator (as an entry-level employee was known) would then complete his or her university degree and graduate from DDD. Graduates either were promoted within DDD, or left to join other organizations that valued their professional experience and technical skills.

Satisfied with the apparent success of the company's business model and operations, DDD's U.S.-based leadership wondered how it could rapidly scale up DDD's social impact globally. DDD relied on a small U.S.-based management team, supplemented by expatriate volunteers and short-term assignees on the ground in Cambodia and Laos. Growing the number of paid U.S. staff to manage

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expansion plans was not very feasible given financial constraints. DDD was therefore eager to design an expansion strategy that could provide the same level of employment opportunities and social programs, but would require less infrastructure, resources, and financing than was typically necessary when starting new sites from scratch. But whichever growth strategy they selected—whether it be organic growth, partnerships, joint ventures, or social franchising—DDD’s leadership team knew that more was at stake than mere global scale. The right strategy would determine the future: break even, break down, or break through.

DDD History and Background

Canadian-born Jeremy Hockenstein, DDD’s CEO and a co-founder, had visited Cambodia in November 2000 on vacation from his job as a McKinsey consultant in the United States. He was struck by the level of poverty in the country, and the lack of opportunities for young people to build careers and provide for their families, even though Cambodians seemed to value education and sought ways to empower themselves. Hockenstein concluded that Western demand for IT outsourcing services could be satisfied by Cambodian workers, given the right resources and training.

Upon his return to the United States, Hockenstein, a graduate of the MIT Sloan School of Management, looked for advice and, ideally, participation from his network of friends and colleagues. On a return trip to Cambodia in February 2001, he and four others visited Phnom Penh and investigated sustainable ways of providing employment and education to the disadvantaged youth in Cambodia’s capital. They decided to create an IT outsourcing business that would provide data entry and digitization services. This would result in young people trained in technology and English, and the prospect of future gainful employment based on their DDD work experience. In mid-2001, DDD’s first office opened in Phnom Penh with 20 operators and a contract: to digitize the back catalogue of Harvard University’s *Harvard Crimson* undergraduate newspaper.

During the first few years, DDD’s revenue came from a number of U.S. contracts for data entry and digitization that were sourced by the company’s U.S. management team. There was little specialization and standardization of workflows and processes between projects. Employees worked either a morning or afternoon shift, so that they could spend the other part of the day attending their university classes.

Towards the end of 2003, DDD decided to open two new offices outside of Phnom Penh in order to reach disadvantaged youth who were unable to move to the capital city to further their education. The first was in Battambang, Cambodia’s second largest city of nearly one million people, located roughly 180 miles northwest of Phnom Penh. The Battambang office was opened by two Cambodian managers from Phnom Penh who had started with DDD as operators. They successfully implemented DDD’s training and employment practices and recruited the first group of trainee operators. Later that year DDD also opened an office in Vientiane, Laos. Creating these new sites allowed DDD to differentiate each office’s services, as well as to seek local work to bolster the offices’ revenue.

At the start of 2009, DDD was breaking even on its operating expenses. It had secured several large multi-year contracts from U.S. and European clients, such as *Reader's Digest* and Content Conversion Specialists, and had entered the domestic market with a contract to provide services to Mobitel, the national cellular telephone provider of Cambodia. (See **Exhibit 1.**) Yet as the number of clients grew, so did the number of employees. To maintain its swelling social programs, training, and operator scholarships, as well as its fundraising and expansion planning, DDD continued to rely on donations and sponsorships.

Not only did DDD depend on a dedicated U.S.-based sales staff to develop Western business contracts, but the company also relied on expatriate project management expertise. Initiatives were underway to standardize project management and operations processes among the three sites. In addition, steps were being taken to ensure that the training curriculum was standardized yet specific to the services each office provided.

In 2008 DDD began a partnership with the Centre for Information Systems Training (CIST) in Phnom Penh. CIST, a French NGO, provided two-year IT training scholarships to disadvantaged Cambodian youth, and helped them find jobs in the local IT market after graduation. CIST agreed to select and train cohorts of DDD operators for three to six months, with the cost shared between the two organizations. In early 2009 the first group of 50 CIST-trained DDD recruits was preparing for full-time employment with DDD. Plans were in place to continue and expand the partnership to train more incoming operators.

Cambodia and Laos Operations

Two of DDD's three offices were in the Kingdom of Cambodia. Located in Southeast Asia, Cambodia shared borders with Thailand, Laos and Vietnam. With a population of 15 million, of which 80% lived rural areas, Cambodia was one of the poorest countries in the region. GDP per capita in 2007 was US\$1,600 (PPP); over one-third of Cambodians lived on less than \$.50 a day.¹

Cambodia's poverty had been at crisis or near-crisis levels since the days of Pol Pot's Khmer Rouge regime (1975-1979). An extremist political group, the Khmer Rouge's goal was to create an agrarian society and extinguish the educated classes. Under Pol Pot's four year reign, Cambodians endured harsh living conditions, torture, political persecution and genocide. It was estimated that two million Cambodians, approximately 20% of the total population, particularly the well-educated, were killed.

By the late 2000s, three decades after an entire generation was lost in the genocide and a mere decade since a 1997 coup brought an end to years of civil war and foreign occupation, Cambodia, particularly Phnom Penh, appeared to be embracing the future. Japanese- and Korean-made cars darted around the capital, new hotels and houses were being built, and Internet cafés were filled with

¹ Geoffrey Cain, "Cambodia: Cambodia's New Intellectuals," *Far Eastern Economic Review*, November 7, 2008.

eager youth using mobile phones to participate in the country's growing fascination with blogging.² Prior to the global economic crisis of 2008, the Cambodian economy had been growing at double-digit rates, boosted by booming industrial and services sectors that reduced the country's historic reliance on the agricultural sector; the garment industry alone accounted for 80% of export earnings and employed 3 million people.³ Between 2004 and 2006, foreign direct investment skyrocketed from \$340 million to \$2.6 billion.⁴

Despite its progress, the country still had a long way to go before a thriving business sector was up and running. The country ranked 136 out of 178 countries on the United Nation's Human Development Index, well behind Malaysia, Thailand and Vietnam. (**Exhibit 2** provides select human development indices for Cambodia and neighboring countries.) Even though it had a fairly high literacy rate of 76%, Cambodia suffered from a high drop-out rate between primary and secondary schools with only 24% enrolled in high school (**Exhibit 3**). In its "Ease of Doing Business" survey,⁵ the World Bank ranked Cambodia 145 out of 183 nations, whereas Thailand was ranked 12, Malaysia 23, and Laos 167. Contributing to the Cambodia's poor performance on the "Ease of Doing Business" survey was its shortage of experienced managers. Cambodia's recent economic growth had exacerbated the scarcity, as new businesses continuously entered the country.⁶ The existing managerial rank therefore commanded a premium price in the marketplace, especially in Phnom Penh.

For DDD the situation posed a number of human resource management challenges. The company's limited financial resources made it hard to compete for and attract local management talent. DDD often found that it had to rely on the appeal of the company's social mission to recruit trained professionals. The company also faced difficulties retaining internally-trained managers and high-performing operators. Cambodia's IT sector was growing rapidly, and the experienced people could go elsewhere and earn a higher salary than what DDD could offer. As it grew, therefore, DDD faced a human resources challenge in both Cambodia and Laos: skilled managers were hard to find, and expensive because they were in such demand. To fit well with DDD, an individual moreover needed to not only meet the role's technical requirements, but also be passionate about DDD's social mission.

DDD's Battambang office faced additional challenges. Battambang was significantly less developed than Phnom Penh. The majority of roads were unpaved and only a handful had street names. Outside of the rainy season, the road from Battambang to Phnom Penh took anywhere from three to five hours; during the rainy season the only accessible bridges were often wiped out. Moreover Battambang's electricity supply was unreliable, broadband connections were limited and very

² Geoffrey Cain, "Cambodia: Cambodia's New Intellectuals," *Far Eastern Economic Review*, November 7, 2008.

³ Andrew Ross, "Cambodia Slowly Rising Again from Khmer Rouge Killing Fields," *The San Francisco Chronicle*, December 9, 2007.

⁴ Erika Kinetz, "Private Equity Digs for Treasure in Cambodia," *The New York Times*, May 31, 2008.

⁵ Rankings based on the following criteria: starting a business, dealing with construction permits, employing workers, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts, and closing a business.

⁶ Economic Intelligence Unit, "Country Profile: Cambodia" (2008).

expensive, and T1 connections, where available, cost several thousand U.S. dollars per month. As a result, DDD could not assign certain types of profitable work to Battambang as it could not ensure that Battambang would be able to successfully send the finished product electronically to the client on time. The DDD Battambang office also reported very limited private-sector support—no local firms provided computer equipment or even basic office supplies such as desks, chairs, or printer paper.

The poor infrastructure made it difficult for DDD to transfer skills from the Phnom Penh office, as its managerial staff were reluctant to relocate to Battambang. Meanwhile, most of northern Cambodia's educated workforce tended to move to Phnom Penh rather than stay in the regions, so recruiting talented operators and managers locally was a constant challenge. The Battambang office had had to implement proficiency and intelligence testing to ensure that the quality of the recruits was up to standard. On the other hand, once the Battambang employees were recruited, DDD had no trouble with retention, since it was one of the only IT service operators in the region.

Both the Battambang and Phnom Penh offices struggled with the realities of the Cambodian educational system. DDD's leaders had found that because Cambodian education tended to be lecture-based, rarely interactive, and under-resourced, it was not uncommon for students to take several semesters of computer classes without ever seeing or touching an actual computer. Furthermore, the quality of education varied. Generally speaking, the quality of the education system in the northern areas of Cambodia, including Battambang, was not as good as in Phnom Penh. Recruiting outstanding high school graduates, therefore, had been more challenging for DDD's Battambang office.

In Laos DDD had faced similar problems and more, particularly when seeking local clients and local employees. Laos was significantly less developed than Cambodia; there was not much local demand for DDD's services. Instead DDD used its NGO network and related private companies to capture sales. Moreover, Laotian businesses were only convinced that DDD could deliver on its promises after DDD had demonstrated that its European and other Western contracts were successful.

Operational Challenges

On the business side, DDD had to compete with other much larger IT providers, including Aptara, SPI Technologies and Apex Data Services, to win international contracts. (See **Exhibit 4** for competitor profiles.) Due to its small size, partnerships were very important to DDD. When it lacked capacity, DDD outsourced to a number of smaller IT outsourcing firms. DDD leveraged these partnerships to learn about new digitization processes that it could build on to win future work.

Although DDD's social component gave it an edge when the bidding for jobs was close, its grassroots origins made its operations complicated to scale. DDD's three offices lacked a standardized system for project management, and the operational processes were not documented. This made it difficult to establish best practices across the organization, which in turn might be reducing its potential

profitability. In mid-2008, the company began to address these issues, mainly by recruiting Western expatriate volunteers to work with the current management.

Recruitment and Training

Training new recruits was a critical component of DDD's model. The company trained new staff for about six months before they started as operators on client projects. In order to help as many people as possible and maximize the company's social impact, an operator could only stay with DDD for four years before he or she graduated. Fewer than 10% of employees then continued with DDD in management roles; the rest moved on to other local firms, usually into higher-paying positions.

Through DDD's internally developed training curriculum, recruits learned basic skills such as typing and how to operate a computer, as well as business-specific skills such as business etiquette, teamwork, and email writing. In addition, trainees received one hour of English instruction every day. In the last part of the training program, trainees were expected to learn the basic tools and software that they would use in the course of their work. This portion of the curriculum, therefore, was customized to reflect each site's product and service offerings. The curriculum was mostly in Khmer, the Cambodian language, and had not been translated into English.

Because the recruitment and training practices in Phnom Penh differed from those of Battambang and Laos, DDD had very little documentation or company-wide guidelines on recruitment. For example, in Phnom Penh the recruitment and training was outsourced to CIST, but in Battambang it was done in-house.

Capacity and Contract Allocation

One of the most pressing challenges and considerations for future growth pertained to how work was allocated among DDD's three offices. The three offices were largely specialized. The Laos office primarily performed xml tagging services, Battambang academic data entry and survey work, and Phnom Penh digitization of print publications. Although DDD had signed up some local clients, such as Mobitel, all three offices still relied on international contracts generated by the U.S.-based sales team for the vast majority of their revenue.

DDD's executive team was also concerned about capacity imbalances among the three offices. For example, the Battambang office had too little workflow to continuously occupy all operators, yet the Phnom Penh office had too much, and was constrained by the lack of personnel and physical space. Retraining the operators and project managers in Battambang to take on some of the work from the Phnom Penh office was not considered a viable option as it would require considerable financial and human resources.

DDD's Goals for Growth

In 2008 DDD's board of directors set two parallel goals: grow its existing operations to 1500 people, while exploring ways for the company to expand globally. The board believed that DDD had overcome its main operational challenges and had a proven business model that could be deployed internationally. While the main objective was to help more people in farther reaches of the world, expansion would also add capacity and enable DDD to take on larger contracts in the publishing market. The company's founders emphasized that while they remained committed to further growth in Cambodia, both the country and the company had come far since DDD started training its first operators in 2001. The time had come to take DDD's mission, business model and ability to make a social impact to another level, and possibly another continent.

While DDD's senior management and board of directors were fully committed to the expansion strategy, they weren't sure which path to pursue or how best to proceed. In the past DDD's expansion efforts had been challenged by local particularities such as labor shortages, lack of basic business infrastructure, and variation in labor pool skill-sets. DDD's management was therefore eager to make sure future expansion took place in locations that had been thoroughly vetted and were well understood by the expansion team. Senior management had already conducted exploratory talks with potential partners in India, China and Vietnam, but they didn't know whether partnership was the best approach to expansion. Moreover, no matter where or how DDD expanded, one thing was clear: expansion meant that more people would be needed to support a larger organization. Management was keen to keep control over the size of its U.S. staff in order to minimize costs, potentially further straining local resources.

Growth Options

Nonetheless, a cohesive strategy would help DDD transform itself into a premier mission-oriented global IT services enterprise. In addition, developing a single coherent global strategy and business model was critical for securing fundraising and donor support. Through conversations with senior management, partners, and donors, DDD's board of directors had identified four potential strategies for expansion: organic growth, partnership with a local entrepreneur with an existing business, social franchising, and partnership with an international NGO or outsourcing firm.

Organic Growth

A greenfield growth model would deviate little from DDD's previous strategy of expansion into Northern Cambodia and Laos. Such a strategy could be initiated immediately, as DDD would not have to go through the process of vetting and negotiating with potential partners. DDD would also be in complete control of the strategy and management of a new DDD office.

Yet DDD's leaders recognized that organic growth would put a severe strain on the company's managerial resources. DDD would have to evaluate and enter a new market where they had limited knowledge of or experience with the local culture, government, business practices, and infrastructure

limitations. Without a local partner, DDD would have to lay out significant capital up front in order to develop sites and establish a local management team. It also wouldn't be easy to attract local revenue sources, a crucial factor in making new offices less dependent on DDD's U.S.-based fundraising and sales teams.

Partnership or Joint Venture with a Local Entrepreneur

DDD was therefore considering partnering with a local entrepreneur, whether already in the IT outsourcing business or not. Although selecting the right partner and negotiating the terms of an agreement was likely to be time-consuming, a partnership would give DDD access to a committed local partner with detailed knowledge of the local labor pool, legal requirements, and business practices. Selecting a local partner would also facilitate rapid expansion, since such a partner might already have a business, a labor force, and the required physical facilities. In India, for example, DDD already had a longstanding partnership with an Indian entrepreneur to whom DDD subcontracted work when it was at full capacity. This Indian entrepreneur also provided business and operational mentorship to DDD because he felt strongly about the company's social mission.

On the other hand it wasn't clear exactly what value proposition DD would be offering to a local entrepreneur who already had a business in IT outsourcing. The local partner would have to adhere to DDD's model of recruiting, training, and graduating disadvantaged youth, and would have to commit resources to social programs such as healthcare and continued education. DDD might also have difficulty finding a partner whose business fit within either the scope of DDD's current product offerings or the spectrum of services offered to clients in the industries targeted by DDD. Alternatively, the partnership model might require DDD's sales team to pursue contracts and develop competence and contacts in a whole new area of product offerings. Regardless of the structure specifics, in a partnership model DDD would have to develop processes for incentivizing the partner to follow DDD's standards for recruitment, social programs, and most importantly quality control. Ensuring compliance and resolving potential conflicts could be a problem in emerging economies with weak legal systems.

Social Franchising

DDD's board was intrigued by the concept of social franchising. Social franchising was a somewhat undefined, yet fashionable, buzzword that had the potential to excite donors and help raise the capital required to fund a global expansion. Social franchising required the development of a "business in a box" concept: a standardized set of manuals and procedures for recruitment, training, project management, and daily operations. DDD would help franchisees establish their business and also provide ongoing support.

The franchisee selection process would take time, but contract negotiations and legal arrangements would, in theory, be streamlined as franchisees would sign on to a standardized DDD "franchise package." Capital, from both DDD and the franchisee entrepreneur, would also be required to launch a franchise unit. DDD's management felt it was imperative that franchisees be incentivized to develop

local revenue sources, rather than rely on DDD's U.S.-based sales and fundraising teams. In an ideal franchise agreement, capital would be repatriated to DDD over time through revenue sharing.

Although a franchise model would require significant upfront work in order to document best practices and prepare a "business in a box" package, the standardized nature of the franchise model meant that given sufficient start-up capital, DDD could achieve global scale relatively quickly. On the downside, there were concerns about how the potential franchisees would be selected and how DDD would manage competition among the different franchises given the global nature of digitization services. In a traditional franchise model, revenues were locally sourced and franchisees were given territorial rights that precluded other units from seeking revenue in a particular geographic area. In DDD's case, a contract sourced in the United States could theoretically be assigned to any capable DDD site around the globe. Determining where work would be allocated could prove challenging in the more loosely controlled structure of a franchise network.

Partnership with an International Organization

Meanwhile DDD's senior management had been approached by a large international nonprofit interested in bringing DDD's model to the countries in which it worked, through a partnership with DDD. In order to potentially benefit from DDD's IT outsourcing expertise and brand, the NGO would provide the capital and human resources required for a fast-paced expansion. Since the partner had the capacity to provide the new DDD/partner office with a revenue source, this model of expansion could be pursued without putting significant additional pressure on DDD's sales organization, though the precise division of sales was unclear.

DDD's board was also considering a different approach: finding a large international IT outsourcing firm interested in establishing a "social enterprise" subsidiary. Since such a partner would already know the business, DDD could potentially tie more seamlessly into its operations and sales force, not to mention learn best practices from a global IT outsourcing giant. On the other hand, such a partnership might also threaten one of the selling points that appealed to U.S.-based corporate clients, namely DDD's identity as an independent social enterprise that provided high impact in the countries where it operated.

Next Steps

DDD's leadership team was now at a critical juncture in the company's life cycle. Its mission of providing sustainable sources of employment and education to disadvantaged youth was already validated by nine years of successful operations. Looking towards the future, the decision to expand was motivated by DDD leadership's desire to lift more people out of poverty and to empower disadvantaged youth through market-driven, world-class IT services.

Selecting the right business model for expansion was the first step towards the development and implementation of an expansion strategy. The risks of failure, however, were considerable. If DDD

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opened new sites without the necessary infrastructure in place to support the expansion, then the company's product quality and carefully built brand name, among donors and clients, might suffer irreparable damage. Although it was not clear which growth strategy the company would choose, DDD's leadership team knew that potential donors would only support a strategy that was compelling and achievable. At stake was the future of the company and all who benefited from DDD.

Study Questions

1. What has made DDD successful so far?
2. What are its constraints?
3. Which strategy or strategies should DDD pursue?

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Exhibit 1 **Sample Clients of Digital Divide Data**

Bookshare.org
Brown University
Harvard Business School
Ingenta, a division of Publishing Technology
InStedd
Jewish Telegraphic Agency
Kaplan Test Prep
King's College London
Mobitel
New York Daily News
The Reader's Digest Association
Tufts University Perseus Project
UNICEF
University of Arizona
URC (University Research Co., LLC)
World Vision
Yale University

Source: Digital Divide Data.

Exhibit 2 **Human Development Indices for Cambodia and Select Countries**

	HDI Rank	GDP US\$ billions	GDP Per Capita (ppp US\$)	Population (millions), 2005	Population Urban (% of total)
Malaysia	63	130.3	12,536	25.7	67.3
Thailand	81	176.6	7,613	63.0	32.3
Vietnam	114	52.6	2,363	85.0	26.4
Indonesia	109	287.2	3,455	226.1	48.1
India	132	805.7	2,489	1,134.4	28.7
Laos	133	2.9	1,980	5.7	20.6
Cambodia	136	6.2	1,619	14.0	19.7
Myanmar	135	NA	881	48.0	30.6
East Timor	158	0.3	668	1.1	26.5

Source: United National Human Development Indices (<http://hdr.undp.org/en/statistics/>).

Exhibit 3 Education and Internet Statistics for Cambodia and Select Countries

	Adult Literacy Rate (15+, %)	Combined Primary, Secondary, Tertiary Enrolment Rate (%)	Secondary Enrolment Rate (%)	Internet Subscribers* (per 100 people)	Internet Users (per 100 people)
Malaysia	92	72	76	19.33	62.6
Thailand	94	78	64	NA	18.0
Vietnam	90	62	69	6.09	23.9
Indonesia	91	68	58	1.39	13.2
India	65	61	NA	1.09	7.0
Laos	73	60	38	0.09	2.1
Cambodia	76	59	24	0.12	.51
Myanmar	90	56	37	0.01	.09
East Timor	50	63	NA	0.98	.16

* pertains to the number of dial-up, leased line and fixed broadband Internet subscribers.

Source: International Telecommunication Union (<http://www.itu.int/ITU-D/icteye/>).

Exhibit 4 International IT Outsourcing Services Providers

Company	Description
Aptara, Inc	<ul style="list-style-type: none"> • Founded in 1988. • Headquartered in Virginia. Formerly known as TechBooks. • Offices: U.S., U.K., Australia and India. • Production facilities: New Delhi and Pune, India. • 3700 employees (2008). • Services: Content capture, digitization and distribution. • Clients: financial institutions, government, agencies, universities and libraries.
SPI Technologies	<ul style="list-style-type: none"> • Founded in 1980. • Revenues of approximately \$44m in 2007. • Headquartered in the Philippines. • An operating subsidiary of ePDLT, a large Philippines-based communications company.
Apex Data Services	<ul style="list-style-type: none"> • Headquartered in Virginia. • 3,200 employees (2008). • Production facilities: India. • Services: document management and conversion, imaging, indexing, original content creation, professional editorial services, copy-editing, cross-referencing, and semantic-tagging. • Clients: construction and engineering, finance, healthcare, legal, publishing, universities, and libraries.

Sources: Company websites.