

## i2 Case Supplement <sup>1</sup>

### 1 Update in April 2001: Economic Downturn

After the Planet'98 meeting in September 98, i2 did not make an immediate move to become an e-BPO company rather it worked to strengthen its position in the SCM market. i2 has been the leader in the SCM market and has enjoyed a somewhat strong stock value. Its stock suffered two declines in April of 2000 (see week 66-68 of Figure 1) and in November 2000 (see week 96-98 of Figure 1).

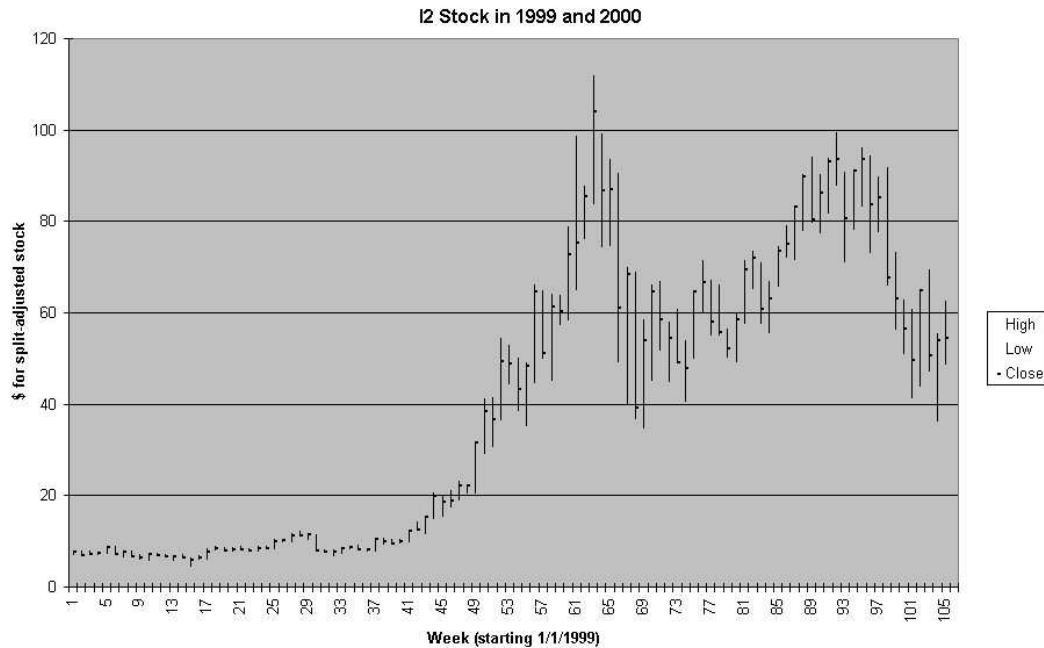


Figure 1: i2 stock in 1999 and 2000.

Many analysts believe that there is still a lot of value i2 can deliver to businesses by cutting inventories and by improving customer service. According to these analysts, SCM is the heart of the new economy and i2 is the brains behind the SCM revolution. i2 has recently expanded its B2B effort with models for exchanges and private marketplaces (company specific procurement environments). It has signed contracts to build these models for Siemens (a deal worth about \$100 million) and Caterpillar in the recent months.

It appears that i2 and its business are going to grow in the near future, although the growth will be at a slower rate than those of the previous years. This slow down is partly due to a slowing economy. FED has cut interest rates 4 times in the last 4 months to boost the markets. However, the markets have not responded strongly yet.

<sup>1</sup>This supplement is prepared by Metin Çakanyıldırım (for correspondence: metin@utdallas.edu) to complement and update Harvard Business School case I2 technologies, Inc, #9-699-042. The ideas presented here are for class discussion so they do not relate to any i2 policy.

The success of competitors, such as Manugistics or Aspentech, are also negatively affecting i2's growth.

Whether i2 should get into new territories such as accounting, marketing, finance and human resources planning was an unresolved issue in 2001. In April 2001, i2 hired SCM experts to evaluate its expansion plan. In short experts noted that :

1. i2 has not radically altered its product spectrum since Planet'98 meeting. It added supplier and customer relationship management suites and named all the suites as TradeMatrix which targets e-business transactions.
2. Currently i2 does not have products for financial planning, managerial accounting, human resources planning or marketing. If i2 were to integrate these activities to its SCM planning, a step by step approach is advised. At first, accounting and financial planning are probably easier to integrate because these are rather streamlined activities that are easy to quantify and represent. On the other hand, human resource management may need more work for its subjective nature. This distinction is also visible in the stand alone software tools market: there are many more accounting and financial planning tools than human resource management tools.
3. We support the i2's "expansion by purchasing" strategy: when i2 needs to expand into a new market, it buys a company from that market. Buying existing companies and aligning them with i2 can be troublesome because of different company cultures and existing power structures. However i2 buys much smaller companies than itself so does not suffer digestion problems. Purchasing the best of the breed existing companies allow i2 to quickly enhance its product offerings in terms of depth and breadth. Besides existing companies provide a foothold and sometimes a recognized brand name in new markets.
4. i2's current e-business initiative is B2B tool TradeMatrix. Using this tool, i2 can successfully extend its offerings for e-business in the short run — within 12 months. In the long run, TradeMatrix can be enhanced by addition of accounting, finance and marketing tools.

Experts were critical of the expansion plans, one of them voiced her opinion as:

- This move [to e-BPO and beyond] is a much greater expansion of skills, a quantum leap of a far greater magnitude. It would require the purchase and integration of products that are very different from i2's core competencies. Not only would the acquisition be expensive, the integration would be difficult and time consuming. The electronic business marketplace has far more competition than the SCM market. i2 will not again have the good fortune to attack a new, under-served market by using a new technology that is experiencing revolutionary growth ...

Consequently, i2 decided not to pursue e-BPO very strongly. Instead, it decided to spend more effort in defending its SCM market share against new threats like Oracle and SAP. Unlike existing SCM competitors, these two are substantially large companies and they are already established in CRM market so they can seriously threaten i2 by transferring their know-how and customer base to SCM market. As a result, i2 opted for a conservative and defensive wait-and-see strategy during 2001 and early 2002.

## **2 Update in April 2002: Tough Times**

Neither general markets nor i2's business improved in 2001 or in the first few months of 2002. Furthermore, on April 5, Siemens announced that it was experiencing problems with i2's supply chain software and it would develop its own software. This undercut i2 sales not only to Siemens but also to others who were adversely affected by such negative news.

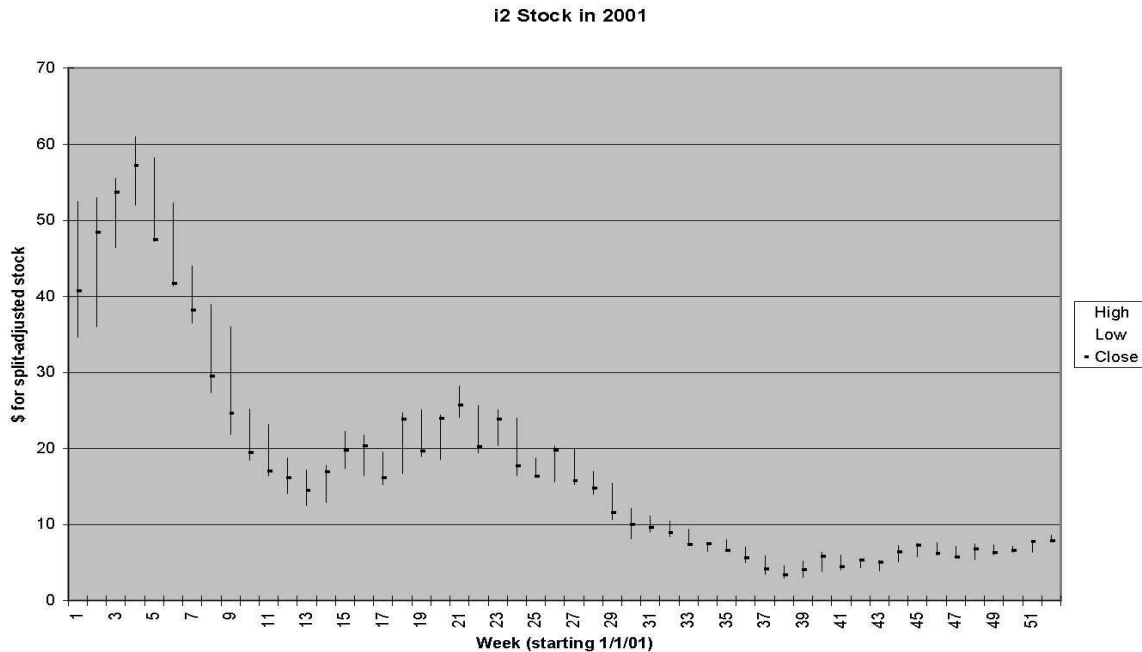


Figure 2: i2 stock in 2001

### 3 Update in April 2003: Is This the End?

The economy did not improve in 2002 either. Even worse big companies were shaken by accounting scandals starting with Enron. The scandals damaged the image of the Wall street, many investors pulled their money from stocks. SEC (Securities and exchange commission) spent considerable effort to clean up this image and also to bring the parties involved in the scandals to court. Many scandals included some kind of a misrepresentation of revenues/costs. Unfortunately i2 could not isolate itself from the turbulence.

On April 10, a SEC class action lawsuit started in the US District Court for Northern District of Texas, on behalf of all persons who purchased or acquired i2 stock between April 18, 2000 and January 24, 2003. The lawsuit alleges that i2 misrepresented its revenue and lacked internal control/audit mechanisms to discover the misrepresentations. It continues to say that the stock holders who bought stocks during the period stated above consequently were misled about the earnings of i2. This is not entirely surprising as i2 already started an internal re-audit program on January 23. At that time the i2 stock experienced 26% drop on a single day; See Figure 3.

### 4 Update in April 2004: If no light here, where?

Year 2003 was worse for i2 than year 2002. The poor economic conditions did not improve in 2003. They caused significant decreases in technology and capital spending. i2 was hit strongly because a big percentage of its revenue comes from the high-tech industries which were adversely affected from the economic conditions.

As a result of the internal re-audit program (started on January 23, 2003) and continued pressure from SEC, i2 changed its accounting for revenues. *Contract revenues* dropped most because of accounting change. Contract revenues consist of fees generated from license, services and maintenance revenue from those transactions. It is reported that i2 changed its accounting from revenue recognition under SOP 97-2 to contract accounting under SOP 81-1 in connection with the previously completed restatement of their consolidated financial statements.

i2 Stock in 2002

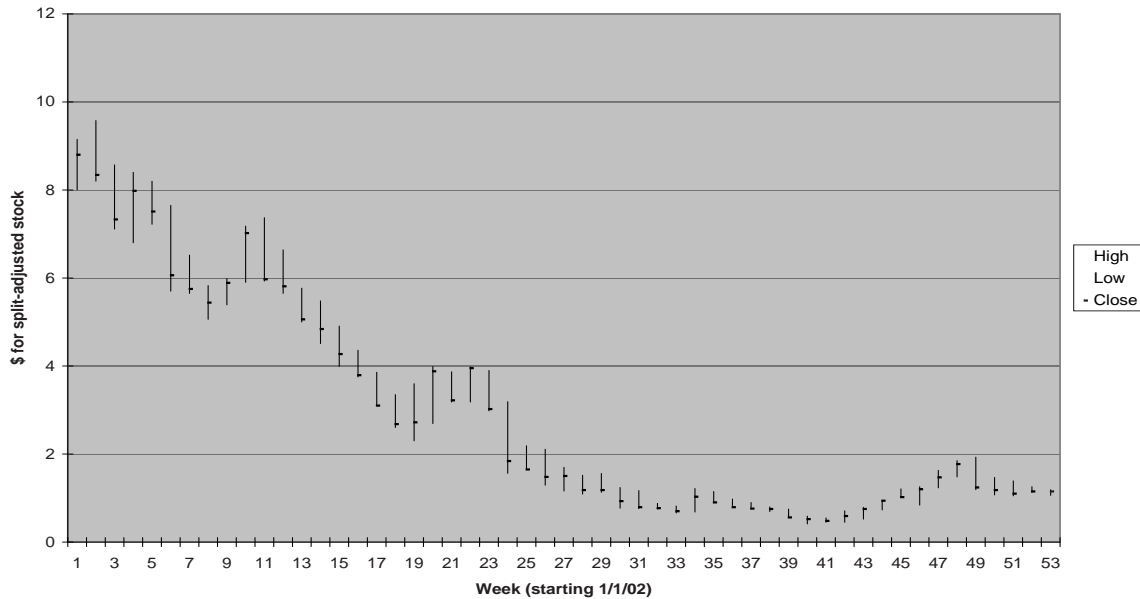


Figure 3: i2 stock in 2002

Partially as a result of new accounting scheme, the contract revenues decreased \$388.1 million, or 75%, during 2003 and increased \$213.7 million, or 71%, during 2002. The increase in contract revenue in 2002 is a result of the recognition of deferred revenue with respect to contracts entered into in prior periods. In the future, i2 expects significantly reduced contract revenue due to the fact that the revenue deferred from prior periods has substantially decreased. Given that contract revenues constitute 57% and 26% of the total revenues in 2002 and 2003, decreases in them show up strongly in the i2's bottomline as negative cash flows.

Negative cash flow, the previously completed restatement of i2's consolidated financial statements, the related SEC investigation and securities class action lawsuits, and the de-listing of i2 common stock from NASDAQ (stock listed back in the last 6 months of 2003, see Figure 4) caused concerns that i2 may not be financially viable. There are no assurances that i2 can increase its revenue in the US in the coming years. i2 expects that the days of late 90s when customers had strong appetite and budget for information technology products will never come back. However, a new technology/business paradigm can always boost sales. In this context, i2 decides to examine shifting its focus to overseas operations.

Two recent news, one good one bad, have reached i2 in April 2004. Shell has announced that it is planning to terminate its contract with i2. The contract was dealing with the development of a solution (concepts and software) to address SCM issues in the downstream oil industry. As the prices for oil are increasing in the US, necessity for efficient oil delivery supply chains is becoming more pronounced. One issue that is repeatedly brought up is the variety of the gas sold in the US. It is argued that even the standardization of gas stocks can help driving down the costs. To start with, standardization of gas types will allow the gas delivery supply chains to aggregate their stocks and deal with demand variability more efficiently. It is unfortunate that Shell is planning to stop its collaboration with i2 when i2's expertise can increase the efficiency in the oil SC, save operating costs of Shell and keep prices low for consumers in the Summer of 2004.

On the bright side, Samsung announced that it is benefiting from i2's SRM module. SRM stands for Supplier

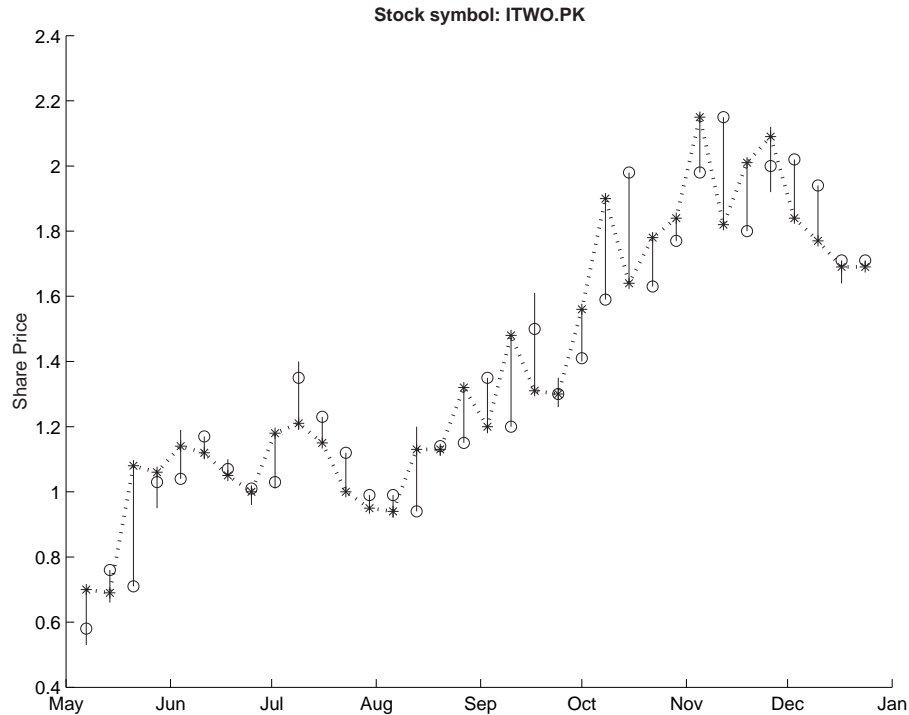


Figure 4: Weekly i2 stock from May 12 2003 to Dec 12 2003. o: Opening value. \*: Closing value.

Relationship Management and is used to evaluate suppliers by Samsung. Samsung executives are speaking very positively about their collaboration with i2. Dong-Wook Min, former chief purchasing officer and vice president of Samsung Electronics and current vice president of Samsung Japan Corporation, says:

We have leveraged i2 solutions since 1997 and this recent deployment [of SRM] builds upon the successes we have already experienced. i2 SRM gives us unprecedented visibility into our spending across the enterprise. This will help our commodity managers better plan sourcing strategies, and our buyers execute purchases from the best suppliers.

Couple days after Samsung's announcement, Hiten Varia, who has been with i2 since 1995, has been promoted to become the president of i2's greater Asia-Pacific (APAC) region including Australia, China, India, Japan, Korea and Taiwan. As a result of Shell announcement from the Netherlands and Samsung announcement from Korea, Mr. Varia is determined to make a big push in the APAC. He is planning to shift most of the i2's development focus on to this region. Indeed, i2 has been relocating its development workers to India in the last 3 years but the majority of sales were happening in the US. Consequently, most of the i2 workers left in the US are in product sales and maintenance.

Mr. Varia expects that manufacturing operations will continue to grow in the APAC as the region increases its clout in the world economy. This trend may necessitate local expertise in the APAC in dealing with manufacturing supply chain problems. He argues that opening and maintaining self-sufficient i2 offices for product development in the APAC can now be profitable. When he mentions his vision to the CEO, he is advised to prove his predictions. Being a methodological person from his educational upbringing as an electrical engineer, Mr. Varia decides to illustrate his concepts with a pilot study.

Hiten Varia chooses Taiwan for his study. He considers three factors while choosing Taiwan:

1. Small economy: Taiwan has a relatively smaller economy than other countries in the APAC. In order to

penetrate and survive in the Taiwanese market, i2 does not require huge initial investments. Moreover, any blunder, being in small scale, in Taiwan can be absorbed by i2.

2. High-tech manufacturing dominates: A big portion of Taiwanese economy is in the high-tech industries and most is in manufacturing. i2 has traditionally worked for high-tech manufacturing companies in the US so it has a leveragable knowledge base. This knowledge can be transferred to Taiwan with relative ease.
3. Good infrastructure with low cost: Except for Australia in the APAC, Taiwan is the most westernized country in the region. It has reasonably good infrastructure and educated workforce. Besides, the costs in Taiwan are not as high as those in Japan. In case the pilot project fails, the associated damages to i2 would be smaller in Taiwan than Japan.

The pilot project in Taiwan involves sending more SCM experts and software developers to Taiwan to beef up the development activities in Taiwan. These newly appointed experts will start with existing i2 products and modify it for Taiwanese manufacturing sector needs. Such software modifications are more extensive than software customization. Software customization is setting/adjusting the parameters the software works with. On the other hand, software modification is altering the source code. For example, i2 uses truck-route based modelling for its transportation planning software which may need modification for an island, such as Taiwan, where transportation is mostly done by seaways or airways. Thus, formulations relating to truck routes need to be modified by the SCM experts and need to be coded into the software by the developers.

We study i2 further to evaluate Mr. Varia's vision. It is advisable that you visit i2.com to discuss the issues below:

#### 1. Products-Industries

- (a) Find out what are i2's **current** products and briefly explain what business function(s) (e.g. marketing, transportation, procurement, finance, materials handling, capacity planning, accounting, inventory planning, manufacturing, scheduling, forecasting, ...) each of these products is designed to handle?
- (b) List three industries (e.g. retail industry, automotive, health, ...) i2 serves. For each industry, list a challenge the industry faces. Challenges are important problems whose solution can contribute to company bottom line significantly. For example supplier-retailer cooperation is an important challenge in the retail industry.
- (c) Match business challenges in industries with i2 products which can be used to meet these challenges. Can all challenges be met with existing products?

#### 2. Marketing

- (a) Why is it difficult to sell analytical software such as SCP, as opposed to selling Microsoft office products? What does i2 do to overcome this difficulty?
- (b) Do you think that i2's step by step marketing of its software products is a good approach? Why is this attractive to customers? What could be disadvantages of this approach from i2's perspective?
- (c) How does i2 customize its software? Do you think it spends too much or too little effort in customization, why?

#### 3. Competition

- (a) Who are i2's competitors? In general, what is the competitive advantage of i2 over its competitors?
- (b) Would you consider SAP (sap.com) as i2's competitor? What are their competitive weaknesses and strengths against each other considering the issue of specialization vs. diversification?

#### 4. Taiwan Office

- (a) In a paragraph, briefly list what could be the challenges of initiating a development office in Taiwan. Is the i2 knowledge preservable and transferable? Does the knowledge reside with i2 employees or with the company models/software, discuss?
- (b) Mr. Varia mentions three factors for choosing Taiwan for his pilot study. Do you agree with him, discuss.
- (c) If the Taiwan experiment is successful, should i2 open up a development office in each of the APAC countries or keep one strong development office serving to all APAC countries.

Once you are done with above questions, you are ready to write an executive summary. In your executive summary, clearly state whether you support or oppose Mr. Varia. You may support Mr. Varia but may want to use a different strategy / study / pilot study, mention all these. Executive summary is for you to clearly express your suggestions. Do not delve into justifications in your executive summary. Use your answers to above questions for justification in the main body of your report.

**Report Format:** Put your executive summary onto the first page. Write at most 4 additional pages (including all the figures and tables) to answer the questions above. You should spend more time and effort on the discussion of Taiwan Office than other i2 characteristics such as marketing or finance.