Journal of Cases on Information Technology, 15(2), 57-71, April-June 2013 57

Technology Adoption in Troubled Times:
A Cloud Computing Case Study

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EXECUTIVE SUMMARY

Timely Technologies Corp. (TT) is a $200+ million revenue company that has not yet emerged from the great recession of 2008. Once a $750 million revenue company with nearly 5,000 employees (including over 100 IT professionals), the company has been forced to cut its workforce to just over 2,000 employees. Reductions have included all administrative functions, some production capacity and its IT department. Throughout a long series of quarterly losses, the company has constantly been challenged to weigh accounting and other information needs against costs of gathering that information as it identifies the most efficient cost reductions. This case explains how basic economic factors have impacted the company's choices with regard to IT and its access to accounting and other operating data.

Keywords: Accounting, Cloud Computing, Information Systems, Reductions, Technology Adoption

ORGANIZATION BACKGROUND

History

Timely Technologies started business in the early 1960's in a small town in the United States to attempt to provide a very specific electronic part for the space program. The company's founders had a passion for technology, science, and research, and a strong belief in customer service as a route to success. Even though their initial idea for the space program component did not pan out, they continued their research into the burgeoning computer industry and eventually received an order from Univac for printed circuit boards.

Throughout the 1970's they continued to expand to many other technology components, including parts of computer disk drives, circuit boards, medical equipment, electronic testing equipment, and many other high-tech components. Their reputation for quality and

DOI: 10.4018/jcit.2013040104

customer service grew as they continued to expand and meet the demands of both large and small customers. In the late 1970's, they began to focus on disk drive components, and with the explosion of personal computers in the 1980's the company continued to expand, with manufacturing facilities in several towns in the U.S. and sales offices in several Asian countries.

Production facilities are located in Asia and the U.S., and customers are located in Asia and Europe. During the 1990's two new plants were opened in the upper Midwest, and 80% of the employees are there. They also have an Asian distribution center with four branches, and technical support centers for customers in Asia were opened to meet quickly escalating demands and changes in technology. They continued to focus on heads for disk drives and business was booming. Additionally, Timely Technologies has dabbled in other products in an attempt to take advantage of their culture of quality, engineering expertise, and leading-edge measurement technology. New products developed have not become broadly successful, however.

The company's main product line at this time is one specific component of disk drive assemblies used in personal computers. The industry is very specialized and consequently the company's 10-k shows only 4 competitors. Whereas it was the industry's largest producer of its component as recently as 2008, the company currently maintains a market share of 12% (according to its 2012 10-k) and has had only one profitable quarter in the last 20 quarters. See Appendix A for detailed financial information.

The company has four major customers that account for 99% of sales, each of whom is a major producer of parts for personal computers. This concentration in sales contributes to the company's precarious economic situation.

Organizational Structure

Timely Technologies has a very traditional organizational structure, with a President/CEO serving under a Board Chairman, and three Vice Presidents. Each VP is supported by directors in their respective areas. There is a Director of Accounting and a Director of IT under the VP/CFO, and all Accounting employees, as well as the vast majority of the employees in IT, are at the headquarters in the U.S. (There are minimal helpdesk employees at the branch locations for onsite technology needs.) Both Human Relations and Operations have their own VP at the headquarters, and directors at each of the branch locations. See Appendix B for detailed organizational information.

Operational information is captured in the organization's many information systems, to be used in decision-making at all levels, but IT is considered a necessary function, rather than a source of strategic advantage. This is evidenced by the fact that their current ERP system, Mac-Pac, is so old that it is no longer supported by the vendor and is not well-integrated with the organization's other systems such as human resources or accounting. In fact, the IT department has constantly been under pressure since the economic downturn began for the company. In 2008 the department had over 100 employees. Currently, the IT department houses 47 employees to facilitate the various needs of the organization, including programming, helpdesk support, and networking. This makes their ratio of IT employees to users approximately 1 to 43, indicating that they may be stretched quite thinly to support operations in such widespread locations. For a company with approximately 2100 employees, this ratio generally ranges from a low of 1:11 to a high of 1:45 (Workforce, 2011).

SETTING THE STAGE

The drivers of technology adoption decisions have been studied for many years. There are several pertinent models regarding decisions at the individual level: (TPB, Theory of Planned Behavior (Ajzen, 1991); TAM, Technology Acceptance Model (Davis, 1989); and UTAUT, Unified Theory of Acceptance and Use of Technology (Venkatesh, Morris, Davis, & Davis, 2003). Prominent models for decisions at the

firm level include DOI, Diffusion of Innovation (Rogers, 2003) and TOE, Technology, Organization and Environment (Tornatzky & Fleischer, 1990). Iacovou, Benbasat and Dexter (1995) developed a model of technology adoption for small firms.

The Timely Technologies case addresses technology adoption by a large publicly traded firm, meaning the DOI and TOE models are most pertinent to the adoption decision. TOE may be seen as an extension of DOI that adds the Environment factor which adds both opportunities and constraints to the technology adoption decision; therefore, we concentrate on TOE. Many factors influence the 'Technology' factor, for example the amount and level of existing technology and the characteristics of that technology. The 'Organization' factor may be influenced by the level of formality, typical communications processes, appetite for risk and firm size, among others. 'Environment' includes a variety of issues such as industry characteristics, technology support infrastructure, government regulation, pressure from competitors and trading partners, among others (Oliveira & Martins, 2011).

In this case, we explore the specific environmental factor of a firm's economic condition on the decision to adopt cloud computing applications. The term 'Cloud Computing' describes a variety of tools that provide completely outsourced Internet-based solutions, allowing users to access applications and information anywhere anytime (Kepcyk, 2011). Cloud computing is a new method of delivering computing resources, not a new technology (Julisch & Hall, 2010). Cloud computing is possible due to the high-speed internet connections available to most organizations, and can apply to both hardware and software; organizations can use these resources as needed, rather than purchasing them outright (Gezcy, Izumi, and Hasida, 2012).

There are many potential uses of cloud computing, but most fall into the category Software as a Service (SaaS). SaaS has advanced considerably in the past few years, and provides many options for companies of every size. SaaS is application software that is hosted by third parties and provided as a service over the Internet (Julisch & Hall, 2010). SaaS vendors assume responsibility for content and operating updates, provide interfaces that reduce the need to upgrade hardware, and assure data and system backup is timely and secure, among other functions (Gezcy, et al., 2012; Wang, Rashid, and Chuang, 2011).

There are many benefits to a cloud-based software model that would be particularly helpful to TT. For instance, with SaaS, the company pays only for the software they use, usually on a month-to-month basis, providing flexibility to downsize in times when fewer employees are using the software or to scale back up when profitability returns. TT's systems currently lack the ability to serve management desires for updated reporting and analytics. Management accepts the lack of information as a practical trade-off caused by financial factors. With cloud applications, TT could experiment with new information sets to determine usefulness and feasibility without making investments with long-term commitments. SaaS provides the ability to accurately plan for software costs, with little or no up-front costs.

SaaS also is updated and maintained by the vendor. For issues such as changing accounting rules, tax laws and local regulations in different countries, having experts provide updates releases time of employees in accounting as well as in IT to address use of the information (rather than concentrating all efforts on gathering the information). At TT, the use of SaaS would allow the thinly-spread IT employees to focus their abilities on aspects other than keeping the software up and running, while still providing TT with current, accurate, integrated software.

Despite the obvious advantages SaaS holds for TT, the decision to move ahead with a new technology is always complex. Low, Chen and Wu (2011) investigated how the TOE model would fit cloud computing adoption decisions and found that TOE fit this decision context. They concluded that cloud computing is more likely to be adopted when the complexity involved in obtaining information in other ways

(i.e. through outdated systems or workarounds) is high, and when cloud applications can be found that fit seamlessly into the existing IT structure from a compatibility standpoint (which are technology factors); the cloud enables the company to provide better service or more effective communications and company management as a whole, including top management, supports such a change (which are organizational factors); and when trading partners or competitors rely on cloud applications (an environmental factor). At TT, the only factor from this list that is missing is upper management support for the change, which seems to be driven by financial considerations alone.

Low et al. (2011) did not consider the role of the firm's financial status in cloud technology adoption decisions, but the economic impact of technology adoption has been considered in some research. For example, Iacovou et. al. (1995) showed that EDI technology adoption was more likely when management perceived that both the direct benefits of adoption (e.g. reduced transaction costs, reduced inventory needs, increased timeliness and accessibility of information) and the indirect benefits of adoption (e.g. improved operational efficiency and increased ability to compete) improved company profitability. TT would likely expect to profit from all of these direct and indirect benefits from adopting cloud applications.

Iacovou et. al. (1995)'s result implies that companies under financial stress may be more likely to change to technologies that improve profitability. However, they did not work with companies already under financial distress. And, not all managers may share the perception that technology changes will improve profitability. The TT case shows that financial distress may block adoption of new technology. That is, even when a company's trading partners are using the cloud, the company knows it can benefit from cloud applications and could support them, and they believe cloud applications can be helpful, the company's economic status can block adoption of cloud applications unless management perceives significant cost savings to be of direct benefit from the adoption. All technology adoption models share this feature; perceptions of decision makers take precedence over facts and figures.

Strategic planning of information technology may be very difficult when a company is in financial distress. Variability in operating results (especially negative results) can mean more financial analytics are necessary, or it can mean analytics take a backseat to other aspects as operations become the central focus. Each member of management tends toward one of these viewpoints more than the other. The same is true in considering the impact of technology changes on overall operating results.

Tension from scarce resources may lead to trade-offs between the needs of various constituencies; in the end the organization's information systems must serve the entire company. For example, while the CFO of a publicly traded company may be in a position to mandate collection of certain information to comply with securities laws, Sarbanes-Oxley, Dodd-Frank and others, the CFO also must ensure that high quality information of all kinds interfaces with financial information and is disseminated appropriately (Provost, 2013). Of course, the manner in which the information is collected, with whom it is shared within the organization, how it is customized to different user groups (marketing, production, logistics, etc.), and how often those answers can change are certainly company-specific.

Tough Economic Times

In the past 20 quarters, TT has only earned net income in one quarter. During the most recent 7-year period (2006-2012), total annual revenue has gone from well over $700 million to under $250 million and annual net income has dropped from $20 million to ($49 million) net loss.[1] During these years, the company experienced financial set-backs such as costs associated with changing its production to a new version of its main product line (which cost nearly $100 million over a three-year period), costs of closing a major plant which were over $60 million in 2009, and costs associated with recovering

from the major floods at its Asian plant which were over $20 million in 2012.

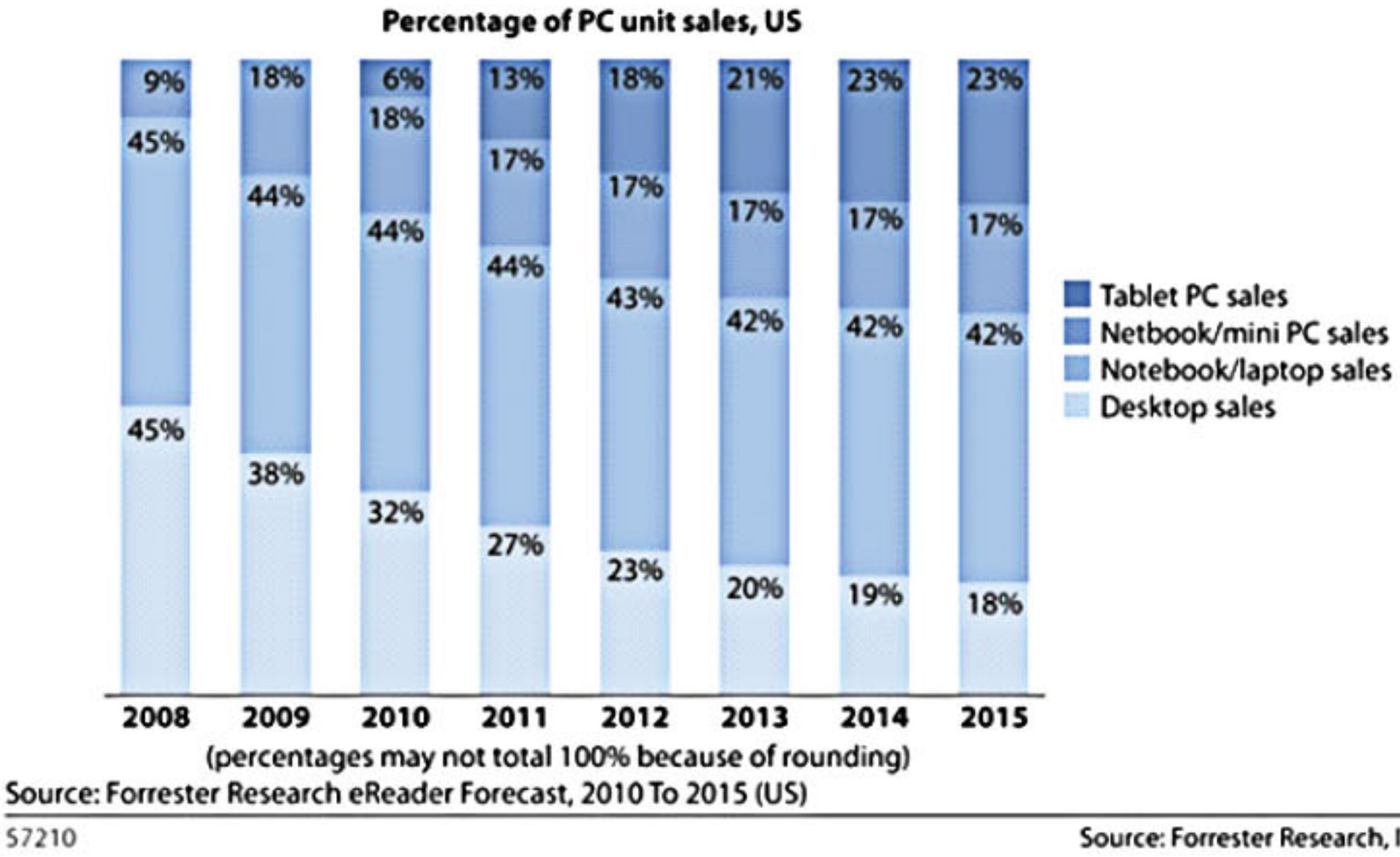
In addition to these major events, there are many other reasons for the profitability drop, but one primary cause has been a lack of demand for the company's main product. As Figure 1 (Manjoo, 2010) shows, industry-wide overall demand for personal desktop and laptop computers has dropped significantly. When fewer personal computers are made, fewer disk drive components are needed. In 2006 the company shipped over 800 million disk drive components and in 2012 the company shipped only 390 million units. Further, their 2012 10-k shows their average selling price, which has always been under $1 per unit, dropped almost 25% per unit in 2012 even as their market share declined. Additional support for the fact that Timely Technologies' current situation continues to be precarious is the company's secured debt interest rate, which is over 8%. This interest rate is substantially higher than most rates on secured borrowing during this period.

The change in demand for TT's products was not caused by the company's inability to produce high quality products, its inability to provide timely logistical support or other shortcomings that are typical of companies that experience declining demand for their products. The company has lost market share largely caused by consolidation of production in the industry as fewer producers survived the prolonged difficult economic times.

To survive under these declining economic conditions, the company has had to make many difficult decisions about how to reduce losses. Cost reduction has become a central focus, but one of its continuing major challenges is its inability to reduce the cost of carrying high unused production capacity. The company maintains production capacity as though it has much higher sales. This is a choice forced upon the company by its business model and its industry.

The company operates on a customer order basis rather than a contractual basis. That is, customers expect to be able to place orders at any time, but TT cannot anticipate the level or pattern of demand (except by the inefficient method of extrapolating prior years' experience and incorporating current industry knowledge). This business model is forced on the company because there are only four major

Figure 1. Forecast: Share of US consumer PC sales by form factor, 2008 to 2015



competitor companies in the industry and the competitors choose this business model. If TT tried to force contractual agreements with customers (to assure the level of and pricing for their orders), customers would likely take their orders to competitors who do not impose those requirements.

One of the company's main risks is its inability to plan capacity requirements accurately, and to efficiently utilize production capacity because of the lack of contracts with their customers. Additionally, their failure to put in place the technologies and capacity necessary to meet market demand could adversely affect their business, financial condition, and results of operations. One result of the need to maintain its ability to respond to customer orders is that the company is forced to maintain a larger workforce in manufacturing than in other aspects of the company. This continuing concern about production capacity carries through all workforce and systems decisions.

In 2008 the company reduced its workforce by 25% and cut pay for all remaining employees by 5%. Severance costs exceeded $12 million for this reduction. Workforce reductions have continued since 2008. As of December 2012 the company has approximately 2,000 employees and it continues to search for ways to reduce fixed costs.

CASE DESCRIPTION

Susan Delany, the Chief Financial Officer (CFO), is facing some difficult decisions. She heads both the Accounting and Information Technology (IT) departments, and the other executives are looking to her for solutions to the best way to achieve additional cost reductions. In light of the continued poor performance of the organization, the executive team has been given cost-saving targets.

The company is currently using very outdated Enterprise Resource Planning (ERP) software called Mac-Pac (for more details, see TDCI, 2011). Mac-Pac specializes in meeting the manufacturing, logistics, and financial information needs of global organizations and was originally chosen by TT because it was a well-respected software package for manufacturing companies. After obtaining the software, TT programmers modified the software, as is common with enterprise-wide software packages. However, because of its ongoing financial woes, TT has not kept up to date with the newest versions of Mac-Pac as the company has continued to enhance its product, and therefore the version of the software that TT is using is no longer supported by the vendor.

While accounting staff members feel they are getting the information they need from Mac-Pac, Susan has observed many situations that would indicate otherwise. The ERP system is integrated with the accounting, HR, and other systems through a series of add-on programs, and information is often incomplete or inaccurate. Susan has identified a major cause of the problem: workarounds have become commonplace, even accepted as inevitable, due to resource constraints.

For instance, the majority of her accounting staff, as well as many of the managers in other departments, have developed spreadsheets outside the ERP system. Some pull information from the system while others are entered manually from a variety of internal and external sources, and thus they are often out of date or inaccurate. This has caused serious integration issues in the past when forecasts have been wrong or information between divisions has not matched as it should, but the staff have come to see this is just how the system works.

Due to its age, the current ERP system is no longer supported by the software vendor which means that TT's in-house programmers must provide all technical support for this "legacy" system. TT has not hired additional programmers even though the IT staff was running at capacity before it took over these vendor responsibilities. In fact, TT has about half the programmers it had when the ERP was first purchased. Therefore, while TT's programmers are very experienced and competent, most of their time is spent troubleshooting. This leaves

little capacity to fulfill requests for new or additional information, streamline information processes or expand customer service-oriented data requests.

Additionally, because the in-house programmers are very good at their jobs, the organization has little confidence that a new software package could meet their needs as well. Susan has often heard managers and others comment on how they would never trust a software salesperson, and they see no reason to go through all the pain of changing anyway. That said, Susan realizes that the programmers are an expensive part of the company's workforce and has considered alternatives to continuing with the legacy systems.

Six years ago, Susan initiated a project to address the outdated ERP software and related information system deficiencies and put a team together to evaluate their options. The team included engineers, IT staff, and plant managers. Accounting staff from the various functional areas such as tax and cost accounting were also included, although several members of the team made it clear that they felt the accounting presence was not really necessary. The team worked for a month to evaluate several packages. At the time, cloud-based options were not considered. Susan and the rest of the team felt their information needs could be met best by a comprehensive ERP, and cloud-based applications were still largely at the stand-alone stage.

In the end, the Movex software system was chosen for a number of reasons. They felt it was a better fit for their size and it was specifically written for manufacturing organizations. It contains modules for traditional items such as HR, Accounting, and Material Requirements Planning, and also has modules for machine maintenance, supply chain, and product engineering that the project team thought would serve TT well (see Movex, 2001, for additional information about the product). The general ledger was implemented first, with plans to implement all other modules over time.

At about that same time, however, the demand for the company's products began to decrease, and profits declined accordingly. The organization was not comfortable with shutting down operations for the time it would take to install the new software, particularly in the new financial climate, so the project was halted.

Now, six years later, TT has the GL in place, but it is merely a storage location for the data as they are not using the full functionality of even that module. They have not implemented any portion of the manufacturing, planning, or inventory support within the system, which was the original intent of the project. To get the data needed for financial, operational, or strategic analysis, most of her staff, as well as managers in the other functional areas such as manufacturing and engineering, are doing extracts from this software to their own spreadsheets, as Susan has observed with the ERP system (MAC-PAC).

Some people know that they are not getting the information they need, while others seem content to continue with the status quo. The chief tax accountant has stated that Movex does not support the transactions, tax and reporting regulations in many countries where TT operates, and he is very concerned about the company's ability to comply with those regulations given this lack of information. The VP and Directors of Operations are frustrated because reliable forecasts are almost impossible to generate due to the combined challenges of poor information and the fact that their customers operate on a purchase-order basis rather than a contract basis.

Susan has been wondering if there are other ways to provide the organization's many employees with the information they need and coordinate information flow across the company. One option that she has been considering is cloud computing; she wonders whether cloud applications might be a suitable alternative to additional modules from Movex. Susan realizes that the company should not be reliant on information system workarounds and should make a coordinated effort to move its accounting and management decision making ahead.

Cloud Computing at TT

Susan has decided to investigate some cloud computing alternatives to the additional Movex

modules. She is aware that it would be possible to integrate their ERP and general ledger with SaaS elements for enterprise resource planning, general ledger, accounts payable and receivable, and many other tasks with vendor and customer management, and payroll applications. TT would not have to buy software that will soon be outdated, or may not seamlessly integrate within the firm's existing technology infrastructure, which would have high potential cost savings.

While there are clear benefits to adopting cloud solutions, there are also risks associated with them. Susan has read some of the current literature about cloud computing and she knows that not all companies have jumped into cloud computing because of risks such as data security and system outages.

Like many companies (e.g. Geczy, et al., 2012), Susan and her fellow managers are concerned about security and loss of control over data. The company operates on a very tight order-delivery schedule and any delays in processing orders or collecting customer information may result in loss of customers. Additionally, since competition in the industry is fierce, competitor companies would be able to exploit information about TT costs. Susan also has concerns over information security because TT operates based on intellectual property advantages. If information about patented products and processes was shared outside the company, its competitive advantage would be lost. Susan is aware of recent concerns that cloud applications may expose her company to new information security risks, they may not be scalable as the company grows, and data ownership maybe difficult to establish, among other issues (Du and Cong, 2010). These challenges are very important to TT, especially in light of its financial distress.

Recent revelations that the National Security Administration has had access to data on cloud vendor's sites have fueled fears over data privacy (Livingstone, 2013). An Ernst and Young (2009) survey found that 56% of companies realize that outsourcing information management to the cloud can help address security concerns when done properly, but this type of due diligence for cloud applications is not well-understood yet.

Another concern is that of system outages. There have been some widely publicized outages in existing cloud systems such as those experienced by Amazon's cloud service or the Blackberry network (Farahmand, 2010). While TT certainly could also experience system outages, members of management feel they would have more warning about problems on their end, and they like the idea of controlling the employees who would address such an outage. Most SaaS vendors would tend to disagree with TT management, maintaining that their IT professionals are heavily trained and always stand ready to quickly address problems.

Unfortunately, the presumption that outsourcing is too expensive continues to have traction in inhibiting TT's movement to the cloud. Susan's group in particular feels that their own IT department is far more trustworthy than any software firm, and they tend to distrust the sales pitches they have heard. This outlook on cloud computing is exacerbated by the company's difficult economic situation.

Ironically, many organizations in the same position as TT are moving away from legacy applications with specialized data structures and associated databases, and many of them are attracted to the cloud (Blumenthal, 2011). Software providers are developing cloud-based alternatives for all sizes and types of organizations. Even SAP, long thought to be a behemoth software package suitable only for the largest organizations, has developed a new solution called "Business by Design," targeted at smaller enterprises (SAP, 2013). Also like many other organizations, Susan and her team do not necessarily have a full understanding of risk and control options available via cloud services. A recent survey showed that that one in five executives has bought a cloud service without the knowledge of their information technology department and without a full understanding of its implications for the rest of their systems (Steffee, 2011).

Technology Adoption Decisions

TT is already using some cloud-based solutions for inventory and shipping. The company's vendors use cloud applications to provide TT with information about product availability. In addition, their shipping channels for raw materials and finished goods inventories utilize service providers that use cloud technology. Susan considers these cloud applications essential in terms of providing TT with the level of service it needs to maximize production efficiency and service its own customers.

Susan is also aware that the company experiences very high costs associated with maintaining their own systems, the complexity of their legacy system is high, and cloud applications exist that could be integrated with existing systems at TT. No department at TT is able to obtain new information or analytics for its decisions, putting the company at a continuing disadvantage to obtain new customers, implement and monitor new strategies or efficiently track existing activities.

Further, managers in every department understand they either must generate the information they need within their staff and their scope of data, or they must live without the information. Cloud-based solutions could clearly lead to efficiencies by reducing duplication of these efforts across departments and by sharing the information across the company. However, because the information is being generated as part of employee workload rather than being charged out separately, the information seems 'free'. Part of TT's challenge is to cost out the creation of these workarounds to determine the actual current cost of information. The view that the IT department is the only cost is both inaccurate and unrealistic, and it stands in the way of the company correctly analyzing the cost savings to be gained from moving to some cloud computing. Susan realizes that while it is very important, this type of analysis would be costly and time-consuming, and she is not optimistic that she could convince the executive team to undertake the project.

TT's situation points to economic circumstances as an important variable that may be a vital driver of the decision to adopt cloud applications. Company management thinks it is unable to afford cloud solutions to its information needs; Susan and the rest of the members of top management at TT have not embraced cloud applications because of their cost. In addition to reducing duplication and increasing information sharing efficiency, cloud applications could slowly replace TT's legacy system components to maintain information availability while reducing costs. However, management has consistently decided to forgo this option for reasons largely related to the company's economic situation.

At TT, each major personnel reduction has been designed to achieve a specific level of cost reduction while maintaining the company's ability to meet possible future customer purchase orders. Susan is aware that any cloud application adoption has an associated cost, and those costs would off-set benefits from personnel reductions to some extent. That is, cloud adoptions could cause even more employees to be cut from the company to achieve the net reduction in costs considered necessary.

Susan and the other managers at TT have not be willing to make additional personnel reductions simply to maintain all reporting functions within the company. Consequently, over the past few years company management has consistently downsized its information expectations. If they correctly understood the true costs of their existing information situation, they might make a different decision.

CURRENT CHALLENGES/ PROBLEMS FACING THE ORGANIZATION

John Miller, the President and CEO, has called a meeting of all the Vice Presidents and he has clearly stated that they will not adjourn until cost-saving decisions have been planned. Their sales continue to decline and the major market

for their product, personal computers, does not show any signs of rebounding. These meetings tend to be very productive and respectful, but each VP has a strong opinion based on their view of the organization's needs, and decisions must be made jointly. Tensions have been running high as TT's outlook continues to deteriorate and the team struggles to make fact-based decisions on limited information.

At some point Susan will face a reduction in information reporting that pushes her to seek alternatives to the legacy system. When reductions only impact non-essential reporting, the company can afford to let reporting go without impacting management or operations. However, at some point reductions will begin to infringe on essential reporting areas, or reporting in other countries will be challenged, or a major customer will be lost. Susan is aware that she is living on borrowed time with regard to IT staff reductions and operating information limitations and is considering methods of determining the company's true cost of information.

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ENDNOTES

[1] Amounts taken from the company's annual 10-k filings

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APPENDIX A

Financial Information

Table 1. Five-year selected financial data: Timely technologies incorporated and subsidiaries

	2012	2011	2010	2009	2008
FOR THE YEAR: Net sales	$248,589	$278,090	$347,189	$408,022	$631,619
Gross profit	3,521	10,351	32,965	7,534	85,480
Percent of net sales	1%	4%	9%	2%	14%
Loss from operations	$(40,127)	$(51,830)	$(47,986)	$(175,517)	$(30,598)
Percent of net sales	(16)%	(19)%	(14)%	(43)%	(5)%
Net (loss) income	$(48,642)	$(55,565)	$(58,922)	$(168,707)	$(106,867)
Percent of net sales	(20)%	(20)%	(17)%	(41)%	(17)%
Capital expenditures	$27,880	$13,506	$31,382	$20,609	$65,603
Research and development expenses	16,474	14,592	21,429	26,776	39,711
Depreciation expenses	38,779	46,941	50,751	73,508	105,423
Cash flow from operating activities	38,092	(2,538)	13,742	19,300	90,336
AT YEAR END:					
Receivables	$25,318	$52,062	$55,478	$71,893	$109,775
Inventories	41,432	55,018	53,568	46,878	76,459
Working capital	87,120	121,314	177,365	181,748	301,135
Net property, plant and equipment	202,468	223,134	258,233	279,336	415,088
Total assets	336,288	401,005	479,712	635,487	881,287
Total debt and capital leases	136,930	154,840	176,471	270,214	334,752

Table 2. Consolidated statements of operations: Timely technology incorporated and subsidiaries

	Fiscal Years Ended				
	June 30, 2012		June 30, 2011		June 30, 2010
	(In thousands, except per share data)				
Net sales	$248,589		$278,090		$347,189
Cost of sales	245,068		267,739		314,224
Gross profit	3,521		10,351		32,965
Research and development expenses	16,474		14,592		21,429
Selling, general and administrative expenses	28,398		40,844		55,848
Severance and other expenses	(711)		6,745		3,674
Debt refinancing costs	4,127		–		–
Insurance recoveries (net of flood-related costs)	(4,640)		–		–
Loss from operations	(40,127)		(51,830)		(47,986)
Other income, net	1,646		1,868		2,357
Gain on extinguishment of debt	5,897		8,382		6
Interest income	131		188		1,311
Interest expense, including non-cash accretion of $5,467, $7,576 and $8,456	(16,551)		(15,065)		(15,876)
Gain (loss) on short- and long-term investments	567		978		(319)
Loss before income taxes	(48,437)		(55,479)		(60,507)
Provision (benefit) for income taxes	205		86		(1,585)
Net loss	$(48,642)		$(55,565)		$(58,922)
Basic loss per share	$(2.06)		$(2.38)		$(2.52)
Diluted loss per share	$(2.06)		$(2.38)		$(2.52)
Weighted-average common shares outstanding	23,565		23,377		23,362
Weighted-average diluted shares outstanding	23,565		23,377		23,362

Table 3. Consolidated balance sheets: Timely technologies incorporated and subsidiaries

	June 30, 2012		June 30, 2011
	(In thousands)		
CURRENT ASSETS			
Cash and cash equivalents	$53,653		$57,554
Short-term investments restricted	1,200		1,612
Trade receivables, net	21,438		44,998
Other receivables	3,880		7,064
Inventories	41,432		55,018
Other current assets	7,203		4,312
Total current assets	128,806		170,558
Land, buildings and improvements	221,365		225,644
Equipment	672,795		760,109
Construction in progress	14,139		12,571
Less: Accumulated depreciation	(705,831)		(775,190)
Net property, plant and equipment	202,468		223,134
Other assets	5,014		7,313
Total assets	$336,288		$401,005
LIABILITIES AND SHAREHOLDERS' EQUITY Current liabilities: Current maturities of long-term debt, net of discount	$11,698		$10,681
Accounts payable	13,982		18,373
Accrued expenses	6,350		7,759
Accrued compensation	9,656		12,431
Total current liabilities	41,686		49,244
Long-term debt, net of discount	125,232		144,159
OTHER LONG-TERM LIABILITIES: COMMITMENTS AND CONTINGENCIES, SHAREHOLDERS' EQUITY	1,540		1,280
Common stock, $.01 par value, 100,000,000 shares authorized, 23,900,000 and 23,387,000 issued and outstanding	239		234
Additional paid-in capital	430,448		419,984
Accumulated other comprehensive (loss) income	(129)		190
Accumulated loss	(262,728)		(214,086)
Total shareholders' equity	167,830		206,322
Total liabilities and shareholders' equity	$336,288		$401,005

Table 4. Consolidated statements of cash flows: Timely technologies incorporated and subsidiaries

	Fiscal Years Ended				
	June 30, 2012		June 30, 2011		June 30, 2010
	(In thousasnds)				
OPERATING ACTIVITIES					
Net loss	$(48,64)		$(55,565)		(58,922)
Adjustments to reconcile net loss to cash (used for) provided by operating activities:					
Depreciation and amortization	41,459		48,086		51,849
Stock-based compensation	1,979		1,870		3,462
Gain on short- and long-term investments	(567)		(978)		–
Loss on disposal of assets	418		1,182		173
Asset impairment charge	8,537		–		3,274
Non-cash interest expense	5,467		7,576		8,456
Gain on extinguishment of debt	(5,897)		(8,382)		(6)
Severance and other expenses	(1,741)		1,741		1,150
Changes in operating assets and liabilities	37,079		1,932		4,306
Cash provided by (used for) operating activities	38,092		(2,538)		13,742
INVESTING ACTIVITIES					
Capital expenditures	(27,880)		(13,506)		(31,382)
Change in restricted cash	(2,799)		(2,620)		–
Purchases of marketable securities	(2,813)		(12,412)		(71,739)
Sales/maturities of marketable securities	3,789		60,440		141,445
Cash (used for) provided by investing activities	(29,703)		31,902		38,324
FINANCING ACTIVITIES					
Proceeds from issuance of common stock	–		2		55
Repayments of revolving credit facility	(311,771)		(4,932)		–
Proceeds from revolving credit facility and loan	301,362		15,341		–
Repayments of debt	(37,154)		(34,370)		(102,873)
Proceeds from private placement of debt	39,400		–		–
Debt refinancing costs	(4,127)		(3,490)		–
Cash used for financing activities	(12,290)		(27,449)		(102,818)
Net (decrease) increase in cash and cash equivalents	(3,901)		1,915		(50,752)
Cash and cash equivalents at beginning of year	57,554		55,639		106,391
Cash and cash equivalents at end of year	$53,653		$57,554		$55,639

APPENDIX B

Organizational Structure

Figure 2. Timely technologies incorporated corporate organization chart as of January 01, 2013

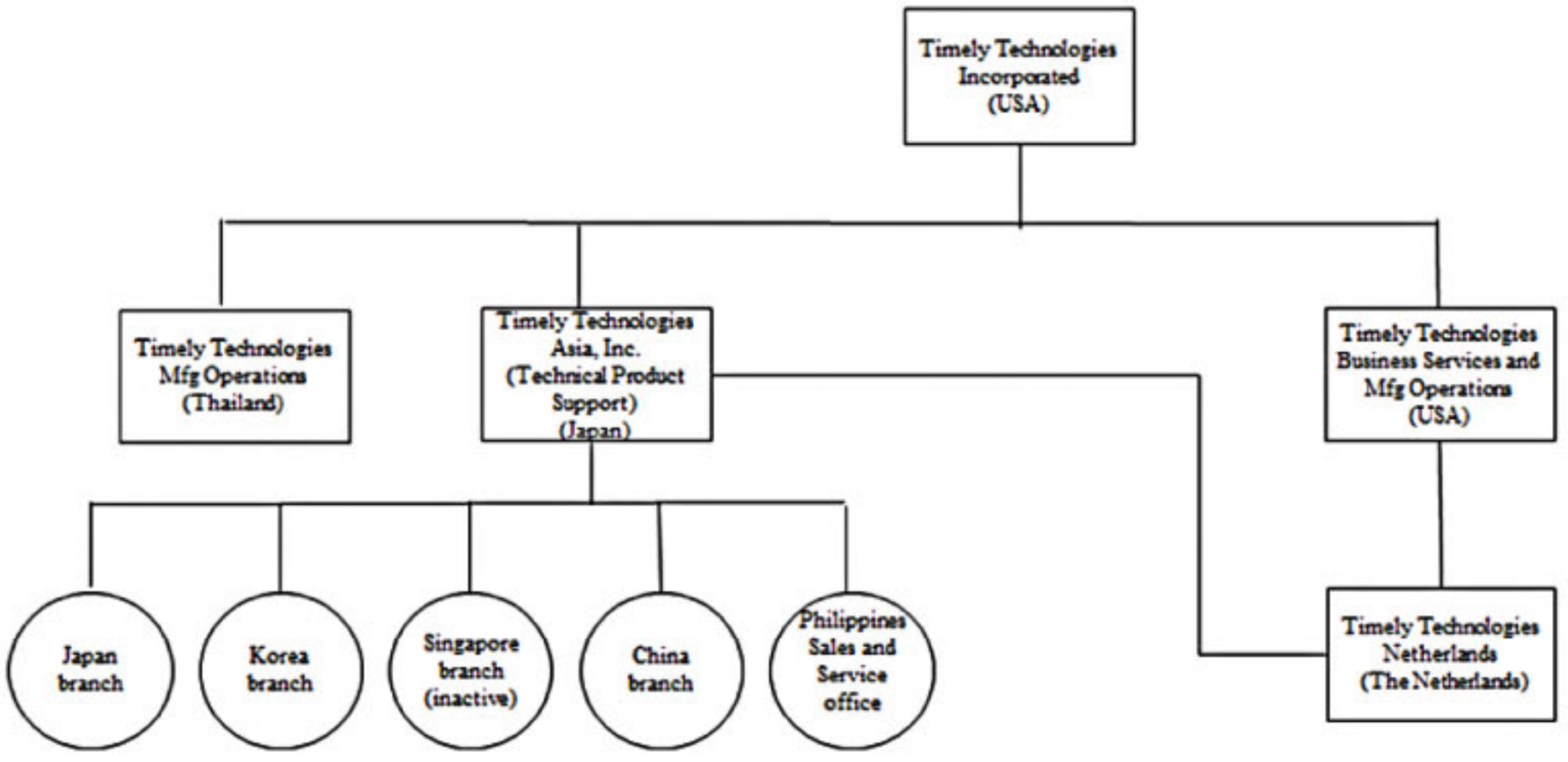

Figure 3. Timely technologies incorporated executive organization chart as of January 01, 2013