

***Special Issue
Teaching Cases***

- 4. 100 Million Doses in 100 Days: Analyzing the COVID-19 Vaccination Supply Chain**
Joseph M. Woodside, Stetson University

- 12. Here We Grow Again! An Expansion for Mark's Doggy Day Care: A Database Design and Development Case**
Dana Schwieger, Southeast Missouri State University

- 19. An IT Start-Up meets a Conglomerate – the Integration Challenge**
Biswadip Ghosh, Metropolitan State University of Denver

- 27. Interacting with Bloomberg Terminal from an Information Technology Perspective (Student Assignment)**
Mark Frydenberg, Bentley University
Jahangir Sultan, Bentley University
William VanderClock, Bentley University

- 36. An Experiential Learning Project using Sentiment Analysis of Twitter Posts**
Joel Asay, Xavier University
Elaine Crable, Xavier University
Mark Sena, Xavier University

- 44. Bracketology: Predicting Winners from Music March Madness**
Kevin Mentzer, Nichols College
Zachary Galante, University of California, Berkeley
Mark Frydenberg, Bentley University

The **Information Systems Education Journal** (ISEDJ) is a double-blind peer-reviewed academic journal published by **ISCAP** (Information Systems and Computing Academic Professionals). Publishing frequency is six times per year. The first year of publication was 2003.

ISEDJ is published online (<https://isedj.org>). Our sister publication, the Proceedings of EDSIGCON (<https://proc.iscap.info>) features all papers, panels, workshops, and presentations from the conference.

The journal acceptance review process involves a minimum of three double-blind peer reviews, where both the reviewer is not aware of the identities of the authors and the authors are not aware of the identities of the reviewers. The initial reviews happen before the EDSIGCON conference. At that point papers are divided into award papers (top 15%), other journal papers (top 25%), unsettled papers, and non-journal papers. The unsettled papers are subjected to a second round of blind peer review to establish whether they will be accepted to the journal or not. Those papers that are deemed of sufficient quality are accepted for publication in the ISEDJ journal. Currently the target acceptance rate for the journal is under 40%.

Information Systems Education Journal is pleased to be listed in the Cabell's Directory of Publishing Opportunities in Educational Technology and Library Science, in both the electronic and printed editions. Questions should be addressed to the editor at editor@isedj.org or the publisher at publisher@isedj.org. Special thanks to members of ISCAP/EDSIG who perform the editorial and review processes for ISEDJ.

2022 ISCAP Board of Directors

Eric Breimer Siena College President	Jeff Cummings Univ of NC Wilmington Vice President	Jeffry Babb West Texas A&M Past President/ Curriculum Chair
Jennifer Breese Penn State University Director	Amy Connolly James Madison University Director	Niki Kunene Eastern CT St Univ Director/Treasurer
RJ Podeschi Millikin University Director	Michael Smith Georgia Institute of Technology Director/Secretary	Tom Janicki Univ of NC Wilmington Director / Meeting Facilitator
Anthony Serapiglia St. Vincent College Director/2022 Conf Chair	Xihui "Paul" Zhang University of North Alabama Director/JISE Editor	

Copyright © 2022 by Information Systems and Computing Academic Professionals (ISCAP). Permission to make digital or hard copies of all or part of this journal for personal or classroom use is granted without fee provided that the copies are not made or distributed for profit or commercial use. All copies must bear this notice and full citation. Permission from the Editor is required to post to servers, redistribute to lists, or utilize in a for-profit or commercial use. Permission requests should be sent to Paul Witman, Editor, editor@isedj.org.

INFORMATION SYSTEMS EDUCATION JOURNAL

Editors

Paul Witman
Editor
California Lutheran
University

Thomas Janicki
Publisher
U of North Carolina
Wilmington

Donald Colton
Emeritus Editor Brigham
Young University
Hawaii

Dana Schwieger
Associate Editor
Southeast Missouri
State University

Ira Goldman
Teaching Cases
Co-Editor
Siena College

Michelle Louch
Teaching Cases
Co-Editor
Carlow College

Brandon Brown
Cyber Education
Co-Editor
Coastline College

Anthony Serapiglia
Cyber Education
Co-Editor
St. Vincent College

Teaching Case:

An IT Start-Up meets a Conglomerate – the Integration Challenge

Biswadip Ghosh
bghosh@msudenver.edu
Computer Information Systems and Business Analytics
Metropolitan State University of Denver
Denver, Colorado 80217, USA.

Abstract

This case is a narrative of the acquisition of HIRA, a healthcare IT startup, by Conversant, a large global consulting powerhouse from a few years back. The clash of two different company cultures, their conflicting business strategies, different IT infrastructures, and very different customer sets created significant challenges in their integration after the acquisition. The case requires the reader to analyze the initial backlash from multiple stakeholders and then to formulate an integration project and systems architecture to successfully support the aligned business goals. The strategic vision of the merger provides an articulation of the ideal state of resource usage (human and technology) and a context for decision-making to select joint strategic initiatives to implement in order to achieve the desired integration successfully. When HIRA was acquired by Conversant, a global conglomerate with significant offshore personnel, a service area of HIRA needed to be automated to improve their business profitability. This was more easily conceptualized and realized when HIRA leaders applied metrics to their information technology service management processes. This complex integration project could only succeed through the active participation and leadership of both companies and by carefully addressing their conflicting strategies, policies, cultures, technology and human resources.

Keywords: IT Strategy, IT Management, Merger and Acquisition, Software as a Service, Integration, Change Management.

1. INTRODUCTION

Conversant Technologies, a global and diversified consulting giant, with over 270,000 employees, just announced their acquisition of a small start-up, HIRA, for \$5 billion US dollars. HIRA is a healthcare information technology SaaS (software as a service) company with only 60 employees that was founded during the 1990s in Boulder, Colorado. While the market capitalization of Conversant is upwards of \$40 billion, HIRA was valued at \$700 million before the acquisition. The market analysts were abuzz with a lot of speculation as to how these two companies with different cultures, IT systems and clientele will integrate with each other. On this cool Spring evening in 2017 in northern California, Dave Gerber, the Chief Executive

Officer (CEO) of Conversant was enjoying his drive home after a busy day at work. Although his eyes were on the road, his mind was still pondering the changes that were going to take place in the company in the next 12 months. *“How will the merger work and how will our two cultures mesh? What does Conversant as a company need to do in order to take advantage of the new emerging opportunities in eHealth? Who do we need to retain from HIRA to ensure that a successful merger happens? What changes will this trigger in Conversant?”*

The merger between Conversant and HIRA was going to cost a lot of money, time, and reorganization – for people, process, IT systems, and structural change, and would involve adopting new philosophies. There were also

significant barriers to retaining the existing HIRA customers, who were highly averse to any changes. Also, if those barriers could not be overcome, the competitive landscape in which Conversant operated might shift in unfavorable ways. As an IT professional and the CEO of Conversant, Gerber viewed the merger as one with a lot of potential and opportunity. However, his years of management consulting experience had shown Gerber that integration of different cultures, IT systems, and inherent business processes could be challenging (Weber, Tarba and Bachar, 2011).

On the other side, HIRA employees were quite surprised when the founder of the company announced in the fourth quarter of 2016, that HIRA had been purchased by Conversant Technology Solutions! Conversant was a global conglomerate in the information technology space that was primarily known for systems integration. When Conversant merged companies into their conglomerate, those companies became a billable project to Conversant resources. Projects typically have a start and end date, unlike a long-term application hosting relationship. Initially many HIRA employees felt worried by the news of the acquisition, but operations continued as they always had, except for all the Conversant personnel available to work on HIRA hosting processes.

2. HIRA BACKGROUND

HIRA has a service catalogue filled with proprietary software products that decrease the administrative overhead costs of healthcare organizations by expediting the revenue management cycle (Figure 1). These applications can be licensed to the customer; however, the bulk of HIRA's business was from their hosted clients. HIRA generates revenue through three channels: consulting services, application management services, and business process outsourcing. HIRA's Consulting services is very traditional. Teams in this service area fulfill the implementation services for the software, provide training on the software and administer certifications based on the proficiency of users. HIRA's Health IT application management (hosting) and Healthcare business process outsourcing offers are what allowed its valuation to grow exponentially over the past two decades.

HIRA had become an industry leader in delivering innovative services that drive improved efficiency, connectivity, and industry collaboration to help their clients across all areas of healthcare billing and payment collections.

Their systems touch over one-hundred eighty million consumers every single day. On an annual basis HIRA processes approximately two billion transactions on the Healthcare payer and provider sides. On the payer side, HIRA has more than 360 organizations as clients. At the close of the third quarter (2016) prior to the acquisition, during an all-hands meeting, HIRA founder and CEO, Mike Margolis had stated with a lot of enthusiasm: "*HIRA is uniquely positioned to solve the cost and quality of care dilemma in the healthcare industry with its complete range of software and services offered in the catalogue. I'm so passionate about working at HIRA because we can make a difference. And we are making a difference.*"

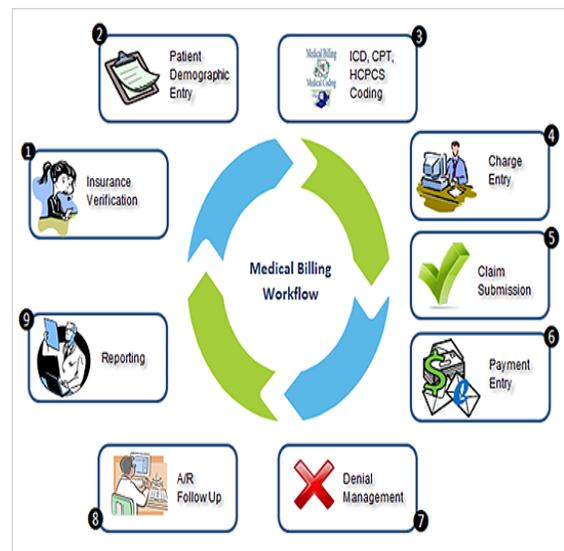


Figure 1 – HIRA's Healthcare billing hosted application workflow (FGT, 2015)

Different Business Models

Conversant was a traditional IT consulting services company, that served clients through general technical consulting, and not just around "*hosting their own applications products*". Conversant also offered business process outsourcing (BPO) services that assisted clients with the people-aspect of sociotechnical information system projects along with technical solution design and implementation. However, HIRA was highly specialized in supporting only technology involved for enablement of their healthcare billing application product. HIRA's Application Management Services (AMS), also known as hosting, had broad and dynamic capabilities for their hosted clients. Hosting was the foundation of HIRA's SaaS model. Hosting resources had the deep technical skillsets to support the client environment portfolios, which

include databases, network infrastructure, operating systems, monitoring, storage, security, middleware, systems administration, and the applications. HIRA's BPO services focused on providing front end services, claims processing and adjudication, and customer service on a seasonal or ongoing contract during annual enrollment periods or throughout the entire year for a payer organization (Figure 1).

3. INTEGRATION CHALLENGES

Consulting services and business process outsourcing were a core competency of Conversant. Conversant teams had no challenges assimilating these service areas from HIRA; but hosting was more of a challenge. Conversant management noticed that while hosting was satisfying the service level agreements to their customers, the HIRA teams with the deepest technical knowledge were the least mature of all the service areas in their incident management practices. Hansen, Nohria and Tierney (1999) identify two enabling strategies for organizational knowledge sharing - a personalization strategy for sharing tacit knowledge with emphasis on building relationships versus a codification strategy for sharing explicit knowledge with emphasis on IT systems and infrastructure. HIRA's practice relied on weighty customer interactions and collaborative relationship building among their staff to mask their ineffective incident management IT infrastructure (Feeney, 1998).

In a meeting in January 2017 with the senior management of hosting at HIRA, Conversant leadership expressed its concern about hosting's lack of systems maturity. John Richardson, Vice President of HIRA Technical Support, explained that *"The processes of hosting are done using tacit knowledge gained through experience. This culture was developed by our founder, Mike Margolis, who believed the quality of talent in our people is a greater asset than documentation."* The lack of a methodological approach to managing HIRA's SaaS hosting processes became evident to Conversant leadership.

Orders of Change Management

The successful integration of HIRA and Conversant demanded significant change-new systems and work processes to support the codification of HIRA's SaaS application hosting knowledge and the relationship knowledge of their consulting clients and new processes for HIRA hosting staff (Comuzzi and Parhizkar 2017). Don Turtle, a Vice President at Conversant who was assigned to the HIRA project after its

acquisition, clearly stated the vision of *"Hosting processes must be automated as thoroughly as feasible. The technical support teams in application management services need to document their procedures for new resources to reference. There are too many HIRA employees billing (hours) to the service area and this is hurting the profitability of hosting. At the initiation of the fourth quarter of 2017, we will commence staff reductions on the HIRA project until we reach an 80:20 ratio between Conversant and HIRA resources on Hosting. This is a second order change that I expect to be fully implemented by the end of the year"*.

Turtle was referring to the orders of change framework (O'Hara, Watson and Kavan, 1999). A first order change does not inherently require users to change the way they do their work, but does require them to change how they interface with their work. However, a second order change incorporates a more disruptive effect, where additional tasks and skills are demanded of the staff. This sort of change requires users to not only change the "how" of their work behavior but also the more immediate "why" (O'Hara, Watson and Kavan, 1999).

Stakeholder Conflicts

The disparities in each other's business models resulted in early mistrust during the integration. Each party in the merger decided to engage separate consulting teams to assist with the evaluation of the changes that they foresaw will impact data and systems, business strategy, tactical processes, and people and customers in the merged universe.

One of the biggest challenges for the integration teams was to manage the competing priorities for the business teams on the Conversant side. These teams' leads had their regular day-to-day job that had its own demands. The integration project was an added responsibility for them that they had to fulfill in the margins. There were weeks when the teams were not available because they had to support other customer-facing projects and travel to other locations. As a result, the integration team was behind in key activities and constantly had to work overtime/weekends to make ends meet. To counter this lack of participation, some Conversant business teams brought in additional contractors/consultants to work on just integration activities on behalf of their business teams. Working in such a multi-vendor project became a tremendous challenge for the integration teams as there were delays due to onboarding, hierarchy, complex reporting structures in the multi-vendor model. Each

consulting group wanted to get extended in their "own" client setting and not deal with competition from other consultants. There were times when consultants from two or three companies were sitting in the same conference room working on project timelines, and often had access to budgets and worked on future resource needs, creating conflicts of interests.

Geography and time zone difference posed additional challenges and there was only one 3-hour period (5am-8am) during the day that worked for integration staff in Europe to work with teams in Colorado and California. There was a lack of accountability with Conversant functional leads. They were still being evaluated based on how they performed in their regular day-to-day roles, and now had to work on the assigned integration tasks in the margins. Overall, integration work was low on their priority and far more complicated with all the different groups, consultants, and integration teams from the Program Management Office (PMO), change management, etc. There was a low level of interest by the Conversant business leads to get involved more actively as their focus was more on completing their regular jobs.

4. IT STRATEGY CHALLENGES

When the dust settled and the multiple consultants, HIRA, and Conversant teams were able to focus on the integration project, they realized that they would have to address the following areas: overall strategy, people integration, data, technology, and process integration, while meeting their financial and external customer timelines. The strategy team was charged to build plans and share not only upwards but also to the impacted teams and people at the same time: (a) Identify what business functions were impacted, and (b) Identify personnel impact as not all people from HIRA would be retained post-merger.

HIRA's clients (Healthcare companies) were Late Majority/Laggards in IT adoption and so HIRA followed a "penetration" strategy (Ansoff, 1957). Late Majority/Laggard healthcare organizations deferred technology adoptions until they absolutely "had to" and "were pushed to do so" to stay competitive. This sharply contrasted with a "Early Majority" adoption strategy and a diversified focus used by Conversant with its clients (Utterback, 1996). Conversant's typical clients were "technology visionaries" and implemented emerging technology to differentiate themselves in their marketplace. Healthcare organizations needed HIRA's payment

management solution, but change management was difficult and required a lot of hand-holding by HIRA's personnel, which was unfamiliar to Conversant's business case driven consulting staff.

The HIRA and Conversant teams also needed to understand how their own internal IT systems would integrate. There were architectural inconsistencies in terms of how business processes and users in the two companies were utilizing existing systems. One example was how their client/case data was used and stored in the two companies. HIRA's customers demanded strict data validation that came under high scrutiny and went through rigorous processes; more so than Conversant's other clients. HIRA's key information systems such as Incident Management, Contract Management and Software Release Management were all built with an interactive strategy supporting frequent interactions among their 60 person staff with the real-time sharing of tacit knowledge (Zack, 1999). On the other hand, integrative information systems played a larger role in supporting Conversant's diverse consulting businesses. These integrative information systems supported the seamless workflow of explicit knowledge without the express need for real-time interactions among their globally dispersed personnel (Zack, 1999). Such contrasting strategies now demanded a unified architectural definition to provide guidance to plan, design, configure, and construct merged organizational systems (Sowa and Zachman, 1992). Don Turtle realized that architectural elements would be the primary means to help align information systems with strategy, and support business activities/processes amid the execution constraints of the merged companies (Sowa and Zachman, 1992). Turtle, remarked, "standardized approaches and proven architectural models, could also help us overcome resistance to change among the stakeholders of each of the two companies".

The Integration project formed a strategy team, which was responsible for evaluating the following items. They leveraged the Open Group Architectural Framework or TOGAF (Open Group, 2018), which defines the architectural process in four dimensions – business, data, applications, and technology.

1. An overall change management and program office that would focus on
 - a. Budget
 - b. Timelines
 - c. Resourcing

2. Scope of Data Integration/Management
 - a. Identifying data with high impact and integration
 - b. Data validation
 - c. Data security management
3. Scope of Systems Integration
 - a. Policy and procedure for application retention
 - b. Decide what applications should be retired and when to retire
4. Scope of Information Technology
 - a. Create a shared infrastructure to support identified business use cases, operational processes, and data models
 - b. Create a governance structure to communicate the big picture, and strategy.

5. HIRA APP HOSTING MANAGEMENT CHALLENGES

There was also an urgent need to identify key processes that were impacted in either company. The intent was to figure out between the two companies how similar and/or different their business processes were and what service benefits, external customers of HIRA, needed. Conversant leadership was pushing HIRA to automate their application hosting processes (AMS). John Richardson understood that he must assess the most critical functions in HIRA using concrete metrics and a measurement framework before he met with Conversant leadership at the end of the second quarter (Kefi, 2007; Vitharana and Mone, 2008; Pitt, Watson and Kavan, 1995; Parasuraman, Zeithaml and Berry, 1985). Many questions surrounding policy and procedure for application retention and retirements, and data archival guidelines also needed to be addressed. What systems would be used for internal integration and joint execution? The planned impact on HIRA staff was critical because not all people from the HIRA team would be retained post-merger.

Richardson was aware that the managers had been collecting operational metrics for their respective functions in isolated instances using a ticketing system (Vitharana and Mone, 2008). He planned to use these metrics to develop key performance indicators (KPI) that would illustrate the level of HIRA's AMS operational excellence to Conversant leadership (Quinn and Barly, 1994). A collection of metrics can also provide a better validated measurement of the business operational area. However, metrics can be problematic if they induce operational staff/managers to behave in ways that only lead

to "better" metrics (Witman, 2018). It is therefore necessary to collect metrics closely aligned with the business objectives of the integration. The key was to extract knowledge from people before they were asked to leave the company in a few months and the challenge was to keep employees motivated and help them deal with change in their day-to-day job situation.

Incident Management

Erick Zucker is the manager of the incident response team at HIRA. Incident management is the process responsible for managing the lifecycle of all incidents. Incident management in the ITIL 4 framework ensures that normal service operation is restored as quickly as possible and the business impact is minimized (Axelos, 2011; Potgieter, Botha, and Lew, 2007). Due to the strong "talented people owning their work" corporate culture at HIRA, the incident management function involved placing a conference call contacting the HIRA subject matter expert and remediating the interruption by any means necessary each time an interruption to service was reported. There were no "service process workflows" in this adhoc approach and the small company culture prevailed, albeit without any formal analysis or broader quality management framework.

Problem Management

Rob Flight oversaw the problem management function, which is the process responsible for managing the lifecycle of all problems. Problem management proactively prevents incidents from happening and minimizes the impact of incidents that cannot be prevented. (Axelos, 2011; Potgieter, Botha, and Lew, 2007). The problem management function is typically engaged immediately following restoration if the incident cannot be prevented, so that the staff responsible for service restoration can be leveraged for a permanent resolution.

Change Management

The change management process is directed by Tamar Robinson. This process was responsible for controlling the lifecycle of all changes, enabling beneficial changes to be made with minimum disruption to IT services. (Axelos, 2011; Potgieter, Botha, and Lew, 2007).

Release Management

Release management is the process responsible for planning, scheduling, and controlling the build, test and deployment of application releases, and for delivering new functionality required by the business while protecting the integrity of existing services (Axelos, 2011;

Potgieter, Botha, and Lew, 2007). Of all the teams in Hosting, Release Management experienced the least amount of difficulty capturing operating metrics as Ricardo Dominguez modeled his measurements after Tamar because releases had to be approved by Change Management (Kife, 2007; Vitharana and Mone, 2008).

Configuration Management

The configuration management process was responsible for ensuring that the assets required to deliver services are properly controlled, and that accurate and reliable information about those assets is available when and where it is needed. This information includes details of how the assets have been configured and the relationships between assets. (Axelos, 2011; Potgieter, Botha, and Lew, 2007).

6. IT PROJECT ORGANIZATION

The integration team spent time to build an overall "people strategy" and identify the key personnel for each functional area from both sides of the merger. Once the strategy team was able to spend time with key stakeholders from both companies, they drafted a game plan and an execution team with three sub-teams. Execution team 1 was the central team that acted as the PMO, Change Management, and provided overall funding, project timeline governance. They also worked with Conversant IT governance to define data validation, archival retention and decommission policies and procedures. Execution team 2 focused on data integration and technology from defined business functions and associated IT systems. This team took all the systems and identified if any data needs to be migrated, where and how. Finally, execution team 3 was created to manage people.

The first task for execution team 1 was to create an organization structure and a reporting governance structure. This allowed them to figure out how the integration program office would need to be organized, how the reporting/dashboard and timelines management would take place. In addition, they wanted to manage the budget centrally.

Execution team 2 created the application inventory and a people inventory. They identified all the IT systems, files that were used by HIRA and mapped them to corresponding Conversant systems. They distributed these documents to other execution teams so they could start to manage data integration for their areas, respectively. They later distributed the inventory

documents to business leads on the Conversant side and asked them to identify which people they wanted to work with for data integration.

Execution team 3 worked with individual teams and HIRA business functions to identify which people will come over to the Conversant side. They also asked for the list of people that Conversant wanted to retain from HIRA to further assist with day-to-day functions and which people Conversant wanted to let go.

7. PROJECT CHALLENGES

The integration project experienced new complications when they learned about the Conversant hardware retention policy. As per the IT quality organization, the project teams were asked to hold onto all hardware for 6 months after all data was archived. This was significant because it meant that the individual business/work streams and projects couldn't be closed and the personnel had to be extended, which in turn meant extending budget approvals. These project delays and budgets were unexpected and had to be communicated to the CIO level, who wanted to complete the integration in 12 months. In addition, there was also a risk of losing deeply engaged integration consulting teams and other contractors prior to hardware decommissioning.

The program suffered a major setback when the IT technology lead, Ed Wesse from HIRA, who had a thorough knowledge of all IT applications, unexpectedly left the company. Ed was involved in installing and configuring all HIRA applications and was one of the staff members, who was not asked to be retained. He was not happy and started looking for other positions while supporting integration efforts. While the execution teams identified this risk early and did their best to gather all systems knowledge, Ed was hard to replace as he was someone who knew a good deal about how all systems worked as well as the data organization and management.

Management Support

Given the delays and complications, the project sponsors and the management did all they could to create transparency and keep the team morale high. They scheduled regular town hall meetings, monthly celebrations to give credit for small wins/completions. They held ice cream socials, breakfast check-ins and gave out program merchandise to celebrate people and project wins. They were flexible with timelines and budgets when complications arose. Despite the constant motivation and support, there were a lot

of unanswered questions about people and systems integrations that posed barriers to integration efforts completing in a timely manner. Dave Gerber was worried: "How could the integration teams continue to work without much support from Conversant business teams and without technical knowledge from the HIRA IT team, which had lost its technical leader"?

8. CONCLUSIONS

After four months of collecting operating metrics in the first quarter of 2017 from his functional teams, John Richardson spent the next month analyzing the data for trends and business opportunities for improvement (Vitharana and Mone, 2008). Throughout his analysis John found that some valuable data that could be collected was not recorded by the functional managers. Had this data been collected, it may support an interdependence between the hosting functions; presenting an opportunity for an automated system to optimize staff resources as opposed to exclusively reducing them. With this data, John believed he could present Conversant leadership a justification to maintain more of the original HIRA hosting personnel. John shared the other metrics he identified for each of his managers to capture going forward. Excited about his discovery he also requested his meeting with Conversant be postponed. His request was approved contingent upon him developing critical success factors to complement and validate the key metrics that he had collected directly from frontline HIRA staff (Witman, 2018).

9. QUESTIONS

1. Create a SWOT to analyze the Conversant and HIRA merger from each company's perspective. Evaluate this merger decision by considering both the external risks and opportunities and the internal conflicts in strategy, systems, and business processes.
2. List the objectives of the integration project and critique the project's organizational structure. How did the integration project address the internal conflicts between HIRA and Conversant?
3. Describe possible metrics and KPI's that John Richardson could use to improve the efficiency of HIRA's Application hosting processes listed in Section 5.0. How could the reliability of the metrics data be improved?

4. Discuss the strategic and operational elements of the merged company's information systems architecture. What are key business and technical components?

10. REFERENCES

- Ansoff, I. (1957), Strategies for Diversification, *Harvard Business Review*, Sept-Oct.
- Axelos (2011), Everything you wanted to know about ITIL in one thousand words! Retrieved April 20, 2021 from <https://www.axelos.com/case-studies-and-white-papers/everything-you-wanted-know-about-til-1000-words>.
- Comuzzi, M. and Parhizkar, M. (2017). A Methodology for Enterprise Systems post-implementation change management. *Industrial Management & Data Systems*, 117(10), 2241-2262.
- Feeney, D.F. (1998). Core IS Capabilities for Exploiting Information Technology, *MIT Sloan Management Review*, Spring 39(3), pp. 9-21.
- FGT (2015). Flow Chart of Medical Billing, Retrieved April 15, 2021 from <https://medicalbillingandcoding.mystrikingly.com/blog/flow-chart-of-medical-billing>
- Hansen, T., Nohria, N. and Tierney, T. (1999), What is your strategy for Managing Knowledge? *Harvard Business Review*, March-April 1999, page 106-116.
- O'Hara, M.T., Watson, R.T., & Kavan, C.B. (1999). Managing the three levels of change. *Information Systems Management Journal*, 16(3), 63-70.
- Kefi, H. (2007). Using a Systems thinking Perspective to construct and Apply an Evaluation Approach of technology-based Information Systems, *Information Resources Management Journal*, 20(2), pp 108-121.
- Quinn, J.B., Barly, M.N. (1994). Information Technology: Increasing Productivity in Services, *Academy of Management Executive*, 8(3), 28-46.
- Parasuraman A, Zeithaml VA, Berry L (1985). A conceptual model of Service Quality and its implications for future research. *Journal of Marketing*, Vol 49 (Fall 1985), pp 41 -50.
- Pitt, L.F., Watson, R.T., Kavan, C.B. (1995). Service Quality: A measure of information systems effectiveness. *MIS Quarterly*, June 1995, pp 173-186.

- Potgieter, B.C., Botha, J.H., Lew, C. (2005). Evidence that use of the ITIL framework is effective. In 18th Annual conference of the national advisory committee on computing qualifications, Tauranga, NZ.
- Sowa, J.F., and Zachman, J.A. (1992). Extending and Formalizing the Framework for Information Systems Architecture, *IBM Systems Journal*, 31(3), pp. 590-616.
- Utterback, J.M. (1996). Mastering the Dynamics of Innovation, Harvard Business Review Press, Cambridge, MA.
- Vitharana, P. and Mone, M.A. (2008). Software Quality Management: Development and Validation of an Instrument, *Information Resources Management Journal*, 21(2), pp 18-37.
- Weber, Y., Tarba, S., & Bachar, Z.R. (2011). Mergers and acquisitions performance paradox: the mediating role of integration approach. *European Journal of International Management*, 5, 373
- Witman, P.D. (2018). What Gets Measured, Gets Managed The Wells Fargo Account Opening Scandal. *Journal of Information Systems Education*, 29(3), 131-138.
- Zack, M. (1999). Managing Codified Knowledge, *MIT Sloan Management Review*, Summer 40(5), page, pp. 45-58.

Editor's Note:

This paper was selected for inclusion in the journal as an EDSIGCON 2021 Distinguished Paper. The acceptance rate is typically 7% for this category of paper based on blind reviews from six or more peers including three or more former best papers authors who did not submit a paper in 2021.