SAP AND CLOUD COMPUTING IN 2012 AND BEYOND

The vice president of electricity was a senior position that existed at many major corporations at the dawn of the industrial revolution. Back then, to secure industrial quantities of electricity, the only way was to generate it on-premise. Then came the electricity provided by off-premises companies through a utility grid. A hundred years later, at the dawn of the information age, the exec in charge of high technology in a modern business was the vice president of IT.
—watch-the-wave.com[1]

INTRODUCTION: TURBULENCE AHEAD

In 2012, after several failed attempts at establishing a cloud computing solution for its entire Enterprise Resource Planning (ERP) suite, SAP announced two major acquisitions: Success Factors, a major SaaS provider for human resources software and Ariba, a major SaaS provider of supply chain software. The first acquisition was for $3.4 billion, with a 52 percent premium over Success Factors' market value. The second was for $4.3 billion, with a 20 percent premium. The industry press and bloggers saluted this as a strategic shift in SAP's approach.

Already in 2004, the technology industry had started to pay attention to the first success of a new model of enterprise software deployment: software-as-a-service (**SaaS**). In June 2004, Salesforce.com, a pioneer in SaaS, went public on the New York Stock Exchange, raising $110 million. SAP's top management, however, did not take it overly seriously. At that time, SAP's management still believed that the market for enterprise software would remain on-premise. In an April 2006 interview, in which he was asked about the challenge posed to SAP by SaaS

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[1] "The VP of Electricity Did Not Disappear Because Electricity Disappeared," Watch the Wave, http://www.watch-the-wave.com/run/The-VP-of-electricity-did-not-disappear-because-electricity-disappeared (December 2012).

Jean-Bernard Rolland and Professor Burgelman prepared this case as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

suppliers like Salesforce.com, SAP CEO Henning Kagermann stressed his view that SaaS had limited applicability and value:

> We have not changed our strategy. You can do this on-demand for certain areas and certain functions, but not for everything. Everybody starts with sales force automation because it makes sense since it's not very structured. It's simple and more office-like. But the more you come from this type [of system] to the core of **CRM** (Customer Relationship Management), the more difficult it will become to do it on-demand. People don't want to share the data with others. I have spoken to many clients and they want to own the software. They are happy with this model.[2]

Nevertheless, during 2008-2010 the technology industry had seen some dramatic strategic realignment. Companies relying on certain kinds of competencies and focusing on certain product areas that gave a false sense of security had been hit hard. Research In Motion (**RIM**), for instance, had gone from a cultural icon of the mobility market to an embattled company fighting for its very survival within just two years. Each new release of Apple or Samsung mobile phone products meant millions of customers throwing away their Blackberry device.

Fortunately, SAP's situation was different because companies did not replace their ERP every year. ERP products were "platforms": huge pieces of software that took many years and hundreds of millions of dollars to set in place and were used to do many different things in a consistent manner. Customers did not often throw away their platform. Even customers defecting to key cloud competitors like Salesforce or Workday were doing it only for very special features and only under condition that what they got would tightly integrate to their core ERP. For instance, according to Workday's own positioning to customers:

> For organizations that buy and consume software, it's far more important that SaaS and on-premises software live in harmony, because it's so vital that applications easily exchange the data underlying important business processes. And increasingly, IT infrastructures that include a combination of SaaS and on-premises software are the norm.[3]

Nevertheless, early signals of turbulence ahead began to appear at SAP in the years 2008 to 2010, when some marginal accounts began to defect to competitors like Workday or SuccessFactors. In 2011, defections accelerated and spread to larger accounts, even to some all-time loyal customers. By late 2011 it became clear that SAP's competencies were more and more diverging from the basis of competition. This shift was first perceived by account executives (AEs), the middle managers inside the sales organization who were responsible for the relationship with the customers. AEs felt the pressure because they spent all their time with the customers where stormy discussions would take place and uneasy questions would surface, unaffected by company beliefs, dogmas, and rhetoric.

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[2] Dawn Kawamoto, Dan Farber, "SAP: On-demand has its limitations," *CNET News*, September 2012, http://news.cnet.com/The-brains-behind-SAP/2008-1012_3-6061746.html (December 2012).

[3] Mary Hayes Weier*, "*Getting SaaS and Onsite Software to Coexist," *Workday Blogs*, http://blogs.workday.com/Blog/getting_saas_and_onsite_software_to_coexist.html (December 2012).

Interestingly, by 2012 SAP's internally developed version of SaaS—called SAP Business ByDesign—had been around for about five years but had not yet turned the corner. Reasons for the failures of the company's early SaaS strategies included adding too many features too soon, not really understanding how customers would use the technology together with their platform, and a cultural bias of SAP's salesforce to sell on-premise software only. SAP's most powerful competitor, Oracle, had not executed well on the SaaS front either. In 2012 Oracle acknowledged a double failure—it was neither able to develop a successful SaaS offering nor a competitive talent functionality. Instead, to expand in cloud computing, Oracle acquired Taleo for $1.9 billion.[4] Both Oracle and SAP had begun to realize that disruption from the inside was not going to happen.

In 2012, SAP made the decision that the strategic change it needed could only come from the outside. In May 2012, Lars Dalgaard, CEO of the recently acquired SuccessFactors start-up, was appointed head of SAP's Cloud Business, in charge of the entire SAP SaaS strategy.

SAP AND THE ENTERPRISE RESOURCE PLANNING MARKET

Enterprise Resource Planning: The Backbone of the Corporation

As shown in **Exhibit 1**, the ERP software referred to software packages developed specifically for planning and managing key business processes, usually in a way specific to each company. Much of the success of ERP had been in financial supply chain optimization, inventory control, logistics, and more recently in integration with other business solutions such as Customer Relationship Management (CRM). Often described as a necessary evil, ERP made up the technical core of nearly all businesses. Enterprise-wide computing systems had been in place decades before ERP came of age, but tended to be the domain of specialty areas of the business: servomechanisms to manage large-scale switching and traffic for telecoms, simulations for R&D, transactions for large collections of well-defined information sets, such as billing. Business had been running these applications on mainframe applications in the previous decades, scattered about business processes that were transactional and easy to automate.

In the 1990s, a major disruptive change came into play as business process reorganization (BPR) became a preoccupation for many large organizations threatened by decreasing productivity and increasing global competition. BPR was highly data intensive, and usually involved applying company data sets to mathematical and statistical models in order to shape newer, more efficient processes from the bottom up. ERP became the fundamental tool for BPR, both for collecting data and consolidating processes across functions, and creating efficiency gains enterprise-wide. ERP thereby provided a single platform to plan strategy and execute, perform business operations, and eliminate inefficiencies. One cannot overestimate the effect widespread ERP deployment exerted on management practices. Much criticism occurred regarding some of the business activities facilitated by ERP: downsizing, de-layering, elimination of job categories, offshoring and outsourcing, creating vast amounts of information of doubtful use or emergence of information gatekeepers, to mention a few. Yet it also facilitated access to global supply

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[4] Aaron Ricadela, "Oracle Buys Taleo for $1.9 Billion," *Bloomberg*, February 9, 2012, http://www.bloomberg.com/news/2012-02-09/oracle-will-purchase-taleo-for-46-a-share-in-deal-valued-at-1-9-billion.html (March 14, 2013).

chains and sourcing, as well as automating manual processes to make them more reliable. Direct financial benefits of ERP would typically emerge and be detectable two or more years after an implementation.[5] ERP did facilitate key organizational capabilities such as agility,[6] and performance management.[7] ERP had historically been deployed on large mainframes housed by the firm, called "on-premise."

Exhibit 2 shows a detailed value analysis of an integrated ERP solution in the context of human resources. The value of integration may seem intuitive, yet even in 2012 many organizations pursued a piecewise implementation, still using ERP modules from multiple vendors. In some cases, funding constraints prevented many fully integrated implementations, yet even after almost two decades of experience using ERP, many large, experienced enterprises struggled to determine a comprehensive plan for their enterprise ERP. There were compelling business reasons for integrated ERP software. Organizationally, many senior managers recognized the need for greater collaboration in organizations in order to innovate, and saw silos as a significant impediment to agility, execution, and innovation. An integrated suite would help break down silos between functions and regions. The whole idea of an ERP was to eliminate unnecessary or redundant work. On the other hand, a rigid suite of integrated modules from the same vendor might not meet business needs in the long run, as a suite might be unacceptably weak in some parts. They might not be most suitable in cases of great changes. Large-scale implementations could also be highly disruptive. Last but not least, business users might value greater control and flexibility over lower simple maintenance and cost effectiveness.

Behind the multiple processes and complex functionality of an ERP was the business user, or the employee with a specific task, such as processing an invoice, preparing a planning event, updating an employee profile, etc. The requirements voiced by the business users were often diverging from those of the IT department. They did not care so much for rationalized architectures or the absence of interfaces to maintain. They cared for functionality and ease of use.

SAP's Strategic Position in the ERP Market

SAP was founded in June 1972 as System Analysis and Program Development by five former IBM engineers in Mannheim, Baden-Württemberg: Dietmar Hopp, Klaus Tschira, Hans-Werner Hector, Hasso Plattner, and Claus Wellenreuther. The acronym was later changed to stand for Systeme, Anwendungen und Produkte in der Datenverarbeitung ("Systems, Applications and Products in Data Processing"). In 1995, SAP was included in the German stock index DAX. On September 22, 2003, SAP was included in the Dow Jones Index. SAP's products focused on Enterprise Resource Planning (ERP). The company's main product was SAP ERP, in its version 6.0 as part of the SAP Business Suite. Its previous name was R/3. The "R" of SAP R/3 stood for real-time and the number 3 related to the 3-tier architecture: database, application server and

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[5] Nicolaou, "Firm Performance Effects in Relation to the Implementation and Use of Enterprise Resource Planning Systems," *Journal of Information Systems*, 2004, pp. 79-105.

[6] Ramamurthy Lu, "Understanding the Link Between Information Technology Capability and Organizational Agility: An Empirical Examination," *MWAS Quarterly*, 2011, pp. 931-954.

[7] Mithas, Ramasubbu, Sambamurthy, "How Information Management Capability Influences Firm Performance," *MWAS Quarterly*, 2011, p.137.

client (SAPgui). While its original products were typically used by Fortune 500 companies, SAP actively targeted small and medium-sized enterprises (SME) with its SAP Business One and SAP Business All-in-One. In 2012, SAP had roughly 140,000 customers worldwide, including 40,000 large corporations of 5,000 employees or more, and 80 percent of the Fortune 500.

SAP Business Suite was an integrated set of six business process applications (ERP, CRM, supplier relationship management, supply chain management, product lifecycle management, and supply network collaboration) operating in a service-oriented architecture (SOA) environment, of which SAP ERP was the oldest, having evolved from over a dozen releases of R/3, beginning in 1992. The most recent version was Business Suite 7, released in early 2009, which incorporated the ERP (called ECC 6.0). SAP Business Suite was delivered on SAP's native middleware platform, NetWeaver, which provided a single user environment that integrated all SAP industry solutions. In contrast to cloud solutions, which were priced as a subscription, SAP Business Suite 7 offered modularity and a usual upgrade path. Once a customer had upgraded to the Business Suite 7 platform, they had the option to deploy only the functionality needed through enhancement packs and functional innovations, thereby eliminating the need for full upgrades.

Since R/3 was first introduced in 1992, SAP had gained a significant install base among large enterprises globally, and had been particularly successful among the more capital-intensive industries. SAP's customer base was robust and diverse, which was partially responsible for SAP's financial stability, and its ability to maintain a culture of organic growth. Its reference customers included numerous global brands. SAP was also strong in the United States and German public sectors, with customers such as NASA, United States Postal Service, and United States Department of Navy. This relationship materialized through a 22 percent maintenance fee, which represented 60 percent of SAP's revenue and contributed significantly to SAP's stellar 34 percent net margin. For this fee, customers were supported through problems and would receive regular innovation called Support Packs and Enhancement Packs. Yet, this topic of maintenance was a sensitive one. Through much of 2009, SAP wrangled with customers over a proposed increase in maintenance fees. In December 2010, SAP announced that the price hike was on hold as the company awaited results of benchmarking by SAP and user groups to determine the value of the maintenance program. This proposed increase was later cancelled and was one of the reasons for CEO Leo Apotheker's unexpected departure in 2010.

At the core of SAP's strategy were five market categories where SAP aimed to exert leadership: Applications, Business Analytics, Database & Technology, Mobile, and Cloud. In two of the market categories, SAP maintained a strong position. First and foremost, SAP was the market leader in Applications, followed by Oracle. CRM and Finance were the fastest-growing sub-markets within Applications. Likewise, SAP led in Business Analytics, with double the share of the closest competitor, Oracle. SAP claimed leadership in the Mobile market category, although other sources placed SAP behind RIM.[8]

In the remaining two market categories, SAP lagged behind the respective fields considerably. In the Database & Technology category, SAP ranked number four, behind its traditional

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[8]   Kimberling, "ERP Software Clash of the Titans: SAP vs. Oracle," July 2012, http://panorama-consulting.com/Documents/Clash-of-the-Titans-2012.pdf (December 2012).

megavendor competitors, Oracle, IBM, and Microsoft. In the Cloud market category, SAP ranked fifth, behind CRM provider and cloud innovator, Salesforce.com. Its ranking denoted SAP as a distinct newcomer to the cloud space. Yet with 71 percent of the cloud market share not captured by any one vendor, and no vendor having surpassed $1 billion in revenues in the space, there was still much room for consolidation, and the top positions might change many times before a leader emerged.[9]

SAP acquired technology, but never acquired market shares. In contrast to competitor Oracle, SAP had pursued a path of organic growth, making few acquisitions. Yet SAP had also made key acquisitions of technology, such as Sybase BusinessObjects. BusinessObjects had been one of the most strategic and successful technology expansions at SAP. However, some of the highly exuberant Silicon Valley celebrity personalities brought in through acquisitions contrasted with the more phlegmatic manner of senior SAP management. The episode of the flamboyant Shai Agassi brutally departing SAP in 2007 was still in memory.

In early 2012, while finalizing its acquisition of mobile platform Sybase, and integrating the acquisition of cloud providers SuccessFactors and later Ariba (ARBA, announced May 2012), SAP made public its short- to medium- term strategy. SAP listed three corporate performance objectives, each to be achieved by 2015: [10]

- Total global revenue: €20 billion (2011 revenue was $13.6 billion)
- Operating margin: 35 percent (19 percent as of July 2012; 2011 was 34 percent; however, the previous five years' figures tended to fall in the 20-25 percent range)
- Total user reach: 1 billion users by 2015.

Critical to achieving these objectives were the acquisitions of Sybase and SuccessFactors, which were expected to more than double SAP's addressable market, from $110 billion to $230 billion.

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[9] Morgan Stanley Blue Paper, "Cloud Computing Takes Off", March 2013,
,http://www.morganstanley.com/views/perspectives/cloud_computing.pdf (January 2013).
[10] "Find answers to the most important questions about our company," January 2012,
http://www.sap.com/corporate-en/investors/investorservices/faq/index.epx (December 2012).

ERP Software: a 50 Billion Dollar Market

Globally, the ERP market had been growing steadily if modestly in the years following the global recession, which did not spare the ERP vendors either.[11] In 2009, as the first signs of recovery were being observed, the global market stood at $41 billion, increasing to $43 billion in 2011, and estimated to be $45.5 billion in 2012, according to Forrester Research. This trend was expected to continue as more organizations became again willing to allocate some of their cash reserves toward IT renewal. By 2015, this figure was expected to increase to $50 billion. Cloud and SaaS deployments were expected to be a proportionally larger chunk, with the latter increasing at an annual rate of 21 percent through 2015.[12]

As shown in **Exhibit 3**, in 2012, the top three vendors accounted for over 50 percent of the ERP market: SAP, Oracle and Microsoft. SAP's major ERP was its Business Suite, which had evolved over many versions from the original R/3 product that had first appeared on the market in 1992. In 2012, SAP's Business Suite held 24 percent of the total ERP market. Oracle's major ERP software offering was its eBusiness Suite (EBS), which occupied 18 percent of total ERP market share. Competition between the two remained fierce. Panorama Consulting had identified five major differences between the two firms' ERPs.[13]

While SAP had built a solution primarily from the ground up, Oracle had grown primarily through acquisition of best-of-breed point solutions. For example, Oracle had acquired PeopleSoft for Human Resources, Demantra for advanced sales and operations planning, Hyperion for financial reporting, and Siebel for CRM, while SAP had built much of this functionality into its core Business Suite ERP solutions.

SAP continued to build upon and enhance its core product offering, while Oracle was moving toward Fusion, or the merger of the different best-of-breed solutions it had acquired over time. This meant that there could be more uncertainty with Oracle's product lines. This was especially true for clients running Oracle's JD Edwards and PeopleSoft solutions, who would have to upgrade to a redesigned solution. But in the past years, SAP had started to acquire companies too, a strategy that was inviting questions regarding the robustness of its integration story.

Although very powerful, SAP processes could be more difficult to change as a business evolved. This was both strength and a weakness: SAP's software was tightly integrated and helped enforce standardized business processes across an enterprise, but it could be more difficult to modify the software to adjust to evolutions of core processes and requirements. Oracle's best-of-breed approach, on the other hand, could allow for more flexibility to accommodate changing business needs. However, this strength could become a weakness when attempting to enforce standardized processes across a larger organization.

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[11] Paul D. Hamerman, China Martens, "The state of ERP in 2011: Customers have more options in spite of market consolidation," Forrester Research, 2011.

[12] "2011 Guide to ERP Systems and Vendors: An Independent Research Report," July 2012, http://panorama-consulting.com/Documents/2011-Guide-to-ERP-Systems-and-Vendors.pdf (December 2012).

[13] Kimberling, "ERP Software Clash of the Titans: SAP vs. Oracle," July 2012, http://panorama-consulting.com/Documents/Clash-of-the-Titans-2012.pdf (December 2012).

Although both solutions typically cost more and took longer to implement than most Tier II ERP software, there were distinct differences between the two. Oracle had a slight advantage in average implementation duration and an even larger advantage in average implementation cost, at 20 percent less than SAP. SAP, on the other hand, had the lowest business risk of the two, measured via the probability of a material operational disruption at the time of go-live.[14] Business benefits were perhaps SAP's greatest strengths. Although Oracle had the highest executive satisfaction level of all ERP vendors included in a 2008 ERP Study of 1,300 implementations across the globe, SAP led the pack in actual business benefits realized.[15]

In 2012, SAP continued to lead with 24 percent market share, although the figure represented a 31 percent decrease since 2010. Oracle maintained second place, with an 18 percent market share, a figure that represented a 25 percent decrease from 2010. Third place belonged to Microsoft which, like its two Tier I competitors, had seen its market share decrease to 11 percent in 2011 from its 2010 figure of 15 percent.[16]

Exhibit 4 provides a summary of companies in the United States according to the number of their employees. Although SAP, Oracle and Microsoft had offers for all companies, no matter their size (Business One was, for example, Sap's offering for companies below 500), the core of the competition was for corporations above 2,500 employees. These were corporations big enough to make a real difference with an internal IT department, at least in 2012.

CUSTOMER PERSPECTIVE: THE EVOLVING ROLE OF THE CHIEF INFORMATION OFFICER

The Changing IT Landscape in 2012

For decades, IT departments had developed solutions without regard for what would happen when these applications reached the end of their useful life. Engineers had built applications for specific business problems, patched broken functionality, periodically upgraded core systems and managed the multitude of redundant applications and large amounts of data that came with each merger and acquisitions. According to a 2012 Cap Gemini study[17] on the state of the IT architectures, chief information officers (CIOs) in large corporations estimated that 50 percent of their company applications ought to be retired. Even more interestingly, 60 percent of the respondents indicated that their company had more applications, or even far more applications than the business required. According to internal benchmarks, an average SAP customer had 10 productive instances of ERP deployed, while the best practice was one or at most two.

When asked about the key barriers to retire their company's redundant applications, 60 percent of CIOs indicated the costs of such a change, while 25 percent mentioned the company culture and behavior. A troubling 10 percent bluntly stated they had inconsistent or unreliable understanding of their IT landscape and could therefore not touch it. Rationalization failures were frequent, because of the sheer size of the task, cultural resistance and technical challenges.

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[14] Ibid., p.8.

[15] Ibid., p.14.

[16] Ibid., p.7.

[17] Erwin Anderson-Smith, "2012 Application Landscape Report," Cap Gemini, 2012.

Yet, CIOs were in charge of this messy and change-resistant IT landscape. They were responsible for providing the business users with the tools they needed to do their work. But who were these CIOs? **Exhibits 5** and **6** cast some light on the function of the CIO in 2012. They were in general reporting to the CEO. They were members of the executive committee in 70 percent of the cases, controlled a budget worth 6 percent of sales or more (with 15 percent of companies burning one-tenth of their revenues or more on IT). They had on average 150 persons reporting to them. An interesting statistic was the relatively short tenure of CIOs in large corporations.[18] Almost half of them remained in place for less than three years. By all accounts, CIO was a tough spot to be in. CIOs reported that they were continuously challenged to justify their budgets and demonstrate the value they created to their COOs, CFOs and sometimes CEOs.

The same survey from cio.com among 500 top IT leaders showed that the top priorities for recession-wary CIOs were: aligning IT and business goals (76 percent), followed by controlling IT costs (63 percent), IT governance & portfolio management (54 percent), and business process redesign (54 percent). A 2010 Harvey Nash survey of 2,500 CIOs found very similar results. Priorities were to increase operational efficiencies (75 percent), achieve cost saving (74 percent) and improve business processes (71 percent).[19]

According to Forrester Research, however, 80 percent of IT budgets were used not on innovation or supporting new business goals but for ongoing operations and maintenance (**Exhibit 8**). On any given day, CIOs were poised for the unexpected, leading an organization that solved myriad micro-problems for customers, both internal and external. CIOs were expected to become technology enablers, but they could only turn more attention to new ideas after addressing current IT needs. CIOs in a majority of companies struggled to reach their full potential, which involved exploiting innovation to drive constant business improvement as well as building a real advantage over competitors with new product and capabilities. Only 43 percent said they were either effective or very effective at identifying areas where IT could add the most value, and only 34 percent said their companies were more effective than their competitors at introducing new products. In summary, CIOs were being asked to deliver more innovation more efficiently, but with fewer resources.

On the bright side, CIOs reported that their voices were being heard more and more, and were being heard in new ways. CIOs were increasingly recognized as full-fledged members of the senior executive team. Successful CIOs were much more actively engaged in setting strategy, enabling flexibility and change, and solving business problems, not just IT problems. According to two independent studies conducted by *McKinsey Quarterly* (2008),[20] and by IBM (2010),[21] over 70 percent of CIOs had a seat on the business executive management committee of their company. A vast majority of CIOs agreed that the number one objective when designing their IT strategy should be its alignment with business strategy.

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[18] "State of CIO study," *Cio.com,* January 2011, http://www.cio.com/documents/pdfs/2011stateofthecio.pdf (January 2013).

[19] Harvey Nash, "New Decade, New Opportunities?" 2010, p. 20.

[20] "IT's Unmet Potential: McKinsey Global Survey Results," *McKinsey Quarterly*, 2008, p.5.

[21] IBM, "The New Voice of the CIO Insights from the Global Chief Information Officer Study," 2010, p.4.

According to a 2010 survey of world CEOs,[22] 88 percent of respondents said getting closer to the customer was by far the most important dimension of realizing their strategy. They also singled out visibility and creativity. To that extent, CEOs realized the importance of technology as an enabler of their business strategy and acknowledged it by placing technology among the top three key external factors contributing to the failure or success of a business strategy. 2010 was the first time that technology made it to the top-three list of CEOs. In brief, CEOs wanted a chief innovation officer, not a chief information officer. They wanted somebody that would tell them: "Thanks to the architecture I set in place, these were the new business things we could do, and that's the calculated risk we're taking if we do it."

According to industry experts, designating an executive as the inside innovation leader was like naming a chief marketing officer, a chief financial officer or the like. It was a definite step in the right direction, but not enough. Companies could appoint someone to lead innovation but if they did not have the appropriate budget, supporting tools or a clear strategic direction for taking full advantage of the appointment, it amounted to nothing. An innovation executive needed to have the means, the vision and the budget commensurate with the task at hand. Empirical evidence showed that CIOs were the proper executives to assume the role of chief innovation officer. First and foremost, they were more attuned to the way technology was being applied throughout their industry and related markets to release new products and services. They were more aware of their vendors' investment in innovation, and had first-hand insight on what early opportunities were available. They also had the potential to develop first-hand access to massive amounts of information that could support decision making in an unparalleled way. CIOs had the methodology to release quick innovation. They had the control over the infrastructure that would make innovation possible. The use of IT as a competitive weapon would enable companies to redefine and speed up the actual planning cycle of innovation. Statistical analyses of data also showed that CIOs in high-growth organizations focused on innovative change and collaboration and tended to delegate responsibilities associated with their more traditional cost center manager roles.[23]

Changing Technology Trends

In 2003, when the Iraq war started, the entire United States Armed Forces had fewer than 100 drones. In 2012, the United States Army alone had over 2,000 drones and employed 12,000 full-time analysts to process the data, though by a conservative estimate it would require at least 20,000 analysts to properly deal with the data produced by the drones. Similarly, in 2012, the average 10,000-employee American corporation generated 10,000 terabytes of data, or the same amount Wal-Mart would generate in 1998. Organizations worldwide were drowning in data. Meanwhile, business users came to realize the value of big data analytics and to demand it from their IT departments.

At the end of 2010, for the first time, smartphone shipments outnumbered PC shipments. In the United States, 43 percent of all phones were smartphones, and in technology-obsessed countries like Singapore, the usage was at almost 100 percent. Customers were getting used to the smooth,

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[22] IBM, "Capitalizing on Complexity Insights from the Global Chief Executive Officer Study," 2011, p.10.

[23] "CIO Roles Are Becoming More Strategic," http://www.watch-the-wave.com/run/Empowering-CIOs-to-Run-IT-as-a-Business (December 2012).

neat interfaces. They were starting to demand that the applications they used at work follow the same patterns of user experience. That meant nothing more than a few clicks (or touches) away, attractive user interfaces, instantaneous response time, and intuitive functionality.

In 2012, almost 1 billion users were on Facebook. Social networks were not just about recreational activities. They imposed concepts and behaviors among the workforce. Employees were starting to demand that social concepts such as collaboration, feedback, and integrated profiles, for example, be made available inside the applications they were using every day for their daily job.

Finally, as noted earlier, by the end of 2012 it had become clear that Cloud Computing had the potential to radically change the way CIOs delivered innovation. Cloud Computing allowed an enterprising person to start a complete business in two weeks with a few thousand dollars. What was true for the small entrepreneur was becoming even truer for the CIO of a large corporation. The combination of Cloud Computing and the latest smartphones made data instantly available everywhere. New functionality could be pushed to users seamlessly, instantaneously. The same way Facebook would push new features on a regular basis without any user disruption, companies could introduce new business functionality overnight. Whereas in 2000, an ERP upgrade would cost $10 million and last eight months, with the risk of costing the CIO his job and his reputation, in 2012, on a cloud application, new features could be turned on literally overnight at no cost and no risk.

SAP AND CLOUD COMPUTING

The Emergence and Characteristics of Cloud Computing

In late 2007, few outside a specialized group of computer scientists and tech-minded business leaders spoke seriously about cloud computing. While much of world's attention was focused on the deepening global financial crisis, a confluence of technologies created an enormous market opportunity. Rapid advances in processing power, storage capacity, bandwidth, and consequently the exponential production of information rendered a once obscure technology into a market good. The publication of the article "Google and the Wisdom of Clouds" in the December 24 2007 issue of *BusinessWeek*,[24] and subsequent thematic TV advertising by Microsoft ("To the cloud") introduced cloud computing to the general public.

For consumers, cloud computing meant virtually unlimited storage and transfer of large media files, such as full-length videos or entire music collections. It also facilitated much greater sophistication in consumer mobile user experiences, obviating the need for a large device, as much of the storage and processing was done at the back end. For business the implications were less clear, particularly regarding the enterprise resource planning (ERP) software that lies at the core of most business. At first glance, cloud computing represented a potential for business to enjoy greater independence from licensing software packages and dedicated hardware, most of which required large investments, did not work without extensive implantation, and quickly became obsolete. Large vendors of ERP software, once at the forefront of driving disruptive on-premise technology, were struggling to provide cloud versions of their signature products.

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[24] Stephen Baker, "Google and the Wisdom of Clouds,*" BusinessWeek*, December 12, 2007, pp. 48-55.

Consequently, they were finding themselves suddenly way behind the curve. They did however derive some consolation from the fact that by 2012 the cloud market remained wide open, as no vendor had achieved a dominant position. Some mega vendors used their large cash positions to buy their way into the cloud market, but were frequently criticized by customers and analysts as lacking a clear roadmap for their cloud strategy.

According to the standard definition, cloud computing was the delivery of computing and storage capacity as a service to a heterogeneous community of end-recipients. Cloud computing entrusted providers with a user's data, software, and computation over a network. There were three types of cloud computing: (a) Infrastructure as a Service (IaaS), (b) Platform as a Service (PaaS), and (c) Software as a Service (SaaS). Using Infrastructure as a Service, users rented use of servers (as many as needed, or a fraction thereof) provided by one or more cloud providers. In Platform as a Service, users rented use of servers and the system software to use in them. In Software as a Service, users also rented application software and databases. The cloud providers managed the infrastructure and platforms on which the applications ran.

The best known example of an IaaS vendor was Amazon Web Services,[25] with its compute capacity play, its standard for spinning up and taking down cloud capacity quickly, and its pay-as-you-go model. Other providers included AT&T, BlueLock, and CA Technologies. PaaS vendors included the Appistry's CloudIQ platform and AppScale's offers of an open-source cloud computing platform.[26]

The idea of pushing enterprise data out of the company and entrusting third parties to manage it was not new. Payroll or customer support, for example, were processes that had been handed over to the likes of ADP or NorthgateArinso. However, cloud computing presented four major differences: cloud computing was multi-tenant, granular, componentized and highly scalable. Cloud computing was multi-tenant, meaning that customers shared a resource without seeing each other's data, while the cloud provider had access to all. Cloud computing was granular and componentized: thanks to open interfaces and well-accepted web standards, a cloud application could be assembled very quickly using services from multiple providers who knew nothing about each other. While web hosting gave users a fixed server or a portion of a single server, cloud computing gave them the benefit of many servers all working together as one; when a website or an application got hit with a lot of traffic in a very short time, it could then scale down as required, also scaling down the costs. By being as flexible as a marketplace, cloud computing allowed customers to select the best of competing providers. Cloud computing often resulted in attractive products that were easy to deploy and maintain.

Consensus of market characteristics was somewhat harder to obtain for the cloud than for the SaaS market, owing both to a lack of a standard definition of the actual limits of the cloud market and to the debate over what percentage services represented in the size of the market. In general, cloud market included Information, Platform, Collaboration, Data, and Mobile Services. Regardless of the definition, most estimates showed significant growth and tremendous

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[25] clouds360, "The Top 20 Infrastructure as a Service (IaaS) Vendors," http://www.clouds360.com/iaas.php (December 2012).

[26] clouds360, "The Top 20 Platform as a Service (PaaS) Vendors," http://www.clouds360.com/paas.php (December 2012).

opportunity for companies able to capture market share. Conservative estimates of the 2011 cloud market estimated it to be approximately $15 billion, increasing to 17 billion in 2012 and 25 billion in 2015, though some estimates placed the figure as high as 53 billion by 2015. In terms of percentage rate, the 451 Group anticipated a compounded annual growth rate well into the double digits, as high as 24 percent. Looking beyond 2015, Forrester estimated that the global market for cloud computing would expand to 241 billion in 2020. This meant that cloud applications would increase to become a significant percentage of IT spend. Deloitte predicted that by 2014, it would represent over 14 percent of existing IT spending, up from only about 2 percent expected in 2014.

Exhibit 9 provides an attempt at ranking the different cloud providers without differentiating between IaaS, PaaS or SaaS providers. In 2012, objective rankings by revenue were impossible to find, since most players were not pure cloud computing providers and did not yet report cloud revenues in a separate category. One interesting fact about the high margins industry was that salesforce.com, the largest pure player in the field, reported revenue of $2.3 billion in 2012, yet registered a loss for the year. Besides salesforce.com, no full cloud competitor had yet passed the billion dollars revenue mark.

Another fast-growing market in 2012 was, unfortunately, cybercrime. According to the 2011 PWC Global Economic Crime Survey,[27] 34 percent of respondents had experienced economic crime in the previous 12 months (13 percent increase from the previous year). Almost one in 10 reported they suffered losses of more than $5 million. Not surprisingly, this rise was driven by cybercrime, which ranked as one of the top four economic crimes. Moreover, 40 percent of respondents indicated they had no capability to detect and prevent cybercrime, and 56 percent of respondents said they did not know whether their organization had suffered a fraud. For the most part, cloud environments suffered the same types of attacks as regular environments: data-stealing malware, web threats, spam, phishing, Trojans, worms, viruses, spyware, bots, and more. Moreover, because of its granular and componentized nature, cloud computing raised new infrastructure vulnerabilities that many customers would fear.

Regardless of organized crime agents that roamed the cloud in search of weak infrastructures or other vulnerabilities, another problem of cloud computing was government interference. In the United States, for example, the USA Patriot Act (commonly known as the Patriot Act) signed into law by President George W. Bush on October 26, 2001 in the aftermath of the September 11 attacks, had a provision (Title II) that greatly expanded the prerogative of the United States government to access data stored on American soil. In turn, the real or supposed permeability between the United States government and large American corporations was seen as posing a risk that European or other industrial secrets stored on the cloud, and physically located in the United States, could be leaked to American competitors. Similar expanded surveillance acts existed in most Western countries, making companies suspicious of the cloud in general as it related to data protection.

Not surprisingly perhaps, even in 2012 the future of cloud computing and the question of what adaptations business would have to go through to leverage it, were moving targets. As one

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[27] PWC, "Global Economic Crime Survey," http://www.pwc.com/gx/en/economic-crime-survey/index.jhtml (December 2012).

observer noted: "Any vendor that says it has completely nailed a 10- or even 5-year strategy for the cloud would instantly reveal how little it understands about the *cloudy* future of this market."[28]

SAP and the Cloud

Prior to SuccessFactor's acquisition, SAP had made significant investments in cloud products, but the story had not been a successful one. In September 2007, after four years of development, SAP attempted to enter the SaaS ERP market. They did this by targeting SMEs with its SAP Business ByDesign product, which had all the components of an ERP, in an emerging field that included early leaders Salesforce and NetSuite, both of which had experience and reputation on their side. In addition, Salesforce had in place a robust Smal and Medium Business (SMB) and channel marketing strategy, a critical component that was lacking in SAP's delivery. Nevertheless, SAP's then CEO Henning Kagermann set a target of 10,000 customers and $1 billion in revenue by 2010. Market analysts immediately had serious questions about how SAP would generate that many customers, especially given its entrenched corporate culture of selling on-premise software to IT departments in large companies.

SAP Business ByDesign was SAP's first entry into the SaaS market for any product. SAP was very circumspect about not describing SAP Business ByDesign as an ERP product, as widespread market acceptance for SaaS-delivered ERP was not well-established. As Kagermann stated: "We have not designed it with these traditional categories in mind, like CRM or ERP." From the beginning, the idea was to design it for end-to-end, flexible, adaptable business. A purported advantage SAP had over Salesforce was indeed the turnkey capability to connect to back-end functions, something lacking in the Salesforce product.

SAP accumulated 20 productive ramp-up customers, and completed rollout to all regions by 2008. However, it did not take long for the market to render its evaluation, as few of the 1,500 customers who signed up for the product were actually using it in the months after release. At the end of April 2008, SAP announced it would be curtailing its customers in the short term to less than 1,000 in 2008, while retaining its sales target of 10,000 customers in a time frame extended into 2012. But poor performance, related to complex product architecture and lack of a powerful sales channel, kept hampering market success. Moreover, SAP Business ByDesign's pricing, intended to be simple, instead presented a significant impediment, failing to give users the flexibility and scalability features of a true on-demand product.[29] SAP's pricing resembled that of an "ERP by subscription" rather than that of a modular solution. The experience of many SAP Business ByDesign customers was that the pricing along with performance problems resulted in increased project costs with decreased scalability, the opposite of what was expected of an on-demand ERP. By the end of 2008, with 150 productive customers on the books, SAP

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[28] Greenbaum, "SAP Energizes Its Cloud Strategy – The Lars Dalgaard Era Begins," June 27, 2012, http://www.eaconsult.com/2012/05/22/sap-energizes-its-cloud-strategy-%e2%80%93-the-lars-dalgaard-era-begins/ (December 2012).

[29] TMC News, "SAP's SaaS Effort Falls Short of Design," TMCnet.com, May 5, 2008, http://www.tmcnet.com/usubmit/2008/05/05/3426231.htm (March 14, 2013).

had pulled SAP Business ByDesign off the shelves and started to retool it substantially for release in 2010, anticipating cloud acceptance to increase by then.

A second attempt at the SAP's on-demand offering was staged in late July 2010. Although the initial market response was better, the product did not reach expectations. Meanwhile, other SaaS vendors such as Workday had appeared in the ERP marketplace and were growing three times faster. The SAP executive board realized strong action was necessary. In December 2011, SAP announced plans to acquire cloud-based business software provider SuccessFactors for $40 per share, a 52 percent premium over the company's closing price on December 2. The deal was worth $3.4 billion.

Lars Dalgaard and SuccessFactors

SuccessFactors had been a public company since 2007 and had made a string of acquisitions of its own over the years, including Jambok, a company that provided video education for employees; YouCalc, a business analytics software firm; and CubeTree, a social network for businesses. (See **Exhibit 10** for the history of SuccessFactors.) At the time of its acquisition by SAP, SuccessFactors had 3,500 customers across 168 countries, and a total of 15 million subscription seats, making it one of the largest cloud companies in the world. Although it lost money in its early, pre-IPO days, the company stated that it posted 77 percent revenue growth year-over-year in the third quarter 2011 and 59 percent revenue growth year-over-year in the first nine months of 2011. Based in San Mateo, California, SuccessFactors had 1,450 employees at the time of the acquisition, while SAP had roughly 50,000 including 2,000 in its cloud business. SuccessFactors financials are provided in **Exhibit 11**.

SuccessFactors was originally built to serve the new needs of human resources departments for talent management software. Human resource strategies were a key requirement for companies in 2012 (see **Exhibit 12**). As shown in **Exhibit 13**, SuccessFactors featured a complete suite of human resources products: Performance Management, Compensation Management, Recruiting (obtained from the acquisition of Jobs2Web), Learning (obtained from the acquisition of Plateau Systems), Analytics (obtained from the acquisition of Inform), and Enterprise Social with Jam. It also offered an Organization Management solution called Employee Central.[30] However, SuccessFactors' real dominance was in the area of Talent Management, which was composed of Performance and Goal Management, Compensation Management, Success in Planning, Recruiting, and Learning. Dalgaard, talking about the first companies he worked for, recalled:

> One of my biggest learnings from these companies was that many executives really don't know how to manage their people. To make it worse, the software they rely on to help them is seemingly useless—resulting in ineffective and cold people management. I believed there was a better way to do this. I felt strongly that employees could be at the center of the company with the right people management tools and analytics. This belief spurred my passion for changing the way people work and inspired me to start SuccessFactors.[31]

Born in Aarhus, the second-largest city in Denmark, Lars Dalgaard visited the United States at the age of 16, where he was inspired by the high aspirations of those he encountered. Fired up with an entrepreneurial spirit, his subsequent experience in the United States found him working as a truck driver for a moving company in Manhattan, after having dropped out of Copenhagen Business School. During a chat with one of his customers, between deliveries, he realized that in order to be successful he would need to complete his college education, which spurred him to return to complete his undergraduate studies in Copenhagen in 1991 and begin his career.[32,33]

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[30] SuccessFactors, "SuccessFactors BizX Suite Connects Your People Strategy to Your Business Strategy," http://www.successfactors.com/business-execution-software/ (December 2012).

[31] Heather McIlvaine, "Lars Dalgaard on Becoming an SAP Company," June 27, 2012, https://blogs.sap.com/innovation/cloud-computing/lars-dalgaard-on-becoming-an-sap-company-01261 (December 2012).

[32] "Danish-Born, but U.S.-Minded," *Workforce Management*, 87(16), 2011, p. 27.

Prior to SuccessFactors, Dalgaard was five and three years with Unilever and Novartis respectively, in five different countries (Germany, Switzerland, United States, Holland, Denmark), with roles in global M&A, Corporate Finance and Controlling, Sales, and running a global business unit. He was also a local company CEO, consolidating five acquisitions into one company that gained 80 percent market share.

As a self-financed student at Stanford Sloan MBA program, Dalgaard discovered the SuccessFactors opportunity, which began his executive career of transforming a moribund performance management software provider into a cloud-based HCM provider. Although Dalgaard founded SuccessFactors in the middle of the worst tech crisis in history in 2001, and took it public just before the beginning of the Great Recession in late 2007, SuccessFactors had a compound annual revenue growth rate of approximately 75 percent, with $364 million in sales in 2011, and was the fastest-growing cloud business application company of its size, and the second largest in revenue.

Dalgaard was chosen as "Best CEO of a Large Company" by the 2010 *San Francisco Business Times* Innovation and Technology Awards, and as the Ernst & Young "Entrepreneur of the Year" in 2009. In 2012, Dalgaard was named one of the 50 most powerful IT executives. In the Silicon Valley, a region replete with charismatic entrepreneurs and celebrity executives, stood out for his reputation of unusual tenacity and indefatigability,[34] establishing a corporate culture by such methods as posters hung throughout the San Mateo headquarters displaying the text, "No Assholes," accompanied by a circle-backslash symbol drawn over a pictogram rendering of an anus. Dalgaard maintained an idiosyncratic public LinkedIn profile, including "worked my rear off, and had a lot of fun." Like many Silicon Valley executives, Dalgaard performed electrifyingly on the big stage, usually without heavy PowerPoint presentations. Rather, he spoke plainly and high-spiritedly, in a warm, direct, and personal manner, with lots of improvisation and striving to connect with his audience.

Much discussion had occurred in the business media about Dalgaard' fit with the SAP corporate culture, which tended to be more phlegmatic, cautious, analytical, and hierarchical. Yet Stanford Business Professor Jeffrey Pfeffer had observed a dimension to Dalgaard' persistence that went beyond his public persona: Dalgaard had contended with numerous false starts, dead ends, and failed initiatives in his leadership of SuccessFactors.[35] Each time he encountered a failure of initiative, he dealt with it and pursued other methods, sometimes taking four or five tries before finding a winning formula. Unconcerned about being right or accumulating failures to his record, Dalgaard persevered in the trenches of his key business operations, particularly in channel sales and direct selling, areas where SAP Business ByDesign failed.

One of SAP's strongest assets was its intellectual property, embedded in roughly 50 million lines of code throughout the entire ERP. In accounting, supply chain and other areas, virtually every business process had been encoded inside the SAP products and SAP's approach to these processes had become a standard for many corporations. As Lars Dalgaard put it:

[33] Victoria Murphy Barret, "Fight the Jerks," *Forbes*, 180(1), 2011, pp. 52-54.

[34] Victoria Murphy Barret, "SAP Gets A Pit Bull," *Forbes*, 2012, pp. 38-40.

[35] Jeffrey Pfeffer, "Only the Bulldogs Survive," *Business 2.0*, September 2006, p. 62.

SAP has the most IP, the most customers and the best apps and products in the world. We have a huge opportunity to leverage the SAP domain expertise to accelerate SuccessFactors' cloud business. We'll now be able to deliver innovations in one to two years that were originally on our 10-year roadmap.[36]

CONCLUSION: LEADING THE STRATEGIC ACQUISITION INTEGRATION CHALLENGES

In 2012, a few months after the merger, with Dalgaard officially in charge of the SAP cloud business, the questions were many, and the challenges were vast.

As a consequence of the acquisition, SAP had many technology platforms. How would SuccessFactors be presented to users? Should they be presented inside the SAP portal, to leverage other SAP components? Streamwork was another platform upon which SAP had been building social functionality, while SuccessFactors brought in a mature product, Jam, from a previous acquisition. Rationalizing such a sprawling portfolio would be a significant effort.

SuccessFactors' strength was its HCM applications. On the other end, SAP publicly said on several occasions that SAP Business ByDesign's technology represented the core of where it was going with cloud apps overall, including for Financials CRM, Supply Chain:

So while the theory is largely sound, there's some serious problems with how quickly SAP will be able to move forward to realize this vision, mostly because the realization of a truly comprehensive cloud strategy is about much more than just "ending software" and creating a development platform and some APIs. There's a huge amount of work that has to happen—from reorganizing the field to adjusting revenue expectations to building a real cloud services platform that SAP, and every other vendor, will have to deal with.[37]

Value-added SaaS were applications providing functionality that would have been impossible to build or afford on-premise. This was the reason why SAP or any other traditional on-premise software company entering the cloud could not be compared to pure on-demand pioneers like Salesforce. Finding out these new, high value-added use cases was a critical task to make large vendors like SAP more than "me-too" competitors in the cloud.

Should SuccessFactors remain a separate operating unit, keeping the on-premise and cloud businesses in their own worlds? The development teams in SAP's Walldorf operation, SAP's headquarters, wielded considerable power, which had already prompted the departure of high-profile cloud executives in the past. Could the addition of SuccessFactors bring with it enough revenue clout to have an impact on the traditional power structure? Predictably, some SAP competitors such as Salesforce's CEO Marc Benioff castigated the merger, citing the outdated

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[36] Heather McIlvaine, "Lars Dalgaard on Becoming an SAP Company," June 27, 2012, https://blogs.sap.com/innovation/cloud-computing/lars-dalgaard-on-becoming-an-sap-company-01261 (December 2012).

[37] Joshua Greenbaum, "SAP Energizes Its Cloud Strategy – The Lars Dalgaard Era Begins," http://www.eaconsult.com/2012/05/22/sap-energizes-its-cloud-strategy-%E2%80%93-the-lars-dalgaard-era-begins/ (January 2013).

caricature of SAP as bureaucratic and slow-moving as some sort of evidence that the cultures of SAP and SuccessFactors would clash. Benioff was quoted as saying:

> I understand that SAP's HR product kind of sucks and they have no market share and they're losing deals to Workday, and so they need to shore up and they don't know what to do, so they need to buy Lars' company. But why does Lars want to sell his company to SAP? He's going to be controlled by this German union. I didn't get it. I don't understand why you would sell your company. He had a great company and now it's gone.[38]

Since SAP's creation, restrictive German trading and labor laws had prevented tough managerial decisions that were generally easy when operating under United States governance. It was interesting to see that SAP Americas was the vehicle through which SuccessFactors was being acquired.[39] Legal structure had a direct impact on how the business was run and where the power lay.

From a customer's perspective, the acquisition was a two-edged sword. On the one hand, they could get significant innovation much more quickly. To quote Dalgaard, "We'll now be able to deliver innovations in 1 to 2 years that were originally on our 10-year roadmap. This is an opportunity of a lifetime." But could SAP seek to hike prices as it did with BusinessObjects? Also, with the risks carried both for companies and CIOs' careers by a technology change of the magnitude of a migration to the cloud, should customers embark in an all-out tear and replace strategy for their ERP or should they embrace a more progressive approach, with the coexistence of cloud and on-premise applications, at least for a while? Buyers were at risk of increasingly finding themselves swamped with sales people who would wear SAP badges but would bring integration challenges. As James Staten of Forrester Research stated:

> Not everything will move to the cloud as there are many business processes, data sets and workflows that require specific hardware or proprietary solutions that can't take advantage of cloud economics. For this reason we'll likely still have mainframes 20 years from now. In other words—and despite the hype—there are some things that just can't move to the cloud easily, and perhaps shouldn't go. Long term, Forrester sees companies with a hybrid portfolio of cloud and non-cloud workloads that together optimize agility and resource management.[40]

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[38] "Why Did You Do It Lars?" *businesscloud9*, http://www.businesscloud9.com/content/why-did-you-do-it-lars/8215 (January 2013).

[39] Dennis Howlett, "SAP Acquires SuccessFactors: A first take," ZDNet, http://www.zdnet.com/blog/howlett/sap-acquires-successfactors-a-first-take/3608 (January 2013).

[40] Antony Savvas, "Cloud Is Not the Future of IT – Long Live Mainframes?" *Computerworld UK*, http://www.computerworlduk.com/news/cloud-computing/3362849/forrester-cloud-is-not-future-of-it/ (December 2012).

Excitement aside, SAP was a massive company with sales and consulting organizations that expected the big margins associated with selling and implementing on-premise software. In the cloud, historically, margins had been lower. Compensating salespeople on deals that did not happen upfront but were amortized over the years in the form of a subscription was also a problem. Completing this cultural transition could take years, especially since most of SAP's current revenues came from on-premise products and services. As shown in **Exhibit 14** margins in the cloud world had nothing to do with margins for well-established on-premise providers such as SAP and Oracle. Some influencers were concerned that SAP's high historical margins might be lowered by the cloud business.[41]

Finally, competitors like Workday or Salesforce were seeing the acquisition of SuccessFactors and SAP's accelerated move to the cloud as good news, at least over the short term. In acquiring SuccessFactors, SAP had somewhat validated their strategy. Workday, a company founded by former PeopleSoft executives and specializing in HR cloud applications, was already bringing in $300 million in bookings as its 2012 target and was claiming to be able to reach $1 billion by 2014-15, after an IPO in 2012 which valued workday at over $7 billion.

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[41] Rick Whiting, "Cloud Computing, HANA Database Sales Boost SAP's Q4 Revenue," http://www.crn.com/news/applications-os/240146804/cloud-computing-hana-database-sales-boost-saps-q4-revenue.htm (December 2012).

Exhibit 1
Components of an ERP

- Financials provide the capability to manage the general ledger, profit and loss, account receivable, account payable, etc.
- Human Resources provides the capability to describe the organization (Org Management) and to manage talent (hiring, training, performance management, compensation management).
- Corporate services provide special functions for the organization's most cost-intensive corporate needs, such as enterprise asset management and travel management.
- Operations provide functionality to manage the flow of resources, not only goods, between the point of origin and the point of destination in order to meet the requirements of customers or corporations.
- Product Life Cycle Management (PLM) provide functionality to manage the entire lifecycle of a product from its conception, through design and manufacture, to service and disposal.
- Supplier Relationship Management (SRM) provide functionality to strategically plan for, and manage, all interactions with third-party organizations that supply goods and/or services to an organization, in order to maximize the value of those interactions.
- Customer Relationship Management (CRM) provide functionality to manage a company's interactions with customers, clients, and sales prospects.
- Supply Chain Management (SCM) provide functionality to manage all movement and storage of raw materials, work-in-process inventory, and finished goods from point of origin to point of consumption.
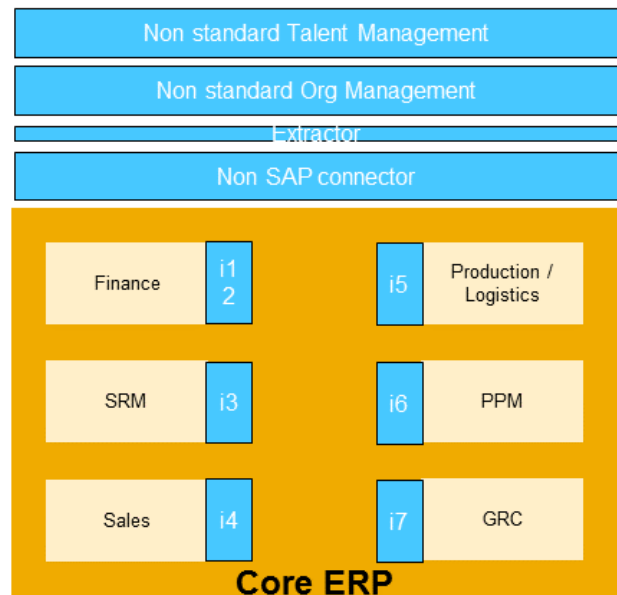
Source: SAP documents.

Exhibit 2
Costs of a Non-Integrated ERP Stack
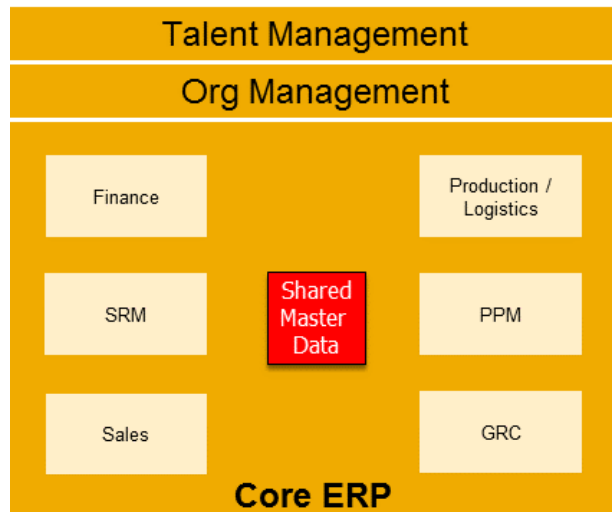
Pain point area	Business pain	IT development pain	Maintenance pain	Grand Total
Connector	$0	$50,680	$11,571	$62,251
Finance interface	$200,000	$50,680	$11,571	$62,251
General	$0	$24,430	$5,577	$30,007
GRC	$50,000	$50,680	$11,571	$62,251
PPM	$80,000	$24,430	$5,577	$30,007
Production/Logistics	$450,000	$50,680	$11,571	$62,251
SRM interface	$150,000	$50,680	$11,571	$62,251
Grand Total	$2,790,000	$302,260	$69,009	$3,532,538

Process	Description	Module	Value Drivers
Travel Management	Planning and expenses for enterprise travel	FI	Reduce non-compliant travel bookings with policy enforcement at role level, reduce cost to support expense function
Accounting	Process accounting movements	FI	Reduce the cost of Finance (transactional sub-processes)
Process payments	Process payments to employees following any type of event	FI	Reduce the cost of Finance (transactional sub-processes)

Exhibit 2 (continued)
Costs of a Non-Integrated ERP Stack

Asset Management	Manage assets allocated to employees such as object on-loan, plant equipment, etc.	FI	Reduce the cost to support and track allocated assets
External Billing	Billing to external customers for time spent by employees on projects, etc.	CRM	Increase revenue with improved billing accuracy
Organization Management	Display service or sales and distribution structure at the forefront of CRM and assign to customers	CRM	Improve sales force satisfaction, efficiency and effectiveness
Shared service management	Fill out forms and actions on behalf of the employee	CRM	Reduce time spent by employees on HR related tasks improving employee productivity
Manage identity	Ensure that status in human resources is properly cascaded into the different systems	IDM/GRC	Reduce risk mitigation costs, reduce cycle time to enable employees for various approved functions throughout organization
Maintain and service plant	Ensure that employees with the right skills are assigned to tasks and equipment	Production	Reduce direct labor costs, reduce unplanned overtime hours, improve machine availability, improve ROA, increase capacity utilization, improve OEE, reduce maintenance and service parts inventory
Plan production	Working hours transferred as well as job keys, purchase orders, etc.	Production	Reduce direct labor costs, reduce unplanned overtime hours, improve production plan adherence, reduce rework
Manage projects	Employee logs on to Project and Portfolio Management, looks at the skills and availability of the people he wants to assign, and the associated cost centers Employee is able to assign tasks and a timetable to the project	PPM	Reduce the overall New Product Development Introduction function cost
Process shopping card	Shopping card is attached to the employee and employee accounting documents	SRM	Reduce overall procurement function (transactional sub-processes)
Ensure employee safety	Ensure compliance with certification and regulatory requirements based on employee profiles	EHS	Reduce penalties due to EHS violations, reduce cost to support EHS function (transactional sub-processes)

Source: SAP documents.

Exhibit 3
Comparison of Revenue, Market share, and Project costs in 2011

	SAP	Oracle	Microsoft
Overall ERP Revenue (millions)	16,538	7,739	1,300
Overall ERP market share (percent)	24	18	11
ERP Market Share: Manufacturing and Distribution (percent)	28	22	12
ERP Market Share: Transportation, Communications, Electric, Gas, and Sanitary Services (percent)	35	23	15
ERP Market Share: Services (percent)	30	21	15
ERP Market Share: Retail (percent)	31	22	22
Sales breakdown			
Percent of total ERP sales: Manufacturing and Distribution	28.3	21.2	28.1
Percent of total ERP sales: Transportation, Communications, Electric, Gas, and Sanitary Services	26.7	23.8	25.4
Percent of total ERP sales: Services	12.8	11.9	14.9
Percent of total ERP sales: Retail	6.6	6.2	10.5
Average project costs (millions)	6.7	5.0	1.8

Source: "2011 Guide to ERP Vendors and Software," Panorama Consulting, www.compareerpsoftware.com/2013Report (December 2012).

Exhibit 4
Number of Companies by Number of Employees (United States) in 2011

Segments by number of employees	Number of companies
10: 10,000+	492
09: 5,000-9,999	952
08: 2,500-4,999	1,920
07: 2,000-2,499	942
06: 1,500-1,999	1,542
05: 1,000-1,499	2,916
04: 750-999	2,970
03: 500-749	6,094
02: <500	6,031,344

Source: United StatesCensus, "U.S., NAICS Sectors, Large Employment Sizes,"
http://www2.census.gov/econ/susb/data/2010/us_naicssector_large_emplsize_2010.xls (January 2013).

Exhibit 5
To Whom Do CIOs Report?

Reporting Structure	
CEO	43%
COO	13%
CFO	19%
Corporate CIO	8%
Other	16%

Source: "State of CIO study," Cio.com, January 2011, http://www.cio.com/documents/pdfs/2011stateofthecio.pdf (January 2013).

Exhibit 6
IT Budget as Percentage of Revenues

IT budget as percentage of revenues	
Less than 1%	11%
1% to 1.9%	15%
2% to 2.9%	17%
3% to 3.9%	11%
4% to 4.9%	8%
5% to 5.9%	7%
6% to 7.9%	0.06
8% to 9.9%	4%
10% to 14.9%	7%
15% to 19.9%	3%
20% to 24.9%	2%
25% or more	4%
Don't know	5%

Source: "State of CIO study," Cio.com, January 2011, http://www.cio.com/documents/pdfs/2011stateofthecio.pdf (January 2013).

Exhibit 7
Average IT Department Size

Reporting Structure	IT Staff	Internal Users	Ration IT Staff to Internal User
Financial Services	349	8778	4.0%
Government	199	7766	2.6%
Healthcare	132	5432	2.4%
Retail	137	2730	5.0%
Manufacturing	163	7698	2.1%

Source: "State of CIO study," Cio.com, January 2011, http://www.cio.com/documents/pdfs/2011stateofthecio.pdf (January 2013).

Exhibit 8
Where Is the IT Money Going?

	New IT initiatives and projects (new development)	Ongoing Activities (maintenance and expansion)
2010	31%	69%
2011	24%	76%

Source: Compiled from Robert Whiteley, *"*It's Time for I&O to Return to a Growth Agenda Posted," Forrester Research, July 19, 2010, http://blogs.forrester.com/robert_whiteley/10-07-19-it%E2%80%99s_time_io_return_growth_agenda and Holger Kisker "Transformation: Findings from the Forrsights Software Survey, Q4 2010," http://blogs.forrester.com/category/it_budget (December 2012).

Exhibit 9
Top Cloud Players

Cloud Champions
- Amazon (Cloud Infrastructure, Network Services, Platform, Management)
- IBM (Cloud Infrastructure, Platform, Security, Management)

Cloud Heavyweights
- Cisco (Cloud Network Services)
- Citrix (Cloud Foundation)
- EMC (Cloud Security, VMware investment)
- Google (Cloud Applications)
- Level 3 (Cloud Network Services)
- Microsoft (Cloud Foundation)
- Oracle (Cloud Infrastructure, Management)
- Red Hat (Cloud Foundation)
- Salesforce/Force.com (Cloud Platform, Applications)
- Symantec (Cloud Security)
- VMware (Cloud Foundation)

Cloud Contenders
- ATT Network Services (Cloud Network Services)
- Aylus Networks (Cloud Network Services)
- Rackspace (Cloud Infrastructure)
- SAP/Business Objects (Cloud Applications)
- Sonoa Systems (Cloud Security)
- Workday (Cloud Applications)
- Terremark (Cloud Infrastructure)

Other companies vying to be Cloud Contenders – and who find themselves competing with the 20 companies above – will need to refine their businesses to compete successfully. This group includes the familiar names of 3Leaf Systems, Boomi, CSC, Enomaly, Eucalyptus, GoGrid, HP, RightScale, rPath, and Savvis. Noticeably absent from the Top Ten Ranking, other than AT&T, are the larger Telcos, although Comcast and Verizon do seem to have aspirations to become more significant players.

Source: "Ranking of Cloud Companies, BTC Logic," BTCLOGIC, www.btclogic.com/documents/BTCLogic_TopTen_Q22010.pdf (December 2012).
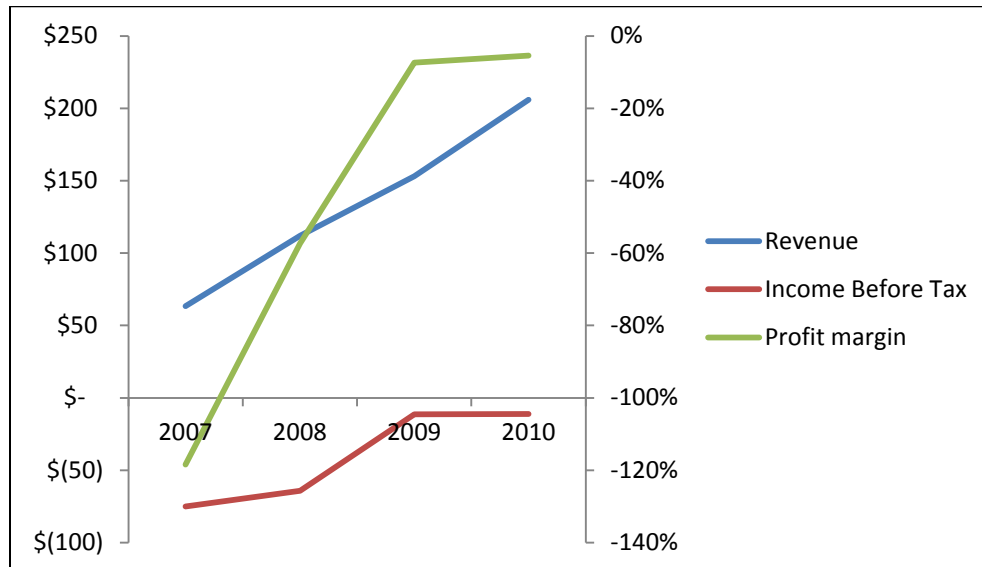
Exhibit 10
History of SuccessFactors

1994	Company founded as Success Factor Systems, a competency management software producer, later changes name to SuccessFactors.Com.
1999	Company merges with Austin-Hayne, a performance management software vendor, specializing in automating the employee performance review process.
2001	Dalgaard purchases intellectual property Austin-Hayne, which after seven years in business had annual sales of 480,000 United States. Dalgaard assumes CEO position, transforms company into a provider of software and services online, from a cloud platform.
2001	SuccessFactors launches its first product: Performance Management.
Dec 2005	SuccessFactors closes $2.5M deal with Lloyds Bank in London.
May 2006	SuccessFactors secures $45 million in funding.
April 2006	Named One of the Best Places to Work in the Bay Area by the *San Francisco Business Times*, *Silicon Valley/San Jose Business Journal* and *East Bay Business Times*.
Oct 2006	SuccessFactors launches the first complete suite of integrated, on-demand HCM applications.
Nov 2006	SuccessFactors launches the industry's first recruiting solution that was completely integrated within the performance and talent management processes.
April 2007	SuccessFactors announces one of the largest Software-as-a-Service (SaaS) deployments ever with 85,000 seats at Wachovia.
June 2007	SuccessFactors was named one of the top 25 mid-sized companies to work for in America by *Great Place to Work Institute*.
Nov 2007	SuccessFactors announces its initial public offering amidst a choppy market.
June 2008	Lars Dalgaard wins the *Ernst & Young* 2008 Entrepreneur of the Year award.
Aug 2008	SuccessFactors reaches 4 million global users in the cloud.
June 2009	SuccessFactors announces the largest cloud deployment in Europe at Siemens AG with more than 400,000 users.
Sept 2009	SuccessFactors creates the Business Execution (BizX) category.
Sept 2009	SuccessFactors announces SuccessCloud, the first-of-its-kind technology partner program that allows third-party applications and data from other business systems to connect and integrate with its BizX suite.
Feb 2010	*InformationWeek* declares SuccessFactors 'The Future of Business Software.'
Feb 2010	SuccessFactors announces it will acquire Inform.
May 2010	SuccessFactors announces it will acquire CubeTree.
May 2010	SuccessFactors announces the world's largest cloud deployment with 2 million users at a single customer.
May 2010	Lars Dalgaard was named "Best CEO" by the *San Francisco Business Times*.
Apr 2011	With the acquisition of Plateau, SuccessFactors become the first and only company with a HCM suite with all pillars – performance, compensation, recruiting and learning – sitting on the foundation of HR system of record, powered by great analytics, and delivered as SaaS.
June 2011	SuccessFactors reaches more than 15 million subscription seats in the cloud, more than any other company in the world.

Source: SuccessFactors, "SuccessFactors History," http://www.successfactors.com/timeline/ (December 2012).

Exhibit 11
SuccessFactors Financials and Profitability

Source: Compiled by author from Google Finance,
http://www.google.com/finance?q=NYSE:SFSF&fstype=ii&ei=jE6-UPCBD4rliAL9_AE (December 2012).

Exhibit 12
The Need for Strategic Human Resources (HR)

Properly managing people had always been recognized as an important part of managing a business, at least in theory. Human Capital Management (HCM) software was part of the traditional definition of the ERP. However, historically, Finance had always been a priority for spending and deployment. When a conflict opposed Finance and HR on anything, Finance tended to have the last word. As reengineering projects had been led by the Office of the CFO over the years, and as Managerial Accounting had been at the core of large ERP deployments, HCM software had historically taken a backseat. However, in 2012, things seemed to be changing. Jack Welch, the intellectual force and leading implementer behind the finance-based reengineering in the 1990s, summarized the change:[42]

> To look at the companies today where the CFO reigns supreme and HR is relegated to the background, it just doesn't make sense …. Leaders need to put their money where their mouths are and let HR do its real job. They must elevate people management to the same level of professionalism as financial management.

Globalization was the number one HR conundrum for corporations. With the emergence of Brazil, China, India and Russia, together with other large countries such as Indonesia, corporations with no global strategies were at risk of being marginalized. Yet, the standard expatriate model, where Americans or Europeans managers would be relocated in an emerging market for a while, was costly. It was also not working well everywhere. Local workforce had local needs, local requirements, local specificities that had to be dealt with in an expert manner. Dealing for unsavory matters like corruption was also tricky. Many corporations, including some of the largest, were struggling to find the balance.

In 2012, even in the United States, with 14 million unemployed people, there were 3 million positions that had been open for more than six months.[43] Corporations were struggling to find qualified applicants in many fields, making some experts say that, rather than an unemployment problem, developed economies were suffering from a mismatch between the demand for talent and the available skills. As workers, and in particular skilled workers, were becoming more mobile, companies of all sizes and in all countries struggled to attract, develop and retain top talents.

Innovation was becoming more intense. A market leader missing a technology wave could become obsolete within a few years, especially in the tech world. Meanwhile, recession-wary companies were trying to cut costs as much as was reasonably possible. Companies were struggling to do more with less. In that context, the capability to properly analyze workforce productivity was essential. In particular, the old need, never attained, of merging employee data

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[42] "Jack Welch, retired chairman and CEO of GE, and Suzy Welch, ex editor-in-chief of *Harvard Business Review*, respond to readers' business issues," *The Telegraph*, July 10 2006, http://www.telegraph.co.uk/finance/2942953/Winning.html, (December 2012).

[43] Bureau of Labor Statistics, Employee Situation Summary, www.bls.gov/news.release/empsit.nr0.htm (December 2012).

with business data, to determine for example how many sales each employee contributed to, how many boxes a truck driver was moving a day, or what recruiting channels lead to the higher level of customer satisfaction, was becoming a pressing reality.

In addition to the problems above, some countries were about to face the most massive demographic shift in recorded history. For example, between 2010 and 2025, a third of the German workforce was to retire.[44] In the first decade of the twenty-first century, Japan had lost 3 million inhabitants and its population over 65 had grown from 15 percent to 27 percent.[45] If the trend continued, Japan would have fewer than 90 million inhabitants by 2050, losing a third of its population in 40 years. Even in countries with more self-sustaining birth rates, like France, the United Kingdom or the United States, bracing for baby-boomer retirement was a severe problem that companies had to be prepared for.

All these pressing needs were well documented and understood. Strategic talent management and workforce analytics were topics heavily discussed and recognized. But companies worldwide were often not even in a position to start handling these problems, as they were still struggling to generate an accurate headcount report.

Source: Compiled by author.

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[44] "Aging of Europe," *Wikipedia*, http://en.wikipedia.org/wiki/Ageing_of_Europe (December 2012).

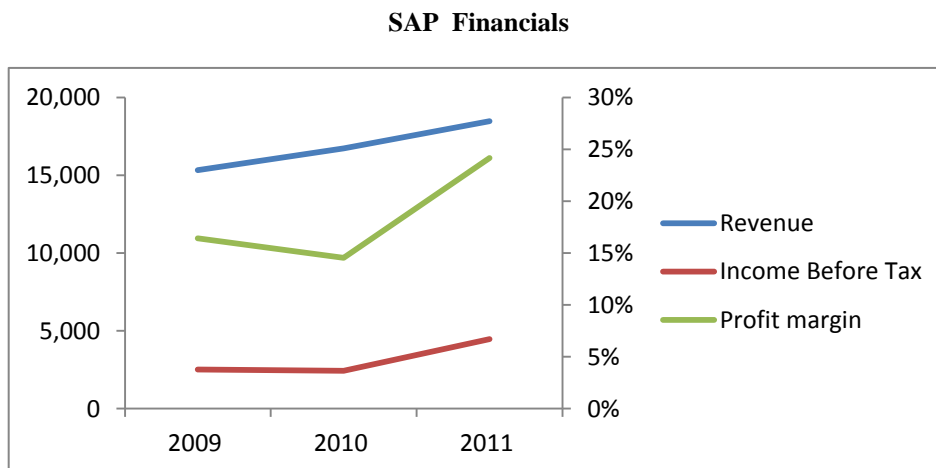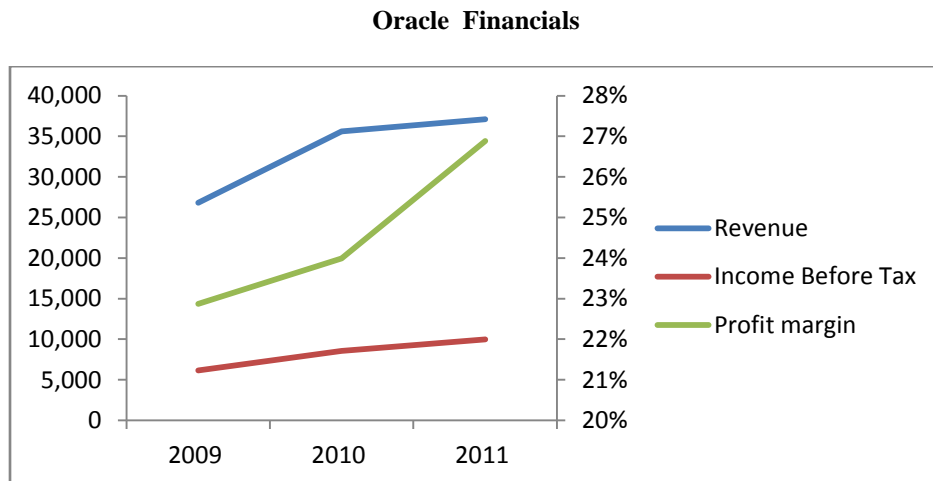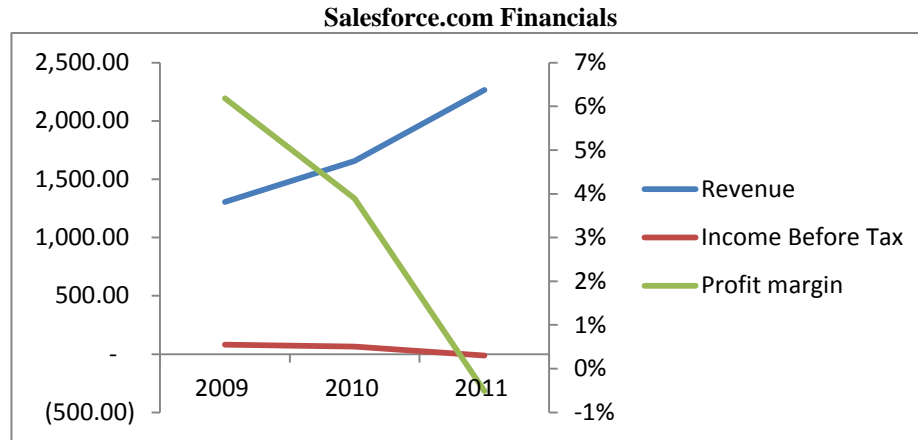[45] "Aging of Japan," *Wikipedia*, http://en.wikipedia.org/wiki/Aging_of_Japan (December 2012).

Exhibit 13
SuccessFactors Suite of Products

Source: SAP Document. Reprinted with permission.

Exhibit 14
Cloud Computing Margins Compared

Salesforce.com Financials

Oracle Financials

SAP Financials

Source: Compiled by author from Yahoo Finance, finance.yahoo.com (December 2012).