

Applications of Information Systems and Microfinance in Nicaragua

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I was approached midway through my junior year at Fairfield University with a unique opportunity to take an Information Systems course headed by Dr. Vishnu Vinekar. This service learning class consisting of twelve students involved traveling to Nicaragua for a week in early January 2014. In collaboration with the Nitlapan Research and Development Institute of the Central American University (UCA) in Managua, we deliberated how to improve the business processes of this microfinance institution. This institution has been operating for twenty years, and works with a variety of organizations to help assist the entrepreneurs of its nation. The amalgamation of technology and business, combined with the service learning focus of this class, resulted in my classmates and I having a much more definitive understanding of how Information Systems stand to change the world for the better.

Nicaragua is a country that struggles with poverty, a poverty that has been magnified by political upheaval and environmental disasters. In fact, this small nation is the second poorest in the Western Hemisphere, behind Haiti (Central Intelligence Agency 2014). This did not deter our group from Fairfield University, and we came in contact with some of the most destitute conditions that many of us had ever seen. Needless to say, the worldwide effect of globalization has been slow to reach this Central American country, and technological advances are slow to filter in the area where many of the citizens live in rural isolation. Nicaragua depends heavily on foreign development assistance; however, donors have curtailed this funding in response to the November 2008 election and subsequent electoral fraud (Central Intelligence Agency 2014). While this further exasperates the economic situation, it also places more importance on internal development projects such as the work done by Nitlapan and the Fondo Desarrollo Local. By providing both credit and necessary training to the underprivileged and the poor, Nicaragua can work on rebuilding itself from the ground up. As citizens from a developed nation, we can offer the knowledge of deconstructing and reapplying what systems work and which do not; in this way we can contribute to a struggling country's infrastructure beyond simple monetary donation.

The consensus among my classmates and me before the trip was that we really had very little idea of what to expect. I had visited countries similar to Nicaragua, but I knew that this trip would have an altogether different context because of the service learning aspect of the class. Besides some volunteer work in high school, I had no real experience with this sort of service; however, I was eager to align myself with the school's Jesuit mission and dive headfirst into the experience. When I asked my professor how I could best prepare, I was only told to perhaps review business processes. Upon arriving in Nicaragua, the culture shock was immediate. The showerhead in the hotel had an electrical appliance on it to heat the water which was broken and would only offer cold or extremely hot water. When I tried to adjust it, I managed to literally shock myself on exposed wires. At the first restaurant we dined, it was hard to keep an appetite while a man on the street directly across from us dined on refuse out of a garbage bag. Sights like this all around Nicaragua made it hard to forget the purpose of our visit, and also really reinforced our efforts.

The Fondo Desarrollo Local is a non-profit organization that was created by Nitlapan to help local people increase their economic standing. According to its website, as of March 2014 Nitlapan claims a portfolio of \$60 million USD and almost 60,000 clients serviced (Fondo de

Desarrollo Local 2014). By providing small loans to individuals that would be denied by a conventional bank, the Fondo Desarrollo Local enables them to get a foothold in their industry. As the age-old saying goes, “It takes money to make money,” and this is truly the driving principle of microfinance. It eschews the concept of charity, and portrays it as a temporary solution to a persisting problem. The interest rates on these microloans are high, but the repayment rates are close to 100%, which allows the system to function. It might seem curious to an outside observer that these financially deprived people were paying back the loans so consistently, but this is a testament to the community-driven aspect of the loan. The borrowers and their peers acknowledge the beneficial nature of the loan for the community, and those who struggle with repayment are assisted by others who want to ensure the continuation of the lending system. The most fundamental aspect of the work that the Fondo Desarrollo Local does is that it provides opportunities to people that previously did not have them, and this was reflected in our course learning about globalization.

After settling into our accommodations, we quickly set about meeting our clients at the Nitlapan Institute. The first priority was to become familiar with their operation to figure out exactly how we would try to assist them. As it turned out, we were tasked with both analyzing their processes to determine efficiency and with suggesting software alternatives to their current system. It was clear that the system the Fondo Desarrollo Local was using had major drawbacks, such as the propensity for user error as well as security concerns, both of which are dangerous to an organization that deals with finance. Our individual levels of professional experience were not especially important; what was important was how closely we could match Nitlapan’s needs and requirements with the limited time we had. The biggest motivation was knowing that by doing so we would be directly influencing the positive work that the institute does.

During our time working for the institute, the group accomplished several tasks. Nitlapan’s current state of operations was documented and the relevant information was translated and clarified by the client. Once we were familiar with this, we broke up into groups to tackle finding software alternatives. “A beneficial software solution helps develop strong business processes in MFIs (microfinance institutions) while providing flexibility to incorporate changing processes as per the changing dynamics of the industry” (Sharma, Guar and Agarwal 2012).

One of the most challenging aspects of the trip was the language barrier. One student in the group was fluent in Spanish; however, the rest ranged from competent to no grasp of it at all. Inversely, the client and other representatives of the institute had limited English skills, so this did slow down progress at times, especially when dealing with specific business-related terms. What made it work, however, was the willingness of both parties to take a moment and reach clarity when such an obstacle arose, because it was imperative that their needs were clearly communicated to us, and our recommendations clearly relayed to them.

We briefly tested open source and cloud based programs on our own computers, looking for financially viable alternatives. Open source applications consist of software that has been developed by a community and is usually free, so this option would be especially attractive for a non-profit. Cloud based databases were also considered because the storage rates could be discounted for non-profits and it would be a flexible tool for Nitlapan to utilize. We submitted all our findings at the end of the week with a comprehensive report that described our recommendations. The report contained workflow diagrams which reorganized the client’s data in order to better construct an application for it. There was also a translated written portion which detailed possible software options for the institution to consider. Since it had not yet looked into

modernizing its system, I believe our work helped Nitlapan approach the problem with a much clearer vision. We did not implement any of these changes ourselves, but rather presented the available options, along with our recommendations, to the institute for it to decide. From there, the administrators of the program had to decide what option would be the most fiscally viable, considering implementation and maintenance costs.

By working with Nitlapan to try to make its lending system more secure and efficient, we were hopefully making its operation run more effectively. A more effective organization can help more people with the limited resources it has, thus the changes we recommended would ultimately translate into a direct effect, such as lower interest rates on the microloans. The emergence of a new value-added service such as cloud computing allows for possibilities that were previously not viable. “Utilizing this type of model, a traditional microfinance association is able to offer sophisticated back office software that would otherwise be unaffordable to those institutions on an individual basis” (Sharma, Guar and Agarwal 2012, 20). While this might mean little in the “big picture,” it was still heartening to know that we could have a tangible impact in the lives of this country’s impoverished people, and this lent motivation to our efforts.

Even though we were on-site at the institute, there was no better way to contextualize our service learning experience than to visit some of the poverty stricken areas in Nicaragua. Besides touring some of the more destitute neighborhoods in Managua, some only from the safety of a bus, we also explored a rural town called Chacraseca. One family we visited had their house constructed with assistance from Fairfield University, but their living situation was still the very essence of poverty. There were multiple family units living in this one room house, and a clear absence of a father figure to any of them. Their only source of income was to gather firewood on their property and then haul it to the market to sell. People living like this clearly do not have opportunities for advancement. Seeing them really helped set the perspective of what Nitlapan was trying to accomplish in Nicaragua, by giving leverage to those who want to break the cycle of poverty, but do not have the means to do so.

Using our experience in Nicaragua as a reference point, the remainder of the course back at Fairfield was spent analyzing and discussing the various ways that business and technology interact to make the world a more level playing field. We studied how advances in technology had shaped the world, and speculated what change lies in the future. I personally found this sort of discussion invaluable because, as a college student, it helps prepare me for entry in the global marketplace through evaluating the needs of the world. Visiting Nicaragua in the context that we did also helped further my understanding of the needs and functions of the global economy, particularly by juxtaposing our living situation in the United States with that of the majority of Nicaragua’s citizens.

While Nicaragua is a beautiful and engaging country, it was very difficult to disregard the living conditions and lack of opportunity that its people still struggle with. It would be easy to end this essay by extolling the virtues of microfinance or the necessity of fostering technological development in undeveloped areas, but instead I would praise the value of seeing these environments firsthand in order to be capable of better understanding how the world works and the role that we play in it. Furthermore, I encourage any current students that might find themselves presented a similar opportunity to act on it, because a learning experience such as this can scarcely be found on just any college campus.

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