

A Case Study of a Technology Acquisition and Assimilation Methodology of a Broadcast Company in the Philippines

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Abstract: The L Corporation launched a technology acquisition and assimilation initiative to implement an industry best-practice Enterprise Service Management System (ESMS), a technology solution that will consolidated the service management and common processes of different companies and business units under a single ticketing platform that can monitor IT Assets and manage software licenses, improve availability, reliability and security of mission critical services, and manage processes through automated workflows that would result to faster turnaround time. Using Posadas' (2013) Life Cycle for a Technology Procurement Project framework, it can be concluded from this paper that L Corporation's methodology in technology acquisition and assimilation follows the industry's standards and best practices. Furthermore, it was established that given the current methodology and processes in place in L Corporation, the organization can be categorized at the Integrative or Investment Capability Level of Posadas' ladder of firm-level technological capabilities, highlighting the organization's ability to assemble a complex technological system or commission a production facility on a self-reliant basis. The Socio-centric Perspective was taken into consideration in the technology implementation, where, the key success factors set by the Project Team for the whole initiative including the agreements set forth with the contracted technology vendors were derived from the measure of effectiveness in terms of the organization's social system functioning.

Keywords: Technology, Acquisition, Assimilation, Procurement, Socio-centric Perspective, Integrative Capability Level.

I. INTRODUCTION

On the era of Internet-of-Things (IoT), the dependency of organizations on technology becomes more and more inevitable, and this trend has increased exponentially for the past years. According to McKinsey & Company, more objects are becoming embedded with sensors and gaining the ability to communicate – these in turn will result in information networks that promise to create new business models, improve business processes, and reduce costs and risks.¹ Having said this, it would also then be imperative for organizations to establish a cohesive technology management discipline that will properly manage the end-to-end lifecycle of technology. Given the potential that technology could offer nowadays – if planned, developed, and managed properly, IT can bring greater efficiency in organizational operations, better working environments, and effective decision-making processes.² Despite the huge investment allotted for IT, L Corporation is a technology user and not a technology creator – simply because the organization's core competency is content creation in the broadcast industry and not technology creation. Because of this, L Corporation is being enabled through external technology acquisition, more often than not. Essentially, this paper will assess whether L Corporation's methodology on technology acquisition and assimilation is on a par with the industry's best practices and standards, identify the organization's capability based on the ladder of firm-level technological capabilities, and to identify the perspective taken into consideration in the technology implementation.

¹ McKinsey Quarterly. (2010). The Internet of Things. Retrieved from http://www.mckinsey.com/insights/high_tech_telecoms_internet/the_internet_of_things

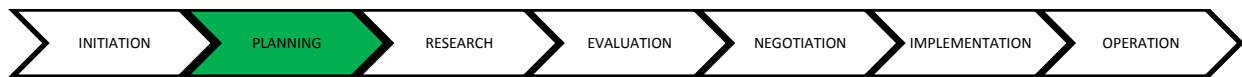
² Castells, M.(1996). The Rise of The Network Society, Oxford: Blackwell

II. METHODOLOGY IN TECHNOLOGY ACQUISITION AND ASSIMILATION OF L CORPORATION

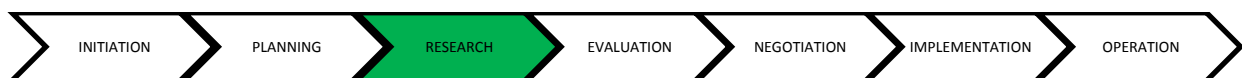
A. Initiating and Planning the Technology Acquisition:



The objective during the initiation phase was to clearly define the business need, define and develop a solution that will address the need, create a business case to justify the solution and define what the project is through a project charter, or project plan. The business need was then translated into a written project plan capturing the changes to the current state of the business and defining the expected improvements that will be addressed by the objectives of the initiative. Project Risks and Impact Assessment also formed part of the business plan ensuring that normal business operations will not be affected during implementation and transition. Key Performance Indicators (KPI) were set before the start of the initiative to establish the measure of success or failure of the technology acquisition, which were further supported by the project scope details as well as the project duration commitment. All these details underwent stakeholder and sponsor approvals before the initiative was formally launched.

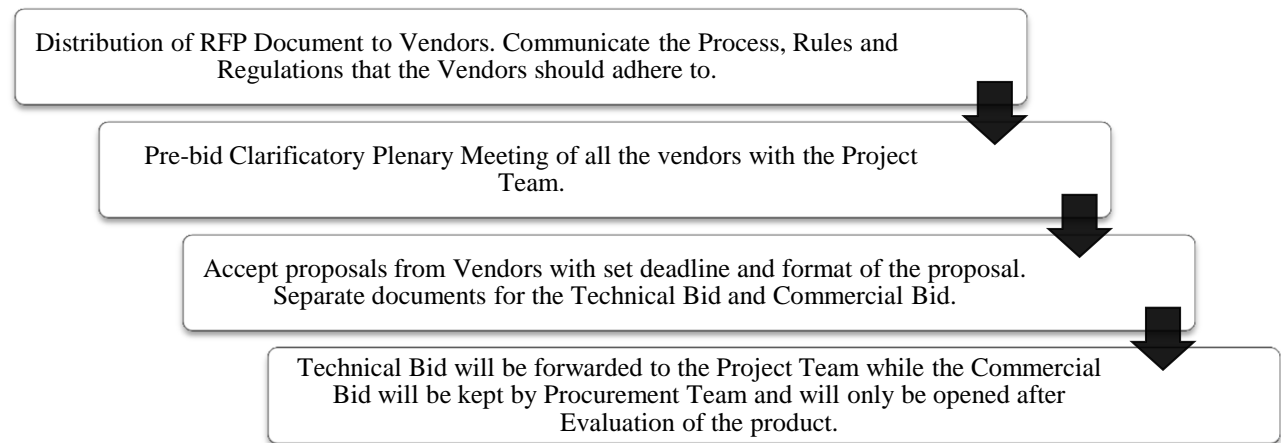


After the approval of the project plan, the official Project Manager was appointed by the CIO, also the concurrent IT Division Head. The Project Manager presented the business case to the rest of L Corporation's group of companies to gather support, both manpower and budget. After several project plan presentations, necessary approvals were gathered and the official project team from different companies and subsidiaries was formed. The project team was then headed by the Project Manager (PM), who directly reported to the Project Sponsor and to the rest of the stakeholders in L Corporation. The Project Manager drafted all the work plan needed to deliver the project, and organized all the activities needed to be completed including the scheduled date of delivery. This also included drafting the preliminary Work Breakdown Structure (WBS) with timelines and designation of personnel comprising the project team.



The next activity carried out by the PM together with the rest of the project team was the creation of the Request for Proposal (RFP) Document. This document contained all the business, technical and functional requirements needed from the technology solution that will be acquired. The RFP document was not limited to this information as this document also included all other factors that the Project Team deemed necessary to be a valid technology vendor like: list of Project Implementations done in the Philippines and/or abroad, financial statements in the last three years, presence of Local Support, integratability to L Corporation's infrastructure, and Technology Roadmap among others.

Since more often than not, the technical and functional requirements knowledge are limited for the employees in L Corporation who are not experts of the technology to be acquired, there are instances when a Request for Information (RFI) invitation is being sent out to all potential vendor. They will then be given the chance to present or demo their product. From this activity, the Project Team were being exposed to different solutions available in the market and were being enabled to come up with a best-of-breed list of items for the RFP document. Given that the collection of best-of-breed list of items for the RFP document is more of a wish-list since this is a combination of different products available in the market, the Project Team will then have a brainstorming session with the business (if applicable) and identify which among the requirements are must-haves (automatically disqualifies a product if not available) and nice-to-haves (negotiable requirements that may or may not be available). After completion of the final RFP document, this was then submitted to the Procurement Team for the execution of their standard process:



B. Procedures for Evaluating and Selecting Technology Supplier:



All the technical proposal submitted by the vendors to the Procurement Team were forwarded to the Project Team. All the proposals were then evaluated and filtered based on the enumerated must-haves in the RFP document. One single must-have requirement that a vendor cannot comply with would entail automatic disqualification. Should there be no vendor shortlisted at this stage (if all vendors were disqualified in one way or another), the Purchasing team will declare a “Failed Bid” and the Project Team will have to revisit the RFP document and will go through the same process once revisions were introduced. The figure below shows the high-level process being implemented in L Corporation for product/vendor evaluation and selection:



PRE-BID & POST-BID CLARIFICATORY MEETING: Upon distribution of the RFP document by the Procurement Team and prior the submission of Technical and Commercial bid by the vendors, a pre-bid clarificatory plenary meeting of all vendors together with the project team (part of Procurement’s process) was called for. This was the venue where the RFP document was explained with more details by the Project Manager and where all questions from the vendors were highly encouraged to ensure the same level of understanding and assumptions among them. Should there be questions or inquiries made by a vendor outside the meeting, the question and the answer from the Project Team were communicated to all the other vendors via e-mail to ensure transparency.

The post-bid clarificatory meeting on the other hand was a per vendor session meeting, where, the Project Team clarified the responses submitted by the vendor in the technical bid. After this meeting, the vendors were allowed to re-submit their proposal should there be any necessary modifications based on the discussions that transpired in the meeting. Another important discussion point during this session was the technical and functional would-be set-up of the technology solution in L Corporation once acquired. This was one of the crucial part that the vendors had to understand as this is where they need to recognize the requirements that had to be translated in the solution capability, as configurations and customizations may be necessary for the solution to be able to deliver the requirements.

PROOF OF CONCEPT (POC): After submitting the final technical proposal, each vendor were given a schedule to showcase their product through a demo. All the vendors were given the same amount of time for preparation (from receipt of notice to actual schedule date) and actual product demo. On top of the standard product demo, each vendor were given used-case scenarios, which, the solution should be able to address and show the business requirements in the given scenario by some configuration. This was the venue where customizations and configurations communicated during the pre-bid clarificatory meeting came into play. This was also the reason why the duration between the notices of POC schedule, release of used case scenarios and the actual product demo was crucial in assessing the readiness and ease of the product handling in terms of configuration and customization.

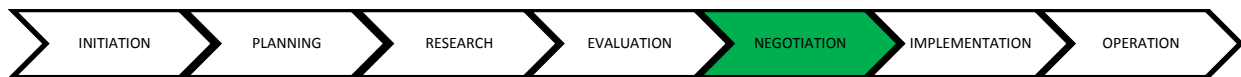
REFERENCE SITE VISIT: After the POC sessions, the vendors were requested to nominate existing clients locally or abroad for reference. This activity was done either via actual visit or conference call. This was the activity that gave L Corporation the opportunity to discuss the technology solution with the vendor’s existing clients and to understand the improvements and the issues encountered in using the technology. Reference site visits were done without the vendor to encourage their client to freely share the challenges they encountered in doing business with them, or with the product itself.

SCORING AND EVALUATION: Part of the Project Plan that the Project Manager created at the start of the project was the scoring and evaluation criteria. Each activity carried out from the start of the project have corresponding varied weights, depending on the agreements stipulated in the project plan. The requirements stipulated on the RFP documents are evaluated line per line and were scored accordingly. Below is a standard scoring system being adopted for the product evaluation:

SCORE	REMARKS
10	If the requirement can be delivered Out of The Box (OTB). This means that the functionality is embedded and available in the standard package of the product.
5	If the requirement can be delivered but will require configurations. This means that there are just settings that needs to be adjusted without programming effort needed. Activity can be done in less than 3 working days.
1	If the requirement can be delivered but will require customizations. This means that programming effort is needed, needing more than 3 days to be accomplished; or, if requirement can be delivered through another 3 rd party vendor.
0	If the requirement cannot be delivered.

VENDOR SHORTLISTING: Based on the ranking that transpired after the scoring and evaluation phase, top 3 vendors were shortlisted and were endorsed to the Procurement Team for commercial negotiation. Submitting the final shortlisted vendors to the Procurement Team means that any vendor who will offer the most competitive commercial offer is already guaranteed to be capable of delivering the requirements needed by the business. At this point, it is already a given that no vendor shall be endorsed to the Procurement Team with any incapability and incapacity of delivering the minimum requirements.

C. Strategy and Tactics in Negotiating Technology Acquisition Contracts:



All the invited vendors were required to submit commercial offer in a sealed bid form, however, only those proposals from vendors that were shortlisted and endorsed by the Project Team that have met the minimum requirements were opened. All these proposals were opened at the same time, in the presence of representatives from the Project Team, Procurement Team and Legal Team. Final commercial offer of different vendors were tallied in one sheet where all the representatives signified the authenticity and legality of the sealed bidding process. The logic behind having at least two shortlisted vendors being endorsed to the Procurement Team was to have the leverage when it comes to commercial negotiations. Part of the commercial bid requirement was submitting their most competitive commercial offer, different payment options as well as other value added inclusions that they can offer on top of the technology solution being acquired. This can be in different value added services like free training, additional support hours, and free consulting engagements among others.

The procurement team then had to equalize the playing field by requesting all the other vendors to include the value added service being offered by the other vendor. This was the activity where the best-of-breed of value add services was considered. This also ensured that the comparison of different commercial offers are apple-to-apple including those that are being offered as freebies which may actually have been tucked in the total contract price. This negotiation was done per vendor to avoid disclosure of commercial offers. The project was then awarded to the vendor with the most competitive and compelling final commercial offer with the revised additional value added services.

D. Procedures, Techniques, and Problems in Implementing Externally Acquired Technology:

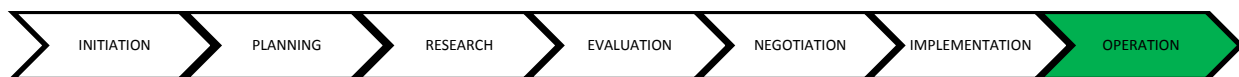


Implementation and System Integration form part of the total technology acquisition, however, an internal implementation and roll-out project team resources monitored by the Project Team was necessary to ensure smoother roll-out as well as opportunity of knowledge transfer for the resources who will eventually manage the technology solution. Internal Project team organization follows a weak matrix where project manager's authority was somewhat limited in the sense that more often than not, the functional head still decides on key areas. Internal resource availability was limited and internal project manager's role was practically part-time due to the fact that multiple projects were simultaneously being handled by resources who have different Business-As-Usual (BAU) obligations.

Upon signing of contracts with the selected vendor of the selected technology solution, project kick off was conducted with process owners, project team members, end users, and the steering committee to formally launch the project and to officially cascade the objectives and timelines of the project. Aside from the initially established key technical and functional requirements during the selection and evaluation stage, an initial step of the implementation was detailed data gathering for the Low Level Design (LLD), the output of which was a very important input to the system and process design. One important aspect in the data gathering stage was getting all relevant inputs from all possible sources and project stakeholders. This helped in developing the sense of ownership amongst the process owners and stakeholders and was very important as well during the acceptance testing stage. Prerequisite to starting the development phase was the sign-off of the Business Requirement Document (BRD) by the process owners and the steering committee. A sign-off was required to ensure that the design document was accepted prior proceeding to the development stage. Signing off signifies ownership of the design. This greatly helped the development team and project team in managing or handling change requests during the latter stages of the implementation.

Knowledge transfer is an important component for any system implementation, thus, during the development stage, the ad hoc technical implementation team and IT unit that will maintain the same system were involved in key activities e.g. installation of development platform, unit testing and system testing, that will facilitate internal capability building. The organization's project implementation approach also required System Integration Testing (SIT) and User Acceptance Testing (UAT) before any module was migrated to the Production environment. The SIT ensures that the system was working end-to-end prior involving the users for UAT. The objective was to capture as much bugs or defects as possible and have all of these fixed before endorsing the system to the users for testing. SIT stage also covered development rework to address any issues or bugs raised. This way, there would be very minimal issues that will be encountered during UAT. The UAT activity ensured that process owner and end user requirements defined in the BRD were incorporated in the system. The design document was a key tool in addressing issues during the UAT. The end-users and system integrators always referred to the BRD to validate the issues raised by the user and identify whether such was within scope or within the requirements defined in the design document. An out of scope issue required a Change Request (CR) that may signify additional cost to the company. Process owners and users who were involved in the User Acceptance Testing were required to sign-off after a successful UAT activity. After a successful UAT, end user training sessions were conducted.

E. Policies, Procedures, and Techniques for the Absorption and Mastery of the Externally Acquired Technology



The three main constituent elements of technological capabilities -- embodied, non-embodied and organizational integration -- were all taken into consideration in the technology acquisition initiative to ensure maximum benefits for strategic competitiveness.³ Organizational Integration – the reason why it was a must-have for a technology solution to be able to integrate with the existing infrastructure of L Corporation All data sources and all the systems that will receive an output from the new technology solution were identified early on for compatibility check For the embodied and non-

³ Posadas, Roger. (2013). Lecture 9A: Technological Capabilities Firm Level [Powerpoint slides]. Quezon City, Philippines: University of the Philippines.

embodied components, these items were covered by the Knowledge Transfer (KT) agreement with the vendor. The resources who will eventually manage the solution were all required to actively participate in the development up to the roll-out of the technology solution for a hands-on immersion on the technology know-how. On top of the walk-thru learning achieved during development and implementation, a fixed classroom training hours was part of the negotiated contract. This ensured that all the fundamental knowledge was also established. All pertinent documentations formed part of the acquired technology solution – this included the technical documentation, functional documentation, as well as the controls and policies documentations. The acquisition was also covered with Maintenance Agreement for the warranties, upgrades and bug fixes for the entire contract period. After UAT and “go-live” of the technology solution, this underwent a handholding period where the resources from L Corporation was doing the operations under the supervision of the technical experts of the solution provider. This further enhanced the knowledge and skills of the resources from the walk-thru immersion session and classroom trainings. Only after the specified period of time where the technology solution delivered uninterrupted and stable performance can the technical experts from the solution provider be officially pulled out of the project.

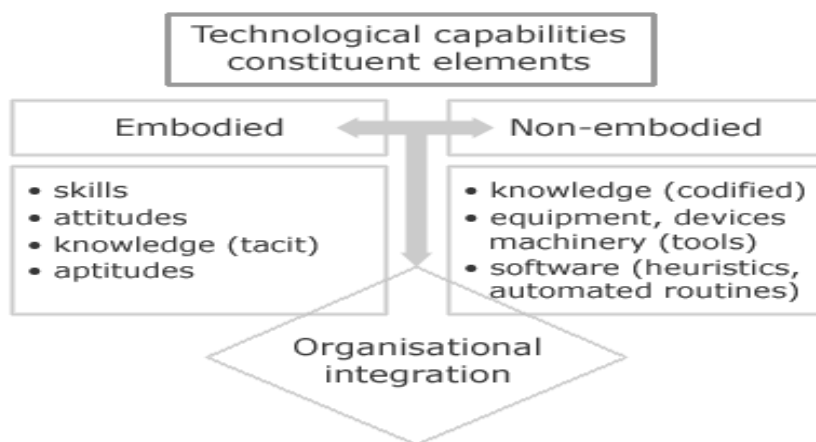
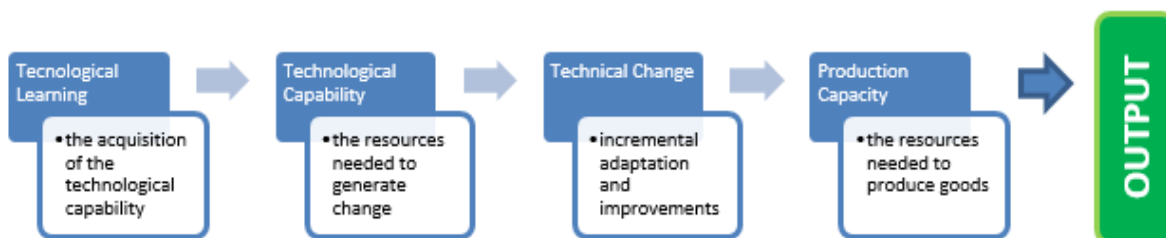


Fig. 1 Elements of Firm Level's Technological Capabilities

Depending on the negotiated terms and agreements, continual refresher trainings were done especially for major system enhancements and upgrades. Succeeding expansion and roll-out of the technology solutions were then handled by the resources of L Corporation after garnering the necessary technical skills required for them to be able to re-deploy the solution to other groups or companies.

III. CRITICAL EVALUATION OF THE EXTERNAL TECHNOLOGY ACQUISITION AND ASSIMILATION METHODOLOGY OF L CORPORATION

L Corporation is continuously embracing the “Organizational Learning” approach which is an adaptive response of the organization to the changing media landscape that calls for something more than random explorations of new technologies or markets. Through the years, L Corporation has pioneered a lot of broadcast initiatives in the Philippines. The primary method of acquiring new technologies is direct purchase from technology creators. The company invests in technology acquisition and takes advantage of these technologies as a facility to venture into new market segments. Similar to other companies, L Corporation is not into creating new technologies or innovation out of or surrounding an acquired technology. L Corporation is a technological company in the sense that it makes use of the acquired technology as key in sustaining competitive advantage and in addressing business needs, therefore making it a technology operator or user.



Bell and Pavit's research findings on firm-level technological learning is also evident in L Corporation's technology acquisition process, where upon acquisition, Learning-by-doing is an important input into the process of technological change. External technical knowledge is being brought into contact with experience-derived knowledge in order for the technological change to be successful. These learnings are then practiced by implementing incremental adaptation and improvements of the technology solution which is eventually used to produce goods.

Furthermore, L Corporation's learning cycle is best represented by the model of firm-level knowledge acquisition system, where the proactive approach of introducing new technology and innovations are triggered by several external stimuli, coupled with continuous knowledge feedback and continuous search for process improvements.

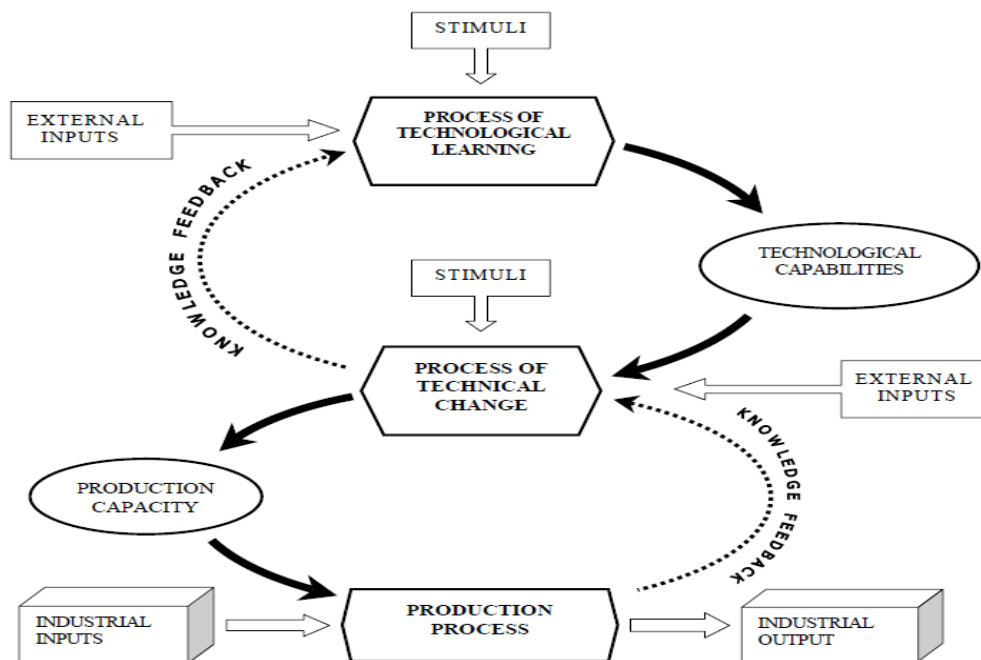


Fig. 2 Elements of Firm Level's Technological Capabilities

On the other hand, the success of the acquisition of technology solution is ultimately measured by the Key Performance Indicators (KPI) identified in the Project Plan.

IV. CONCLUSION

From a Technology Acquisition and Assimilation's point of view, L Corporation's initiative was Successful. The actual implementation in December 2014 went smoothly without any interruption or reported Severity 1 or critical issue. This can be highly attributed to the effective Communication Plan and Change Management Plan that was carried out by the Project Team. The strategic, phased Implementation Plan was also a major contributor to this success. Fixes for defects and bugs as well as minor enhancements were carried out based on the pilot run performed internally in IT Divisions prior rolling out to actual enterprise-wide users. Furthermore, it can be concluded from this paper that the methodology used in the acquisition and assimilation of the technology follows the industry's standards and best practices, following Posadas' Life Cycle for a Technology Procurement Project framework. The Socio-centric Perspective was taken into consideration in the technology implementation, where, the key success factors set by the Project Team for the whole initiative including the agreements set forth with the contracted vendors were derived from the measure of effectiveness in terms of the organization's social system functioning. The implementation plan was designed in such a way that proper scheduling as well as the organizational differences among the Group of Companies were taken into consideration. Given that this technology implementation was among the first few technology acquisitions shared across the different companies in the group, there was an adjustment in the human resource management specifically the manpower allocation and the trainings that were carried out to equip the employees during implementation and prepare them further in supporting the platform in the future for enhancements and further exploitation.

Moreover, it can also be established from this research that given the current methodology and processes in place in L Corporation, the organization can be categorized at the Integrative or Investment Capability Level of Posadas' ladder of firm-level technological capabilities, highlighting the organization's ability to assemble a complex technological system or commission a production facility on a self-reliant basis. This is heavily practiced in the organization, where, the services of a System Integrator is being availed to take advantage of the SI's capabilities and expertise. Through proper documentations, hand-holding and Knowledge Transfer (KT) sessions, this expertise is being passed on to L Corporation's employees to be able to support, enhance and exploit the acquired technology.

REFERENCES

- [1] Adapted from Kano, Noriaki, Shinichi Tsuji, Nobuhiko Seraku, and Fumio Takerhashi, "Miryokuteki Hinshitsu to Atarimae Hinshitsu (Attractive Quality to Must-Be Quality)," Japanese Society for Quality Control, 1984.
- [2] McKinsey Quarterly. (2010). The Internet of Things. Retrieved from http://www.mckinsey.com/insights/high_tech_telecoms_internet/the_internet_of_things
- [3] Posadas, Roger. (2013). Lecture 2B: Introduction to the Field of Technology Management [Powerpoint slides]. Quezon City, Philippines: University of the Philippines.
- [4] Castells, M.(1996). The Rise of The Network Society, Oxford: Blackwell
- [5] Posadas, Roger. (2013). Lecture 9A: Technological Capabilities Firm Level [Powerpoint slides]. Quezon City, Philippines: University of the Philippines.