Re-Inventing CARD MRI's Information Technology Strategy

Formation of IT Company as a Holistic Approach to Systems Integration, Infrastructure Innovation and Services Expansion

Edgar Velasco Cauyan
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School of Community Economic Development
Southern New Hampshire University

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Approved by

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Professor Puneetha Palakurthi

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-EVC-

Dedication

I dedicate this project to my CARD MRI family, my parents, my wife Julie, to my three sons Christian David, Edgar Joseph, and Jose Angelo. Without their patience, support, understanding and most of all love, the completion of this project would not have been possible.

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List of Symbols, Abbreviations and Nomenclature

ASA	Association for Social Advancement
ATM	Automated Teller Machine
BRI	Bank Rakyat Indonesia
CaMIA	CARD MRI Insurance Agency
CARD	Center for Agriculture and Rural Development
CARD	Center for Agriculture and Rural Development, Inc.
CARD BDSFI	CARD Business Development Services, Inc.
CARD MBA	CARD Mutual Benefits Association
CARD MRI	CARD Mutually Reinforcing Institutions
CBS	Core Banking System
CGAP	Consultative Group to Assist the Poor
CMDI	CARD MRI Development Institute
CNA	Community Needs Assessment
EMPC	Employee Multi-Purpose Cooperative
ERP	Enterprise Resource Planning
ERP	Enterprise Resource Planning
FGD	Focus Group Discussion
HRIS	Human Resource Information Systems
ICT	Information and communications Technologies
IT	Information Technology
LMS	Loans Monitoring System
MBA	Mutual Benefits Association
MFI	Micro Finance Institution
MIFOS	Microfinance Open Source software
MIS	Management Information System
MUnCET	Micro-insurance Underwriting and Claims Evaluation Tool
PDA	Personal Digital Assistants
PLDT	Philippine Long Distance Telephone Company
POS	Point of Sale Terminal
PPI	Progress-out-of-Poverty Index
RBST	Rural Bank of Santo Tomas, Inc.
SMS	Short Messaging Service
SPM	Social Performance Management
VPN	Virtual Private Network
WiMAX	Worldwide Interoperability for Microwave Access

Abstract

The Center for Agriculture and Rural Development (CARD) has been in the forefront of innovation in the Philippines' microfinance industry. Its aggressive expansion has driven CARD's information technology requirements to unprecedented scope. What used to be a small IT Unit of CARD, Inc. and CARD Bank needed to cater to enterprise-wide demands that quickly became beyond the IT staff's capacity to deliver.

Technology-related strategies have to be redefined, processes need to be re-engineered, infrastructure re-designed, and human resources be more intelligently recruited and allocated for the IT Unit to survive CARD's challenges. Seeing these as opportunities rather than threats in the organization, this project aims to facilitate system integration among the institutions, to innovate their technology groundwork, and to expand IT services beyond CARD MRI.

Transforming the IT Unit to an IT Company will make those objectives easier to attain by giving the IT management and employees more liberty in strategic direction and operational decisions. To enable this re-invention, there needs to be a restructuring from the ground up. Manual operations will be automated, core banking system will be centralized, and user training will be emphasized to achieve an efficient Management Information System. These will then translate into higher productivity and profitability for CARD MRI.

1. Problem Statement

1.1 Background

From a noble vision of empowering and reaching out to women to help eradicate poverty in the Philippines, the Center for Agriculture and Rural Development, Inc. had humble beginnings in microfinance operations more than two decades ago. Since then, it has shown an impressive growth, evident in its formation of a group of mutually-reinforcing microfinance-oriented institutions now known as the CARD MRI.

The CARD MRI's optimism to put up a world-class financial and capacity-building institution makes the management consistently looking for new ways to create, develop, and deploy its services to its exponentially growing market base.

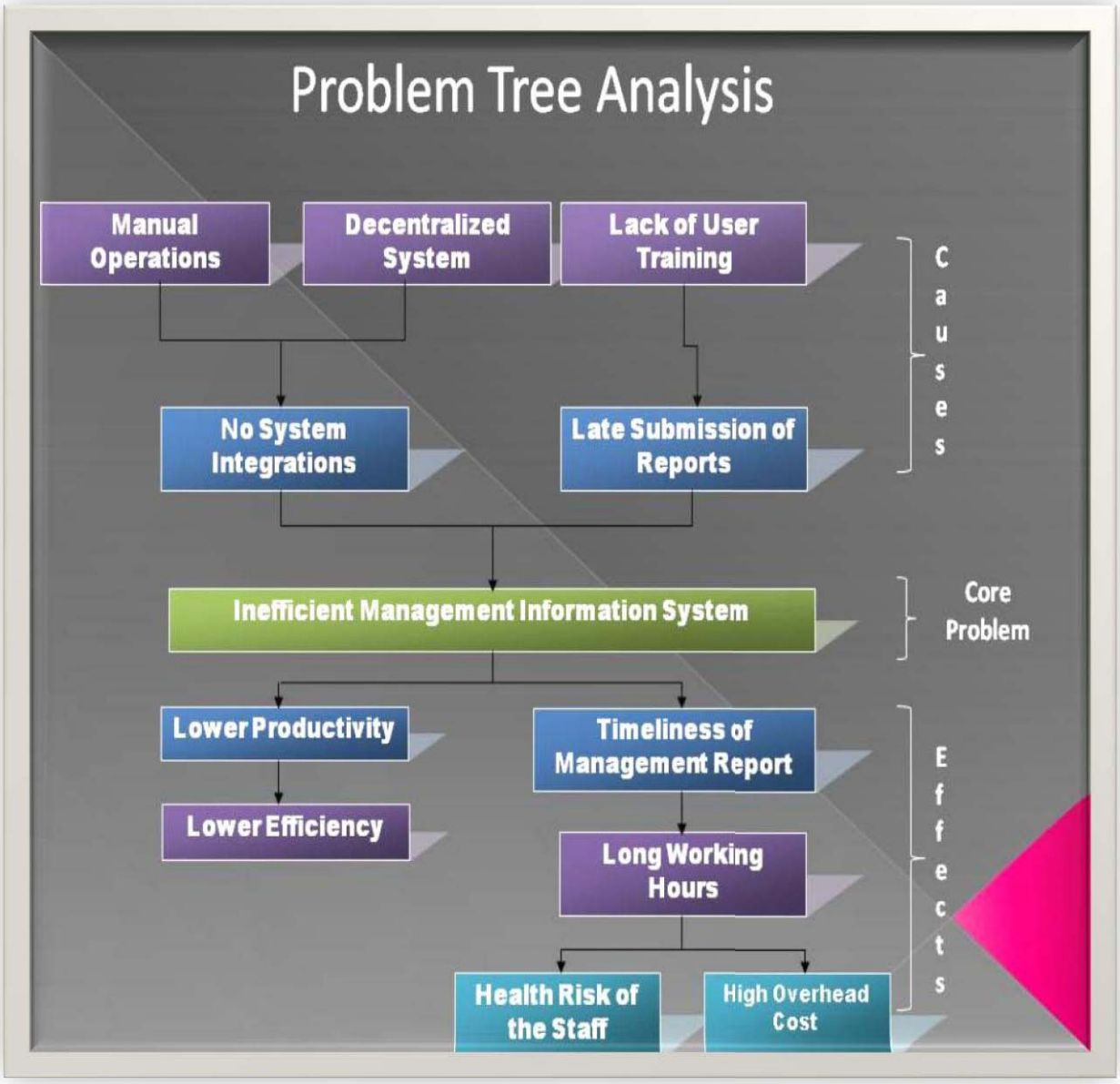
Compelled by its consistently aggressive innovations in the Philippines' microfinance industry, the CARD MRI has been heavily investing in technology resources to ensure its continuous delivery of competent products and services.

The CARD Information Technology Unit, being a vital support arm of the CARD MRI, caters to the microfinance-centric technology requirements of these institutions. The unit has been a significant enabler of rapid automation and of quickly responding to time-critical problems arising from daily transactions.

Its commendable track record in initiating pilot tests, conducting data migration, and rolling out software updates has helped the CARD branches to synchronize its operational strategies in their twenty-three years of existence. As a result, the unit has remained an indispensable complement to the CARD business model.

1.2 Problem Identification and Statement

Figure 1 : Problem Tree Analysis



While the CARD Information Technology Unit does perform important business functions in the organization, its solutions can prospectively be delivered in faster, cheaper and more innovative ways. CARD Information Technology Unit is also confident that it can bring more value to the CARD MRI Institutions by introducing new services, diversifying its market focus and developing its human and network resources.

The foremost issue in the current approach of CARD MRI is its manual operations. Together with the institutions maintaining separate database systems, this creates a lack of integration that would have provided real-time information sharing and workflow streamlining. The lack of user training also causes delays in the submission of reports. From these issues, the core problem then becomes the inefficient MIS.

The effects of an inefficient Management Information System are farther-reaching than expected. First is the lower efficiency of human resources rooting from the lower productivity through system use.

Another effect is the long working hours in the pursuit of beating the deadlines of management reports while consolidating decentralized and disintegrated data from both manual and automated operations. This can lead to high overhead costs and health risks for the staff involved.

1.2.1 Inevitable Spending

As a shared support unit among CARD MRI institutions, the IT Unit remains an expense portfolio for the CARD MRI as it does not generate income on its own. Although it is worthy to be a valuable addition to the efficiency of the whole organization, it still looks more like a liability than an asset.

1.2.2 Lack of integration

Each institution/unit maintains separate systems (e.g. CARD eSystem for CARD Inc, CARD Bank and RBST, MUNCET2 for CARD MBA, and LMS for EMPC). There is also a need for an integrated portal that will interlink the institutions for information sharing, real-time staff evaluation, and a comprehensive payroll system.

1.2.3 Human Resource Structure

There are existing gaps in the manpower skill set and a need to fully utilize each staff's talents. Accomplishing these gaps, however, require a structural overhaul and workflow streamlining that would leverage applicable technological breakthroughs and well-directed management decisions.

2. Review of Literature

2.1 Purpose of the Review

This review of related literature aims to analyze the structures and strategies of existing IT companies, microfinance institutions and non-governmental organizations, and the current technology trends in order to derive technologies that will prospectively be helpful in designing the overall IT strategy for CARD MRI and the proposed IT company itself.

2.2 Review of Literature

Information and communications technologies (ICT) have been undergoing major structural, competitive, and market approach transformation. Its scope has unlimitedly expanded to areas and industries that have never been dependent on technology before. Even microfinance could not circumvent it.

As information technology takes a more central role in business, IT systems must become even more flexible and adaptable. Today's competitive global business environment requires organizations to create new business processes rapidly to meet changing customer demands, with fluid business models to match.

2.2.1 Global Technology Practice

Information technology (IT) is now established as a primary—if not the primary—enabler of the business processes that make up a company's activity. As a result, mastery of IT has become a key foundation for achieving high performance.

For instance, Siemens AG, a 15-decade old German manufacturer, used to have difficulties in managing its supply chain. It had poor internal coordination and dealt with many suppliers and clients. In 1999, it reinvented itself into a 100 percent e-business doing its

various business functions through web-based and electronic commerce applications. Online sales and e-procurement have steadily and continuously grown since then. The company even deployed a portal where employees access corporate information, search engines, travel booking, and electronic expense reporting (Turban, McLean, & Wetherbe, 2006).

The world's financial industry also experiences strong and sustained growth in Internet-based banking. A Jupiter Media study showed that Internet traffic for all United States bank went up by 77.6 percent between July 2000 and July 2001, a considerable increase compared to the overall World Wide Web traffic growth of 19.8 percent over the same period. Online banking accounts in France are also increasing by 75 percent annually. This strategy combining physical and Internet presence in the financial industry has proven to be the best business model (Chandra, 2008).

Although traditional banks with a strong client base have the competitive advantage, maintaining this competitiveness relies on their ability to conform to sophisticated technological standard and to incorporate them into a sound business strategy. The system has to be not just reactive, but a proactive attitude.

While the use of cellular phones in banking and microfinance is still in its infancy, there are other channels and infrastructures that are being tested for financial applications. These include point-of-sale (POS) systems and automated teller machines (ATMs) with local language instructions and biometric input ("Harnessing the Telecom —", 2007).

2.2.2 Technology in the Philippines

To take a more focused perspective, the Philippines are known to have a high wireless service penetration rate and a high degree of innovation that have significantly impacted its economic growth. This growth induced by mobile telecommunications has become an informal benchmark in research studies for other countries. Moreover, the Philippines also

have the world's largest high-technology exports compared to total goods exports (Dutta & Mia, 2009).

The local Internet industry grows by 48 percent annually. But more surprisingly, broadband is developing rapidly with an annual growth rate of 58 percent. Hence, investments in broadband technology continue to rise. WiMax has also reached the country through Globe Telecom's initiative in March 2009 (Business Monitor International, 2009).

Boasting of a literacy rate of 94 percent, a competent level of English proficiency and strong customer orientation, the Philippines also remain one of the few high-growth business process outsourcing hubs in the world. Driven by a large pool of skilled manpower at a comparatively low cost, it has become the offshore destination of choice for call center operations for sales, customer/technical support services, and medical transcription (Pepito, 2009).

As well-known global vendors like Accenture, Acer, Oracle and IBM are being directed to this strategic IT market, the government commits itself to further develop the country's strength in information and communications technology and is investing in training and regional development. Moreover, a bill promoting the use of FOSS (free and open source software) is being reviewed by the Congress (BMI, 2008).

These are good statistical bases to continue developing network infrastructures, even wireless ones, as the country has proven its expertise in this field.

The remarkable growth of the telecom industry has a potent capacity to expand access to finance. The outreach of telecommunications companies is so expansive that the banking and microfinance sectors can take advantage of it to widen their outreach as well. (Harnessing the Telecom—, 2007).

Innovations in Philippine firms have also served as growth accelerators. ABS-CBN Broadcasting Corporation, the largest integrated media and Entertainment Company in the Philippines, benefited significantly when it shifted from a mixed platform environment to a single platform. Modifications in their software increased troubleshooting and search efficiency. Innovation also lessened dependence on the IT department due to intuitively simpler graphical user interface and easier issue resolution (Microsoft, 2007).

Ayala Corporation also implemented a complete overhaul of its human resource application suite in June 2006. The initial phase of the project was designed to automate basic human resource functions including payroll, leave benefits and timekeeping. Pilot tests were done with two of its leading subsidiaries — Globe Telecom and Ayala Land.

This also enabled staff loans management and self-service functionality to help employees check and/or update personal information in the corporate database. Subsequent stages included automation and improvement of the performance appraisal system. The application system facilitates mapping of employee skills against their roles and pay levels, and devising training and succession planning.

Before implementing the new system, Ayala group's human resource unit used to spend 70 percent to 80 percent of its workload on transactional rather than strategic issues (Oracle, 2007).

2.2.3 Microfinance Technologies

Microfinance seems to be totally unrelated to information technology since the former delves into poverty alleviation while the latter is connotatively associated with affluence. But ICT has proven its worth in streamlining business processes and Microfinance Institutions justifiably deserves easier ways to do its business.

Some microfinance institutions use manual systems and spreadsheets to track client accounts and create portfolio reports. These tools are more easily created, altered, and maintained than databases, but their usefulness is much more limited, especially when the number of clients increases significantly. Manual and spreadsheet systems collapse when an institution's structure becomes more complex. It is difficult to consolidate manual or spreadsheet information from multiple branches.

Pioneer microfinance institutions around the world including Grameen, BRI, and Prodem had simple technology and administrative tasks in their early operations. But after noticeable growth in client base and assurance of financial sustainability, what follows is a need for increased attention to back-office processes, management information systems, and communications technologies (Berger, Goldmark, & Sanabria, 2006).

Amidst the complexity of technologies, MFIs experience "analysis paralysis" in choosing between outsourcing its technology needs and building its own application from scratch. Fewer vendor choices especially in developing countries with limited budgets usually affect this selection process (Liu, 2008).

A recent survey conducted by CGAP on microfinance technology reveals that only 4 percent of microfinance organizations in the world use manual systems and 13 percent use the spreadsheet system. Interestingly, 53 percent of the respondent organizations currently use custom-built software. A similar survey in 2004 resulted to 11 percent, 35 percent and 44 percent, respectively, in the same categories (CGAP, 2009).

This reflects a trend toward automation using tailor-made software in the microfinance industry. It validates CARD MRI's direction in technology utilization. Hence, its move to full automation is parallel with global practice.

The Association for Social Advancement (ASA), being one of the leading microfinance institutions in Bangladesh whose methodologies have been emulated by many other MFIs, divided its IT Unit into two teams namely the Development Team and Implementation Team. The Development Team concentrates on software development while the Implementation Team focuses on maintaining the hardware and software systems, granting support and training services, and deploying new applications.

Although ASA's IT Unit has made significant efforts for quality software development, documentation, system maintenance, and implementation, it is still aiming to improve its services through further automation processes including the setting up of a central data center for backup purposes and a consolidated Web-based software solution (ASA, 2009).

Grameen Foundation, on the other hand, established the Grameen Technology Center in 2001 "to leverage advanced technology for the benefit of microfinance institutions and their clients around the world" (2008, p.18). Two of its innovations are MIFOS and Village Phone. Microfinance Open Source software (MIFOS) enables access to better data and processes loans more quickly while Village Phone provides affordable public mobile phone system for remote areas being implemented with the assistance of Qualcomm.

Grameen Bank, being the famous pioneer of world microfinance, remains on the leading edge of bringing e-finance to remote villages. It introduced POS terminals and issued smart cards in several communities to enable clients to read and record their credit profile, and to deposit and withdraw cash (Chandra, 2008).

In India, smart cards are used by Swayam Krishi Sangam (SKS), a microfinance institution in Andhra Pradesh which adopted the Grameen model of group lending, to eliminate paperwork, reduce errors and fraud, and expedite transactions during center

meetings, thus reducing the cost of delivering their services. These smart cards contain information on clients' credit histories (Cecchini & Prennush, 2002).

As regards the Philippines, some banks offering microfinance products started using Personal Digital Assistants (PDAs) in loan collections. Others also use mobile phones for loan disbursements and payments through short messaging service (SMS) (Philippine Country Profile—, 2006).

As the proposed CARD MRI's IT company will also pursue other microfinance and non-governmental organizations as prospective clients instead of competitors, it will also need to probe into the technology issues of these organizations.

One example of a prospect is the *Kabalikat para sa Maunlad na Buhay (KMBI)* as featured in A view from the Philippines: Information Systems for Microfinance. KMBI still relies on a spreadsheet system in its microfinance operations. This restrains their reporting capabilities and chances for time optimization. After realizing the value of technology in microfinance, they are now opting to transition from manual to automated systems (Reese, 2009).

The use of applications within MFIs also varies. In India for instance, software utilization for Internal Accounting tops at 94 percent, followed by Loans Tracking at 64 percent. Marginal use is allotted for staff payroll, staff performance, monitoring of assets and liabilities, and business planning. The same study revealed that 58 percent of MFIs in India rely on external IT support. Only 24 percent of them have a dedicated in-house technology team (Gupta, 2007).

As a vision to creating sustainable market links between the commercial investment world and the microenterprise sector in developing countries, the United Nations Conference

on Trade and Development (UNCTAD) created the Virtual Microfinance Market (VMM). VMM is an information exchange system aimed at facilitating interactions among microfinance institutions, private investors, governments, and other stakeholders. This aids MFIs in communicating and fulfilling their need for funding, management, legal and regulatory assistance, and in seeking access to capital markets (Chandra, 2008).

2.2.4 Factors for MIS Design

Management Information Systems (MIS) involves all aspects of gathering, storing, tracking, retrieving and using information within a business or organization. Computers and applications made MIS much easier to handle through automation. However, the software or platform itself does not solely identify the information system. All the policies, procedures, and practices that define an organization's operations and the staff that interact with the information, combined with the software and hardware comprise an information system.

It is a vital move for any organization to critically choose its MIS software while guided by its overall goals and objectives. Organizations that most aptly realign their operational policies and practices with a new MIS application will have less difficulty in "implementation, create more positive organizational goodwill, successfully optimize the software, and achieve a greater return on their investment" (CGAP, 2008, p. 3).

Core financial MIS, information technology capacity, and network connectivity are critical prerequisites in microfinance innovation but these remain as obstacles for MFIs, thereby limiting their ability to roll out necessary technology solutions (Liu, 2008).

But the whole information technology project does not have to be done entirely by an in-house IT unit. To ensure cost-efficiency, investment areas with the potential to quickly deliver the greatest return can be prioritized, and the rest can be entrusted to a lower-cost, more efficient service provider (IBM, 2006).

Moreover, transitioning to automation is encouraged not to be a one-time approach that covers every single need of the organization. Quality and reliability are assured if automation starts small and deployment of expansion or addition of functionalities to the system is done gradually as it is being learned by the involved individuals (Schiff, 2008).

The cost-benefit ratio of microfinance automation is not easily measurable. Its potential for cost cutting is even more complex to analyze. But Professor Chandra (2008) points out that a completely automated system enabled for straight-through processing will assure the full potential of cost reduction. Nonetheless, such a system may also require a significant investment in hardware, network, and programming.

While most IT strategies are geared towards maximizing output and minimizing costs, many of them still failed to deliver the expected results. In some cases, there were "wastes" that resulted from feeble strategies. Among them are over-processing and mobility. Over-processing is putting more value into a product or service than clients need or want. Waste in mobility, on the other hand, is the unnecessary movement of employees, materials, products, or information.

The thrust toward efficiency and growth in client outreach in the microfinance industry has led many MFIs to rely on MIS applications to free skilled staff from routine time-intensive manual tasks. Since majority of the staff have more extra time, they can now divert most of their attention to activities that can add more value to the organization, particularly in servicing clients and getting involved in strategic planning.

Time and distance are usually the bottlenecks in improving efficiency and expansion. Travel consumes time and resources and affects the business timeline. Excessive travel also leads to "very high burnout rate" of employees further affecting service delivery time. (Delivering Improved Service—, 2009).

This is where Web-based technologies come handy. The ability to work from any location and to do several tasks at a time minimizes staff travel requirements and increases staff utilization.

Business models have also evolved from a structure with traditional hierarchy in organizational charts to a networked paradigm wherein sharing of information, resources and technologies optimizes business processes and creates a culture of collaborative management. Across the organization, employees are increasingly becoming more enthusiastic about getting involved in corporate decision-making and taking part in any form of organizational change. This participatory model spurs a sense of shared accomplishment and helps bind the workforce to the organization (Buytendijk, Cripe, Henson & Pulverman, 2008).

An ambitious yet realizable goal of the IT company is the CARD MRI Portal that will feature a comprehensive user interface encompassing role-based access to integrated, real-time corporate information. It will serve as the cross-functional enterprise backbone that integrates and automates many internal business processes and information systems within the human resource, field operations, accounting, finance and logistics among the CARD institutions.

Conclusively, the challenges in financial technology are the integration of applications, platforms that can process a high volume of transactions and consolidation of IT infrastructure in one location while observing continuous process improvement, long-term revenue growth, and focus on quality customer service. Hence, the IT objectives must adhere to application standards that diminish the requirements for additional hardware and software, shorten time to develop new applications, improve the ability to cascade information, and reduce the cost of system support and maintenance. (“Information Technology Resource—”, 2009).

In designing user interfaces, an important lesson from IBM is that quality and response time of online portals yield user satisfaction and bring a high degree of credibility to the organization. The on-time delivery of web experience has an immediate cost impact to the business value from the viewpoint of customers and stockholders (Lee & Leip, 2003).

Another important factor to consider is the ease of implementation. A basic website can be designed quickly at a low cost, but creating and implementing a fully-functional, industrial-strength application that can handle numerous and highly variable transactions securely is a real challenge (Chandra, 2008).

Insufficient development funding, one of the major drivers of innovation, can best be addressed by proposing improvements in the areas that a sponsor values most. This will have to shift the systems orientation to service orientation where technology investments will clearly relate to business direction (Esposito, 2009).

2.2.5 Implementation Strategies

In an effort to mitigate the risks involved in the microfinance sector's experimentation with technology applications, CGAP designed implementation guidelines for information systems. It identified six core phases in the development life cycle of designing and maintaining a management information system — project preparation, needs analysis, design, selection, implementation and management.

This iterative process needs to be followed regardless of the extent of changes in an organization's system for them to become viable (CGAP, 2008).

The first stage in the system development is the **project preparation**. For the group who will decide on the overall system, it is best to form a team that would represent the

diversity of interests and expertise within an organization. This will help spur a wider acceptance of the system and delegate the tasks to multiple individuals.

The project preparation includes the definition of goals and expected results. It also maps the target implementation in parallel with the overall IT strategy timeline.

During **needs analysis**, a comprehensive gathering and analysis of present and future information needs are done. This well-documented step looks into information flows within the organization. Interviews with the top management, clients, and employees may help distinguish the organization's priority needs.

To identify the information requirements of an MFI, the first step is to figure out the users of information and analyze the specific needs of each user group (Ledgerwood, 1999).

The **design phase** involves translating the informational, functional, and network needs into a coherent and integrated blueprint.

After detailing a complete project design, the **selection phase** comes next. During this phase options for addressing the requirements identified in the needs analysis phase—subject to the specifications created during the design phase—are probed. Consultations with well-informed and technical people will facilitate the selection process.

Approved applications are then deployed and installed into operational environments during the **implementation phase**. The scope of the project is not limited to implementing the software and business processes to optimize use of the solution. Transferring skills and competencies to employees is also a critical component of the project as these will comprise a large proportion of the organization's own commercial offering to external clients in the longer term.

Communicating the changes effectively creates a valuable impact to the organization. Without proper awareness efforts, innovations may not become easily acceptable across the firm. (Cullen & Cecere, 2007)

Management of the information systems does not only involve hardware and software maintenance but also catering to the specific technical, procedural, and regulatory needs that may arise in keeping the whole system. Continual evaluation and optimization must also be observed.

5.2.6 Implementation Risk

The following is a list of most common project implementation risks and proposed mitigation (Grameen, 2009).

Risk	Mitigation
Misaligned IT initiatives and business goals	➢ Map IT initiatives against business goals. ➢ Accept only enhancement/feature request against business requirements. ➢ Conduct user satisfaction survey and ROI analysis at the end of each project. ➢ Update IT master plan at the end of each year to adapt to changing business needs and market environment. ➢ IT Strategy Steering Committee should review and approve major IT projects.
IT Solutions do not meet business requirements.	➢ Conduct proper business requirements gathering and document results. ➢ Go through the vendor and software selection process using the business requirements as criteria. ➢ Conduct reference checks on candidate vendors.
Execution failure	➢ Create business case for each project. ➢ Get management and employee buy-in and participation. ➢ Staff project with skilled resources. ➢ Implement proven implementation methodology. ➢ Constantly monitor project and ensure that milestones are reached. ➢ Create a project steering committee to monitor project
Unavailability or inadequate resources	➢ Secure financial resources before starting an IT project. ➢ Augment staff with skilled Consultants when necessary. ➢ Train staff with required skills.

3. Community Needs Assessment

Technology is no longer an afterthought in business strategies, but is the foundation of competitiveness and drives innovation.

An overall information technology strategy is necessary to gain a competitive advantage, reduce competitive disadvantage, and meet all other enterprise objectives. It will define the organization's cost leadership; differentiate it from its competitors; facilitate radical changes in business processes, expansion and diversification; and establish linkages to improve corporate relationships.

Information technology plays a vital role in business process reengineering as it aims to substantially increase process efficiencies, improve communication, and facilitate collaboration.

3.1 Data integration and process streamlining

In view of the ever-increasing volume of data from CARD MRI's operations nationwide, a need for data integration is now apparent for the management to be able to widely monitor its branches and resources and for the remote branches to quickly communicate with other offices and employees. This will also help build credibility as more automation translates to less human intervention.

There is also an unspoken demand for an integrated and well-developed MIS to handle its portfolio and transactions, provide a flexible platform for operational growth, and uphold transparency in products and services. This has somehow been fulfilled by the introduction of CARD eSystem but it is yet to prove its robustness in integrating multiple

platforms including mobile and Internet banking and its linkability to the automated teller machine (ATM) system.

Resource use optimization is also an issue at CARD MRI. As transportation vehicles, some office equipment, and other assets are shared among departments and employees, an efficient enterprise resource planning (ERP) system is also necessary. ERPs are used by other time- and budget-conscious organizations as a productivity and cost-cutting tool.

3.2 External drivers

Aside from the internal factors that compel CARD MRI to leverage IT resources and innovations, there are also external drivers that will influence the reporting standards within the organization. One such factor is the compliance to government regulations and the chosen external audit firm which require specific reports at regular intervals.

3.3 Purpose of the study

This research study was conducted to gather and analyze well-sourced, relevant information from the stakeholders that would help define the overall direction of CARD MRI's information technology strategy. It aims to provide data as a means to identify and quantify the needs of each and every institution of CARD MRI for technology in specific areas. This information will then serve as the basis for setting priority targets for technology improvements throughout the whole institution. It will also set the benchmarks for measuring the progress of project implementation and achievement of objectives.

3.4 Major questions that guided the CNA

Derived from the Problem Tree, three questions guided this Community Needs Assessment:

1. Is there an immediate need for a complete transition from manual operation to a fully-automated one to drive higher productivity, widen client outreach, improve products and services, and create a better working environment for employees?
2. Will centralization of the network infrastructure result in a more manageable and a more accessible system?
3. Have the end-users of the technology application had enough relevant training to carry out their tasks satisfactorily?

3.5 Assessment methodology

Three methods of research were used to produce statistical data that best represents the technological needs of CARD MRI:

A. Interviews/Surveys with the top management, institution heads, and some other employees provided information that defines each institution's business direction and identified issues that each of them is facing. All seven institutions comprising the CARD MRI were represented in the surveys/interviews.

B. Focus Group Discussion obtained raw but more pragmatic opinions and ideas from small, targeted groups within the organization. It involved the end-users in the needs assessment process in ways that were meaningful to them.

Stratified sampling of 28 respondents from CARD Bank Inc., CARD Inc., and Rural Bank of Sto. Tomas Inc. participated in the FGD. Participants were composed of Area Managers, Branch Managers, Bookkeepers, Tellers, and an Audit Staff. Only these three institutions were involved in the FGD since the majority of technology end-users come from them.

C. Asset Mapping generated an inventory of existing technology assets and resources that would become the leap-off point of hardware availability for the IT strategy.

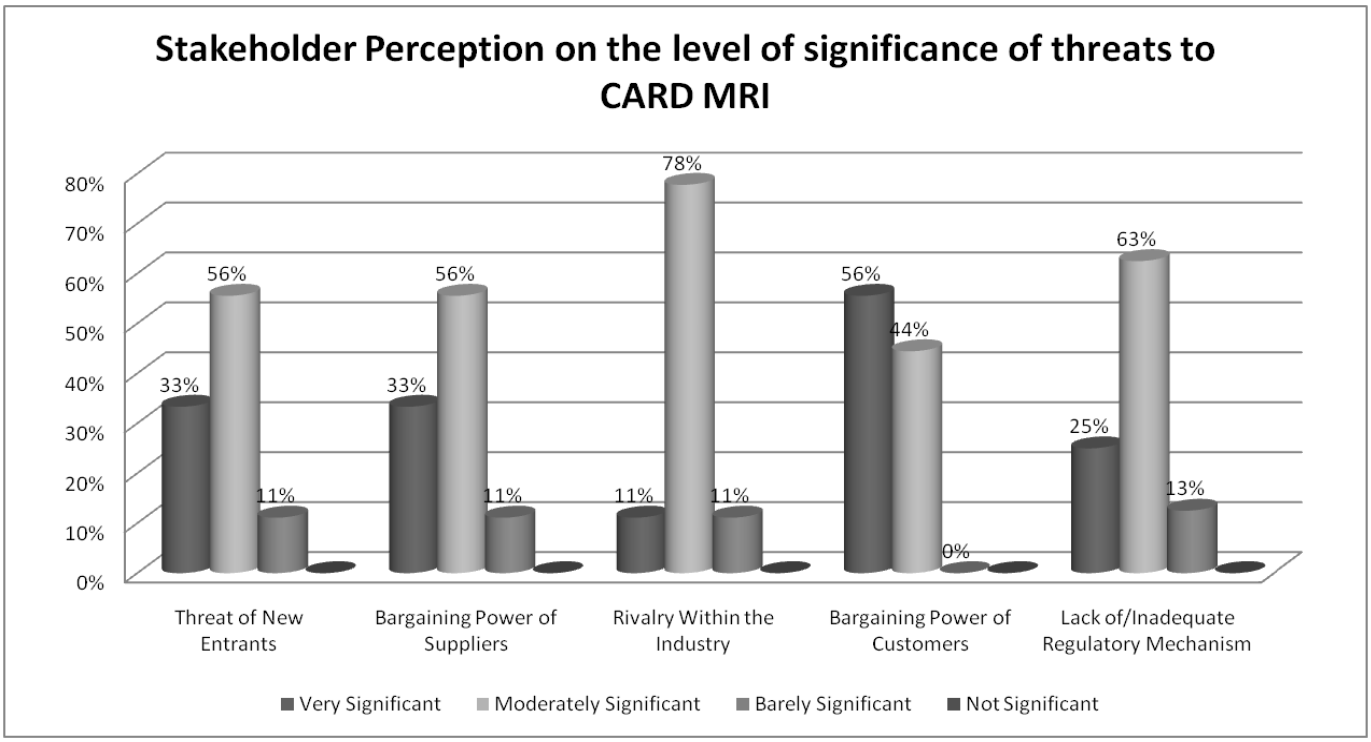
3.6 Assessment results

3.6.1 Interview/survey results

Interviews with several stakeholders helped reveal their perceptions on the significance of information technology for CARD MRI. They also demonstrated the targeted direction of each institution regarding technology-dependent operational innovations.

When asked about the importance of competitive forces faced by each institution, the bargaining power of customers is deemed very significant by 56 percent of the respondents. The majority of them see all other threats—new entrants, bargaining power of suppliers, rivalry within the industry, and inadequate regulatory mechanism— as moderately significant for CARD MRI *(see* Figure 2*)*.

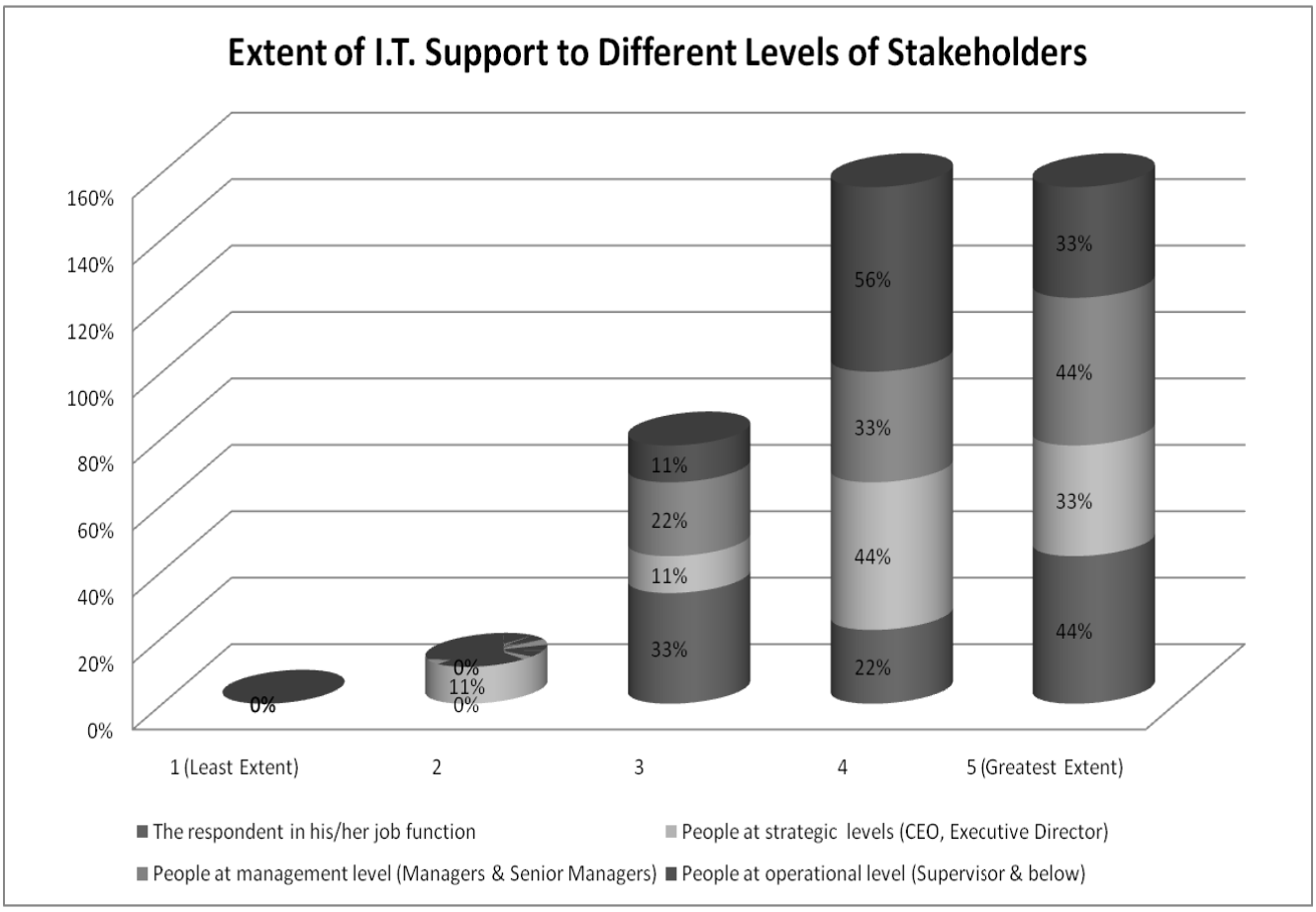
Figure 2 : Stakeholder Perception on the level of significance of threats to CARD MRI



Respondent perception that client bargaining power is important would indicate that the IT unit must factor in the needs of CARD MRI clients at every decision point. Further, the decision-making process itself should work in parallel with the organization's direction.

The respondents also recognize the significant support that the IT Unit is providing the CARD MRI particularly those at the management level *(see Figure 3)*. The result therefore affirms the positive view of the stakeholders regarding the roles that the IT Unit is playing in the microfinance environment.

Figure 3 : Extent of IT Support to Different Levels of Stakeholders



From a different perspective, the same respondents were asked about the extent of IT support for specific aspects of business operations. In contrast, the perception of IT Support is generally low on most categories. For instance, about 49 percent of the respondents see that

New Product Development, Sales & Marketing, and Customer Relationship Management are receiving low IT Support (*see Figure **4***). More remarkable though is that 75 percent of them see low IT Support for Human Resource and Corporate Affairs *(see Figure 5)*.

This observation may therefore help the IT Unit re-align its commitment with different business processes. Hence, the Human Resource Unit may need to be given the technology provisions that it seeks to receive.

Figure 4 : Level of IT support

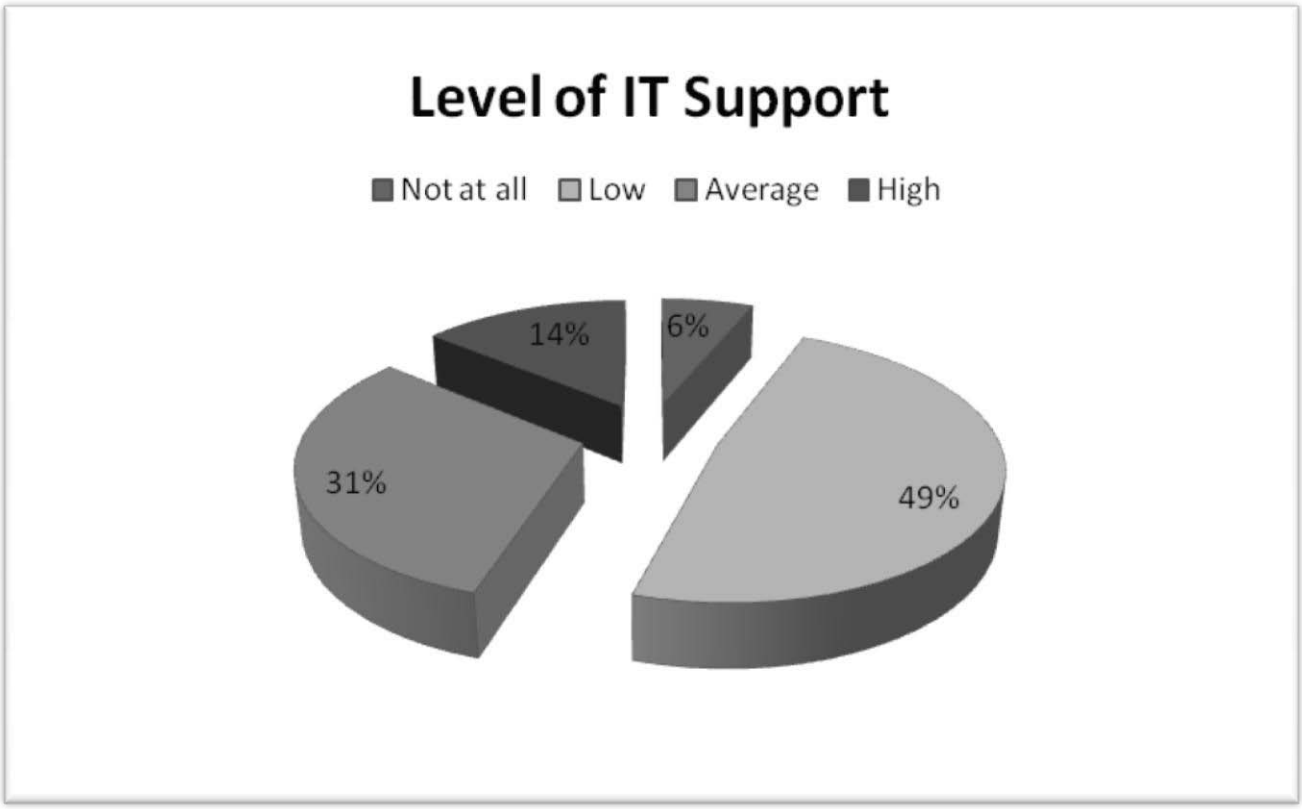
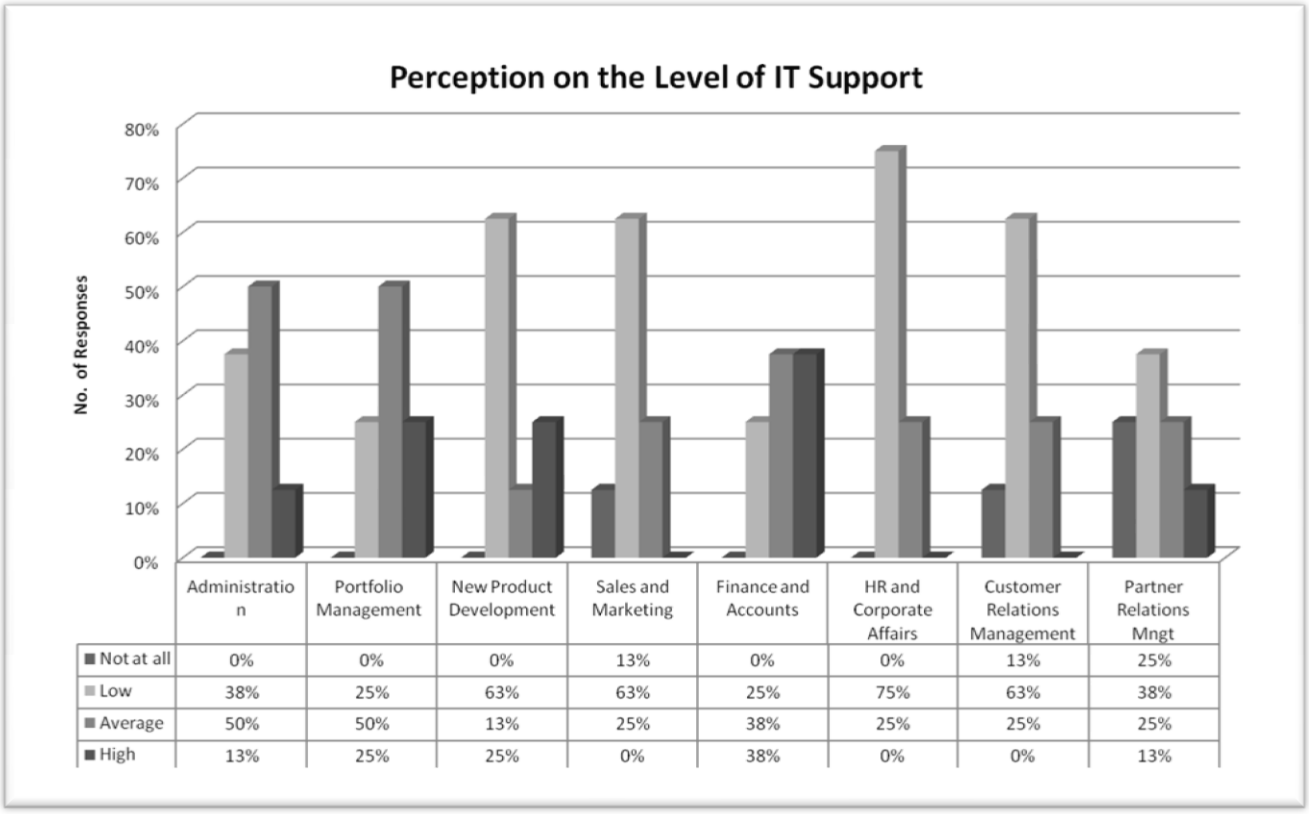


Figure 5 : Perception on the Level of IT Support



In a survey on business strategy, the results from CARD MRI institutions lean toward the more conservative approaches. Nevertheless, the majority also agrees on adopting innovations early and being the first to introduce new products and services into the market.

This table summarizes the responses from the said survey:

Table 1: Survey Results on Operational Strategies

In our operations, we…	A	B	C	D	E
Develop strong ties with our customers	7	1			
Develop strong ties with our major suppliers	2	5			
Constantly drive ourselves to improving our operating efficiencies.	7		1		
Strive to constantly differentiate our products and services from other competitors	5	3			

In our operations, we…	A	B	C	D	E
Tend to be number-oriented and analytical in our operations	4	4	1		
Require detailed, factual information to support our day-to-day decision-making	7	1	1		
Develop comprehensive analyses of each business opportunity or challenge we face	4	4			
Follow "tried and true" paths in our business decision	5	3	1		
Adopt a rather conservative view in major decision-making	2	5		1	
Generally adopt a less risky mode of business operation compared with our competitors	3	5		1	
Are usually the first to introduce various products and services in the market	4	5			
Adopt innovations early	4	4	1		
Rely on our partners for co-operation and support	3	3	1	2	

[*Legend:* A: Strongly Agree | B: Agree | C: Undecided | D: Disagree | E: Strongly Disagree]

This combination of conservative and innovative perceptions gives the IT Unit more liberty to continue re-inventing the whole information technology structure as the institutions show readiness for such changes for as long as they will improve the operations.

In sum, these are the technology requirements of CARD MRI derived from the surveys/interviews:

Table 2 : CARD MRI's Technology Requirements

CARD MRI Institutions / Support Units	Technology Requirements
CARD Inc.	Complete automation of operations & auditing; Social Performance Management
CARD Bank, Inc.	Front-end technologies like ATM and mobile banking system; online integrated portfolio and accounting system; online integrated HRIS; credit bureau

CARD MRI Institutions / Support Units	Technology Requirements
Rural Bank of Sto. Tomas, Inc.	CARD eSystem training; front-end technologies like CARD Bank's requirements
CARD MBA	Online integrated client, policy, claims and accounting system (MUNCET 2)
CMDI	Learning Management System; eLearning; eLibrary; eConsulting; online evaluation tool
CAMIA	Integrated client, policy, claims and accounting system (MUNCET 2.01)
CARD BDSFI	Standardized process and templates through BPM; portfolio and accounting system that can manage individual flexible loan products; online Hapinoy 2.0 (Inventory System and POS with Credit Facility)
CARD International	Very simple standard reporting template; uses and integration of mobile technology device such as a Blackberry
CARD MRI Human Resources Unit	Human Resource Information System to provide and manage accurate and timely personnel information; Web-based payroll system; recruitment module
CARD MRI Audit Unit	Automated auditing system; access to Human Resource Information System; online access to portfolio and accounting information
CARD MRI Research Unit	Online access to client and portfolio information; training on quantitative analysis to be able to relate demographic and performance information; online survey tool; SPM and MIS integration
CARD MRI Organization &Administration Unit	Asset Management System; Standardized and secure bidding and acquisition processes through BPM; vendor accreditation program; Resource scheduling system that be shared through MRI

3.6.2 Results from Focus Group Discussion

A Focus Group Discussion held on September 18, 2009 was attended by 28 delegates from CARD Bank, CARD Inc. and Rural Bank of Sto. Tomas (RBST). The main topic revolved around the sufficiency of user training for the hardware and applications that these three institutions use in their daily transactions.

Fifty percent (50 %) of the participants represented CARD Inc., thirty six (36 %) came from CARD Bank, and fourteen (14 %) from RBST. These percentages are reflective of the composition of CARD MRI institutions according to client outreach where CARD Inc has the largest membership and RBST has the least.

Different tiers of position from the Area Manager to Teller levels were present. This table shows the distribution of participants with respect to their positions and respective institutions:

Table 3 : Focus Group Discussion Participants

Position	CARD Inc.	CARD Bank	RBST	Percentage of Total Participants
Area Manager	2	2	1	18 %
Unit Manager	5	3	1	32 %
Bookkeeper	3	3	1	25 %
Teller	3	2	1	21 %
Audit Staff	1			4 %
Total	**14**	**10**	**4**	**100%**

On a general scale, the users deem it highly necessary for them to undergo a comprehensive training that will cover topics not only on using the application software available with CARD MRI but also on empowering them with diminutive but practically helpful knowledge to be proactive users. Many of them feel an inadequacy.

Three to four weeks of training is perceived by the participants to be enough to achieve a good technology-related competence. Current practice provides only one to two weeks of exposure-training for the users.

CARD eSystem and eBanker are being used by the three institutions daily as savings and loans management applications. Most of the participants are satisfied with the design and usability of these systems but a few are still worried by the few technical glitches that occasionally come up during transactions. Particularly bothersome for them are errors that rarely happen but cannot easily be explained by IT staff unless an in-depth analysis is done first.

4. Project Design

4.1 Project Description

The plotted timeline for the CARD MRI's IT strategy spans five years and will focus on uniting the institutions through a centralized network infrastructure. This approach will result in a number of significant changes in the existing network model.

The fundamental goal of the proposed IT Company in the next five years is the creation of the CARD MRI Portal. It is envisioned to provide a comprehensive view of the institutions' operations; generate timely reports to complement internal research, product design and development, policy-making and strategic planning.

It will serve as the window to the overall IT network of applications and infrastructure. Together with the Executive Dashboard, the key objective for the Portal is to create an intuitive interface which over time will be the primary gateway linking all other applications within, and possibly beyond, the organization. It will feature consistent navigation and function standards to reduce the need for staff training and technical support. The development of the portal and its underlying system are prerequisites to the deployment of new application services.

To meet this objective, a number of technologies are required to address the more sophisticated support requirements. Computer-based training, online help, and electronic communication tools will be used to augment conventional support.

Learning systems and other visualization techniques will be deployed to help users, especially non-technical people, become familiar with the systems easily; quickly understand and analyze reports; and collaborate with other stakeholders in real-time.

Implementing these initiatives is less attainable in the current setup of the IT Unit. Having proven its expertise in information and security integration, the Unit now intends to be a separate company as a move toward establishing a stronger foundation in information systems development.

To progressively realize its mission-vision, the proposed IT Company needs to integrate systems flexibility, data integrity and security, time and resource optimization, and ease-of-use to suit the complexity and the fast-paced nature of CARD's environments.

Although the IT Unit has somehow prepared itself for the volatility and unpredictability of information technology, there are still myriad adjustments that have to be undertaken to increase capacity, minimize costs, drive innovation and simplify solutions.

The primary challenge for the IT Unit at this moment is to prove the feasibility, capacity for transition and long-term sustainability of creating a separate institution that will surpass its current limits in services delivery and maximize gains from untapped opportunities. It also needs to remain parallel to the overall objectives of CARD MRI while adapting and enhancing new solutions.

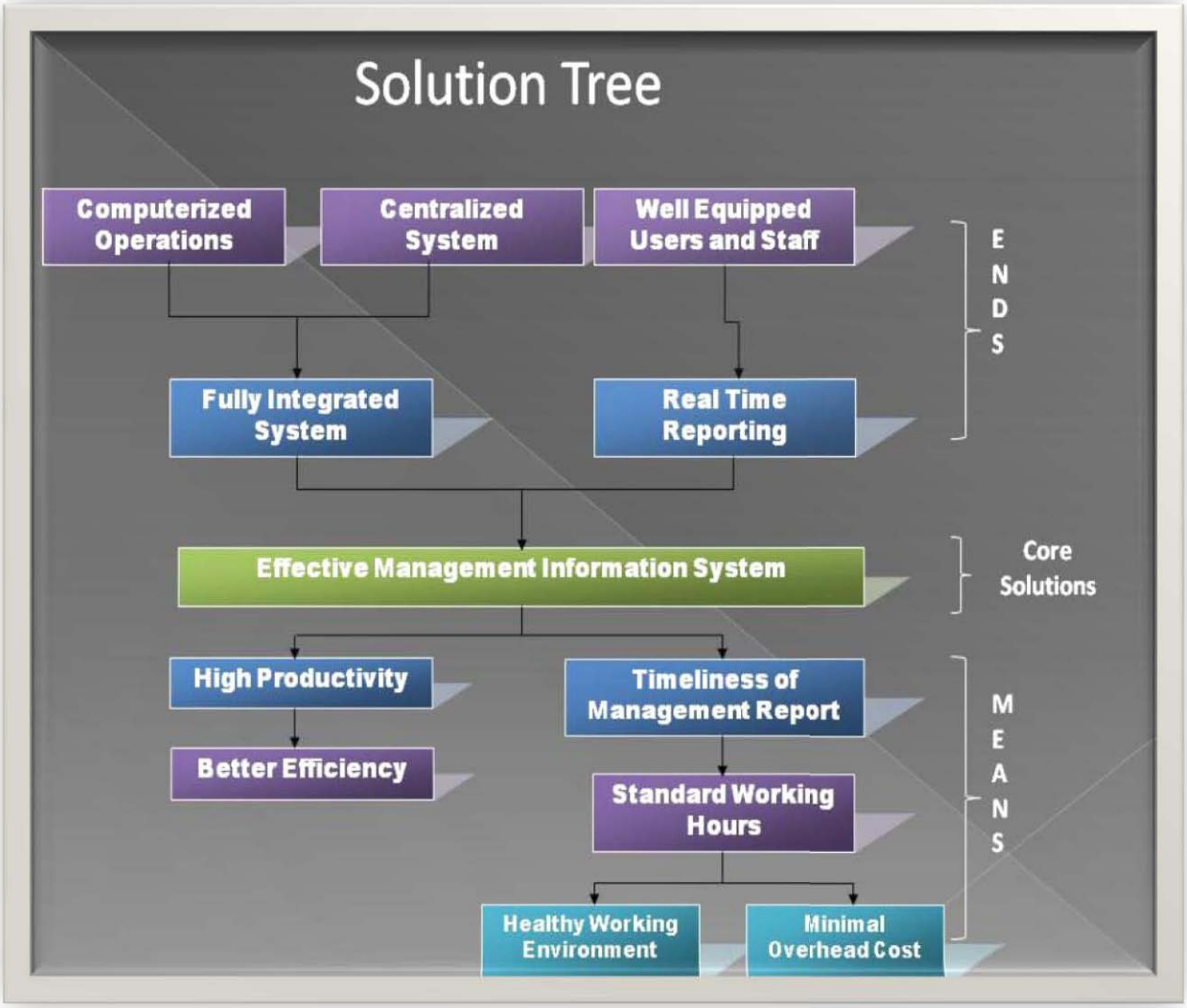
Creating this company is also consistent with CARD MRI's practice of nurturing a small grassroots startup and empowering it until the unit can suitably become an institution on its own. Furthermore, the IT Unit has technical and tactical advantages because it will not start from scratch like other businesses.

In view of a holistic approach to an IT strategy, IT unit main thrust is towards a centralized network infrastructure. This is to ensure data security, integrity, and availability while maintaining a synchronized system throughout its areas of operations (*see Figure 10*).

Rapid development principles, quality assurance, risk management, resource use optimization, and human resource development are keys to forming this viable company.

4.2 Goals

Figure 6 : Solution Tree



The core solution—constructing an effective Management Information System—entails structuring computerized operations in a centralized environment to have a fully integrated system and employing well-equipped users and staff to ensure efficient transactions and real-time reporting.

Having an effective MIS yields higher productivity, thereby generating better efficiency. It also guarantees timeliness of management report that will help standardize working hours, which in turn produce a healthy working environment for the staff with minimal overhead costs. In more detail, the IT Company looks forward to delivering the following at incorporation:

4.2.1 Human Resource Re-Alignment

One action that is urgent and imperative in the company formation is the re-alignment of IT employees' positions. Instead of changing the current employment position, restructuring the job descriptions will prevent lay-offs and encourage manpower optimization.

4.2.2 Unified Communications

To offer a more user-friendly, cost-efficient and secure system for the CARD MRI, the convergence of communications and transaction systems will be utilized to enhance its products and services. Improved remote user support and asset management through e-scheduling are also assured through the application of this approach.

4.2.3 Platform independence

As open-source systems are steadily proving their power and stability both in desktop and networked environments, the proposed company will look into all possibilities for software and network development that may not necessarily depend on just one operating system and/or application software.

4.2.4 Income generation

Maximizing the use of resources will translate IT investments into real business value. At current rates, the optimum level of usage of network infrastructure is not taken advantage by the institutions. Productivity can still be increased by making use of underused resources

such as idle servers and broadband connections. Examples of services that may fully utilize these are data center operations; web design, hosting and management; call center/technical support operations; business process outsourcing—such as offering digital lay-outing services for CARD BDSFI's printing press—among others.

While the proposed IT Company will predominantly focus on re-engineering the CARD MRI's overall IT strategy, it does not limit its market to its mother institutions.

The challenge for the company is the tremendous diversity in technology requirements and heterogeneity of business frameworks in its target market. This necessitates more cautious analyses of its potential customers in order to come up with quality services that will cater to each specific need.

4.3 The Logic Framework

Table 4 : Logic Framework

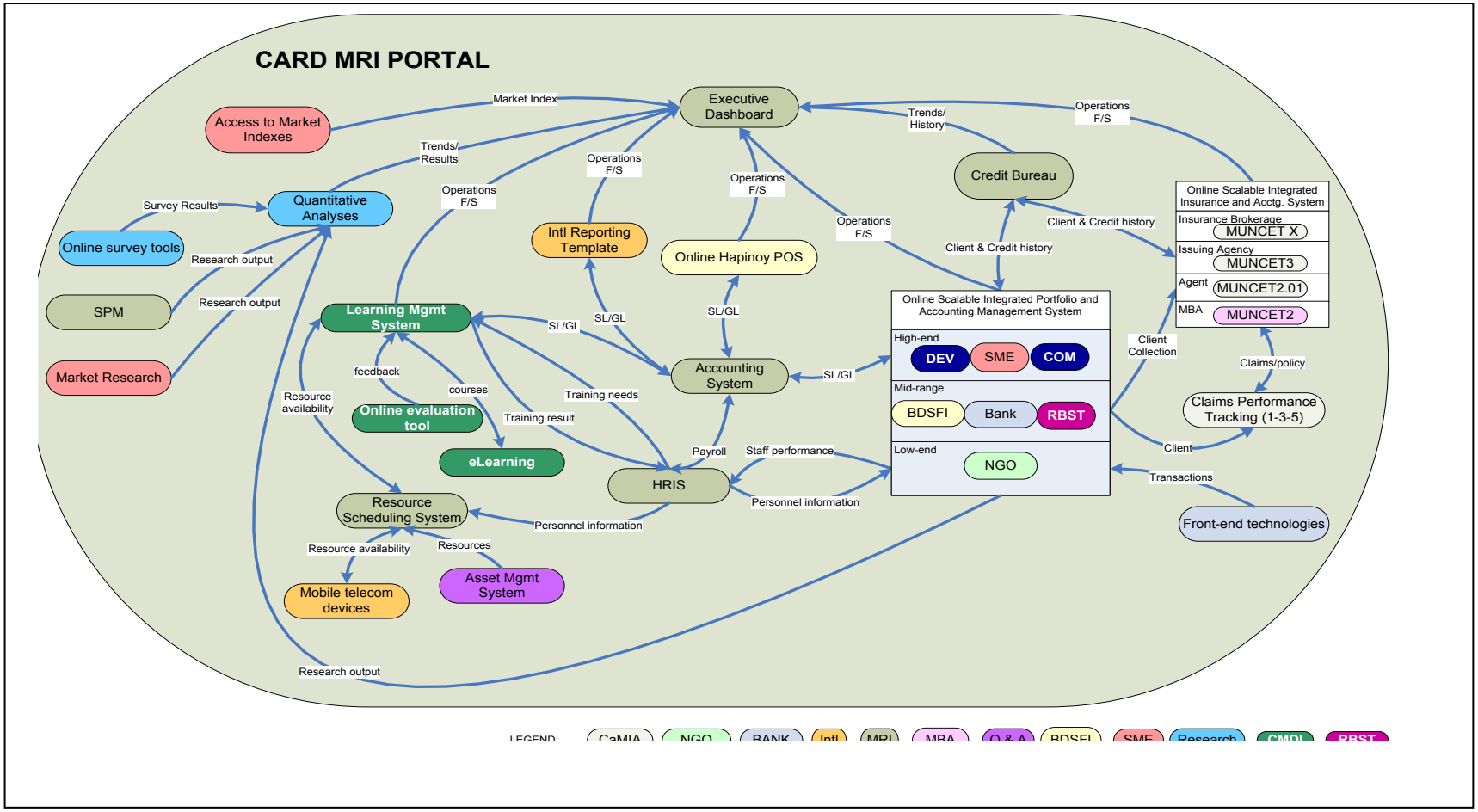
	Project Strategy	**Objectively Verifiable Data**	**Sources of Verification**	**Assumptions**
DEVELOPMENT OBJECTIVE	Effective Integrated Management System	Satisfaction of the management, partners and regulators.	Feedbacks of the Internal, External auditors, partners and Regulators	

	Project Strategy	Objectively Verifiable Data	Sources of Verification	Assumptions
IMMEDIATE OBJECTIVE	Enhance the reporting system for effective decision making to improve Institutional performance.	Management report being generated by the system	Feedbacks and comments by the users of the reports	All online communication and internet facilities were installed.
OUTPUT	✓ Trained user in all Branches ✓ All Branch of the CARD Inc. were all Computerized	✓ Minimal user and System errors ✓ Number of computerized branches	✓ Staff Interview during IT monitoring ✓ Monitoring result of the Executive and Management committee.	Full support from staff and management.

	Project Strategy	Objectively Verifiable Data	Sources of Verification	Assumptions
ACTIVITIES	✓ User Training ✓ System Enhancement ✓ Data conversion of the remaining branches of the CARD Inc. ✓ Data Migration of CARD Inc. data to CARD Bank and Rural Bank of Sto. Tomas	✓ Number of users trained ✓ Number of Converted Areas. ✓ Number of NGO branches transferred to CARD Bank and Rural Bank of Sto Tomas	✓ Report from the Migration Team. ✓ Monitoring report of the operation and management team	✓ Additional IT staff for the Migration Team. ✓ Availability Of Admin staff to be assign in the area to be Converted. ✓ Availability of the Equipment to be use by the Area.
			Pre-conditions:	IT Unit will be converted into a New Company of the CARD MRI Group.

4.4 Integrated Information Technology initiatives[1]

Figure 7: Integrate CARD MRI IT initiatives



[1] Extracted from CARD MRI Information Technology business strategy and IT Alignment Report

Figure 7 shows the possible integrations between the IT initiatives. Note that only the Access to Market Indices system is placed as a stand-alone application. This is because the Access to Market Indices system relates to information external to CARD MRI and most likely will be accessed via subscriptions.

All of the systems will be accessed from the CARD MRI portal although each user — employees, management, guests, and customers— can log on only to systems that they have permission to access.

All financial and operational reports from all institutions will be included in the Executive Dashboard while all customer information and customer transaction history will all be collected in the Credit Bureau. Customer and financial trend analysis from the Credit Bureau will be included in the Executive Dashboard.

Financial and client information from the portfolio and accounting management system and MUNCET systems together with online survey results, market research, and Social Performance Management can all be used for Quantitative Analysis.

The Learning Management System can use the Resource Scheduling System to assign instructors, rooms, audio-visual devices and other resources and post schedule of classes. The Resource Scheduling System can use the Asset Management System to make the list of physical assets available to employees and guests. The Resource Scheduling System can utilize the HRIS for personnel information.

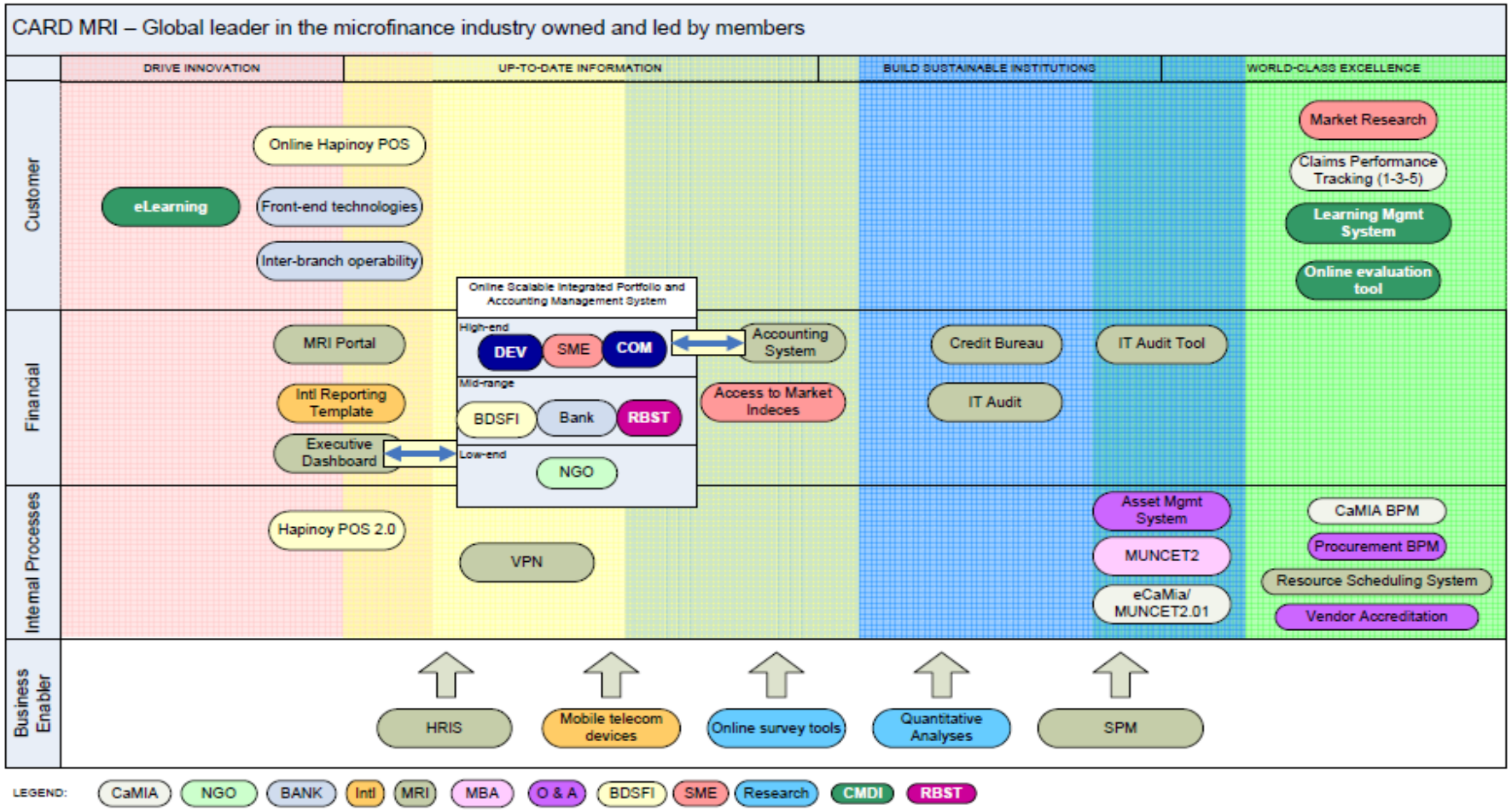
The HRIS' Performance Management System and Payroll will get personnel and staff performance information from the portfolio and accounting MIS. The same will be linked to the Learning Management System for development of training programs and training results. The Learning Management System will keep track of enrolments to eLearning classes and evaluation results.

All systems with financial information will be linked to the institution's Accounting System. This includes: the Learning Management System, International Reporting Template, Online Hapinoy POS, the portfolio and accounting management MIS, and MUNCET systems.

The front-end technologies, such as ATMs, mobile devices, and POS data will be stored in the portfolio and accounting MIS.

4.5 Business and IT alignment map[2]

Figure 8 : CARD MRI Business and Information Technology alignment map



[2] Extracted from CARD MRI Information Technology business strategy and IT Alignment Report

Figure 8 shows how each of CARD's IT initiatives supports CARD's business goals to wit:

The HRIS, Mobile telecom devices, online survey tools, Quantitative Analyses, and Social Performance Management are designed to support HR, communication, and research. The complete HRIS solution, including Performance Management could facilitate employee's hiring, growth and development. The mobile telecom devices can provide online access of the executives to information even at far distance from the home base. The online availability of the survey tools, Quantitative Analyses, and SPM information could provide customer insights to different the different stakeholders of the institution to tailor product and service development towards clients needs.

The Hapinoy 2.0, VPN, MUNCET series, Asset Management System, CaMIA BPM, Procurement BPM, Resource Scheduling System, and Vendor Accreditation can assist to improve internal processes that may result to cost-efficiency and increased customer satisfaction through efficient services.

The MRI portal, Reporting template, Executive Dashboard, Online and Integrated Accounting and Portfolio System, Access to Market Indices, Credit Bureau, IT Audit, and IT Audit Tool could facilitate transparent, easy, and real-time financial reporting that may lead to sound financial decisions and risk mitigation.

The eLearning, Online Hapinoy POS, Front-end technologies, inter-branch operability, market research, claims performance tracking, learning management system, and online evaluation tool are systems directed towards better customer service and access. The front-end technologies, in particular, will give CARD's customer easier information and financial access to their own accounts while at the same time could bring operational efficiencies to CARD.

Viewing the CARD vertically shows how each of IT initiatives directly maps to CARD's core business strategies. As shown in the map, some of the initiatives link to more than just one business strategy.

Online Hapinoy POS, front-end technologies, inter-branch operability, MRI portal, International Reporting template, executive dashboard, and Hapinoy POS 2.0 will help drive innovation and at as well give CARD executives up-to-date nd timely information.

The eLearning, Online Hapinoy POS, front-end technologies, MRI portal, and the executive dashboard may serve as technology innovations within the microfinance industry. This may position CARD as the proponent in use of technology for microfinance.

Online Hapinoy POS, front-end technologies, inter-branch operability, MRI portal, International Reporting template, executive dashboard, Hapinoy POS 2.0, Online and integrated portfolio and accounting management system, and access to market indices will give CARD and its constituents real-time and up-to-date information. These will allow CARD to react and/or respond to both market conditions and customer needs swiftly that could give CARD continuous competitive advantage over its competitors.

The financial systems, together with the Credit Bureau, IT Audit, IT Audit tools, MUNCET and the asset management systems will help CARD manage risks through access to reliable and real-time information.

The IT Audit procedures and tools will make sure that the systems in place are reliable and have appropriate and applied control systems. Audit will ensure CARD's fiscal responsibility, transparency, and sustainability to all its stakeholders.

On the other hand, Market research, Online Performance Tracking, Learning Management System, Online Evaluation Tool, CaMIA BPM, Procurement BPM, Resource

Scheduling System, and Vendor Accreditation System could ensure that CARD adheres to world-class standards of excellence both in its internal processes and in serving its clients.

4.6 Project Activities

4.6.1 Phase 1: Goals Achievable in One Year

Table 5 : Short-Term Goals

Activity	Time Frame	Status	Staff in Charge
Formation and registration of IT Company	2010	Completed	IT Personnel & CARD Legal Unit
Development of core banking system (CARD eSystem)	2010	SPM Module now being integrated	IT Development Team
Full automation of CARD Inc. branches	2010	69% of branches already migrated/transitioned to CARD eSystem	IT Migration Team
Payroll System	2010	Beta version being pilot-tested within IT Unit	IT Development Team
Learning Management System, eLibrary, & eConsulting	2010	Operational	IT Development Team & CMDI's IT Personnel

4.6.2 Phase 2: Goals Achievable in Three Years

Table 6 : Medium-Term Goals

Activity	Time Frame	Status	Staff in Charge
Development of Executive Dashboard	2011	Planning stage	IT Development Team
Online HAPINOY POS 2.0	2011	For development	IT Development Team & BDSFI
Resource Scheduling System	2011	Initial development in progress	IT Development Team and Organization & Administration Unit

4.6.3 Phase 3: Goals beyond three years

Table 7 : Long-Term Goals

Activity	Time Frame	Status	Staff in Charge
CARD MRI Portal	2013	For development	IT Unit in collaboration with all other CARD MRI Institutions
Online Human Resource Information Systems	2013	Requirements Analysis Phase	IT Development Team & Human Resource Unit
Recruitment Module	2012	For development	IT Development Team & Human Resource Unit
Claims Performance Tracking	2013	For development	IT Development Team & MBA

4.7 Approved Budget

Table 8 : Project Budget

Item description	Amount
Personnel expense	$ 412,712 .00
Other administrative expense	168,821 .00
Asset acquisition	86,851.00
Total	$ 668,385.00

5. Monitoring and Evaluation

5.1 Monitoring

Table 9: Monitoring Plan

Results	Performance Indicators	Data Sources	Collection Methods	Frequency	Responsibility
Effective Management Information Systems	Development of core banking system for CARD Bank, CARD Inc. and RBST	IT Development Team	IT projects progress reports	Monthly	Development Team Head
	Efficient system for the Human Resource Unit	IT Development Team	IT projects progress reports	Monthly	Development Team Head
	Additional staffing for the IT Unit	Human Resource Department	Staffing update	Monthly	HRD Manager
	Satisfaction of management in the IT projects and services	CARD MRI Senior Management	FGD / interviews	Yearly	Research Unit
Enhanced Reporting System	Number of CARD Inc. areas converted to automated system	CARD Inc. Operations Unit	Migration report	Weekly	CARD Inc. Operations Executive Assistant
	Number of bank branches with Virtual Private Network	PLDT (project provider)	VPN Project progress report	Monthly	IT Technical Team
	Integration of *Social Performance Management* into the core banking system	IT Development Team	IT projects progress reports	Monthly	Development Team Head
	Automated recording of operations monitoring for the members of the Executive and Management committees	IT Development Team	IT projects progress reports	Monthly	Development Team Head
Competent and well-trained end-users	Number of users who underwent CARD eSystem training	CARD MRI Development Institute	Training participation records	Quarterly	Training Director
	Number of enrollees to the e-Learning System	CMDI's online project tracker	Web-based reports	Monthly	Training Director
	Number of transaction errors committed by end-users	*eConcern System*	Reports on resolved issues	Monthly	IT Support

5.2 Monitoring Report

A few weeks ahead of target completion, the IT Unit was registered as a stock company with the Securities and Exchange Commission. Since March 12, 2010, it has been known as the CARD MRI Information Technology, Inc., the newest institution under the CARD MRI umbrella.

This development will facilitate the implementation of the majority of the IT projects as more autonomy is granted to technology decision-makers. It will also be a significant enabler for current and future projects and for better management of the company's— human, financial, and technology— resources.

5.2.1 New Core Banking System (CBS)

A major change in the project was the integration of a new project component for acquiring a new core banking system. Although it was not part of the original project proposal, the management of CARD MRI now views a new system as an inevitable acquisition in order to ensure business continuity even with the heavy influx of transactions and the continuous growth of operations.

The CARD eSystem, together with the eBanker, somehow lives up to the current expectations of a core banking system. Branches and management sometimes request enhancements, which are readily provided by the IT Development Team. Nevertheless, the gradual but continuous upsurge in the volume of transactions brought by the CARD MRI's thrust to expand its client base provides a strong indication that these two softwares will later fall short of the complex demands.

In response to this consequence, the management decided to take advantage of the CARD SME Bank's immediate need for a core banking solution, this being a new financial institution of the CARD MRI. A technology consultancy firm was contracted in March 2010

to assist the CARD MRI in vendor selection, software evaluation, and pilot implementation of a new CBS.

The requirements of the new core banking system will include those identified by the other CARD MRI institutions since the new CBS is expected to address the needs of all institutions in terms of systems interfacing and linking (*see Figure 11*).

Since the CARD Bank and CARD Inc. rely heavily on the current CBS for their daily operations, the IT Company will continue enhancing them to remain adaptive to their demands.

5.2.2 Automation of Branches

While all CARD Bank and RBST branches have all been automated, CARD Inc. is keeping its automation pace right on time for its target completion by September of 2010. Sixty nine percent (69 %) of its areas were already converted from manual to automated system as of April 30, 2010. The ongoing conversion schedule is on track.

5.2.3 Social Performance Management

Being a socially responsible organization, the CARD MRI keeps its promise of helping alleviate the poverty level in the Philippines. In this regard, it is vital to evaluate the progress toward this goal through quantitative and qualitative measurements. While CARD Inc. and CARD Bank track their clients' poverty status and the changes that its programs bring to them, the manual recording of the *Progress-out-of-Poverty Index* significantly affects the quality and timing availability of information.

As technology has proven its role in managing the financial data of the organization, the Research Unit together with the IT Company also decided to make use of technology to manage CARD MRI's non-financial data, particularly the PPI Scores of its clients.

Commencing on April 1, 2010, the Social Performance Management aspect of the microfinance operations will be integrated into the current core banking system. This is

expected to handle data and provide information that will be helpful in market intelligence and in analyzing client profiles for better product and service customization and design.

5.2.4 e-Learning System

The CARD MRI Development Institute (CMDI) launched its e-Learning System on November 27, 2009. Microfinance Management is its first course offering in which 40 students are currently enrolled. These "e-learners," who are employees of CARD MRI Institutions and Support Units, started their online lessons on March 15, 2010.

The CMDI staff, in collaboration with the IT Unit Development Team, designed an online monitoring system by to track the progress of the students with their lessons. Another application provided by GlobalSpan keeps track of the results of quizzes taken by the students. Chats, e-mail, web feedback forms and phone calls are also being utilized for a guided communication with them.

5.2.5 Monitoring System for Management

CARD MRI's institutions draw heavily on monitoring reports for their continued operational direction and strategic decisions. Thus, timely access and analysis of these reports is imperative especially for top management in order to come up with viable solutions and to resolve operational efficiencies and employee management problems.

The IT Company responded to this need by developing an application where the members of the Executive and Management Committees can easily post, view, and analyze their monitoring reports. The system will therefore hasten the otherwise tedious consolidation of manually written reports and analyses of the findings contained therein.

The Monitoring System is still in its initial stages of development.

5.2.6 Trip Ticket System

Another application in development is the Trip Ticket System, which will automate the logistics at CARD MRI. This will replace the current manual system of the employees' booking for transportation vehicles and drivers. Through this system, anyone at CARD MRI can easily identify the availability of transportation resources and make reservations for them in real-time.

5.2.7 MUNCET 2.0

CARD MBA is now in the initiating the roll-out of MUNCET 2.0 to its provincial branches. This is the second version of their in-house application for managing client data and processing insurance claims. So far, Laguna and Quezon provinces are using the new system. Other provinces of operations will follow suit.

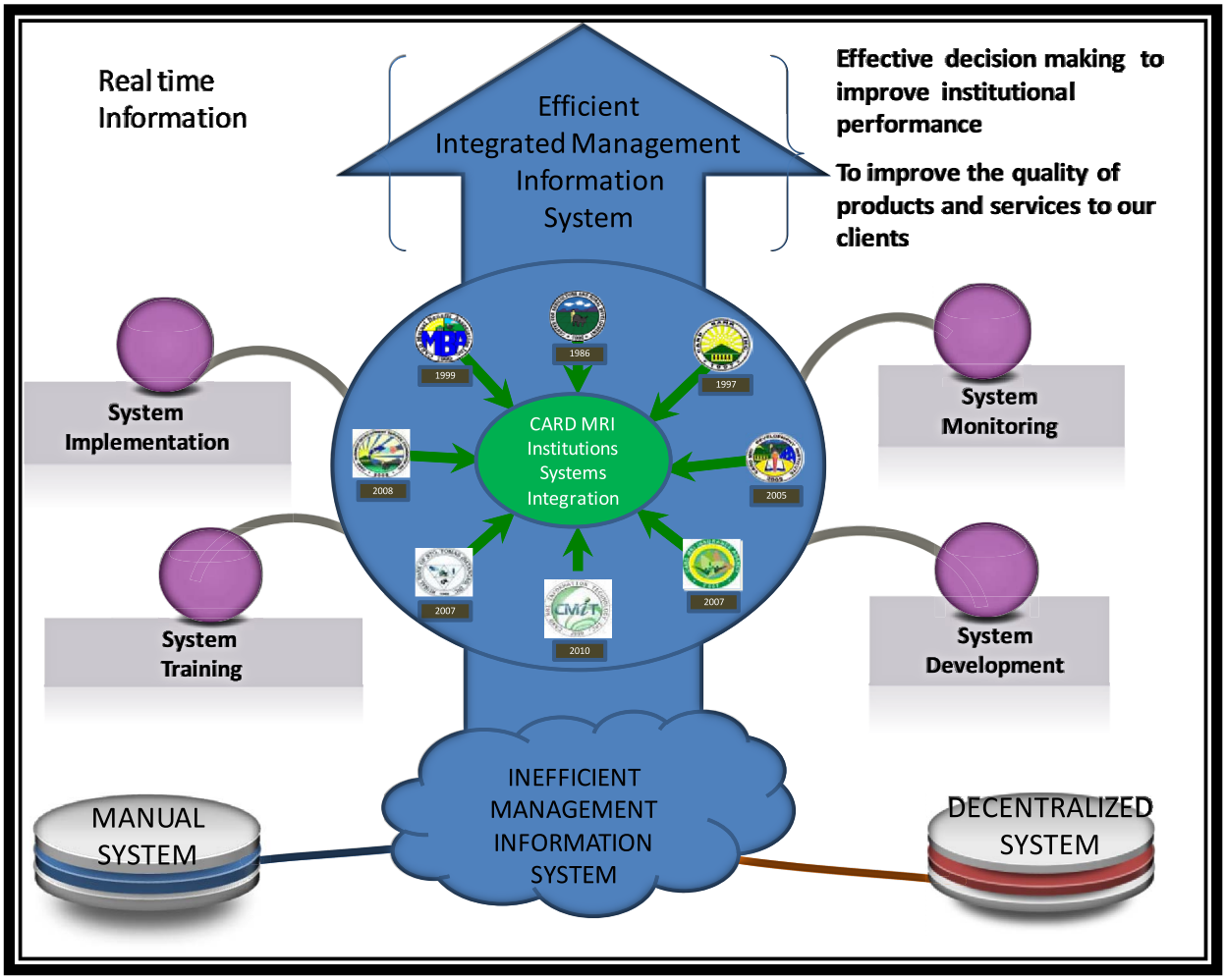
5.2.8 Human Resource Information Systems

The IT Development Team is also at work reviewing the current Human Resource Information Systems (HRIS) to identify the possibility of improving it. If enhancing the existing system will not be a feasible solution for the Human Resource Department, a new system will have to be created for them.

5.3 Evaluation

5.3.1 Conceptual Framework

Figure 9: Conceptual Framework



Evaluation of this project revolves around identifying the sources of inefficiencies and creating action plans from its outcomes. Through consultative processes, the manual and decentralized systems, and the staff's lack of training will be reviewed, monitored, and analyzed to help design a holistic solution for integration.

5.3.2 Evaluation Plan

The evaluation of this project is structured to meet the requirements identified to strengthen CARD MRI's Information Technology strategy. The evaluation design combines

qualitative and quantitative indicators to accommodate the variety of information that is being gathered throughout the implementation.

Focus of the evaluation is on the effectiveness of the project components being implemented and the efficiencies that they bring to the organization.

5.3.3 Evaluation Tools

1. Focus Group Discussion
2. Questionnaires and Surveys
3. Structured Interviews
4. Reports from CARD MRI's application softwares
5. Reports from CARD MRI Institutions and Support Units
6. Direct Observation

5.3.4 Summary of Accomplishments

Table 10 : Evaluation Result

Results	Performance Indicators	Unit of Measure	Actual Status	Percentage Complete	Remarks
	Formation and registration of IT Unit as a separate and independent institution under CARD MRI	Percentage of Completion	Completed	100	Accomplished
	Development of core banking system for CARD Bank, CARD Inc., and RBST	Operational core modules	All microfinance/ banking modules are operational in the current CBS except for the Savings module which is in the finalization stage of porting from the old CBS	80 percent for the current CBS	Enhancements to the current CBS continue as acquisition of a new CBS is underway

Results	Performance Indicators	Unit of Measure	Actual Status	Percentage Complete	Remarks
Effective Management Information Systems	Efficient system for the Human Resource Unit	Percentage of Completion	Current system now being reviewed for possible enhancements	0	A new *Human Resource Information System* may later be developed to replace the current system
		Percentage of completion	1st version of *Payroll System* completed	90	*Payroll System* now in use at the IT Unit; roll-out possible within the year
	Efficient and real-time transportation resource allocation	Percentage of completion	*Trip Ticket System* now being developed	20	Ongoing
Enhanced Reporting System	Full automation of CARD Inc. branches	Number of automated areas	72 out of 105 areas	69	Ongoing
	Network centralization	Number of bank branches with Virtual Private Network	6 branches completed; 6 ongoing; 23 for implementation	5.5	Continual setup of *Virtual Private Network* ongoing
	Integration of *Social Performance Management* into the core banking system	Percentage of completion	Core Banking System now being prepared for the integration	90	Ongoing
	Automation of operations monitoring by members of the Executive and Management Committees	Percentage of completion	*Monitoring System* now being developed	90	Ongoing

Results	Performance Indicators	Unit of Measure	Actual Status	Percentage Complete	Remarks
Competent and well-trained end-users	CARD eSystem training	Number of users who underwent training	120	Continuous project	Training of end-users are regularly conducted at CMDI
	e-Learning System	Number of enrollees	40	Continuous project	Preliminary course offerings now operational; Development based on demands will continue

Based on these gathered data, finishing the whole project on time is very likely. While the selection of a new Core Banking System is now a major issue especially for CARD Bank, CARD Inc., and CARD SME Bank, the rest of the project encounters minimal, if any, hurdles in the implementation process. More monitoring aspects will be incorporated as new project components will be started. These are expected to facilitate the evaluation processes later in the project.

6. Lessons Learnt

CARD MRI's IT Unit was prone in doing its system projects informally. Projects were usually done without proper documentation. This created problems particularly in tracking changes in the projects over time. Now that the IT unit has been formed as IT Company, the IT Development Team started formalizing the projects by starting them with Project Charters, Project Plans, and other similar documents. This way, it is easier to oversee the implementation processes, evaluate results, and manage changes.

Our data migration processes from manual to computerized operations have also been in continuous revisions to make them smoother and more manageable to deliver. Internal Audit staff used to concurrently conduct auditing during the migration but we have improved the process by having the auditing done right after the data migration. This produced not just an audit of the branches but also a qualitative evaluation of the migration process itself.

7. Recommendations

At the macro level, close coordination with stakeholders is vital. In the case of the IT Company, this includes other CARD MRI institutions. Effective coordination involves keeping track of collective needs, specific requirements, and collaboration efforts, all of which are necessary to keep business strategies synchronous to ensure better sustainability and streamlined operations.

At the micro level, project management must be a high-priority undertaking for a technology company. Keeping timelines and deliverables on track is easier when projects are visibly plotted and monitored. Every detail of individual projects must be documented for easier tracking of changes and for issue management.

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9. Appendices

9.1 FGD Guiding Questions

1. Are you satisfied with the way you are doing the daily transactions in terms of the application software and hardware that you are using?
2. Can you identify any problem, technical or otherwise, with the current IT setup in place?
3. Which is the most important problem in your view?
4. How long or how extensive should your technical training as bookkeepers/tellers be? Have you had enough training as necessary?
5. Do you think lack of training affects your performance and ability to deliver services effectively?

9.2 Interviews/Surveys

9.2.1 General Questions

1. List the top five issues your institution faces that you feel improved technology would address:
   a. _____
   b. _____
   c. _____
   d. _____
   e. _____
2. Describe your current technology situation.
   _____
   _____
   _____
   _____
   _____
3. Describe your ideal technology situation.
   _____
   _____
   _____
   _____
   _____

4. What obstacles does your institution face in effectively using technology?

   _____
   _____
   _____
   _____
   _____

5. What roles do the implementation of new technologies play in your business direction for the next five years? Do you need new technology in order to grow?

   _____
   _____
   _____
   _____
   _____

9.2.2 Specific Solutions:

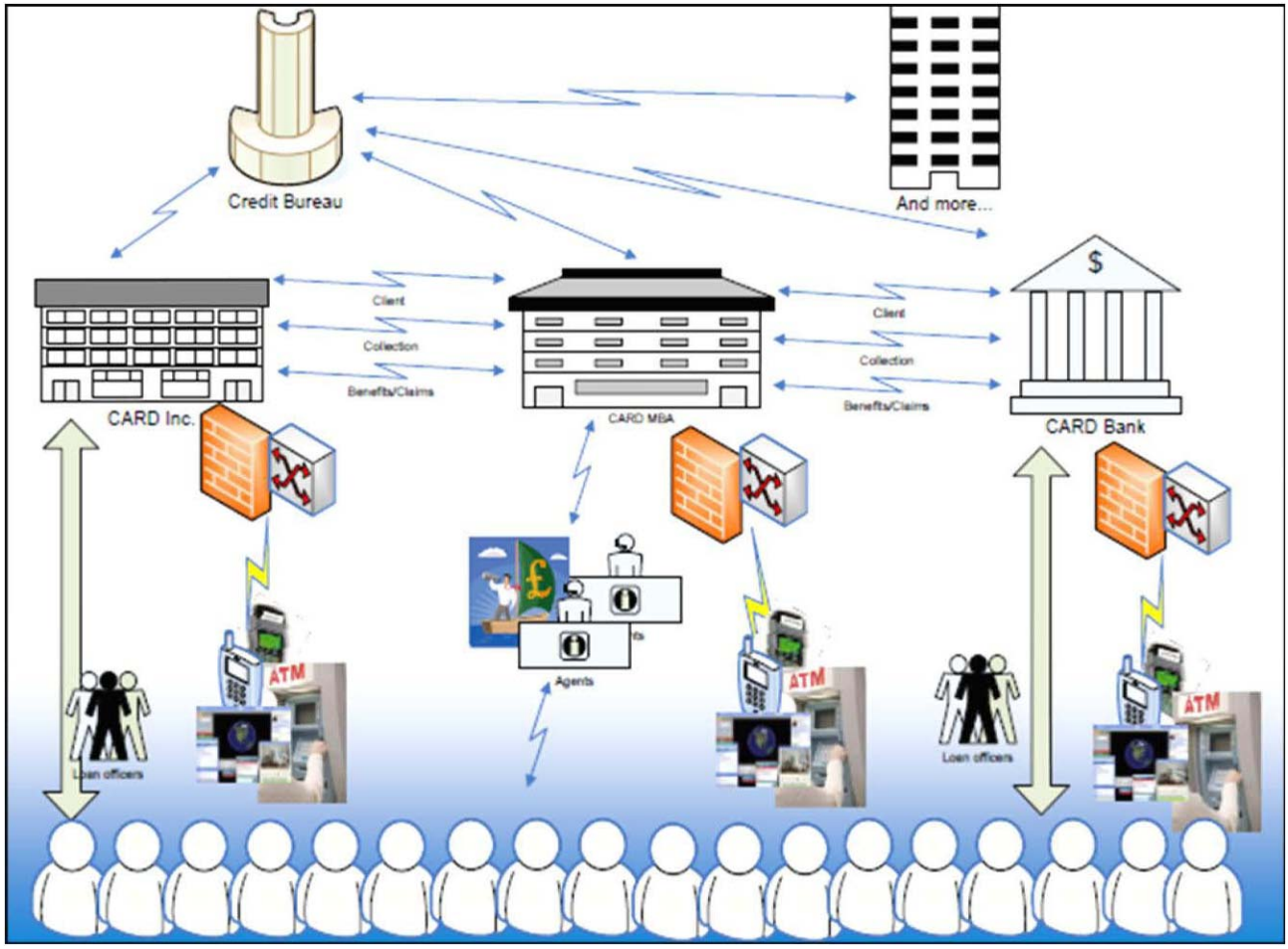
First, check off each solution you feel would address a problem at your organization. This will help you get a comprehensive look at the various areas technology will aid you and what type of solutions to look for. Then go back and rate those solutions you checked off in terms of priority, 1 being top priority, 5 being least priority (more than one solution can have the same priority rating).

Technology Solution	Problems It Targets to Solve	✓	Priority
Updated computer hardware	Wasted time rebooting computers, slow processors, frequent freezing/crashing computers, lost or corrupted data		
Updated computer software	Old software lacking functionality/applicability		
Local Area Network	Lack of inter-office communication, application/file sharing		
Faster Internet Hook-up (DSL, T1, Cable)	Slow dial-up and slow page loading resulting in lost work time		
Web Development	Lack of Internet presence resulting to lack of: sales, visibility, information sharing, relationship building/maintaining with clients and industry partners, creative communication		
Executive Dashboard	Lack of role-based availability of easily-accessible real-time data from field operations and offices/branches of CARD institutions that can help in strategic decision-making processes		

Technology Solution	Problems It Targets to Solve	✓	Priority
Integrated Portal	Lack of system integration encompassing asset management, human resource recruitment & evaluation, payroll system, and automated auditing & accounting; inefficient inter-office communications; difficulty in consolidating reports; lack of Personnel Information System allowing employees to access personal profile & employment benefits, file leaves-of-absence, etc.		
Technical Help Desk	Need for software/hardware technical support/maintenance, software/hardware conflicts, hard to use or technical applications your staff can't easily operate, inability to access your information away from the office		

9.3 Information technology vision[3]

Figure 10: CARD MRI Information Technology Vision



Underlying in this diagram is the move to use Information Technology to directly support CARD MRI's business goals in all areas of operations for all institutions. Technology will be used to share information in and outside of CARD for everyday operations, strategic planning, and in responding to the customer needs and market trends.

[3] Extracted from CARD MRI Information Technology business strategy and IT Alignment Report

9.4 CARD MRI CBS function map

Figure 11: CARD MRI CBS function map

Core Banking Function Application Module	CARD BANK INC.	CARD Inc.	RBST/SME	BDSFI	CARD MBA	CMDI	CAMIA
Customer Information Management Module (CIS)	YES	YES	YES	YES	YES	YES	YES
Accounting / General Ledger Module	YES	YES	YES	YES	YES	YES	YES
Loans Portfolio Management	YES	YES	YES	YES	N.A	NA	NA
Deposit Management and Over the Counter Transaction Servicing	YES	YES	YES	NA	NA	NA	NA

9.5 Non-disclosure agreement

NON-DISCLOSURE AGREEMENT

This Agreement is made this May 03, 2010 between:

Center for Agriculture and Rural Development Mutually Reinforcing Institutions (CARD MRI), a company incorporated under the laws of Philippines, with its place of business at No. 20 ML Quezon St. City, Subd,. San Pablo City, Laguna, Philippines (hereinafter referred to as "CARD MRI") of the one party; and

CARD MRI Information Technology Inc. a partnership duly registered under the laws of the Philippines with its registered office at No. 20 ML Quezon St. City, Subd,. San Pablo City, Laguna, Philippines (hereinafter referred to as "CARD MRI Information Technology Inc.") of the other part.

WHEREAS:

1. CARD MRI is in the process of evaluating the proposal of L & S for consulting services and in the course of discussion, CARD MRI will be disclosing certain commercially valuable, propriety and confidential information in the strictest confidence upon the terms and conditions hereinafter appearing.

2. CARD MRI Information Technology Inc. agrees to hold such proprietary and confidential information in the strictest confidence upon the terms and condition hereinafter appearing.

NOW IT IS HEREBY agreed by the parties as follows:

1. "Confidential Information" is defines as my and all information of any kind, whether in written or electronic format, oral or otherwise and whether or not labeled as "Confidential", including, without limitation, information marketing strategies, know-how, suppliers, customers, operation, pricing technical information, contract terms and condition and all information of any kind relating to either party or their shareholders or their related or CARD MRI's other related companies or associated companies or and disclosed, submitted or howsoever made available by or on behalf of one party to the other or to their employees, officers, advisors, consultants or agents (hereinafter collectively referred to as "Personnel") for the purpose of or in connection with CARD MRI, whether before or after the date of this Agreement.

2. Both parties agree and undertake to hold the Confidential Information in the used strictest confidence and to not at any time disclose or use or permit to be disclosed or any of the Confidential Information for any purpose other than in connection with CARD MRI.

3. Both parties shall use their best efforts to limit the dissemination, circulation or supply of the Confidential Information or any part thereof to their Personnel who are directly involved with CARD MRI and only to the extent necessary for each of them to perform their duties.

4. Both parties undertake to:

   a. Inform their Personnel who may have access to the Confidential Information that such information should be kept in the strictest confidence; and

   b. Use best endeavors to ensure and procure that none of their Personnel will do any act, matter or thing which if done by any of the party hereto, would constitute a breach of the obligations of the party under the terms of this Agreement; and

   c. Take all reasonable action to prevent unauthorized disclosure or use of the Confidential Information of the other party.

5. Is explicitly approved for release by written authorization of the party disclosing the Confidential Information (hereinafter referred to as "Disclosing Party"); and

   a. Was already in the public domain or which becomes so through no fault of the party receiving the Confidential Information (Hereinafter referred to as "Receiving Party"); and
   b. Is explicitly approved for release by written authorization of the party disclosing the Confidential Information (hereinafter referred to as "Disclosing Party"); and

   c. Was known to the Receiving Party at the time of disclosure as shown by written records in existence at the time of disclosure; ad
   d. Was lawfully obtained by the Receiving Party without breach of this Agreement and otherwise not in violation of the Disclosing Party's rights; and
   e. Is required by law or by order of a court of competent jurisdiction or by any rule, direction or relation of any regulatory or governmental authority to be disclosed.

6. Subject to the provisions in clause 5 and notwithstanding termination of this Agreement, the obligations of confidentiality contained herein shall continue in effect for a period of five (5) years from the date of disclosure.

7. Both parties further undertake to forthwith, upon request by the Disclosing Party, return all documents and other materials containing such Confidential Information together with all copies or reproductions thereof.

8. No license, whether express or implied, in the Confidential Information is granted by either party to the other to use the Confidential Information other than in the manner and to the extent authorized by this Agreement.

9. Both parties acknowledge that they are aware and fully understand that in the event of any breach of this Agreement by the Receiving Party or their Personnel, then the Disclosing Party could suffer substantial loss and damage which money damages cannot adequately remedy. The Receiving Party acknowledges that the Disclosing Party shall be entitled to specific performance, injunctive and other equitable relief in enforcing the obligations in this Agreement in addition to all other remedies available in law.

10. This Agreement is governed by and interpreted in accordance with the laws of Philippines and each party hereby submits to the exclusive jurisdiction of the Courts of Philippines.

11. No delay by either party in exercising any right, power or remedy under this Agreement shall operate as a waiver or acquiescence thereof nor shall it restrict or affect the party's right or powers under the agreement. No waiver of any term or condition to this agreement shall be effective unless made in writing .

12. Any amendments to this agreement shall only be effective if agreed in writing and signed by both parties.

13. This Agreement shall be binding on the heirs, permitted assigns and successors in the title of the parties hereto.

IN WITHNESS WHEREOFF , the parties hereto have caused this agreement to be executed the date and year first above written.

For and on behalf of CARD MRI	For and on behalf of CARD MRI Information Technology Inc.
_____	_____
Name: _____	Name: _____
Designation: _____	Designation: _____