SAHK

Abstract: The Spastics Association of Hong Kong (SAHK) has implemented digitally assisted management throughout the entire organization for improving its accountability, efficiency and service quality. Modern database technology provides widely accessible information with easy-to-use analysis tools that empower both frontline and administrative staffs with sophisticated decision-making capabilities. Our IT strategy is to establish an IT infrastructure for providing our staff with a smarter way to work, our team of multi-professional disciplines with a more effective way to collaborate and our entire organization with a more efficient way to handle its operational needs.

Introduction

Before IBM produced its first PC in 1980/81, SAHK had already envisioned of adopting computing technology to improve the quality of its frontline services and its backend administrative work. We purchased microcomputers in our service units and applied simple software for providing attractive, interactive and barrier-free multi-media training and educational programs to our clients. Word processing and spreadsheet software were introduced to the Headquarters and service units for improving the outlook and data manipulation of daily administrative work.

In the 80s and early 90s, by keeping abreast of the rapid technology advancement as well as resource constraints, we had strategically determined to limit our enhancement of computing hardware and software within clients' rehabilitation and education and defer the Association's migration from manual-based to digitally assisted organization at its operational level. The only set up for administrative support at that time was an accounting package running on a small Local Area Network of 5 workstations.

Not until the late 90s, networking technology was becoming more matured. Internet connection speeded up tremendously while its cost had been reduced drastically. Millions of stand-alone computers could be interconnected instantly by simply plugging into the internet. This technology breakthrough brought forth the age of information and many information systems had been put into market such as supply chain management system (SCMS), point of sales system (POSS), enterprise resources planning system (ERPS), financial management system (FMS), etc. In realizing that it was time to employ information technology (IT) for improving our efficiency and effectiveness in routine operation, special project teams were formed to propose an IT solution for our existing needs, with much room for accommodating future development.

Our Vision in IT Applications

When we want to improve the efficiency of our accounting procedures, we may buy-in a FMS. After a period of time, we may think of improving communication by installing an intranet system. As such, sophisticated software is purchased one by one in a fragmented manner. It is not uncommon that the new program is found to be incompatible with the existing one and you may need to choose the next best thing or upgrade your existing one. In developing our own IT strategy, we are inspired by our core service - rehabilitation.

Current trend in rehabilitation advocates a holistic approach that takes into consideration the all-round needs of a patient in formulating his/her rehabilitation plans. Similarly, in studying the IT requirements of the Association, we started with a holistic perspective.

Instead of buying-in sophisticated software separately to solve the immediate problems on hand, we first examined patiently the functions of a number of potentially useful software and studied carefully their interface and compatibility. At the same time, an investigation was conducted to sort out the existing bottlenecks throughout the entire organization and to identify and prioritize the underlying problems and their interactions. All the prioritized problems were handled as a whole in developing our IT solution. This process involved a strong impact on centralization and decentralization choices in both the frontline work process and backend administrative process.

The vision of our IT strategy is to direct all the prioritized problems to an IT infrastructure that can provide our staff with a smarter way to work, our team of multi-professional disciplines with a more effective way to collaborate and our entire organization with a more efficient way to handle its operational needs.

A 2-layered IT Infrastructure

The core components of our IT infrastructure are information systems. In the past 10 years, information system implementation has been evolving rapidly. The trend was moving from isolated information systems toward integrated or interrelated systems. Information systems, which are capable of interacting with other information systems via a common network, become the most popular.

Since SAHK consists of 40 service units that are scattered in location, broadband installation provides the most cost effective communication channels. With the broadband network as the fundamental building block of our IT infrastructure, additional information systems can be built up onto this fundamental block.

In developing our infrastructure, we have taken into consideration the requirements of both the frontline services and the backend operations. The adopted information systems have been categorized into 2 layers. Information systems directed at the operation in service delivery, staff communication and their career growth are classified as the *e-Frontline* layer. Those directed at the administrative and managerial operations are classified as the e-BackOffice layer.

The e-Frontline aims at streamlining the frontline operation, providing instant support in service delivery, enhancing within- and inter-center communication, promoting self-learning in staff development and de-centralizing knowledge management within the Association. The e-BackOffice, on the other hand, aims at centralizing data management, enhancing management

efficiency and enabling effective information flow and resources sharing. The entire model of our IT infrastructure is shown in figure 1.

Information Systems in the e-Frontline Layer

The e-frontline layer is fundamentally knowledge-based and it has been embedded in our service delivery and staff development processes. A feasibility study, in collaboration with the Curtin University of Technology, on the implementation of KM and e-learning in the Association was conducted. The valuable, innovative and practical ideas proposed in the study had laid a foundation to the e-frontline layer of our IT infrastructure.

<u>The Intranet</u>

SAHK had launched an intranet system in a pilot center in 2003 and in all of its units in 2004. This system is a ready-to-work groupware application that improves the productivity of cooperative work within the Association. Its core functions are classified into: (1) collaboration; (2) communication; (3) personal management; and (4) resource management (Table 1).

Collaboration Tools	These tools allow users to organize information for sharing and obtain up-to-date information anytime, anywhere.
Communication Tools	These tools allow users to send and receive general and specific information among each other.
Personal Management Tools	These tools allow users to manage their personal information and data.
Resources Management Tools	These tools facilitate central resources booking and reservation made by our staff, units, and working groups.

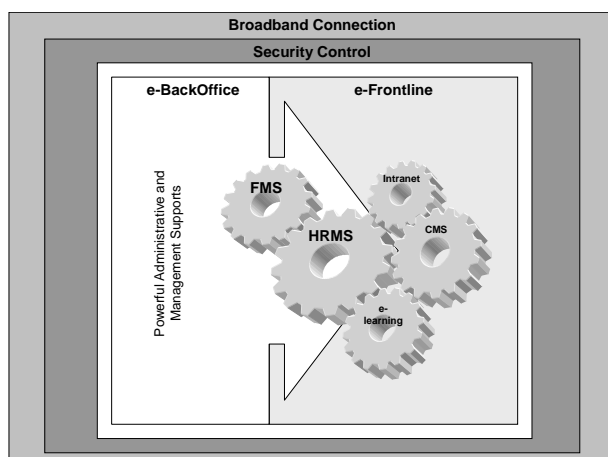Table 1: The four core functions of our Intranet system.

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Figure 1: The 2-layered information technology infrastructure of SAHK. The fundamental building block of the infrastructure is broadband connection. Building upon it are 5 information systems: (1) Financial Management System (FMS); (2) Human Resources Management System (HRMS); (3) Curriculum Management System (CMS); (4) intranet; and (5) e-learning platform. The former two constitute the e-BackOffice layer of information systems while the latter three constitute the e-Frontline layer.

The intranet provides a 24-hour accessible common communication platform for staff from different disciplines and different service units. It has drastically improved our efficiency in information sharing without the need of long-distance travel and time matching for real-time discussion. Thus, the number of working group meetings of the service development projects can be reduced as information and opinions can be shared among the group members in their own offices.

The intranet also provides a well-structured database for organizing the Association's intellectual properties while allowing easy retrieval, sorting and editing. It helps to transform the organizational knowledge from papers to an electronic format. Updated version of documentation and service guidelines can be uploaded to the intranet for providing an instant helpdesk to the frontline while service delivery. It enables relevant knowledge to be made available just-in-time by merely several clicks that by-pass the needs to search from a sea of papers. With instant access to the right knowledge that supports the current work process of the frontline, work efficacy will be enhanced.

The intranet creates an individual virtual working space for our staff. With the exception of workmen and personal care workers, all frontline staff members are assigned with an intranet login account that allows them to manage their own personal information and data.

By creating topical chat rooms in the intranet, it provides means for our staff to express their opinion and suggestions on a number of pre-specified topics and the chat room managers can screen and process valuable information for the refinement of the association's culture.

The e-learning platform

Human resource is an important asset of the Association and staff training has always been placed on our top priority. We have established a systematic staff development system that is coordinated by our Staff Development and Research Unit (SDRU). Career growth of our staff consists of 3 dimensions including: (1) professional meetings of individual disciplines (e.g., therapists meeting, registered nurses meetings, social workers meeting, etc); (2) center-based in-service training; and (3) agency-based in-service training.

Center-based in-service training focuses primarily on case-by-case applications and on how to translate the principles into daily practice while professional meetings gear to the world trend of rehabilitation in related fields as well as day-to-day clinical practice for enhancing the professionalism of the respective disciplines. Agency-based in-service training begins with an annual collection of personal career growth needs from the frontline, followed by the SDRU for coordinating the senior professionals of the Association to establish the staff training programs in the coming year with the compilation of an annual in-house prospectus.

The fast changing world calls for an acceleration of the learning cycle among our staff members. IT has brought about a paradigm shift in the practice of staff training. However, actual learning takes place in the context of the practice, a blended approach is needed.

The e-learning platform provides a 24-hr accessible self-learning opportunities at home that is crucial in one's life-long career growth. Undoubtedly, the e-learning platform cannot replace the face-to-face lecturing. In fact, both are complimentary to each other and should be run in parallel. The e-learning platform serves perfectly as a refresher to the contents of the face-to-face training. In addition, it offers an attractive multi-media means that is both interactive and capable of providing vivid images that enhance learning. The entire staff development system in the Association is illustrated in figure 2.
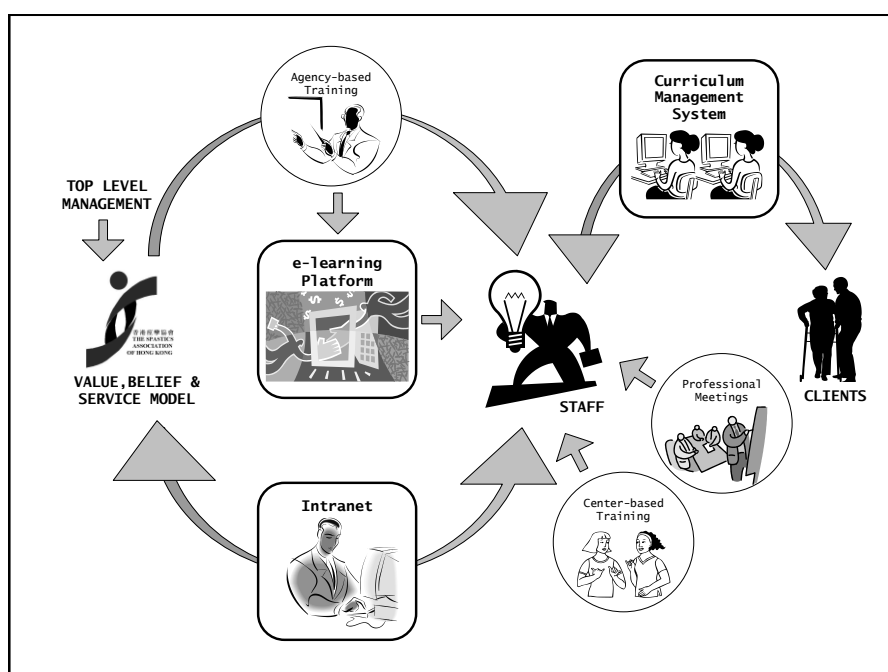

Figure 2: The entire staff development system in SAHK.

The in-service training programs, the e-learning platform and the intranet serve as an adjunct to the Association's publications for knowledge dissimilation and for nourishing our staff with the Association's culture. The intranet, however, has an additional role of allowing our staff to provide feedback that may foster and refine the Association's culture and strengthen the sense of belonging of the staff team. With the introduction of the intranet and the e-learning platform, an increasing portion of our staff has become familiar with the web-based IT applications that is crucial in preparing them for the more sophisticated Curriculum Management System that comes next.

The Curriculum Management System (CMS)

Knowledge is a key asset of a rehabilitation organization. In the midst of the "Knowledge Revolution", we should quest for speed in the creation and dissemination of our knowledge assets.

CMS streamlines daily operation and assists decision making by automation in calculation and data comparison and by providing an instant search for valuable information during assessment, program planning and progress evaluation.

The system also enhances cross disciplinary synergies and makes knowledge management an integral part of our service delivery process. It serves as a tool for developing the core competence of our staff and encourages them to apply knowledge for attaining higher performance at work.

Before the implementation of CMS, organizational knowledge is essentially constructed by the senior professionals. However, a substantial portion of the organizational knowledge is resided in the daily practice of the frontline staff and may easily pass unnoticed and lost. The CMS helps to capture this type of organizational knowledge and provides a quick route to dissimilate it for re-use by the other concerned staff.

The intranet, the e-learning platform and the CMS constitutes the e-frontline system that serves to reinforce the business cycle of the Association. It offers systematic and easily accessible facilities that meet the needs for life-long career growth of our staff as well as the service needs of the Association. Moreover, it serves to foster the Association's culture that nourishes our staff at different levels and allows for frontline participation in the refinement of the Association's culture.

Information Systems in the e-BackOffice Layer

For an organization with scattered service units, there exists a great challenge in managing their piecemeal accounting and personnel data. The information systems in the e-BackOffice layer realized a centralization of these corporate data with instant searching and manipulation capabilities for producing sophisticated reports, charts and analysis results. It provides administrators with a clearer picture of the existing situation and assists in the formulation of evidence-based business plans for directing future development of the Association. On the other hand, it decentralizes the piecemeal workload of the central administration and empowers service units to have better control on their own resources. With the provision of a powerful administrative and management support by the e-BackOffice layer, it creates a working environment that allows the frontline to focus their core attention in delivering good quality of services to our clients.

The Finance Management System (FMS)

FMS was launched in 2004 by replacing the original DOS-based accounting package acquired years ago. The FMS equipped the Association with advanced financial capabilities that have optimized its operational efficacy from top and bottom lines. It increases the scalability for providing integrated solutions to the financial problems. By transforming our accounting processes into this new system, we are able to achieve critical accounting analysis and controls, data visibility and data integrity.

We have adopted the Epicor Financial System which is a widely used accounting system in the world, especially by non-profit making organization to handle demanding financial needs in today's world. Its flexible design allows for flexibility on handling a wide range of daily accounting activities across different types of service units. Its core features are summarized in table 2.

FMS facilitates centralized management of the corporate financial data and enables cost effective delivery of these data to all approved end users. It provides automation in routine accounting work and allows instant data transfer in various accounting procedures (e.g., purchase endorsement, etc) between service units and the Headquarters.

The FMS decentralizes the piecemeal accounting work from the central accounting department to individual service units and has drastically reduced the workload of the former. This also helps to improve the transparency of the accounting data and empowers the service units' ability in managing their own financial resources.

In today's competitive market environment, the ability to leverage on vendor relationships for efficient expenditure and cash flow management becomes crucial. FMS allows the Association to maintain tight controls and precise audit trails on its expenditure cycle.

General Ledger Module	General Ledger is a core component of the FMS. It allows users to get immediate access to critical financial information for making decision and ensuring accounting controls and data integrity. Users can automate the time-consuming reconciliation and inter-company consolidation at fingertip, audit activities with fast account drill down, reduce lengthy month-end closing time and process multi-currency transactions. Flexible financial reporting tool is also available for meeting different management needs.
Accounts Payable & Receivable Module	Accounts Payable & Receivable controls the cash position of the Association. Budget control is made through centralized inter-company expense distribution as well as defining processing rules and exceptions and a wide range of payment options. It analyzes ageing of debtors and creditors. Multiple invoices payment to single vendor is available on cheque generation.
Decentralized Module	Decentralized module provides an easy-to-use interface for our staff in services units to input daily accounting transactions. It provides enquiry and reporting functions that enables service units to check and monitor their own financial status.

Table 2:The core features of our Finance Management System (FMS).

The Human Resources Management System (HRMS)

Our IT infrastructure will be accomplished upon the implementation of HRMS. The HRMS serves as an interface between the e-BackOffice and the e-Frontline (figure 1). This new system aims at streamlining the workload of the human resources department and allowing individual service units to independently maintain, manage, access, and report on human resource information. The new system will automate report generation processes and enhance the quality of human resources reports such as staff turnover report, headcounts, etc.

In addition to a centralized review of the personnel data of individual staff members, the HRMS will link with the information systems of the e-frontline layer (figure 3). Since rewards and recognition strategies are critical for the efficiency and sustainability of the CMS and the intranet, the HRMS serves to monitor the usage, participation and satisfaction levels of the end-users in these 2 e-frontline information systems. The HRMS will also link up with the e-learning platform for establishing a quarterly list of in-service training courses attended by individual staff members.

Conclusion

The application of IT in the non-government organization (NGO) sector has been way behind our commercial counterparts, partly due to intrinsic nature of the human service operation and in many occasions, resource constraints. Advancement in technology in the recent decade has made possible for NGOs to move toward digitally assisted management both technically and financially. The holistic perspective and the 2-layered IT infrastructure has established a framework which may help NGOs in planning their move in this direction.
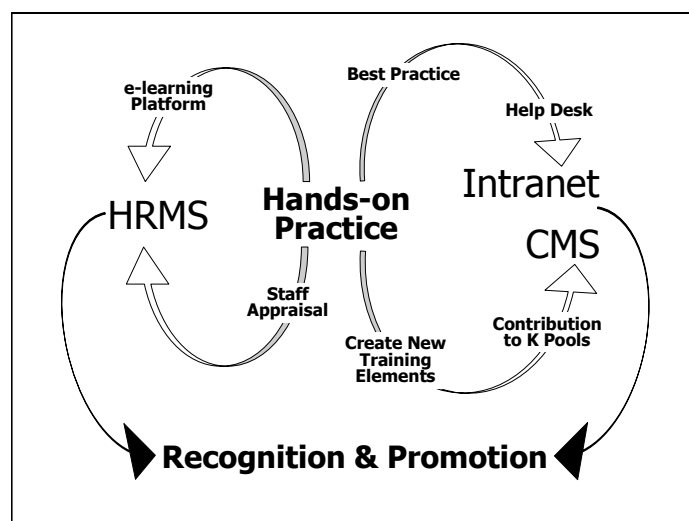

Figure 3: The Human Resources Management System of the e-BackOffice serves as an interface with the information systems in the e-Frontline layer of our IT infrastructure.