

ZIQITZA HEALTHCARE LIMITED:

Scaling Beyond a Social Enterprise to a Large-Scale Emergency Health
Provider to Change the Status Quo of Ambulance Provision in India

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PART I:

INTRODUCTION

OVERVIEW

Ziqitza Health Care Limited (ZHL), a for-profit enterprise, was launched in Mumbai in 2003 to provide high quality, universally accessible emergency medical services in India. Founded by five young business professionals, the organization began as an ambulance pilot program with one ambulance in Mumbai under the guidance of the London Ambulance Service. Although the program had an open-ended business model at its inception, the founders soon recognized that financial self-sustainability was crucial for success. Thus, they decided to price their service based on the destination of the ambulance; those who choose to go to a private hospital would pay the full service fee, while those who choose to go to a government hospital would pay a fee subsidized up to 50%, when payment was possible. In 2005, the service expanded beyond a pilot program and launched 10 ambulances in Mumbai, under the name of Dial 1298, which represents the number to be dialed for an ambulance.

By 2006, operations were focused solely in the Mumbai metropolitan area with approximately twenty ambulances operating at any given time, belonging to the first branch of Ziqitza ambulances, Dial 1298. Dial 1298 operates on either a fixed model – with ambulances partnered with hospitals and corporations serving as their primary ambulance providers – or a variable model – with at-will ambulances stationed around the city ready to respond calls from any accident, similar to the system in the United States and Europe.

Although Ziqitza initially expanded through their Dial 1298 business segment, in May 2010 they moved to fill a hole in the market: low-quality and poorly run state-run ambulance services. Although a small number of states provided ambulance services through public-private partnerships, government-run ambulances lacked proper life support equipment, were directed by antiquated call centers, and reached patients far too late. These ambulances were therefore

mainly used to transport the dead. Ziqitza saw its opportunity to correct this market inefficiency through a new business segment, Dial 108, a government funded privately run service. Ziqitza began offering state governments the option to privatize their ambulance services for a portion of their current price, with the added benefit of providing sophisticated equipment and well-run call centers. After winning a bid to operate government-provided ambulances in the capital of Kerala, Trivandrum, Dial 108 went on to have successful bids in Rajasthan, Punjab, and Bihar, becoming the primary ambulance providers for those states. Ziqitza has now grown to an organization with over 600 Ambulances operating in 5 different Indian States – Punjab (Dial 108), Rajasthan (Dial 108), Bihar (Dial 108), Mumbai (Dial 1298), and Kerala (Dial 1298 and Dial 108). Dial 108 is now the driving force behind Ziqitza’s growth as an organization.

Ziqitza’s has experienced astronomical growth since it was founded in 2003 – growth that is atypical of a social enterprise. Today, the company is well positioned for, and certain to pursue, greater scale as it approaches its tenth year of operations. The growth trajectory undertaken by Ziqitza will serve as a model for start-up businesses operating under a social model. The organization is not what it once was – a handful of well-equipped ambulances operating in the Mumbai metropolitan area. Ziqitza has graduated from the ranks of a small-scale social enterprise to a nationwide ambulance operator with extensive capabilities, and is one of the few social enterprises in existence today that has experienced such rapid growth. Ziqitza now qualifies as a small/ medium enterprise (SME), and even that term may prove inadequate in the foreseeable future as Ziqitza attains true “corporate” status – employing tens of thousands of employees while servicing millions across India.

In spite of the massive scale it has reached, Ziqitza continues to fulfill the social mission that it laid out during its initial stages. It continues to provide ambulance services to people of all

income levels, and its evolving business model has allowed the organization to reach an even greater range of people in India. How then, will the business model continue to evolve as the organization grows, in order to satisfy the social mission? Having already wrought significant change and shifted the equilibrium for ambulance provision in India, will further growth enhance the organization's ability to enact social change? Furthermore, how does the growth path create the opportunity for Ziqitza to both draw and fund the talent that will help it reach the next level? With the newfound preeminence of Dial 108 throughout Rajasthan and Punjab, Ziqitza is serving more people, of a lower socio-economic status, than ever before, and that trend is set to continue.

In an interview, current Ziqitza CEO and co-founder Sweta Mangal hearkened back to the advice given to her by Indian entrepreneur Dr. Sam Pitroda, saying: "In India, even if you want to do something that is good for the society, it has to be self-sustainable, or it will not be successful... people working in the organization need to be motivated, and the social cause can only motivate the organization for so long." Ziqitza has, to this point, reached the level of self-sustainability while still maintaining the social motivation that has fuelled its growth, a goal that all social enterprises hope to achieve but very few succeed in doing.

PART II:

ENVIRONMENT

POPULATION, ECONOMY, AND CULTURE

The world's largest democracy, India is home to approximately \$1.2 billion people. It is the seventh largest country in terms of geographical area; located in South Asia, it is bounded by the Indian Ocean in the south and shares land borders with Pakistan, China, Nepal, Bhutan, Burma, and Bangladesh. India consists of 28 states and 7 union territories; governing the vast nation is a parliamentary system, which has grown increasingly federal as of late. Historically a region of trade routes and large empires, India has traditionally been a country of commercial and cultural wealth. With over a hundred languages, five major religions, and a multitude of cultures, India is noted for its incredible diversity. Although customs, cuisine, architecture, and other facets of culture vary region to region, they all hold common threads. Religion is an important element of Indian culture, as the majority of Indians associate with a religion. While 80% of the population identifies as Hindu, 13% are Muslim, 2% are Christian, and the remaining 5% are divided between a variety of religions that include Sikhism, Jainism, and Buddhism.

India is in the process of developing into an open-market economy; however, elements the country's autarkic past still remain. In the 1990s, economic liberalization, which included privatization of state-owned enterprises, greater foreign trade and investment, and industrial deregulation led to considerable economic growth, which has averaged over 7% annually since 1997. National GDP, as of 2010, was \$1.538 trillion, with a real growth rate of 10.4% (significantly greater than the world average of 6.8%), making India the ninth largest economy in the world. While slightly more than half of the labor force is involved in agriculture, services are a major source of economic growth and account for over half of GDP. Despite its rapid growth, India faces considerable economic challenges, including poverty, inadequate infrastructure, and insufficient access to quality education. With an estimated 25% of the population below the

poverty line, finding a development path that is not only sustainable but also socially and culturally acceptable is a priority for India.

HEALTH CARE CRISIS

Government health programs in India are coordinated by the Department of Health and the Department of Indian Systems of Medicines and Homeopathy under the supervision of the Ministry of Health and Family Welfare. The government's strategy is two-fold: first, building a strong primary health infrastructure, and second, tackling specific infectious diseases, both through prevention and control. Despite the government's efforts, poor health remains a major obstacle to further development. India currently ranks 134th out of 185 countries on the Human Development Index, a combined measure of life expectancy, literacy, education, and standards of living. An indicator commonly used to evaluate the status of health, life expectancy in India is 65.4, as compared to 78.5 in the United States (see Figure 1).

Figure 1: Health Statistics in India

Statistics

Total population	1,198,003,000
Gross national income per capita (PPP international \$)	2,930
Life expectancy at birth m/f (years)	63/66
Probability of dying under five (per 1 000 live births)	66
Probability of dying between 15 and 60 years m/f (per 1 000 population)	250/169
Total expenditure on health per capita (Intl \$, 2009)	132
Total expenditure on health as % of GDP (2009)	4.2

The past ten years have witnessed significant improvement of the health of women and children in India, as reproductive health policies and programs have shifted from a family planning approach to a more comprehensive strategy. Nevertheless, the number of avoidable deaths of women and women is still very high. Of all pregnant women in India, only 34% had institutional deliveries and 42% received professional medical care. India has the highest burden of maternal mortality in the world, with approximately 136,000 deaths per year, 40% of which are avoidable and attributed to anemia and hemorrhage. The infant mortality rate is similarly astoundingly high, at a rate of 48.2 per 1,000 births. Female infanticide, especially in northern Indian states, is still a common practice resulting in a male to female ratio of 1.08. Even more shockingly, India accounts a quarter of the global child mortality, with over 2.4 million under-five deaths each year.

Undernutrition and malnutrition is another primary health challenge in India. The World Bank estimates that India has the second highest number of children suffering from malnutrition in the world. More than one-third of women are undernourished, 47% of children are undernourished, and 18% of children are malnourished. Undernutrition has an immense impact on health, education, and productivity; thus, persistent undernutrition is a major obstacle to human development and economic growth.

Poor sanitation and inadequate safe drinking water contribute to the spread of diseases such as hepatitis, malaria, and tuberculosis, all of which continue to plague the population today. There are over 1.8 million new cases of tuberculosis – approximately 370,000 deaths – each year. Over 1.5 million people contract malaria each year, and there are over 2.5 million people living with HIV in India. The World Health Organization estimates that an additional two

percent annual reduction in chronic disease death rates in India over the next decade would prevent six million deaths, resulting in an economic gain of approximately \$15 billion.

EMERGENCY MEDICAL SERVICES IN INDIA

It is a universally accepted fact that a patient who receives basic care and is transported to the closest healthcare facility within 15-20 minutes of a severe injury has the greatest chance of survival. Emergency Medical Services (EMS) is a critical element of any healthcare system as it has the potential to save countless lives by providing immediate care. The state of emergency care, however, varies radically from developed countries to developing countries. While EMS services are extremely well developed in countries like the United States, they are severely lacking in India. Despite recent developments in the healthcare sector, India has yet to establish a single, comprehensive EMS system that can be accessed by all.

The existing system is terribly fragmented and does not meet demand. The main providers of ambulance services are private ambulance owners, hospitals, NGOs, and government agencies. Some services are free, while others are not. These ambulances are often unavailable on a regular basis, are in poor condition and do not have appropriate medical equipment or trained paramedics, and the time taken to arrive at a patient's location is lengthy. Regardless, most people in India do not use ambulances for medical emergencies (*see Appendix A, Figure 3*). Rather, most use taxis or private drivers. The lower and middle class population often used taxis for transportation to hospitals due to the fact that they are available on short notice and are in close proximity to most patients. Disadvantages, however, include lack of on-board stabilization treatments, the rough manner of transportation on underdeveloped roads which could exacerbate a patient's condition, and a lack of expediency. Private vehicles, utilized

by middle and upper classes, have similar disadvantages. Furthermore, prior to the establishment of Ziqitza, the services offered by ambulances were of low quality and had a history of unreliability. In Mumbai, ambulances served only 10% of the approximately 60,000 emergency cases per month as of 2010.

There is a high demand for quality ambulance services in India. India is very disaster-prone; almost 57% of India's land mass is vulnerable to earthquakes, 68% to drought, 8% to cyclones, and 12% to floods. Additionally, the ratio of traffic accidents per 1000 vehicles is 21.3 times higher than the world average. 30% of accident victims in India die due to delays in transportation to medical facilities.

GENESIS OF IDEA

Ziqitza Health Care was founded by five young business professionals – Ravi Krishna, Naresh Jain, Sweta Mangal, Shaffi Mather, and Manish Sancheti (see left). One night, Shaffi's mother choked in her sleep, and, unaware of how to transport her safely to the nearest hospital, he drove her to the hospital himself. Afterwards, the five friends discussed the blatant lack of emergency medical services in India. They began simple market research and quickly discovered that the Indian government had attempted to launch an ambulance service many times prior to 2003; however, each time had proved unsuccessful.

In 2004, the five professionals began an ambulance pilot program with one ambulance in Mumbai under the guidance of the London Ambulance Service, which is the largest “free at the point of contact” emergency ambulance service in the world and responds to over 1.5 million calls per year. Though none of the founders had prior experience in the healthcare sector, all were committed to the business' success. All five founders quit their jobs and invested 5 million

rupees, or approximately \$120,000, into Ziqitza. In establishing the business, the founders set three primary goals: 1) reach long-run financial sustainability, 2) meet global service delivery standards, and 3) provide services to those who do not have the ability to pay. Originally, the founders wanted a 3-digit phone number, following the model in the United States (911) and England (999). However, upon approaching the Union Telecom Minister, they were told that 3-digit numbers were allocated solely for government programs, and as a non-government business, they were told to select a 4-digit number beginning with '12'. Although they requested the number '1299', a bureaucrat refused to fulfill their request unless they paid a bribe. Consequently, the founders chose '1298'.

In its initial stages, the pilot program had an open-ended business model; those who could afford the service would pay a fee, while those who were poor would not pay. However, Dr. Sam Pitroda, one of India's greatest entrepreneurs and current advisor to the Prime Minister of India on Public Information Infrastructure & Innovations, warned the founders against this model. He advised them that in India, even if one wants to do something that with a social cause, it has to be self-sustainable or it will not be successful. With the advice of running the ambulance service as a true business, the founders decided to price their service based on destination, as the hospital a patient chooses to go to is primarily determined by the patient's wealth. Those who choose to go to a private hospital would pay the full service fee, while those who choose to go to a government hospital would pay a fee subsidized up to 50%. One year after launching the pilot program, the service Ziqitza launched 10 fully equipped ambulances, under the name of Dial 1298.

Two years later in 2007, after experiencing much success and running positive cash flows, the founders decided to expand beyond Mumbai. Crucial to the organization's expansion

was support from a wide array of investors – foundations, venture capital firms, banks, and more – one of which was Acumen Fund, a 501(c)(3) nonprofit that supports ventures that provide goods and services to the poor through equity or debt financing. After a thorough valuation analysis, Acumen felt that Ziqitza had both a strong business model and social mission and made a \$1.5 million equity investment in the organization. With these funds, Ziqitza was able to penetrate the market in Kerala by 2008.

PART III:

DIAL 1298

DIAL 1298 IN MUMBAI

Mumbai, located in the state of Maharashtra on the western coast of India, is the country's largest metropolitan area by population and the sixth largest city in the world. More than half of the city's population of 20.5 million lives in slums, but the city is simultaneously the richest in India, with almost three times the national average in per-capita income. This duality illustrates the massive wealth inequality that pervades the city in the areas of wealth, education, and medical care. The city is host to over 1,000 hospitals and the vast majority of them are public. Though the resources possessed by these hospitals are not commensurate with the population they serve, they do provide care that can save patients' lives, notably in child delivery and maternal care. Forty percent of the population of Mumbai qualifies as below the poverty line (BPL) and lives on \$4 a day or less. Mumbai has 60,000 emergency cases per month of which only 10% are serviced by ambulances (as of 2010).

Adequate healthcare in the form of numerous public hospitals combined with a substantial BPL population in need of ambulatory services created an ideal platform for ZHL to launch its Dial 1298 platform. The company entered the Mumbai market in 2005 with 10 Advanced Life Support (ALS) ambulances, after successful completion of a single-ambulance pilot program. Dial 1298's operations extend from Colaba-Churchgate, on the southern tip of the city, to the Borivali suburbs in the far North, covering the totality of the 25 mile long peninsula (*see Appendix B, Figure 1*). Currently, the Mumbai team completes 50-60 calls in the coverage area daily with a fleet of 20 ambulances, with two of these ambulances held in reserve in case one of the active ambulances breaks down. Normally, each active ambulance averages between 2 and 3 calls per day. In addition, Ziqitza plans to increase the Mumbai fleet to 42 ambulances by 2012. Thane and Western Mumbai remain completely untapped, and Praveen Menezes, Business

Head of Dial 1298 in Mumbai, claims that a minimum of 120 ambulances would be needed to cover the city completely; enabling Ziqitza to respond to virtually any call and reach the patient within the Dial 1298's targeted time frame of 15 minutes.

DIAL 1298 IN KERALA

After three years of successfully operating Dial 1298 in Mumbai, the founders of Ziqitza decided to expand beyond Maharashtra to other states in India, starting with the southern state of Kerala. Kerala seemed a logical choice, as one of the founders, Ravi Krishna, had attended University there, while the state's relatively advanced level of medicine and education made it an appropriate location to implement an ambulance service.

Located on the southwest coast of India, the state of Kerala ranks highest in quality of life indicators among Indian states. The state enjoys strong demographic trends, with India's lowest population growth and fertility rates, while close to 95% of the state is literate with 94% of the population within 1km of a primary school. Life expectancies are comparable with first world countries, at 75 and 78 years for men and women respectively. Perhaps the most relevant statistic for ambulance providers, however, is that 95% of Keralan births occur in hospitals, providing a continuous demand for transport to hospitals for delivery and back from hospitals after post-natal care. In another interesting demographic trend, 11.2% of the Keralan population is now over 60, creating a significant market for elderly patient transfers between nursing homes and full-fledged hospitals.

There is a greater acceptance of ambulance care in Kerala relative to Mumbai. Whereas creating ambulance awareness is the single greatest challenge in the Mumbai metro area, citizens in Kerala are largely aware and more importantly, trusting, of ambulances services. It is a

surprise then, and an incredible example of Ziqitza filling a market need, that no ambulance provider with advanced life support (ALS) vehicles had existed in Kerala before Dial 1298. Ziqitza's Dial 1298 presence in Kerala started in June of 2008 with five ambulances and since then has grown to fifteen ambulances; positioning at least one ambulance at all times in each of Kerala's twelve regions along with 2-3 ambulances on reserve in the event that any of the active ambulances require repair (*See Appendix B, Figure 2*). According to Nijil Abraham, Business Head of Dial 1298 in Kerala, the only current impediment to growth is securing the capital necessary to purchase new ambulances. He believes that at current demand levels, Dial 1298 could double or triple the number of ambulances in Kerala without reducing the number of customers serviced by each ambulance per day. As Abraham noted, however, a key limitation to this growth is capital expenditure for ambulances and at this time, after taking on debt and equity partners early on, Ziqitza has chosen to primarily finance its growth organically through generated free cash, as interest rates on loan can run very high.

The potential for rapid expansion of Dial 1298 is even greater in Kerala than in Mumbai, primarily due to the region's familiarity and comfort with emergency care. Each ambulance trip in Kerala generates more revenue as most trips in Kerala are described as "big ticket," meaning the ambulances are hired to carry patients in need of expensive ALS technologies long distances, often between districts in Kerala. In fact, 90% of the calls in Kerala are patient transfers from one hospital (usually private) to another, with trip distances normally ranging between 100 and 200 km. Due to Dial 1298's pricing structure, these long distance trips are valuable (Ziqitza charges per kilometer) as they keep the ambulances in a highly-utilized state and minimize the idle time that an ambulance spends waiting for a call.

Additionally, because Kerala has a lower proportion of citizens who are below the poverty line, Dial 1298 provides fewer free-of-cost or subsidized trips (*see Figure 2*). On a monthly basis, only 5%-10% of calls in Kerala are free-of-cost, and these calls are often local emergencies rather than long-distance patient transfers, so their utilization of ambulance resources is low. In fact, Nijil Abraham claims that the Kerala operations could still sustain profitability if 1/3 of their customers were serviced free-of-cost.

Figure 2: Comparison of Dial 1298 in Mumbai and Kerala

Region comparison summary						
	Coverage Area	# of Ambulances	# of trips per day	Travel distance (km)	% FOC and subsidized	Average life expectancy
Mumbai	603 km ²	20	50 - 60	40 - 45	10% - 15%	57 years
Kerala	38,863 km ²	15	20 - 30	100 - 200	5% - 10%	75 years

In addition to differing from Mumbai in terms of how ambulances are perceived, the other noticeable difference is the nature of the calls serviced in Kerala. Whereas close to 90% of Kerala's calls are for patient transfers from medical center to medical center, only 60% of Mumbai's calls are of that nature. The remaining 40% are traditional emergency response calls. On average, 10%-15% of calls serviced in Mumbai are given free of cost. These numbers are volatile from month to month and are largely dependent on the occurrences of mass emergencies in the city. Most of Dial 1298's free-of-cost calls are in response to large traffic accidents or urban disasters where Dial 1298 ambulances will provide a large number of free-of-cost rides at a single site. The most prominent example of this is the Taj Hotel bombings in 2008, in which Dial 1298 was the first ambulance provider on the scene and provided emergency services to 165 people, most of which were serviced free of cost.

FIXED CONTRACT MODEL

Dial 1298 operates under a dual-model business strategy. Every call they receive can be classified as either a “fixed” or “variable” call, depending on who placed the call. Variable calls are similar to how emergency response services operate in the United States or United Kingdom: individuals in an emergency call 9-1-1, and an independently owned ambulance company sends an ambulance to the site of the emergency. Prior to 2009, Dial 1298 in Mumbai and Kerala operated solely through this model. Ambulances were regarded as “at will”, indicating they could respond to any call reaching the call center in Mumbai (all calls, including those from Kerala, are fielded in the Mumbai call center). Although ambulances were free to respond to any call, they were normally parked at private city hospitals. This provided a safe location for the ambulances, but more importantly, allowed the ambulance crew to develop relationships with the hospitals where they were stationed. Consequently, when these hospitals received calls from patients seeking emergency services, they would alert the Dial 1298 team stationed there.

In an effort to increase per-ambulance utilization, Ziqitza sought to formalize the burgeoning relationships they had with these hospitals. The result was a new fixed contract model (hereafter referred to as fixed model) in which a Dial 1298 ambulance and team is contractually employed by the hospital. Simply put, rather than operate its own ambulance service – a task outside the core functionality and competency of most hospitals – a hospital could “outsource” its ambulance provision to Dial 1298. In this fashion, Dial 1298 ambulances became permanently associated with certain hospitals, only responding to calls for that hospital and in return receiving a contractually delineated monthly payment.

The benefits of the fixed model are that it provides top-line income that is stable and can be relied on to continue in the future. Regardless of how frequently the hospital utilizes the

ambulance(s), the length of the trip, or the services provided, Dial 1298 receives the payment as specified in the contract. Hospitals are free to customize their service: whether they want a doctor onboard the ambulance (not present on variable units), whether they want basic or advanced life support vehicles (all variable vehicles are basic life support), and the number of units they want available for use. The utilization of fixed ambulances is not tangibly greater than variable ambulances, but fixed units benefit from shorter trip distances and as a result, reduced fuel costs, as most calls to a hospital are from patients in the surrounding neighborhood. In addition, fixed contracts can serve as collateral for Ziqitza in securing future loan agreements. Ziqitza has no intentions of limiting the fixed contract model to medical institutions alone, and has been pursuing lucrative corporate contracts with large companies such as Tata and Reliance Industries and well as the Mumbai International Airport. They currently have loosely formalized fixed contracts with a Mumbai rail operator and port company. In addition, they have also signed contracts with sports arenas and Bollywood film sets.

Among its fixed contracts in Mumbai, Dial 1298 in Mumbai has agreements with three of the most prominent hospitals in the city: Breach Candy, Fortis and MGM. Fortis is of particular importance because it illustrates the massive potential of the fixed model in aiding Dial 1298's expansion across India. Fortis is largely regarded as one of the best private hospitals in India and has 56 locations across 10 cities in India. Ziqitza hopes to leverage the success of Dial 1298's relationship with Fortis to secure agreements with other Fortis hospitals throughout the country.

Case Study: MGM Vashi Hospital

One of Dial 1298's initial and most successful fixed contracts is with the MGM Vashi hospital in Mumbai, a 110-bed hospital that has contracted one ambulance from Dial 1298. As part of the contractual agreement, MGM Vashi decided to have all the Ziqitza ambulances

branded with their hospital's proprietary logo, though the three Dial 1298 staff manning the ambulance still retain Dial 1298 uniforms. MGM originally decided to outsource their ambulance service because, while managing their own ambulance service, they continued to run into problems, such as ambulance maintenance and finding ambulance drivers. Rather than deal with these problems, with which they have little expertise, they decided to outsource the operating of their service to Dial 1298 and have been pleased with the results, to the extent that they plan to hire Dial 1298 for their nearby medical center in Belapur as well.

All of the hospital staff at MGM are aware of the Dial 1298 service and know the drivers, helpers, and EMTs who form the ambulance crew. The Head Doctor in the emergency room at MGM says he is happy with 1298's service, noting that they "have good [staff] and are always on time." Dial 1298 encourages its employees, when they are not responding to calls, to form working relationships with the hospital staff. This is particularly important at hospitals which host Dial 1298 ambulances, but which do not yet have formal contracts with Dial 1298. Tony D'Souza, Head of Operations in Mumbai, who himself visits each fixed site monthly, notes that the relationships between the ambulance staff and the emergency room staff at the hospitals where they are located, are of the utmost importance. It is the formation of these relationships that prompt emergency room operators to choose Dial 1298 over competitors and that eventually lead to fixed contracts.

VARIABLE MODEL

Though fixed contracts provide stability, guaranteed business, and steady revenue for Dial 1298, greater potential for profit lies in Ziqitza's ability to capitalize on and grow the variable model side of the business. Whereas greater ambulance utilization under the fixed model

will actually reduce margins, if variable ambulances can increase their call rate past the 2-3 daily calls they currently serve, they can overcome fixed costs and generate greater income. The greatest variable cost for running an ambulance is fuel, but greater utilization of ambulances operating under the variable model would minimize, relatively, the fixed costs: insurance, vehicle registration, salaries, etc. Dial 1298's variable ambulances easily have the capacity to service 5 calls a day, more than double their current utilization, creating the opportunity for significant margin expansion if those numbers could be increased.

The greatest impediment to expansion of the variable model is, of course, the problem of creating awareness. It is much easier to market Dial 1298 to a hospital which already has a significant client base that trusts and is aware of the hospital's services. Creating such trust and awareness in the wider community, to the point where a given individual would pick up the phone in the event of an emergency and call 1-2-9-8 is a much greater task. Currently, the sentiment from inside Ziqitza is that fixed contracts are the way in which the business should primarily move forward. Management is hesitant that the general Indian population can quickly grasp the concept of, and trust, a new ambulance service without an intermediary like a hospital. This sentiment is echoed in the business's marketing policies, which no longer focus on broad-market advertising such as radio and billboard advertisement. Much of management's attention is turned towards formulating relationships with hospitals and large corporations to facilitate the fixed model.

Currently, Dial 1298's operations in Mumbai are split evenly between ambulances operating under the fixed and the variable model. In Kerala, virtually all ambulances operate under the variable model. This is due to the fact that much of the medical care in Kerala is administered to the elderly on a small scale at nursing home-like establishments or small medical

centers. Alone, these centers do not have sufficient patient capacity to warrant a fixed contract, although 90% of Dial 1298's business in Kerala comes through referrals from these institutions. Dial 1298 ambulances in Kerala are commonly tasked with transporting elderly patients from smaller medical establishments to larger hospitals for major operations or more intensive care.

COMPETITION & OPPORTUNITIES FOR GROWTH

Dial 1298 in Mumbai has one major competitor— Topslane 1252 Emergency Response Service. Launched in September 2004, it currently operates 30 ambulances in Mumbai, Navi Mumbai, and Thane City, though it plans to expand to Bangalore, Delhi, and other Indian metro areas in the future. All Topslane 1252 ambulances are equipped with GPS systems, an officer in charge of ambulance operations, a paramedic, a 'response officer', and equipment similar to that on a Dial 1298 advanced life support ambulance. Though Dial 1298 promises to reach an emergency in 15 minutes or less, Topslane claims to be able to do so in only 9 minutes— in addition to their ambulances, they have 70 'life patrol' officers on motorcycles stationed within at most 1.5km of all Mumbai residents. These individuals can provide first-response services. Unlike Dial 1298, Topslane 1252 also offers ambulance subscription services for an annual subscription price of 1800 rupees, about \$40, a year.

In states where public private partnerships with the state government are absent (Arunachal Pradesh, Haryana, Jammu and Kashmir, Jharkhand, Manipur, Mizoram, Nagaland, Orissa, Sikkim, Tripura, West Bengal, and Uttar Pradesh), local, smaller ambulance services fill the gap. Though private ambulance services like Dial 1298 do exist in many of these states, in the majority of states ambulances are operated by and belong to individual hospitals.

There are two primary ways in which Ziqitza can expand Dial 1298: deepening and broadening. Deepening would involve further entrenchment in markets in which it already operates. In Mumbai, this expansionary plan is already underway, with plans to quickly increase to a 42-ambulance presence in the city. Reaching Mr. Menezes' target number of 120 ambulances in the city is ambitious, taking into account the current level of demand. However, the fixed model does provide opportunity for exponential expansion, considering that each successful contract acquisition provides a platform of experience and precedent from which to pitch to future clients. Fixed contracts can also provide security in financing expenditure on new ambulances, knowing that a steady stream of payments is guaranteed in the future (*see Appendix B, Figures 3-5 for financial projections*).

In Kerala, the opportunities for expansion through the fixed model are more limited, but there are opportunities to secure contracts with corporations and nursing home collectives. Regardless, expansionary plans for Kerala are already underway, with the ultimate goal of tripling the number of ambulances in the state. Despite the relative difficulties in expanding through the fixed model, the fact that Kerala is a more developed state with a better health system and more health-aware citizens should create increased demand for the variable model. In terms of broadening into new markets in new cities and states, Dial 1298 has already moved into the Mumbai's neighbor city, Navi Mumbai. However, Ziqitza is prioritizing expanding into India's major metropolises across the country, rather than moving into other cities in Maharashtra (*see Figure 3*). The next city in the pipeline is Delhi. Dial 1298 already runs long-distance transfers for critical patients between Mumbai and Delhi and is in the process of negotiating several fixed contracts with hospitals in the city. Jumping in first with secured, fixed, contracts is the management's preferred method of moving into new states due to the financial

security of fixed income streams. These contracts can then be used as a base to provide publicity for Dial 1298, upon which greater numbers of ambulances, operating under the variable model, can build upon.

Figure 3: Expansion to New Cities

Eight cities Dial 1298 aims to operate in by 2013 (by population)	
	Population
Delhi	11,007,835
Bangalore	8,425,970
Hyderabad	6,809,970
Ahmedabad	5,570,585
Chennai	4,681,087
Kolkatta	4,486,679
Jaipur	3,073,350
Pune	3,115,431
Mumbai	12,478,447

PART IV:
DIAL 108

OVERVIEW OF DIAL 108

Soon after the first Dial 1298 ambulances hit the road, Ziqitza saw the opportunity for growth in a different sector of the market—the public sector. The idea for Dial 108 initially came from the need to provide a more cost effective and efficient government-sponsored ambulance service, said Sumit Basu, National Head of Dial 108. In 2008 “the government in India decided to privatize ambulance service provision,” added CEO Sweta Mangal and so Ziqitza’s management team took advantage of the opportunity. In 2009, Ziqitza began offering state governments the option of privatizing their ambulance services for a lower price than competitors had offered the government in the past. Ziqitza called this service ‘Dial 108’, referring to the telephone number assigned by the state governments. Though the name is different, Dial 108 offers the same high quality services as Dial 1298 — a state of the art call center and GPS system for ambulances, well-trained EMTs and drivers, and strong marketing campaigns to create a greater awareness of ambulance services available, a crucial practice that has the potential to cause a shift in health-seeking behavior.

In order to become the ambulance service provider in any given state, Dial 108 must enter a bidding process in which multiple service providers place their ‘tenders’ or pricing quotes. Dial 108 bids a tentative price per ambulance at which they will operate their service with government-provided ambulances and capital. If they provide the lowest, most competitive bid, Dial 108 is offered a contract. Thus, competition serves as a strong incentive for Dial 108 to reduce their costs as much as possible, in order to provide a lower bid to the government. As part of the contract, each Dial 108 ambulance is required to either service a certain number of customers a day, usually 5, or travel a certain number of kilometers, depending on state-specific contract stipulations.

In May 2010 in Trivandrum, the capital of the Indian state of Kerala, the first 25 Dial 108 ambulances were launched. Two and a half years later, Dial 108 is operating 780 ambulances throughout 4 different Indian states- Rajasthan, Punjab, Bihar, and the capital of the state of Kerala, Trivandrum. Today, Dial 108 has become the driving force behind Ziqitza's organization, accounting for 95% of revenue.

OPERATIONS

With 465 ambulances and 2,400 employees as of September 2011, Dial 108 operations in Rajasthan are the largest in India. Geographically, the state of Rajasthan is the largest in area and one of the most arid regions, encompassing most of the Thar Desert in Northern India. Dial 108 was not the first to operate government ambulances in Rajasthan. In 2008, the Emergency Management and Research Institute (EMRI) had launched a public ambulance service in the state and had 164 ambulances. Due to alleged discrepancies in audit reports, the government of Rajasthan invited new tenders from interested parties to continue the service. According to Anurag Bhatnagar, Head of Operations in Jaipur, capital of Rajasthan, Ziqitza's bid in the summer of 2010 was significantly lower than EMRI's. Due to their lower bid and demonstrated success in Mumbai, Ziqitza was offered the contract in July 2010 (*see Figure 4*).

Figure 4: Rajasthan timeline and tender process



Subsequently, Ziqitza took over the operation of 164 formerly EMRI-run ambulances as well as operations headquarters, commissioned by EMRI and re-branded the program as Dial 108. From July 2010 to September 2011 the government in Rajasthan commissioned a massive increase of ambulances from 164 to 465 ambulances. Between May and June of 2011, 30-40 vehicles were launched every 15 days and the office staff increased to 100. Given the size of Rajasthan, about 90% of ambulances are stationed in rural areas. The remaining ten percent are permanently located in cities. In Jaipur, the largest city in the state of Rajasthan, there are approximately fifteen ambulances parked in hospitals or police stations—local laws require a policeman to come along on calls to provide additional assistance.

The contract with the Rajasthani government stipulates that Dial 108 must meet a target of five calls per day for older ambulances. For the first three months, new ambulances must complete four calls a day and five calls thereafter, allowing for new ambulance crews to create visibility in their assigned geographical location and learn how to work efficiently as a team. Ambulances must fulfill their quota to receive 100% of government funds promised, which in Rajasthan amounts to 95,000 rupees, or \$2,100, per ambulance (*see Appendix C, Figure 2 for Dial 108 operating financials*).

Ziqitza forged a public-private partnership with the government in Trivandrum, the capital city of Kerala, in May 2010, building off the success of Dial 1298's success in Kerala, which began two and a half years earlier in December 2007. Operations in the region of Kerala are quite similar to those of Rajasthan. Though the service exists across the state in nine different districts, Dial 108 is concentrated in its capital of Trivandrum. In the past, the city has had some ambulances in government hospitals, but those were replaced once Dial 108 moved into the area. Services were launched in May of 2010 with 25 Advanced Life Support ambulances. Though the

cost of living and salaries in Kerala are less, people are less price sensitive when it comes to healthcare given the high level of education. As a result, life expectancy in Kerala is over 75 years of age while in India the average life expectancy is 65. Awareness of emergency ambulance services in Trivandrum is also very high. Coupled with some of the best medical service provision in India and significantly better government hospitals, demand for health care is much greater. The result is “pressure on [the government] to provide better ambulance services”, as noted by Nijil Abraham, Head of Business in Kerala.

In addition to Rajasthan and Kerala, Dial 108 also operates in Punjab and Bihar. In June 2009, the company launched 10 ambulances in the city of Patna, Bihar. In September 2010, Dial 108 expanded to the rest of the state with 45 Basic Life Support ambulances. Targets for ambulances in Bihar, unlike Rajasthan, are measured by distance traveled per ambulance and not calls, giving Dial 108 more room in their budget for maintenance, repairs, and fluctuating fuel prices. As for Punjab, Dial 108 was awarded the contract to operate their services in 2010, launched the service with 90 Basic Life Support ambulances. They are currently in the process of scaling up to 240 ambulances by September 2012.

CHALLENGES

One of the ongoing challenges for Dial 108 throughout India continues to be educating the public about ambulance services. Many people in rural areas do not know that government-sponsored Dial 108 ambulances are free of cost or that they even exist. Low literacy levels in some regions makes it difficult for Dial 108 to lead successful marketing campaigns, as noted by Sumit Basu, National Head of Dial 108. “How to popularize awareness level between people is really hard...it’s hard to convince people that they don’t have to pay” to be taken to a hospital.

Ambulance crews must spend a significant portion of their time educating people in villages, setting up free health camps, and gaining the trust of the population of the state.

Even with aggressive marketing strategies, cultural barriers sometimes inhibit their success. Women, for example, don't easily approach the vehicles and therefore a larger percentage of them remain unaware of the service. For those who are aware of the services available, they often trust a rickshaw or a taxi to get them to a hospital faster than an ambulance. This can be traced back to a history of slow, inefficient, and badly equipped government run ambulances. In Rajasthan for example, debts and accounts were left unpaid by EMRI ambulances—the challenge then is to convince people that Dial 108 is a different, more responsible company, not simply an arm of the government, which in the past was incompetent. Furthermore, Dial 108 ambulances are better equipped with Basic Life Support and Advanced Life Support instruments and with medically trained individuals onboard. As the public grows more aware of the services offered, Dial 108's call center must also deal with misuse of the phone number, which can be burdensome. For example, in Rajasthan, about 70% of all 6.6 million calls received are 'fake' or non-serviceable; the callers ask for medical advice, inquire about transferring a dead body, or simply call out of curiosity, not because they require an ambulance for a medical reason.

A challenge unique to Rajasthan comes in the form of a powerful doctor's union. Some doctors in Rajasthan will refuse a patient if there is no relative along with the patient to care for him at the hospital—doctors refuse to allocate a nurse or another hospital employee, to oversee the patient. "Government doctors are not supporting us," confirmed Rishi Sharma, Head of Marketing in Rajasthan. "No one is willing to take responsibility" of a patient coming alone on the ambulance, even if they are in critical condition.

Government

Corruption in government is an omnipresent obstacle for Dial 108. From its inception, Ziqitza has branded itself as an ethical organization, a practice that has cost the organization contracts in some states and has delayed the establishment of operations in others. For example, in one state, Ziqitza refused to offer bribes for state contracts, and Ramalinga Raju, former CEO of Satyam, a company which has since been mired in corruption scandals, paid three times the bid in bribes in order to secure the government contract. After Ziqitza took the case to state court, the court ordered new bids, and Ziqitza was subsequently offered the contract. Having the Indian government realize the dire need for ambulances and overcome bribery is difficult, noted Sumit Basu, National Head of Dial 108. Once a bid is won, Dial 108 must contend with government inefficiency. As Basu said, “government is very good at policy-making but very poor at implementing policy.”

Though Dial 108 may be in charge of running emergency ambulance services in a certain state, all the expenses and daily operations must be carefully documented and handed over to the government for review before any payment is made to Dial 108. This is a long and tedious process, and government payments are often late. As a result, Dial 108 often has to delay payments to employees who expect to get paid on the 15th of every month. Continuing to function for months without government payment is challenging and discourages employees, aggravating retention problems within the organization. To address this issue, Dial 108 is in the process of getting a working capital loan to cover short-term costs.

The Contract

In addition to the obstacles faced by Dial 108 across India, the organization also faces region-specific difficulties. For example, although Rajasthan has the largest fleet of ambulances,

the terrain makes it difficult for the ambulances to reach patients on time. Ambulances in Rajasthan promise to reach a patient in 15-30 minutes, making the geographic placement of ambulances crucial. Furthermore, the longer distances and desert heat lead to higher costs per ambulances. Higher fuel costs due to rising prices, larger distances to cover, higher ambulance accident rates (according to Deepak Bhardwaj, Rajasthan operations manager, 1-1.5% of ambulances are involved in a car accident every month) and higher air conditioning costs along with costs for more frequent than normal rates of ambulance repairs and higher cost of insurance account for 50% of costs; the other 50% of costs are in salaries (*see Appendix C, Figure 3 for employee salaries*). All costs together make up 90% of revenues. In the next two years fairly new ambulances will allow for lower maintenance costs, offsetting the rising cost of fuel, a solution must be found long-term. Maintenance and fuel costs have increased by 10% a year in the past, a serious concern for the future.

Anurag Bhatnagar, head of the Jaipur office in Rajasthan mentions that the answer will ultimately be to change the parameters of the current contract with the government once it is up for renewal. Initially, Dial 108 bid much lower than the competition to obtain the contract, and in doing so, obtained a foothold on the whole country. Now that they have established their credibility, Dial 108 plans to tailor the government contract to allow for increasing fuel costs through an escalation clause. However, this clause will not go into effect until June/July 2013, three years after the inception of the contract, and until then, the organization will have to bear the brunt of rising fuel costs.

Additionally, fulfillment of the contract should be measured differently in the future. Instead of measuring the ‘success’ of an ambulance as 5 calls per day, a new provision could define ‘successful’ ambulances in terms of distance travelled; however, this may not be ideal in

urban areas where the average distance traveled is smaller. Though in the past Dial 108 has completed 95-100% of stipulated calls, the change would make the most difference in rural areas where the distance per call is much greater than in urban areas, incurring higher costs. Allowing Dial 108 to choose where the ambulances are located is also important, as in the past the government has decided where each ambulance is located. As a result, in some places ambulances are found within 5km from each other, even in villages that have only 100 people—making the completion of 5 calls a day an impossible task. The contract should also include a new ambulance replacement clause allowing for a repairs budget that would take into account the need for ambulances to be replaced after 400,000 km travelled or 5 years, whichever comes first. The clause would compensate for a higher incidence of ambulance damage due to difficult terrain.

Finally, the contract in the future should include an advertising budget. Creating awareness of their services to an uneducated population costs money. If there are cash flow problems, advertising is the first to go from the budget. If the government is committed to really making ambulance services available to the whole state, they must take advertising and marketing as a serious part of the operational budget for Dial 108.

Hiring and Retention of Employees

In the Human Resources department, the challenge is one of hiring and retention. As the company rapidly scales up the number of ambulances, they must find leadership capable of running the ambulances and provide training for the new employees in a short period of time, while also achieving the targets set by the contract. This proved especially true in the case of Rajasthan, when Dial 108 grew from 164 to 465 ambulances in a short period of time, as noted by Deepak Bhardwaj, Operations Manager in Rajasthan.

Given that 1,200 individuals are needed for smooth operations, providing training for all new employees is difficult, as is retaining the employees once they are trained. While Kerala has a 99% literacy rate and it is not difficult to recruit educated individuals, North India lacks the same level of schooling, and it is a challenge to hire employees. Once the employees are hired, there tends to be a high rate of employee turnover. In the call center specifically, most employees are students who tend to quit during exam season or when their salaries are paid, (often late, due to late government payments to Dial 108). Additionally, in Trivandrum, since the majority of EMTs have higher education degrees, many often go to the US, UK, Australia, and the Middle East to take other job opportunities or to continue with higher education.

It is necessary to create incentives for ambulance teams to remain motivated after satisfying their individual ambulance target, whether the target is measured in distance traveled or number of patients serviced a day. When calls are not being serviced, teams are expected to go out and talk to people, in order to create awareness about the ambulance services available. Though the most committed teams receive a lot of respect from locals according to Bhatnagar, which is inherently an incentive for each team to publicize extensively, it is often not enough. In the future better cash rewards for going above and beyond the target or for spending a significant amount of hours publicizing would help accelerate expansion further as well as help increase employee retention, another major impediment to growth.

COMPETITION & OPPORTUNITIES FOR GROWTH

Nationally, the EMS industry in India is highly divided between two main service providers: Emergency Management and Research Institute (EMRI) and Ziqitza Health Care Limited. EMRI is a not-for-profit ambulance service provider operating through private public

partnerships with individual Indian states. Its emergency response service was first launched on August 15, 2005 in Hyderabad. Now, EMRI has a total of 2858 ambulances across Andhra Pradesh, Gujarat, Uttarakhand, Goa, Tamil Nadu, Karnataka, Assam, Meghalaya, Madhya Pradesh, Himachal Pradesh and Chhattisgarh (*see Appendix C, Figure 4*). As of 2009, EMRI had serviced 2.7 million calls, a number far above 1 million calls Ziqitza had attended in December 2011.

Since its inception, EMRI has partnered with Indian Emergency Number Authority, National Emergency Number Association, American Association of Physicians of Indian Origin (AAPI), Shock Trauma Centre, Stanford University, Singapore Health Services, and the Government of Andhra Pradesh to improve and grow its services. EMRI currently also runs its own medical, systems and operations research center, training and certification programs, and provides free medical advice on the phone, allowing for public access to over 200 medical doctors and paramedics.

Their stated mission includes: to provide emergency response services through public-private partnerships, to respond to 30 million emergencies and save 1 million lives annually, and to deliver services at global standards through leadership, innovation, technology, research and training. Like Ziqitza, EMRI envisions becoming a pan-India ambulance service provider and eventually expanding other developing countries, and thus is Ziqitza's primary competitor (*see Appendix C, Figure 5*).

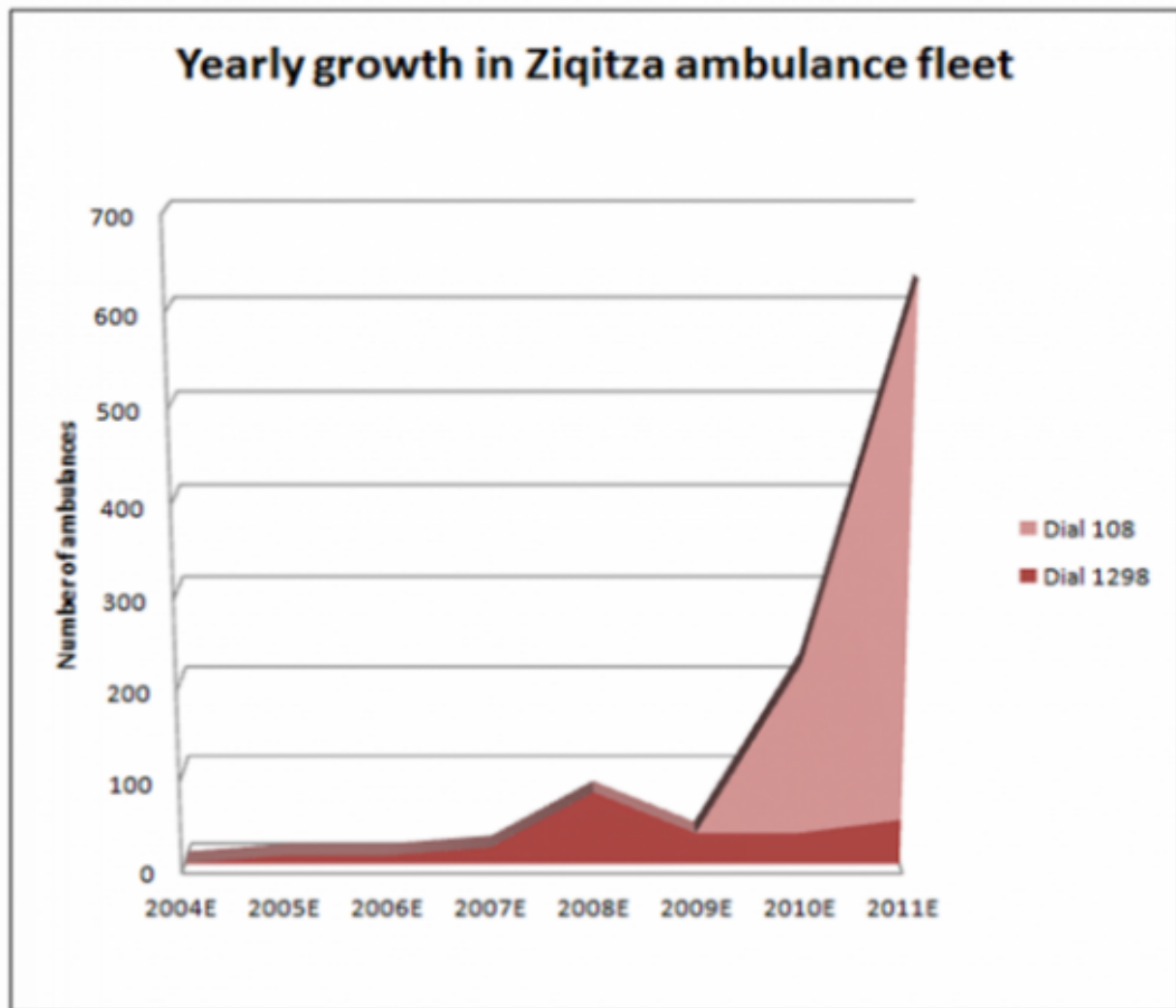
Opportunities for Growth

A major potential avenue for growth for Dial 108 is through strategic partnerships with NGOs and other organizations. For example, Dial 108 in Rajasthan partners with the ASHA Program, a government funded program that helps women receive medical care during

pregnancy and birth. In India, approximately 20-25% of women are pregnant at any given time. In Rajasthan alone there are about 1.9 million deliveries a year, 15% of which turn into emergencies necessitating a caesarean section. Given that 70% of the Indian population lives in rural areas, many women do not have access to medical services when pregnant or simply are not aware of that medical care is available. Consequently, many women end up turning to local medicine. Traditional healers and midwives have been known to use mud to stop bloodflow from the baby's umbilical cord and from the mother after delivery, causing complications. Ashas, accredited social health activists, are contracted by the state of Rajasthan to ensure that pregnant women in their villages receive medical care. They monitor the women throughout their pregnancies, transferring them to nearby health facilities for nine checkups during pregnancy and for delivery. Ashas are paid 1,700 rupees for a rural transfer, 1,300 for an urban transfer, and an additional 400 rupees for making sure the pregnant women reach the hospital. In total there are currently 46,000 total Ashas in 40,000 villages. Through the program, the government manages to track about 900,000 pregnancies a year. Dial 108 is pursuing opportunities to collaborate with the Asha program.

Dial 108 in Rajasthan, despite being the biggest in the country, still has much room for expansion (*see Figure 5*). Though education of the public will undoubtedly continue creating public awareness of the services offered by Dial 108 and thus bring in more customers, creating a new private vehicle service is a possibility. The vehicles would operate like a taxi to transport people who do not have access to any other mode of transportation to a hospital for preventive non-emergency check-ups and routine exams.

Figure 5: Yearly growth in Ziqitza ambulance fleet



PART V:

MARKETING & SERVICES

MARKETING STRATEGIES

Ziqitza has developed a strong marketing plan to meet their goal of becoming the leading ambulance service provider. When a crisis arises, people do not know which number to call, and thus they rely on private transportation methods. The challenge for Ziqitza is to change this pattern of behavior and make calling 1298 and 108 the primary response in the event of an emergency. “Because an ambulance user can be of any gender, class, or caste, communication must target all segments and must be to the point, interesting, and innovative. We must find multiple platforms to drive the same message,” remarked Priyanka Bose, Head of Marketing. One of the most effective marketing strategies used by both 1298 and 108 is health check-up camps, which are organized at various high-traffic areas, such as parks, temples, schools, hospitals, railway stations, and office buildings to create awareness of Ziqitza and its services. The check-ups include blood pressure, blood sugar, and pulse rate checks, as well as a general consultancy. Additionally, when the ambulances are idle, the drivers and medical staff aboard the ambulances are encouraged to go to points of interest and perform health check-ups. As noted by Bose, health check-up camps are important, because they allow people to experience ambulances in a comfortable situation, interact with the ambulance crew, and learn about the state-of-the-art equipment available in each ambulance. Not only do these check-ups teach the importance of seeking healthcare, but they also increase the recall factor of 1298 and 108.

Spreading the message across all geographical areas in an economical manner is also a challenge for the marketing team. One relatively low-cost marketing strategy is placing inserts in newspapers. For example, whereas placing a national ad in *The Times of India*, which has a circulation of over 3 million, would cost close to \$60,000 per day, Ziqitza runs inserts in the Mumbai print edition, which have a total cost of about \$600. Additionally, Ziqitza, and the Dial

108 segment in particular, maintains a strong relationship with the press. The marketing team stays in touch with local newspapers daily, and heroic stories of Dial 108 ambulances are published regularly, reaching a wide audience. Another cost-effective marketing method used by Dial 108 is selecting village heads, known as serpunches, as brand ambassadors, educating them about Dial 108 and encouraging them to spread word about the service to the people in their village. This is an especially effective strategy to reach out to the rural belt, as serpunches are widely respected and can address thousands of people.

While overall marketing strategies are similar to an extent, the marketing team recognizes the importance of customizing their efforts to the local constituencies. For example, in Rajasthan, 75% of Dial 108's customer base lives in rural areas, and so it is necessary to generate awareness to the rural belt. An effective method to market to this rural population is painting houses; because many people in the villages of Rajasthan cannot afford to paint their own houses, Ziqitza offers to paint their houses, and they brand one side (typically an area of about 10 x 15 feet) with the Dial 108 logo, creating a large visual display.

The marketing team's aim is to educate people that the service is free of cost, that it is only for emergencies and patient transfers, and that there are various facilities available. The most successful marketing strategies for Dial 108 are demonstrations and awareness camps, particularly in schools, where they can educate children about basic health and the ambulance services available to them. These camps are often very well attended, with over a hundred people at each event. Other strategies include mass SMS blasts (using phone numbers gathered in the call centers and at health camps) and posters in areas with high traffic. A challenge that Dial 108 faces is government inefficiency; before any funds are received, the government must approve all marketing plans down to minute details, such as the placement of flyers. This takes a

frustratingly long time, and often times the marketing team does not receive funds until 4 months later.

WORLD CLASS AMBULANCES

Prior to Ziqitza's emergence in the Emergency Medical Services market, 90% of ambulances were used simply as a means to transport dead bodies from homes and accident sites. Understandably then, the ambulances on the market were equipped to accomplish this task and little else in the way of medical care. The vehicles themselves were often nothing more than white-painted vans. Ziqitza, however, differentiates itself in the market by servicing its patients with state-of-the art ambulances, comparable to the quality of ambulances found in the United States and United Kingdom. Ziqitza technicians constantly work with TATA engineers, the producers of the ambulances, recommending improvements and changes to the current models. Dial 1298 currently uses Advanced Life Support (ALS) ambulances, and Dial 108 uses Basic Life Support (BLS) ambulances. *See Appendix D for pictures and ambulance pricing.*

Advanced Life Support Ambulances

Features:

- Defibrillator
- Cardiac monitor
- Portable ventilator
- Suction machine
- Resuscitation kit
- Electrocardiogram
- Emergency medicines
- Oxygen tanks
- Pulse oxymeter
- Basic medical equipment, e.g. stethoscope, blood pressure apparatus
- Collapsible stretcher, scoop stretcher, canvas stretcher
- Wheelchair

Basic Life Support Ambulances

Features:

- Collapsible stretcher, scoop stretcher, canvas stretcher
- Oxygen tanks
- Splints
- First aid box

LIFESUPPORTERS INSTITUTE OF HEALTH SCIENCES

The LifeSupporters Institute of Health Sciences (LIHS) is the training arm of Dial 1298, and is a world-class institute created by a team of doctors with the mission of building a cadre of trained emergency service professionals. LIHS has forged strong partnerships with the London Ambulance Service, New York Presbyterian EMS, American Heart Association, University of Mumbai, Times Center for Disaster Management, and the P.D. Hinduja National Hospital. LIHS has trained over 300 medical practitioners in emergency medical services, over 1000 doctors and nurses in advanced cardiac life support and international trauma life support, and over 10,000 non-medical personnel in first aid and basic life support. The American Heart Association rates it the top training institute in South Asia. One of the initial challenges faced by ZHL was recruiting trained paramedics and doctors. Although some universities provided specialized courses related to EMS, training was not available on a large scale, making it difficult for ZHL to develop a long-term recruiting strategy. Through LIHS, ZHL is able to recruit individuals and train them in basic medical services on a large scale.

PUBLIC SERVICE INITIATIVES

In Mumbai, Ziqitza is engaged in two key public service initiatives that contribute to its social mission. These initiatives are a women's helpline and a senior citizen's helpline. Although Mumbai has traditionally been considered one of the safer cities in India for women, there has been an upward trend in incidents involving women. There was a blatant need for a helpline facility to provide support to women in distress. The Sheriff of Mumbai, Dr. Indu Shahani, expressed this need in an interview, and consequently, Ziqitza approached her with a proposal to provide the service. The helpline was launched soon afterwards on January 28, 2008 with the assistance of ten leading NGOs. With the same number as the ambulance service, 1298, women can call in, and the personnel at the main call center in the 1298 offices direct the women to relevant NGOs who can then counsel and provide support to the caller. 1298 personnel later issue a follow-up phone call to ensure that the caller has received help. The women's helpline currently receives 400-500 calls monthly.

Similarly, crimes against senior citizens have risen in Mumbai. To address this need and provide relief to senior citizens, the Nargis Dutt Memorial Charitable Trust has partnered with Dial 1298 to launch a 24/7 helpline on May 10, 2010. Any senior citizen who requires assistance can dial 1298 and be put in contact with a counselor. In the past few months, over 5000 calls were received, most of which were related to family-related harassments or legal/property maintenances. The helplines allow Ziqitza to forge relationships with callers and build brand awareness, so that callers know to call either 1298 or 108 in the event of an emergency.

PART V:

INVESTORS & PARTNERS

INVESTORS

1298 has a wide range of investors, most of which are debt investors. These include American Medical Response, which provides emergency and non-emergency medical transportation in the United States. A subsidiary of Emergency Medical Services Corporation, AMR has annual revenue of \$1.2 billion. Several Indian financial services companies have invested funds in Ziqitza as well, including HDFC Bank, one of the four biggest banks in India, and IDFC, India's leading financial institution focused on infrastructure. IDFC recently invested Rs 47 lakh, about \$90,000, in the enterprise. The India Value Fund, a private equity firm with \$1.4 billion in funds, is also an investor in Ziqitza.

One investor that holds an equity stake in Ziqitza is Acumen Fund, a non-profit global venture fund that invests in social enterprises, which are defined as financially sustainable and scalable organizations that deliver critical goods and services to improve the lives of the poor. Acumen originally invested \$1.5 million in equity in 2007, followed by \$1 million in equity in 2009 and \$118,628 in debt in 2009. In looking to raise capital in 2007, Ziqitza's founders knew they needed an investor who would value both the business model and the social objective of providing access to EMS for all. Acumen, which relies on "patient capital," – described as having risk-tolerance, long-term horizons for the investment, and a goal of maximizing social, rather than financial, returns – fit the profile. From Acumen's perspective, Ziqitza was an ideal investment opportunity as well. "When you do venture investing, it's about the quality of the entrepreneur and the teams, and for us, we hadn't seen a team as dynamic and as passionate about an idea. It was a combination of the team itself and the demonstration potential of the idea at an early stage," noted Brian Trelstad, Chief Investment Officer at Acumen. Most importantly,

the management team's focus on both the social commitment and the organization's financial self-sustainability from the very start, made Ziqitza an attractive investment opportunity.

Today, Ziqitza is one of Acumen's few investments to have truly hit scale. Although Acumen typically looks for returns within seven to ten years, Ziqitza has surpassed expectations by achieving tremendous scale within five years. As the company and its business model have evolved over the past few years, so has Acumen's relationship with Ziqitza. As a strategic investor, Acumen's role today involves helping Ziqitza refine company policy and strategy, raise money, and secure fair contracts.

BUILDING STRATEGIC PARTNERSHIPS

New York – Presbyterian Hospital is the largest hospital based Ambulance service in the city of New York, and has one been of the largest participants in the New York City 911 Emergency System since 1981. The American Heart Association is a non-profit organization in United States that provides appropriate cardiac care in an effort to reduce disability and deaths caused by cardiovascular disease and stroke. Both the New York – Presbyterian Hospital and the American Heart Association have worked in conjunction with Ziqitza and LIHS to certify and approve their ALS and BLS medical courses for Ziqitza EMTs, drivers, and doctors. LIHS became one of the 10 International Training Centres for AHA in October 2006.

London Ambulance Service is the largest metropolitan emergency Ambulance service in the world to provide Emergency Medical Services that are free to patients at the time they receive it. With a total of 4,000 staff, LAS covers 7 million people in an area of 620 sq miles and deploys 400 Ambulances at any point of time attending 1million of calls per year, or 3,000 per day. Ziqitza's initial protocols and business operations were set up in association with LAS,

which provided the processes, systems, protocols, training and project implementation assistance before the 1298 pilot launch in 2002. Ziqitza and LAS currently participate in a staff-exchange program.

In the wake of the 2008 Taj Hotel bombings, HSBC partnered with Ziqitza, making a donation of 4 ALS and 2 BLS HSBC-branded ambulances. TATA AIG has paid an undisclosed sum to Ziqitza to support its head office operations in Mumbai, in exchange for corporate social responsibility branding on several Dial 1298 ambulances.

PART VI:

**TRANSITIONING FROM A SOCIAL
ENTERPRISE TO AN SME**

THE FUTURE OF ZIQITZA

When Ziqitza was first founded, it was created entirely in the model of a social enterprise. Running only a single business unit, Dial 1298, the organization had a clearly defined social mission, and an operational model that supported that mission. In founding Ziqitza, which consisted of just Dial 1298 at the time, the five founders wanted to create a company that would provide ambulance services accessible to all people regardless of income and to be financially self-sustainable. At this point, Dial 1298 alone is unable to meet all of these commitments and is focusing its efforts on financial sustainability. Despite substantial growth, Dial 1298 has not held fast to all of these ideals – as the service continues to transition towards a higher-end, patient transfer service, it is implicitly making the decision to move towards more affluent markets. However, as an organization on the whole, Ziqitza has met these commitments in an extraordinary way – primarily through the differentiation of the Dial 1298 and Dial 108 business models. Through Dial 108’s government partnerships, Ziqitza can reach greater numbers of the poor than could ever be achieved relying solely on profit and investor capital to stimulate growth. One only needs to look so far as Kerala, where Ziqitza currently operates both 1298 and 108, in order to glimpse the future of Ziqitza’s business model. Dial 1298 and Dial 108 bifurcate the medical services and transportation market, both in terms of customer base and service provided. Dial 1298 services more affluent patients and provides medical transfer services, whereas Dial 108 services less affluent patients and provides emergency medical response services. This is the current division of labor in the Keralan capital, Trivandrum. If, as is probable in the near future, the state of Maharashtra decides to tender its ambulance services in a private-to-public model, we can see also see Ziqitza operating this way across Maharashtra.

With the inception and subsequent rapid expansion of Dial 108 over the past two years, the expansion of Dial 1298 has continued, but slowed. In terms of revenue, ambulances, and employees, 95% of Ziqitza's business now comes from the Dial 108 business arm (*see Appendix E, Figure 1*). Despite this trend, the Ziqitza management team, including the founders, envisions a company where Dial 108 and Dial 1298 grow and operate simultaneously in various states, offering synergistic benefits. Though both sides of the Ziqitza have inherently different operating models and target populations, they are both ambulance operators at the core, and increased awareness, use, and comfort with ambulances can only benefit both halves of the business.

Unlike Dial 108, which must wait for government tenders, Dial 1298 is free to move into any metropolis across India (or even the developing world) if the conditions are right and the capital is available. The growth opportunities for Dial 1298 are extraordinary in that regard and in line with Ziqitza's original vision of becoming the most successful ambulance provider in the developing world. However, from both a financial and social perspective, Dial 1298 would benefit from expanding in tandem with Dial 108 into new markets. Without Dial 108's operations in a given location, Dial 1298 lacks the resources and financial security to properly service the poor and operate a subsidized model.

According to the Ziqitza founders, the decision to develop the Dial 108 business segment was opportunistic and driven by the attractiveness of large, non-capital intensive contracts. Though the social benefit was apparent, the expansion was a tactical business decision allowing Ziqitza to expand rapidly. In the process of that expansion, Ziqitza as an organization moved past the limited concept of a social enterprise into a fully-fledged corporation providing the Indian public with a sorely needed social good. The expansion of Dial 108 has allowed and should continue to facilitate Dial 1298's focus on patient transfers between private hospitals. In this

regard, the status of Dial 1298 standalone as a pure social enterprise can be debated. Likewise, Dial 108, considering its deep involvement and reliance on the government may lack the necessary financial independence to warrant the title. However, due to the growth and segmentation of each respective business unit, Ziqitza's capacity to provide a social good to people of all income levels, is greater than ever before.

The biggest opportunity for growth for Dial 108 exists in the form of increasing the number of ambulances. Though Dial 1298 exists in the capital city of Maharashtra, Mumbai, Dial 108 sees great potential for the state. Since both services target a different segment of the population," both will have space to grow" according to Anil D'Souza, head of Human Resources in Mumbai. Uttar Pradesh, India's most populous state, is also in the pipeline. As D'Souza and Nijil Abraham in Kerala believe, significant growth can also come from an overlap of 1298 and 108 in the future. As both expand and state populations become increasingly aware of ambulance services, the overall demand for Ziqitza will increase. In the future, if for example Dial 1298 builds a good rapport in a state, Dial 108 could come in and have a better chance of winning the government tender in a bidding process. Hospital Dial 1298 fixed contracts could be replaced by 108.

Finally, a highly unexplored avenue for growth could lie in higher female employee participation on the field, as women are not easily approached by male nurses, especially in rural and tribal areas. Recruiting more females as part of ambulance teams could improve the visibility of Dial 108 and cause a sharp increase in the total number of people who use the service. Taking advantage of female NGO employees to increase the reach of advertising could also promote growth significantly and lead to a rebranding of the service to appear more amenable to women.

TRANSITIONING TO AN SME

In 2007, nine out of every ten ambulances were used to carry dead bodies, and the response time of an ambulance was well over 45 minutes. In the event of a medical emergency, there was no centralized, functional phone number to call. Today, ambulance provision India has changed dramatically. The past six years have witnessed the complete transformation of an organization that has grown from a small service provider with ten ambulances in just one city, servicing a low volume of calls to a corporation with that operates 635 ambulances with 3,300 staff in five states across India and has serviced over 645,000 calls (*see Appendix E, Figure 2*). When customers dial 1298 or 108, an ambulance arrives in less than 15 minutes on average.

Upon launching the service in 2005, the five co-founders made a three-pronged commitment: 1) to meet international standards for quality in emergency medical services, 2) to provide ambulance services accessible to all people regardless of income, and 3) to be financially self-sustainable. Ziqitza's business model and growth strategy has evolved over the years in order to meet this social commitment. When Dial 1298 experimented with an open-ended business model and allowed customers to pay an amount they deemed was appropriate, it proved to be financially unsustainable. They then turned to a differentiated price model where customers were charged based on destination; however, certain populations were still excluded from the service, and the margins were minimal. When the opportunity to work with the government to provide affordable emergency care through public-private partnerships arose, Ziqitza's management immediately seized it and began the Dial 108 business segment. By focusing their efforts on Dial 108 in the past two years, Ziqitza has been able to reach tremendous scale and reach customers of all classes in both the urban and rural belts, as well as achieve financial self-sustainability. Aiming to scale to 1,000 ambulances by 2014, the company is reaching levels of

exponential growth. With a fleet of world-class ambulances featuring state of the art equipment since the company's inception, Ziqitza is also able to meet international standards for quality in EMS.

As noted by the company's early investor Acumen, "Innovative products don't make a difference if they can't reach the market, or if businesses selling them don't scale. Services and delivery models can be just as transformative as great products. Ziqitza shows how operational excellence coupled with existing technology can create a breakthrough business model." Ziqitza has taken an innovative model and reached a large enough scale that it is able to shape economic development in India today.

DISCUSSION QUESTIONS

1. Ziqitza currently has many different avenues to pursue more growth – they could focus on either the variable model or the fixed model within Dial 1298, or pursue more public-private partnerships with state governments through Dial 108. While they do not need to restrict themselves to one option, what would you recommend to Ziqitza as the most promising opportunity for growth?
2. As described in the *Dial 108 Challenges* section, there is much room for improvement in the contracts that Ziqitza holds with the state governments of Punjab, Bihar, Rajasthan, and Kerala. How do you think the contract could be modified to benefit Ziqitza? What do you think the appropriate per-ambulance target should be?
3. As noted by many employees at Ziqitza, the single greatest challenge that the organization faces going forward is how to create awareness about the ambulance service and change the mindset of a population that is accustomed to relying on private transportation for medical emergencies. How should Ziqitza go about creating awareness about their services?
4. Only 20% of Dial 1298's calls serviced are discounted, and the service primarily targets a wealthier customer base. Does this detract from Ziqitza's social mission and their effort to serve the poor? What are some of the advantages of having this service as a complement to Dial 108?
5. What lessons can other social enterprises that are looking to scale draw from Ziqitza and its successful growth story?
6. Ziqitza's management has stated that they would like Ziqitza to become the leading ambulance provider of the developing world. Do you think the model can be replicated in other countries? Is Dial 1298 or Dial 108 more replicable?
7. Are there any sectors or markets that Ziqitza has not yet tapped into that you believe are worthwhile business opportunities?
8. In an interview, Co-Founder and CEO Sweta Mangal noted that she envisions Ziqitza going public in 2015 or 2016. What are the benefits of taking the company public? What are some of the disadvantages?

APPENDIX A

Figure 1: Ziqitza operational chart

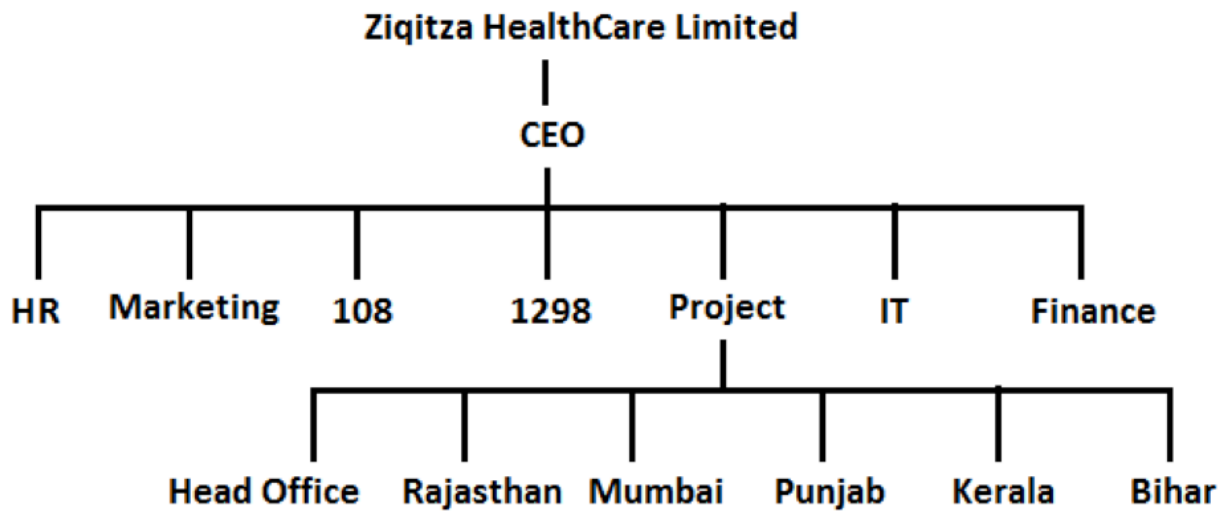


Figure 2: Ziqitza locations in India

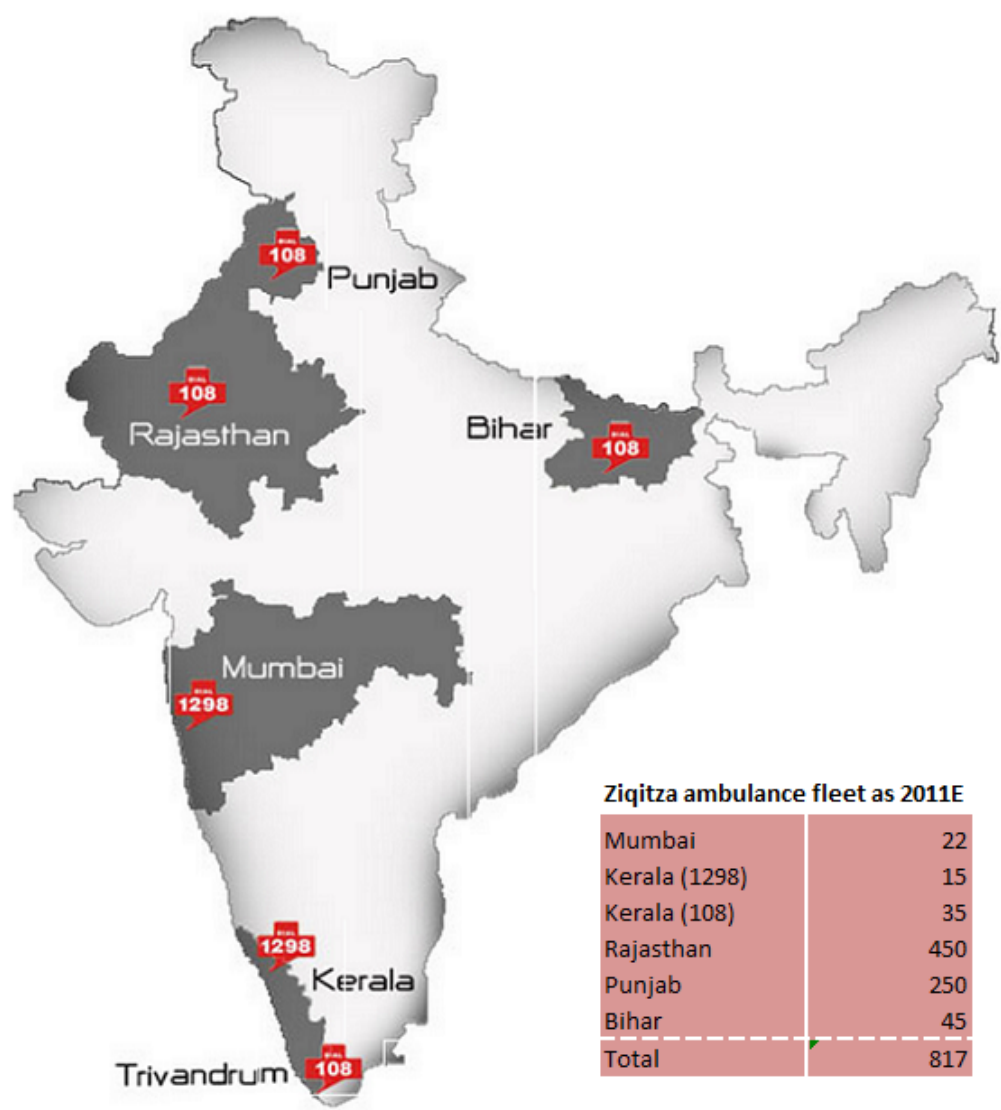
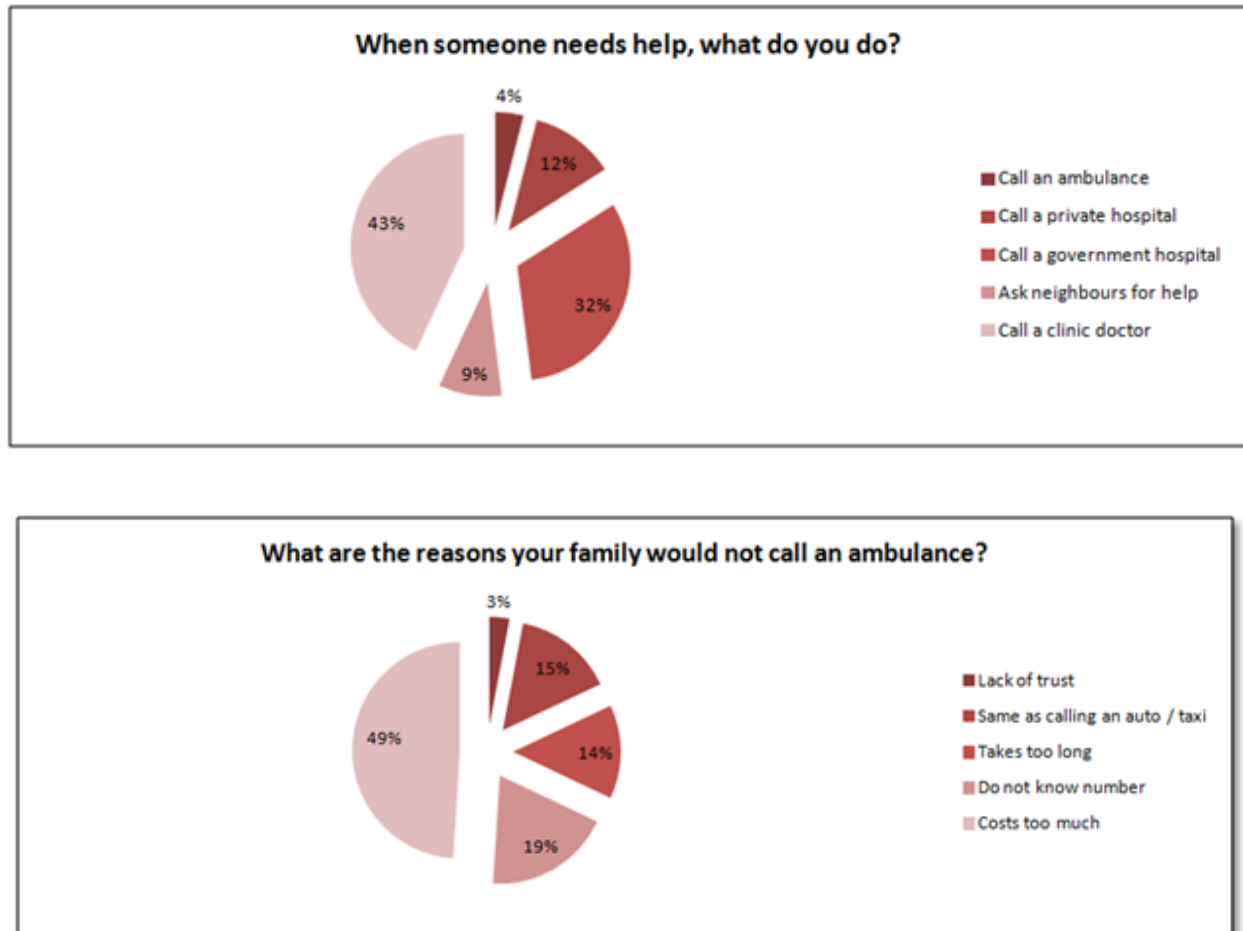


Figure 3: Emergency response data



Data collected by the University of Michigan Ross School of Business

APPENDIX B

Figure 1: Dial 1298 ambulance locations in Mumbai



Figure 2: Dial 1298 ambulance locations in Kerala

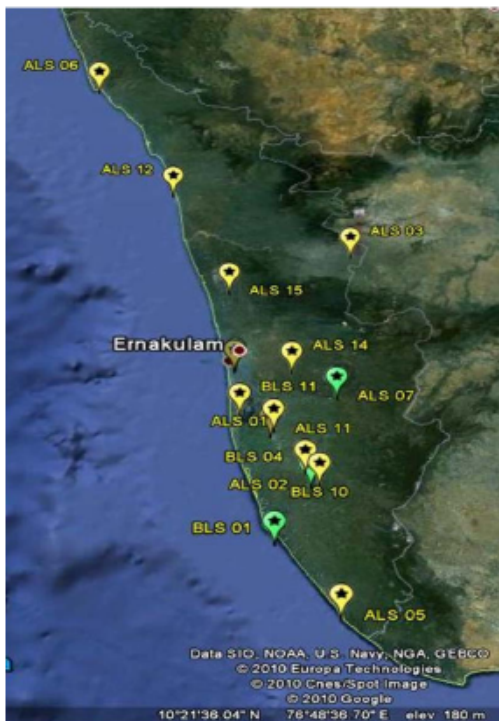


Figure 3: Dial 1298 revenue projections

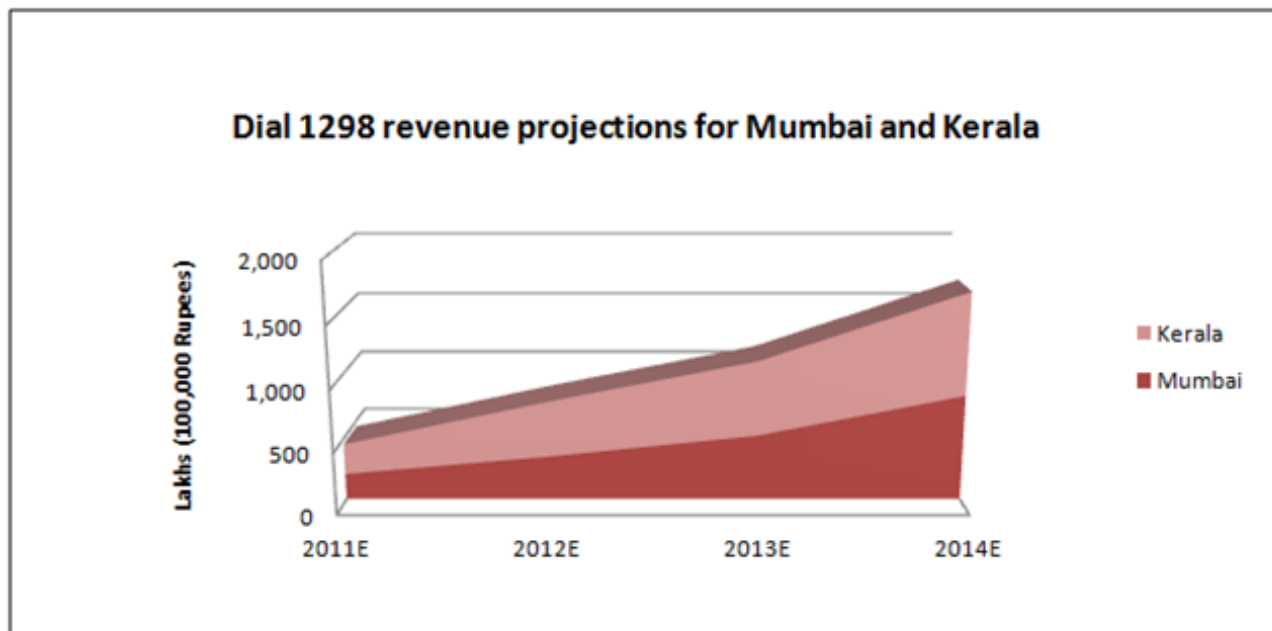


Figure 4: Dial 1298 Mumbai revenue projections

Dial 1298 Mumbai revenue projections from core operations (in Rupees)				
	2011E	2012E	2013E	2014E
Number of trips per ambulance	3	3.5	4	5
% fully paid trips	85%	85%	85%	85%
Number of fully paid trips	2.6	3.0	3.4	4.3
Average charge per trip	750	730	710	690
Annual revenue per ambulance	698,063	792,689	881,110	1,070,363
Number of ambulances	30	45	60	80
Total Annual revenue	20,941,875	35,670,994	52,866,600	85,629,000

Figure 5: Dial 1298 Kerala revenue projections

Dial 1298 Kerala revenue projections from core operations (in Rupees)				
	2011E	2012E	2013E	2014E
Number of trips per ambulance	1.5	2	2.5	2.5
<i>% fully paid trips</i>	<i>90%</i>	<i>90%</i>	<i>95%</i>	<i>99%</i>
Number of fully paid trips	1.4	1.8	2.4	2.5
Average charge per trip	2,500	2,300	2,000	2,000
Annual revenue per ambulance	1,231,875	1,511,100	1,733,750	1,806,750
Number of ambulances	20	30	35	46
Total Annual revenue	24,637,500	45,333,000	60,681,250	83,110,500

APPENDIX C

Figure 1: Dial 108 organizational chart

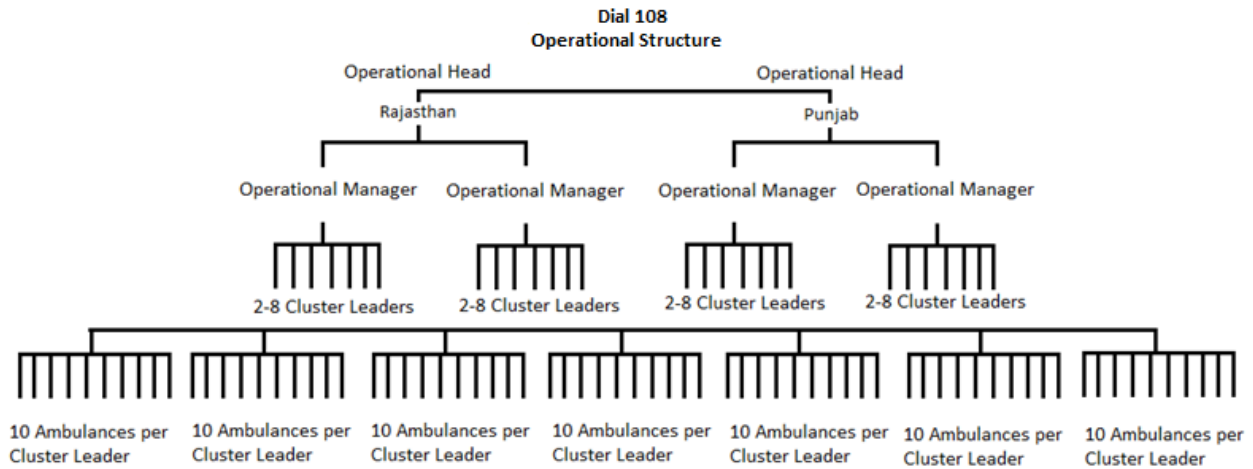


Figure 2: Dial 108 operating financials

2011 operating financials for Dial 108 in Rajasthan in Lahks (100,000 Rupees)							
	Actual			Projected			Steady State
	April	May	June	July	August		
% of gov. Target (5 per ambulance)	98.0%	92.0%	94.0%	96.0%	98.0%		100%
Number of ambulances	256	329	361	414	449		464
Revenue	238.01	287.50	322.07	377.75	418.31		440.80
SG&A	93.72	113.21	126.82	148.74	164.72		173.57
SG&A % revenue	39.4%	39.4%	39.4%	39.4%	39.4%		39.4%
Fuel	56.29	81.94	95.01	128.44	142.23		149.87
Fuel % revenue	23.7%	28.5%	29.5%	34.0%	34.0%		34.0%
Repairs & Maintenance	11.09	13.40	15.01	17.60	19.49		20.54
R&M % revenue	4.7%	4.7%	4.7%	4.7%	4.7%		4.7%
Lodging & Travel	9.00	10.87	12.18	14.28	15.82		16.67
Fuel % revenue	3.8%	3.8%	3.8%	3.8%	3.8%		3.8%
Operating expenses	170.82	220.18	249.79	309.88	343.07		361.47
Operating margin	28.2%	23.4%	22.4%	18.0%	18.0%		18.0%
Operating Income	67.19	67.32	72.28	67.87	75.24		79.33

Figure 3: Dial 108 employee salaries

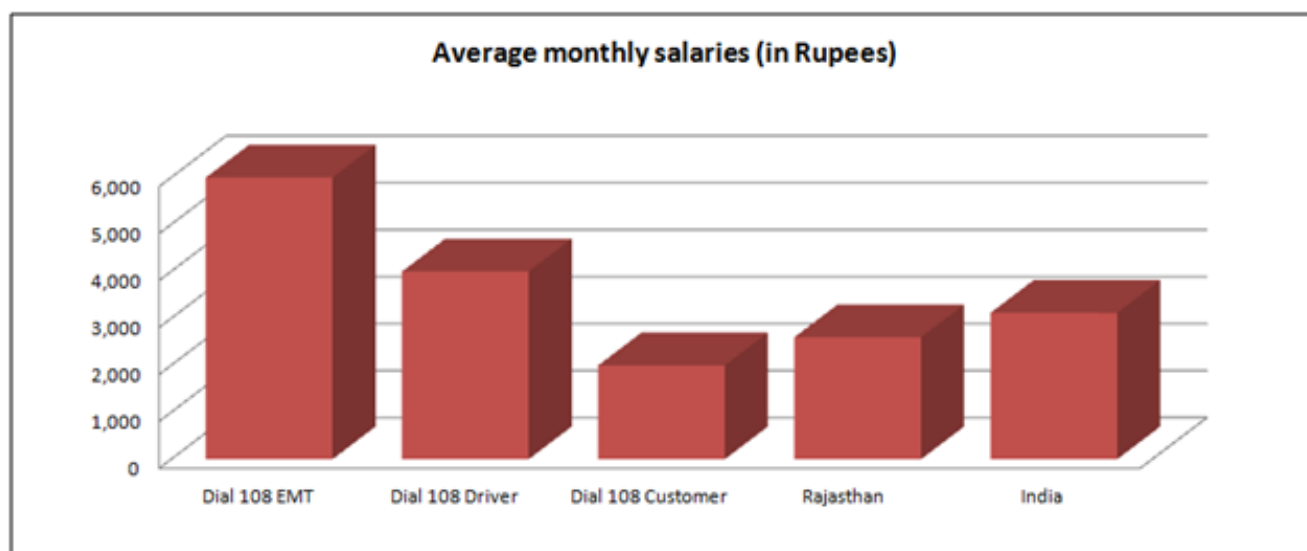
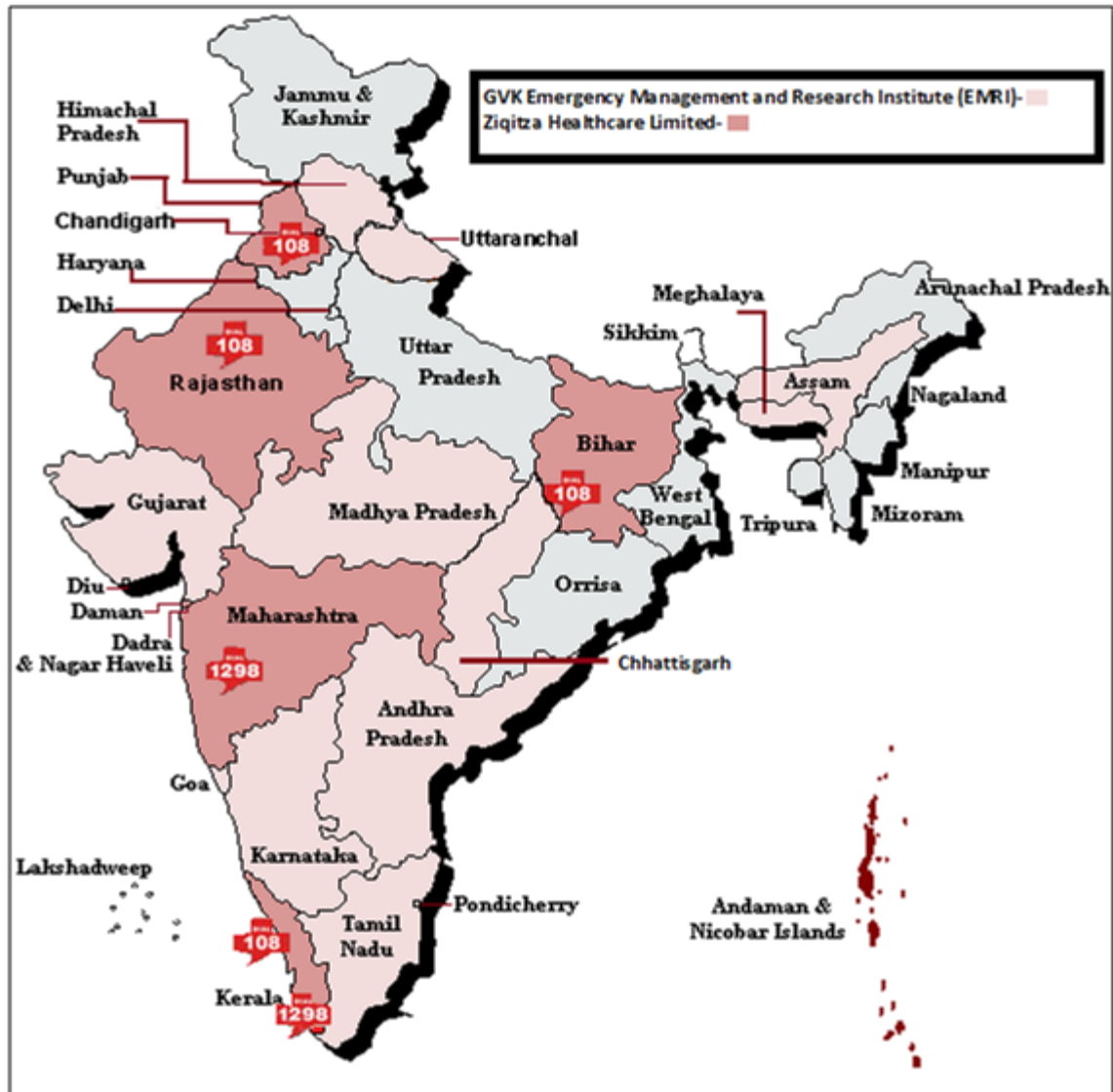


Figure 4: EMRI ambulance fleet

EMRI ambulance fleet as of 2009 (most recent data available)	
Andhra Pradesh	752
Gujarat	450
Uttarakhand	108
Tamil Nadu	384
Goa	18
Karnataka	517
Assam	281
Meghalaya	29
Madhya Pradesh	70
Total	2,609

Figure 5: EMRI vs. Ziqitza market map



APPENDIX D

Figure 1: Advanced Life Support ambulances



Figure 2: Basic Life Support ambulances



Figure 3: Ambulance pricing

Cost of Dial 1298 ambulances (in Rupees)			
ALS Ambulance		BLS Ambulance	
Vehicle	534,000	Vehicle	317,879
Installation	535,700	Medical Equipment	65,100
Medical Equipment	475,200	Communication Equipment	16,500
Patient Carriers	68,700	Total	399479
Emergency Kit	70,080		
Communication Equipment	16,500		
Total	1,800,180		

APPENDIX E

Figure 1: Ziqitza revenue projections

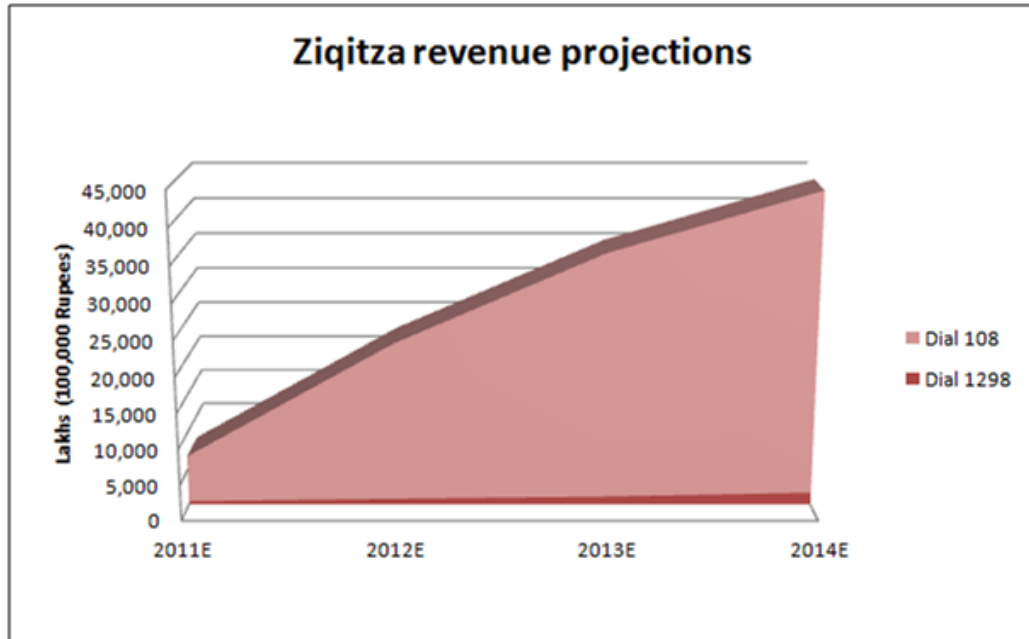
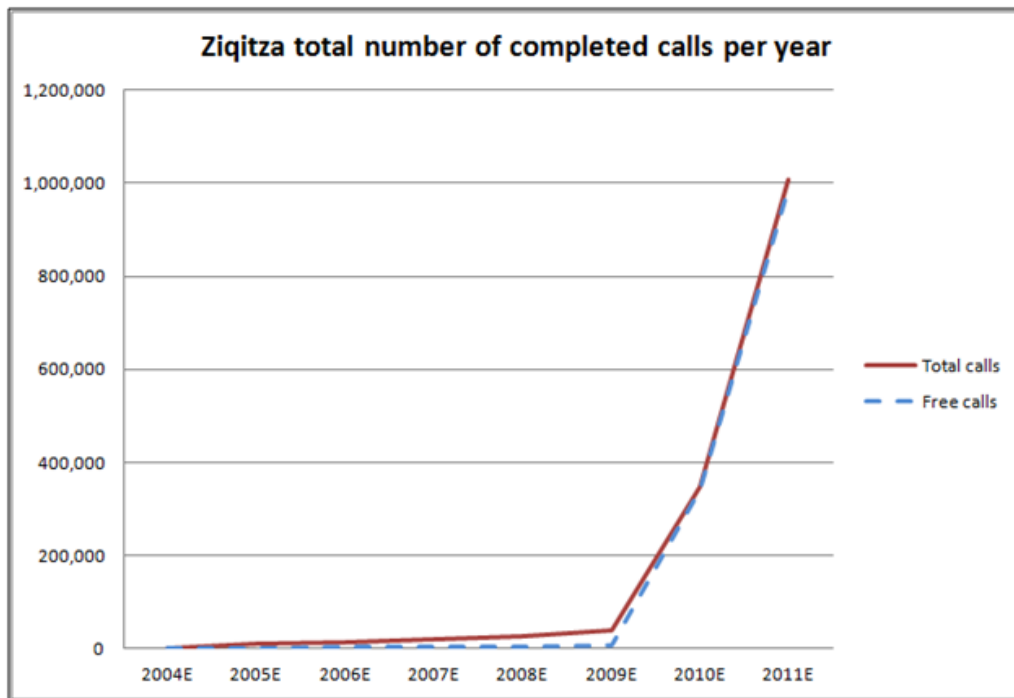


Figure 2: Completed calls per year



ABOUT THIS CASE

This case study on Ziqitza Healthcare Limited is one of a series of case studies produced by the Yale undergraduate class members of *Social Enterprise in Developing Economies*, a seminar designed to study current trends in development opportunities using business models toward building sustainable enterprises addressing the needs of some of the poorest members of society. Funded by the Yale Jackson Institute for Global Affairs and other grants made available by Yale University, the student authors of this case researched and visited Ziqitza in India over the summer of 2011 in order to prepare these materials.

Using an innovative, online case study model, these cases will be broadly disseminated, generating both success-sharing mechanisms and documentation of best practices. This is a critical component as the nascent field of social enterprise (and its efforts in working with corporations, governments and NGOs) needs critical appraisal and evaluation in order to increase efficacy and scalability.

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