

Knowledge Management via Facebook: Building a Framework for Knowledge Management on a Social Network by Aligning Business, IT and Knowledge Management

Satidchoke Phosaard, *Member, IAENG*, and Mongkolchai Wiriyaipinit

Abstract—Knowledge Management (KM) practice on Facebook is proposed in this application study. By becoming a highly popular communication and social networking platform, Facebook can be a prominence choice for KM. The detailed activities on Facebook for high-level concept of KM need a framework to merge the gap. With lack of a concrete framework for implementing KM, the study proposes a framework as a model for an organization to follow and successfully implementing KM in their organization. The model aligns business and KM together along with another key enabler, Information Technology (IT), forming the Business, IT and KM Strategic Alignment Model. The foundation of the model is explained and the model is validated on its applicability by an example of KM in an event organizer project. It had been implemented and preliminarily proven effective.

Index Terms—knowledge management (KM); Facebook; business, information technology (IT), and knowledge management strategic alignment

I. INTRODUCTION

KNOWLEDGE management (KM) has been widely recognized as a key success factor from which organization can create value for more than a decade. It is a concept dealing with the leveraging of knowledge in an organization for its continuous improvement. The processes of KM vary on the proposed models, e.g. socialization, externalization, combination, and externalization [1]; it could be compiled from several models and perceived as iterations of four major processes: 1) knowledge creation, 2) knowledge capture and storage, 3) knowledge sharing, and 4) knowledge application [2-5]. This concept, revolving around knowledge management in individual, team, organizational and inter-organizational level, and on both implicit or tacit knowledge and explicit knowledge, has proven effective for companies to increase their corporate advantages [1, 6-8]. However, KM is a sophisticated concept; as a result, in implementing KM, each company will have to find its own way of the KM journey according

to its own situations and available technologies [9-11].

In this world of social network, Facebook can be considered as an enemy of efficient working environment and several companies banned the use of Facebook during working-hour, nonetheless, we should turn this downside to opportunities. Due to its high interactivity and its role as people's communication center, from which KM requires as a tool in KM process, the use of Facebook for KM should be explored. The initial goal of the study is to find a proper way to integrate Facebook into KM process. However, it cannot be achieved as direct as initially thought.

Besides awareness of the importance of KM and choosing the right technology for KM success, it is vital for an organization to understand the nature of KM, which deals with many social factors, rather than solely on technology. Factors ranging from individual level to team and organizational levels have shown significantly important for the KM success. Example prominent factors are: subjective norms [12], job satisfaction [13], leaderships [14, 15], organizational culture [15], communication [15], trust [16] and so on. Moreover, major difficulty of KM application is that there are no such concrete paths to induce or integrate all mentioned antecedent factors for KM success. As such, a more structured framework for KM implementation should be available.

Thus, this study aims at three major objectives: 1) build a structured framework for KM application; 2) provide a detailed example on how to use Facebook in KM by the framework proposed; and 3) preliminarily evaluate the framework in the real world operation. The evaluation was undertaken to get insightful into the framework's usage by exploring the application through observing and analyzing the Facebook project group's activities, and interviews.

The following parts of the paper are divided into four sections. Literature review and the proposed KM framework development are explained in the next section, followed by an illustration of the framework application on KM via Facebook. A real-world application and preliminary findings, along with discussions, provided next. The last section concludes the study.

II. LITERATURE REVIEW AND FRAMEWORK DEVELOPMENT

A. *The KM Activities*

KM is about process and activities. With the scattering pieces and increasing amount of knowledge, companies need to effectively manage their knowledge and to create added values for continuous improvement and competitive

Manuscript received March 19, 2011. This work was supported in part by Suranaree University of Technology.

S. Phosaard is with Suranaree University of Technology, Nakhon Ratchasima 30000, Thailand (phone: +668-3331-1292; fax: +6644-224-205; e-mail: s@sut.ac.th).

M. Wiriyaipinit is with Chulalongkorn Business School, Chulalongkorn University, Bangkok 10330, Thailand (e-mail: mongkolchai@acc.chula.ac.th).

advantages. Since Wiig coined the term “knowledge management”, studies of the field have proliferated. There are several generations of KM [5]. In the first generation, KM is about information processing and transferring, and then turns to the knowledge codification and reuse [2]. In the second generation, this, in fact, came first but later shifted into spotlight, it focuses on the knowledge creation and sharing [1]. In the next generation, KM focuses on the knowledge lifecycle [3] and the value creation of knowledge assets [4]. The latest generation of KM is claimed to be the study of mechanisms for KM for value creation, especially, innovation [5]. This study is also related to the mechanisms of KM for value creation being hybrid with another emerging prominent area emphasizing on overall KM administration in an organization called KM governance [17]. The study will provide a more concrete practice linking to the higher level of KM governance and main KM activities.

According to Xu, et al [5], there are three main KM activities: 1) knowledge creation and usage, 2) knowledge preparation and diffusion, 3) knowledge preservation and maintenance. The mentioned activities conform to the renounced knowledge cycle of Nonaka and Takeuchi [1] with the separation of knowledge creation and usage into two distinct activities. However, in this study, the original model of Nonaka and Takeuchi known as SECI model then adopted due to its popularity and the completeness of KM activities as shown in Fig. 1.

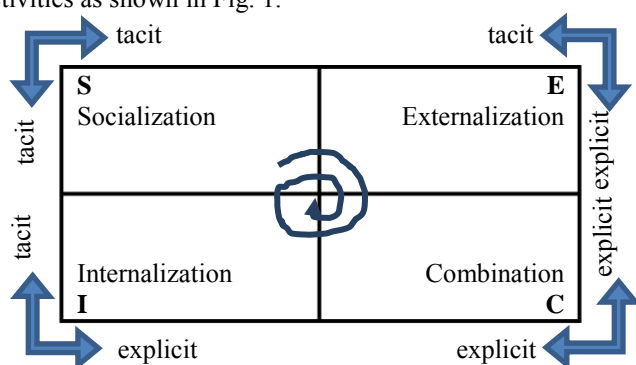


Figure 1. SECI Model [1].

SECI Model [1]

- Socialization** – Sharing tacit knowledge through face-to-face communication or shared experience.
- Externalization** – Developing concepts, which embed the combined tacit knowledge and which enable its communication.
- Combination** – Combination of various elements of explicit knowledge: building a prototype is an example.
- Internalization** – Closely linked to learning by doing, the explicit knowledge becomes part of the individual's knowledge base (e.g.

mental model) and becomes an asset for the organization.

Tacit Knowledge – Knowledge that is not easy to transfer to another person and difficult to write down, for example: the ability to swim, and the expertise to use equipment, etc.

Explicit Knowledge – Contrast to tacit knowledge, explicit knowledge is knowledge that can be written down explicitly, for example: names of top priority clients.

B. Factors for KM Success

There are many factors and strategies to implement KM. KM activities provide broad activities and high level view of KM and it is surely not detailed enough to implement KM right away in an organization.

KM is about organizational culture. A learning organization (LO) environment is needed for a KM to succeed. LO culture includes continuous learning, inquiry and dialogue, team learning, empowerment, system connection, embedded system, and supportive leadership [16]. Other studies also suggest environment [15], leadership [14, 15], incentives [18], are also important for KM. KM supportive organizational structure also has proven the success of KM [9-11].

KM is greatly seen as being about team and communication. Besides organizational culture and structure that support KM environment, several KM enablers focus in factors affecting learning in team and communication among team members and organizational communication. For example, Rosendaal [19] suggested that, in working in as a team, interdependence, social identity, individual value diversity and expertise diversity are antecedents for knowledge sharing. Song, et al. [16] also pointed out that interpersonal trust play important roles in KM. All of the above practices require effective communication to achieve such effective knowledge sharing and LO environment.

KM is also greatly seen as being about people. People form teams and organizations. Many organizational structures, LO culture, team management, communication, incentives, and several other strategies aim to promote individual willingness to learn through creating, sharing, combining and applying knowledge. One has to comprehend the relations among these factors and take them into account when applying KM in the real world.

C. Business and KM Strategic Alignment

KM should not be perceived as extra works for employees or participants. The integration of KM and the integration of IT to business share similar stories. Both KM and IT have transformed themselves from extra and supporting roles to also shape business strategies. However, several organization have still not embraced the practice of KM

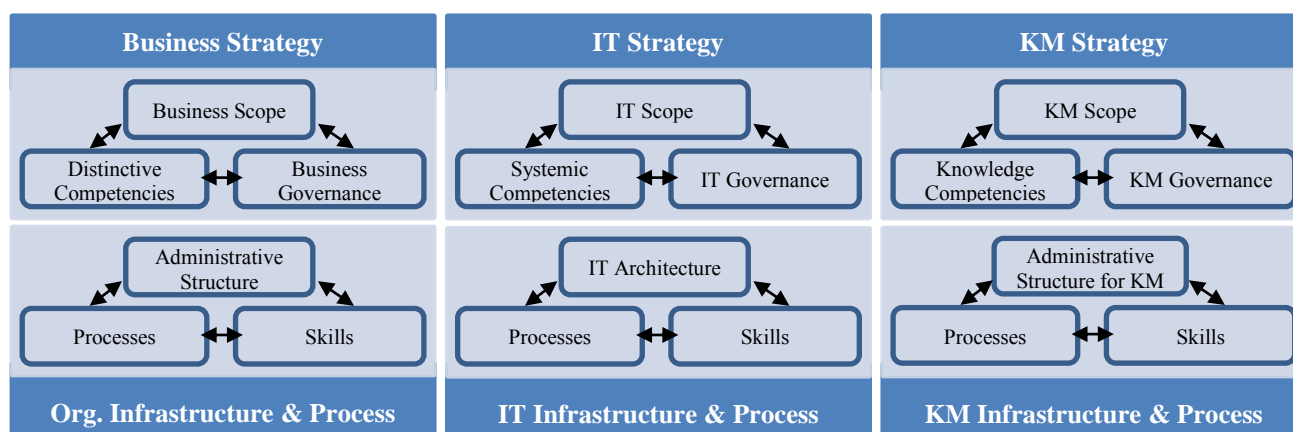


Figure 2. Strategic Alignment Model for Business, KM and IT.

TABLE I
BUSINESS-IT-KM STRATEGIC ALIGNMENT

Business Strategy	IT Strategy	KM Strategy
Business Scope <ul style="list-style-type: none"> Objectives People: Project Manager, Staffs, Exhibitors, Participants, etc. Budgets, Venue, Plan and Schedule 	IT Scope <ul style="list-style-type: none"> IT Roles IT Staffs IT Budget IT Plan and Schedule 	KM Scope <ul style="list-style-type: none"> KM Roles, KM Staffs People: Project Manager, Staffs, Exhibitors, Participants, etc. KM Budget, Plan and Schedule
Business Competencies <ul style="list-style-type: none"> Event Organization Skills Project Management, Communication Promotion 	Systematic Competencies <ul style="list-style-type: none"> IT Support Technical 	Knowledge Competencies <ul style="list-style-type: none"> Socialization, Externalization, Combination, Integration Tacit & Explicit Knowledge
Business Governance <ul style="list-style-type: none"> Operational-Level Governance Checklist 	IT Governance <ul style="list-style-type: none"> Operational-Level Governance Checklist 	KM Governance <ul style="list-style-type: none"> Operational-Level Governance Checklist

which can be argued that this inability to recognize KM investment and practicing benefits is due to its lack of *alignment* between business and KM strategy. In terms of IT, a Strategic Alignment Model has been proposed and proven to be extensively adopted [20]. The extension of the Strategic Alignment Model to KM can be shown in Fig. 2 and the detailed elements of the model are shown in Table I.

Business scope defines what the business must know for the survival and operations of its business. This includes employees, management, shareholders, customers, competitors, market, processes, and so on, that are related to its business. Similarly, knowledge KM scope identifies all partakers, processes and anything else related to KM that a company must know which shall be aligned to those in the business scope. Competencies refer to capabilities, abilities, skills, proficiencies, expertise and experience. Business competencies cover critical characteristics a company needs to have. Likewise, knowledge competencies refer to characteristics of knowledge to support business competencies, e.g. accessibility, transferability, etc. Knowledge governance deals with how to properly acquire such knowledge competencies appropriately. A study by Abou-Zeid [21] proposed a Knowledge Management Strategic Alignment Model (KMSAM) which is similar to this discussion. Alignment among these three domains: business, IT and KM, had been drawn as discussed and the scrutinized of the framework will be taken to the center stage of interest in the next section. The one proposed here was expanded and explained by further underlying theories based on antecedents of knowledge sharing and it also integrating IT strategic alignment since IT is an integrating part of KM into business, even though not solely a key enabler. The model will also be validated by a concrete example in this study.

In KM, the relationship between theories and practices is

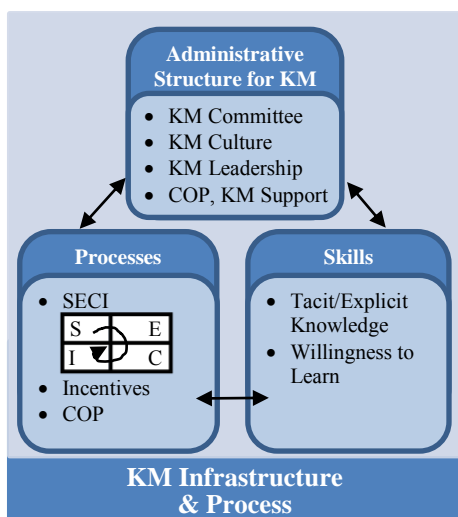


Figure 3. KM Theories and KM Strategic Alignment Model Mapping.

strong since the theories have been formed to answer practical questions. The validations of theories encourage the application of theories in practices and promote accumulated improvement through other questions for KM process development. The KM research itself illustrates KM processes. The alignment between business strategy, IT and KM is fully supported by underlying theories as shown in Fig. 3.

It is important to understand that these all three domains—structure, processes, and skills—must align and support each other, e.g. the process of SECI not only promote the use of KM or ameliorate employees' expertise, but it also promote skills required for success of KM process itself; the skills are knowledge socialization, externalization, combination and internalization skills. Many success KM stories have proven that the existence of a KM support team to accommodate the KM processes is required in addition to high level KM board and organizational culture. KM processes must also align with information technology infrastructure and processes.

III. APPLICATION AND VALIDATION OF THE FRAMEWORK

The proposed framework can be validated on its applicability by applying it to a real-world situation. The framework can be applied in every business process since KM can be and should be applied to all working process for continuous improvement. Day-to-day operations or other business framework like Customer Relationship Management (CRM), business innovation, and so on have proven successful to exploit the use of KM [22, 23]. Moreover, several emerging information technologies and people communication paradigms both force the way business operates and open opportunities for business to explore new territory of business practices. It is undeniably that, nowadays, social network is at the center stage of internet communication. Facebook, the largest social network, has more than 500 million registered users at the end of the year 2010 according to the Facebook Statistics Page [24]. Thus, in this study, the alignment model will be applied to a day-to-day operation in the form of a project tracking via Facebook for demonstrating the use of the framework.

According to the management perspective, an organization is founded for specific objectives. It has vision and carries missions. To accomplish the organization objectives and missions, strategies are formed; and finally projects serving strategies are outlined. Action plan for each project is laid out and execute. Day-to-day operations are groups of tasks which can also be considered as yearly repetitive projects. Either business processes in the form of projects or daily operations might serve different objectives, but they are usually composed of the same elements:

objectives, processes, and resources, that varies from projects to projects. This study gives an example of applying strategic alignment model to the project level. If the model is proven applicably, it can be applied to rest of the organization's projects or simply, the rest of the organization process.

The selected project for demonstrating purpose as a simulation here mimics an IT exhibition fair organizer. General organizations should be familiar with road show as exhibitors. Applying KM in the process of being an exhibitor is surely possible but its scale of generalization will be too small in this example. The selected example assumes a role of the company being an exhibition organizer of an IT fair.

Applying KM using the strategic alignment model is simple by filling-in the items related to each box in the model matrix. At least, a project plan should be outlined before filling in the matrix. The following example provides a summarized version of the operational framework.

Table II outlines concrete elements for supporting business, IT and KM operations. It also lists actions/processes and skills required for each domain. From the top left, classic elements required for project management are listed. The next box to the right, the IT architecture, lists information technology tools needed. The exhibition website and Facebook are required for interfacing with exhibitors and other stakeholders. A Facebook group of the project should be created separately and used internally. A simple project tracking tool is required; in this case, a spreadsheet is used. Since the KM practice should not interfere with the business operation nor affect much on the company structure, only KM staffs are required in addition to the existing administrative structure. In small company, KM specialized staffs are not required. Everyone should be able to conduct KM process on their own which example will be shown later.

The second row captures important checklists for the project, the processes. The business process box outlines key tasks an event organizer needs to perform. Items in the center cell are in fact business process; however, they are seamlessly performed on the internet. In brief, any communications that need e-mail communication will be moved to the Facebook communication. Any messages that the sender needs to communicate to the entire project team will be shared as Post. Selected recipient messages can be

sent via the Messages function. Links, media files and documents can be shared on the Wall. All necessary information related to each task should be finally attached to each task. This demonstrated how explicit knowledge captured in the system. In case of issue solving and best practice forming, this tacit and explicit knowledge should be compiled and store in a knowledge repository. It can be in the project sheet or in another system.

The bottom row lists skills needed for project participants. The skills should be prepared before the project beginning and continuously improved through working and KM processes.

The implementation of this project plan via Facebook can be illustrated as follows. Firstly, project staffs must have individual's Facebook account. The project manager or a technical staff will then create a Group on Facebook (Fig. 4 no. 6). On Facebook, users can create Page for entities such as a person, company, university, or they can create a Fan Page that people can Like the page. In this case, a group type should be used, besides Fan Page or Official Page for external use, for project management in integration with KM. The creator of the group should set the privacy of the group as secret or private so that only assigned members can browse and participate since the nature of contents is for internal management. When there are any activities occur on the group page, notifications will be shown on the top left of Facebook page. This is very handy. Team members can follow the group page by noticing the notifications without wasting their time on Facebook while working, Fig. 4, no. 1.

All communications throughout the project team members (Fig. 4, no. 4) can happen on Facebook via the created group (Fig. 4 and Fig. 4, no. 4 and no. 2). For example, the project can be kicked off by outlining project plan on the page (Fig. 4, no. 8 and 10). The project detailed documents and project plan are content-rich documents, which require extra tools. In this case, we can attach a document and a spreadsheet of project tracking by using Google Documents for project details and Google Spreadsheets, as shown in Fig. 4, no. 11, for project tracking. Both Documents and Spreadsheets allow team members to update the contents and they are seamlessly integrated to Facebook. The spreadsheet for the project tracking plays a central role to capture project task activities and store knowledge. Documents attached to the group will be fixed and easy to access on the right of the page (Fig. 4,

TABLE II
BUSINESS-IT-KM PROCESS AND INFRASTRUCTURE ALIGNMENT

Business Strategy	IT Strategy	KM Strategy
Business Administrative Structure and Recourses <ul style="list-style-type: none"> • People: Project Manager, Staffs, Exhibitors, Participants, etc. 	IT Architecture and Resources <ul style="list-style-type: none"> • Event Website • Event Facebook/Project Facebook • Google Docs Documents: Spreadsheets • IT Staffs 	Administrative Structure and Resources for KM <ul style="list-style-type: none"> • Project Manager • Staffs • Knowledge Gathering Staffs
Business Processes <ul style="list-style-type: none"> • Project Planning • Promotion • Booth Sales • Venue Preparation • Event Activities • Evaluations 	IT Processes <ul style="list-style-type: none"> • Using Facebook Group for Privacy and Immediate Notifications • Sending Facebook Message for Personal Questions, Posting on Facebook Wall Post for Group Questions • Project Tracking via Google Docs Spreadsheets • Evaluations 	KM Processes <ul style="list-style-type: none"> • Information and Issues Related to Each Project Tasks – Explicit Knowledge Seamlessly Captured • Issues Compilation on Walls, Message, and Boxes – Implicit & Explicit Knowledge Captured • Evaluations • SECI
Skills <ul style="list-style-type: none"> • Project Management • Communication • Interpersonal • Leadership 	Skills <ul style="list-style-type: none"> • Support • Technical • Internet • Application Software 	Skills <ul style="list-style-type: none"> • SECI: Socialization, Externalization, Combination, Integration • Explicit/Tacit Knowledge of the Project • Willingness to Learn

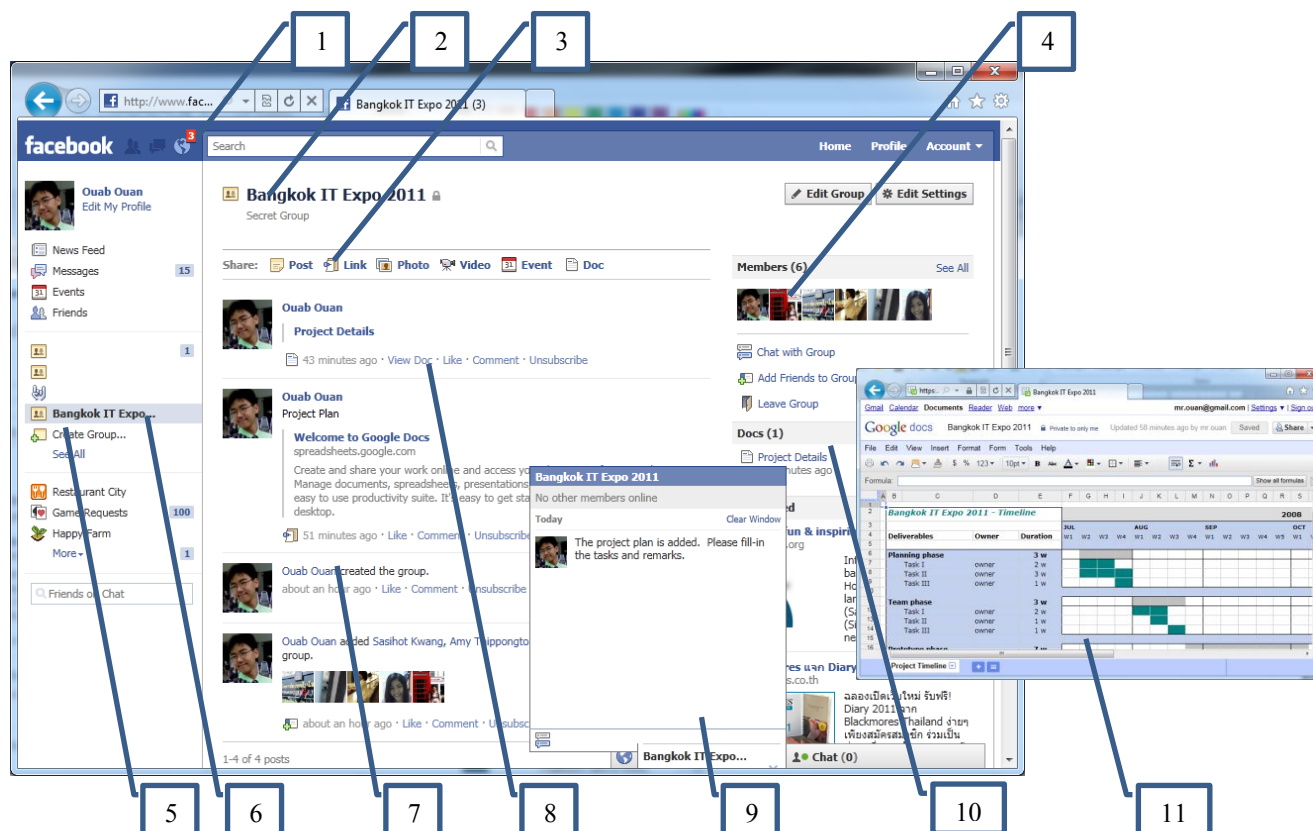


Figure 4. An example of using a Facebook Group page and Google Docs as a platform for project management and communications.

no. 10).

Team members have to update their project status on the project tracking. Each day, summarized work can be posted for comments on Facebook via Post. In case of any communication among teams, a team member can share the incident via Post as well (Fig. 4, no. 3 and 7). Any related information and useful knowledge could also be shared through media such as Links, Video, etc (Fig. 4, no. 3). In case of private messages, team members can communicate via Messages function. The Messages function is able to send message to e-mail as well giving it more convenient to communicate with clients and integrate with project group page. Simply, Facebook Group page and Google Docs can work as the integration of e-mail, instant messenger, web board, content management system, event calendar, office application, and so on, that are required for internal e-business in one place.

The environment of Facebook will encourage an enjoyable working environment. It will also promote not only communications for work, but also life and experience among group members. Moreover, KM processes like socialization, externalization, combination and integration will occur naturally via Facebook discussion.

It can be shown that the detailed activities used for main project activities and integrated KM process can be performed on Facebook group page. The platform should provide encouraging environment for social communication and KM. This example showed and validated that the detailed KM activities for this popular platform can be drawn completely by taking all crucial stakeholders and concepts into account by the proposed Business, IT and KM Strategic Alignment Model.

IV. PRELIMINARY EVALUATION AND DISCUSSION

The process design explained in the previous section was

carried out by an alumni association of a university for its home coming day. The event was a well-suited example since it can be shown that general organizations usually carry projects containing activities similar to the example. Key activities of the event were: project planning, event invitation and promotion, exhibitions of twenty academic departments, preparation of food and venue, performance for the event, registration, for example. There are one project manager (the association's president), two vice managers, and other four working committees. The event hired fifty students for assistance. The number of the participants on the event's day reached 1,000.

The project applied the KM framework for Facebook as proposed. The preliminary findings suggested that the tasks ran smoothly by the framework outlined with the following points that should be noted. Firstly, working via Facebook introduced a unique culture. Facebook made team members with different managing ranking become more comfortable to communicate, yet effective and robust. Team members reflected that communication for working via Facebook was perceived less formal than other forms of communication with their superordinates due to the language used tended to be more spoken than written. This was because the team members tend to use language in the same fashion they do on Facebook. However, any tasks needed to be executed were exposed to all of the team members, they tried to handle it quickly and update the task on the project group's page similar to the way that they interact with their friends on Facebook.

Secondly, besides daily progress briefing in the morning and in the evening, the majority of the messages asked for low important decisions from team members or from their supervisors. In the case of highly important decisions or an urgent one, the communication needed higher interactive means, which was telephone, in common. Another two important pieces of information team members posted were

to express the achievement of important tasks, and frequently access information by all team members.

Thirdly, any best practices or lesson learned were usually recorded in the evening after team members finishing their tasks for the day since they were quite busy to share this kind of information in working hours. Moreover, a retrospect into the project activities when the project was over could be conducted easily by reviewing conversations in each day chronologically from the kick-off date. The retrospect and discussions provided an opportunity to evaluate the quality of the tasks conducted, leading to the encouragement to suggest actions for improvement. Best practices and lessons learned were formally associated to each task at this time. After the processes of evaluation and retrospect were completed, the group page provided a complete out-of-the-shelf package practices for the next similar events consisting of project plans, all required information and data of the project, e.g. contacts, equipment and material prices, etc., and best practices to follow and loop holes to avoid.

The framework itself and the evaluation conducted reflected KM foundation. Firstly, the importance of people, organization culture and process in KM had to be recognized, and properly handled. The evaluation suggested that the seamless integration of new and casual collaboration technology transformed a multi-hierarchical organization into a swift working team. Secondly, Facebook, as well as the framework, provided a platform encouraging KM practice utilizing SECI model. Continuous sharing style in Facebook encouraged team members to follow-up issues raised in the group. This platform urged continuous learning in the team. The business casual style of the communication enabled and facilitated the practices and convenience of socialization in that users could be collaborating conveniently online through Facebook; and of externalization in that Facebook becomes a convenient platform for interactive communication allowing tacit knowledge to be shared and made more explicitly. It also encourages the practices of combination and internalization. This is, for example, Facebook enables users to manage a variety of contents. These contents can be combined into forms or formats of knowledge that offer clearer descriptions of knowledge. Therefore, this would allow viewers to better understand the knowledge and also allow them to apply the knowledge into their practices. And thirdly, KM can be conducted successfully and seamlessly in the real-world operations by aligning KM, business and IT elements accordingly, by the framework employing Facebook as the main communication channels, which can be proven by the success of the project running mainly on Facebook.

V. CONCLUSION

The applicability of a KM framework and the popularity of Facebook have been met in this study. The study proposed a detailed and novel, yet simple, practice for applying KM harmoniously with the business operation on the most popular social media, Facebook. To accomplish this, a Business, IT and KM Strategic Alignment Model has been proposed and validated with an example. The alignment model suggested alignment of structure, processes and skills among business, IT and KM domain. The model provides the alignment as theoretical contributions. For practical contributions, the framework can be used almost off-the-selves to guide KM application on Facebook. A

case study utilized the provided framework suggested that Facebook can be integrated seamlessly as one of the major collaboration platform to run a business with KM practice in mind. The major limitation of the study is that it was applied to only a project. Future bigger scale studies should be conducted to further support the model.

REFERENCES

- [1] I. Nonaka and H. Takeuchi, "The knowledge-creating company," *New York*, vol. 1, p. 995, 1995.
- [2] K. Wiig, "Knowledge management: where did it come from and where will it go?," *Expert systems with applications*, vol. 13, pp. 1-14, 1997.
- [3] M. McElroy, *The new knowledge management: Complexity, learning, and sustainable innovation*: Butterworth-Heinemann, 2003.
- [4] J. Liebowitz, *Knowledge management handbook*: CRC, 1999.
- [5] J. Xu, et al., "Macro process of knowledge management for continuous innovation," *Journal of Knowledge Management*, vol. 14, pp. 573-591, 2010.
- [6] T. Davenport and S. Völpel, "The rise of knowledge towards attention management," *Journal of Knowledge Management*, vol. 5, pp. 212-222, 2001.
- [7] D. Cohen and L. Prusak, "British petroleum's virtual teamwork program," *Case study, Ernst & Young Center for Business Innovation*, 1996.
- [8] K. Ellis, "Sharing the best practices globally," *Training*, vol. 38, pp. 32-38, 2001.
- [9] M. Rao, *Leading with knowledge: knowledge management practices in global infotech companies*: Tata McGraw-Hill Publishing Company, 2003.
- [10] C. Gorelick, et al., *Performance through learning: Knowledge management in practice*: Butterworth-Heinemann, 2004.
- [11] M. Shukla, *Competing through Knowledge: Building a Learning Organisation* SAGE Publications, 1997.
- [12] G. Bock, et al., "Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate," *Mis Quarterly*, vol. 29, pp. 87-111, 2005.
- [13] K. Dirani, "Measuring the learning organization culture, organizational commitment and job satisfaction in the Lebanese banking sector," *Human Resource Development International*, vol. 12, pp. 189-208, 2009.
- [14] A. Srivastava, et al., "Empowering leadership in management teams: Effects on knowledge sharing, efficacy, and performance," *Academy of Management Journal*, vol. 49, p. 1239, 2006.
- [15] J. Song, "The effects of learning organization culture on the practices of human knowledge creation: an empirical research study in Korea," *International Journal of Training and Development*, vol. 12, pp. 265-281, 2008.
- [16] J. Song, et al., "The effect of learning organization culture on the relationship between interpersonal trust and organizational commitment," *Human Resource Development Quarterly*, vol. 20, pp. 147-167, 2009.
- [17] S. Zyngier, et al., "Knowledge management governance: A multifaceted approach to organisational decision and innovation support," 2004, pp. 1-3.
- [18] A. Gold, et al., "Knowledge management: An organizational capabilities perspective," *Journal of Management Information Systems*, vol. 18, pp. 185-214, 2001.
- [19] B. Rosendaal, "Sharing knowledge, being different and working as a team," *Knowledge Management Research & Practice*, vol. 7, pp. 4-14, 2009.
- [20] D. Avison, et al., "Using and validating the strategic alignment model," *The Journal of Strategic Information Systems*, vol. 13, pp. 223-246, 2004.
- [21] E. Abou-Zeid, "Alignment of business and Knowledge Management strategies," *Knowledge Management and Business Strategies: Theoretical Frameworks and Empirical Research*, 2008.
- [22] A. Tiwana and M. Williams, *The Essential Guide to Knowledge Management:: E-Business and Crm Applications*: Prentice Hall PTR Upper Saddle River, NJ, USA, 2000.
- [23] M. Gibbert, et al., "Five styles of customer knowledge management, and how smart companies use them to create value," *European Management Journal*, vol. 20, pp. 459-469, 2002.
- [24] Facebook. (2010, 1 Dec 2010). *Press Room - Statistics*.