



Technology (Application Software)

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Key Index Statistics

Price	31.55
52-Week Range	26.37-51.89
Market Capitalization (B)	339.48 Million
P/E Ratio	12.51
1-Yr % Change	-38.43%

Major Players by Market Cap (B)

Microsoft Corporation (MSFT)	185.90
IBM (IBM)	134.28
Google Inc. (GOOG)	122.97
Oracle Corp (ORCL)	98.62
SAP ADR (SAP)	43.80
Adobe Systems Inc (ADBE)	10.73
CA Inc (CA)	9.32
Intuit Inc (INTU)	7.44
BMC Software (BMC)	5.35
Check Point Software Tech (CHKP)	4.98
Trend Micro ADR (TMICY)	3.95
Amdocs Ltd (DOX)	3.75

INVESTMENT THESIS

- The housing bust which led to economic downturn across sectors has affected the application software industry as well. The downturn has not just impacted North America—the hub of the global software application industry but has also impacted the European Union and the back-office of the application software industry-Asia. We feel this recessionary weather will continue to have a negative impact on the industry.
- The other significant factor which has hurt the US based multi-national application software providers is the strengthening US dollar globally. The increase in dollar rate vis-à-vis other currencies has meant that revenue earned in foreign currency is valued less when converted to USD's hence hurting the operating profit and cash flows of such application software providers. The pressure on foreign revenues will continue throughout 2009. In addition the proposed taxation on foreign revenues by the US government will be a concern for all US based tech majors.
- The industry has seen its fair share of mergers and acquisitions with the recent acquisition of Sun by Oracle and the continuing debate of Microsoft's interest in Yahoo. We feel this trend of consolidation in the industry will continue with the major players such as IBM, Microsoft, Google, Oracle etc looking for target companies since we feel it's a good time for buys in the capital markets with many organizations with decent business models being underpriced due to the conservative approach adopted by equity investors.
- Despite the global economic downturn, we don't envisage the growth in the application software industry to drop to single-digit figures. The reason being that the business operations of all major global enterprises are closely tied to their technology infrastructure which inhibits curtailment of IT spending entirely. The mission-critical applications will continue to generate revenues and employment opportunities.

EXECUTIVE SUMMARY

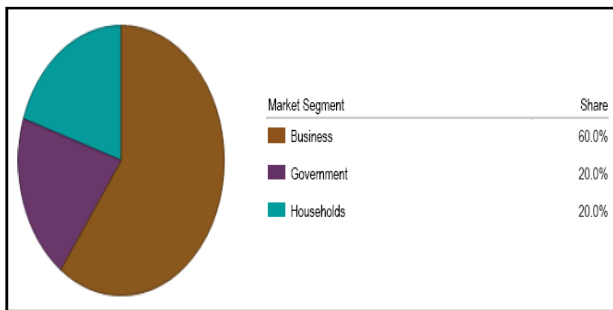
Despite the maturing of the enterprise and application software industry, we believe that in addition to the close-coupling of technology with critical business processes in industries such as healthcare, banking, telecommunication and transportation, application software has growth opportunities in segments such as SaaS (Software-as-a-Service), BI (business intelligence) and customer relationship management (CRM). With increased consolidation in the industry, the bigger names will continue to be profitable and will add value to equity asset classes in funds.

INDUSTRY DESCRIPTION

The application software industry can be broadly segregated in the following sub-divisions - Software development and publishing, Maintenance, Services and Support, Training, Documentation and Consulting.

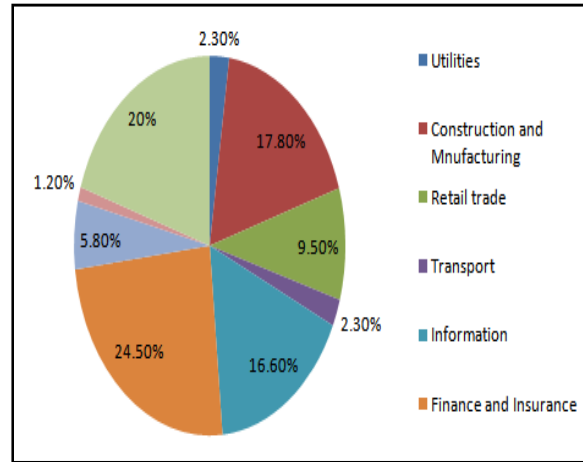
Amongst all these sub-divisions, the largest and the most profitable are the companies publishing horizontal proprietary software such as Microsoft, SAP AG, Oracle Corporation and Adobe.

Software development is the other major revenue generator, where 3rd party vendor companies develop vertical-market niche solutions for institutions in following sectors¹: finance, health care, insurance, retail, automotive manufacturing etc.



Source: IBIS Report – Software Publishing 2008

As seen in the chart above, business is the most prominent user of enterprise application software, followed closely by government spending in the sector. The recent slump in sales across software houses has been primarily driven by a slump in business in the US and across the globe. This recessionary trend will continue throughout 2009.



Source: IBIS Report – Software Publishing 2008

The chart above illustrates the various sectors which utilize enterprise software as part of their core business needs. Clearly finance, insurance and manufacturing are some of the verticals utilizing software the most, which reflects the bearish trend in the industry. Finance and Insurance being the worst hit in this recession has clearly had an effect on the applications software industry.

The chart below clearly reflects our forecast on the revenue growth rates in the software publishing business. According to IBIS World, the year 2009 will see a weakening in revenue growth rates in the industry. But sales and revenue streams across the industry will strengthen as we go into 2010 before improving on the 2008 figure in 2011 with real revenue growth rates of nearly 4%. We feel that this growth will be fueled by a increase in spending by the corporations who will look at strengthening their It infrastructure and also by product releases by software houses such as Microsoft, Oracle and Apple.

Forecast real revenue growth %	2008	2009	2010	2011	2012	2013
as published December 2008	3.5	2.5	3.0	4.0	4.1	4.1
New Revised Forecast	1.5	-3.0	-1.0	4.0	4.1	4.1

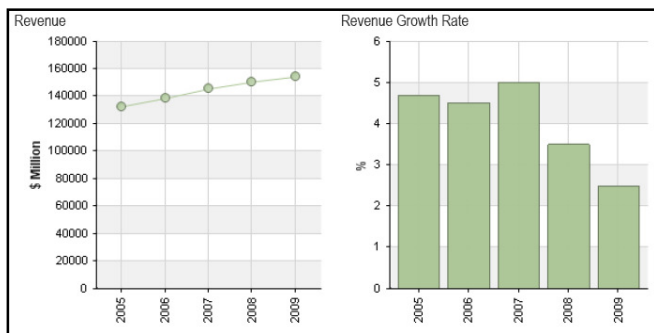
Source: IBIS Report – Software Publishing 2008

There are few companies which do exclusive contract programming for particular clients to implement technology solutions for their business needs or focus on supporting and customizing existing product suites by companies such as SAP and Oracle.

Additionally, there are companies such as Red Hat which publish or support open source technology platforms and solutions.

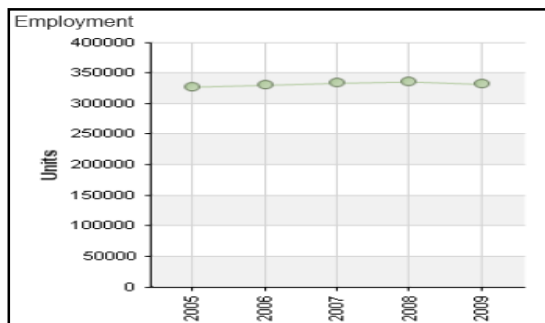


The key statistics of the application software industry in the United States is as shown in the charts displayed below. According to the IBIS World Report the expected revenue for the software publishing industry in 2009 will be \$154 billion increase of 2.7% from the \$150 billion revenue figure in 2008. As we have forecasted earlier and as seen in the charts below, the 2008 and 2009 revenue growth rates show distinct decrease as compared to the 2005-2007 figures. This reflects the recessionary climate in the industry which has drastically affected revenue generation due to a decrease of investment by corporations in enhancing and building their IT infrastructure.



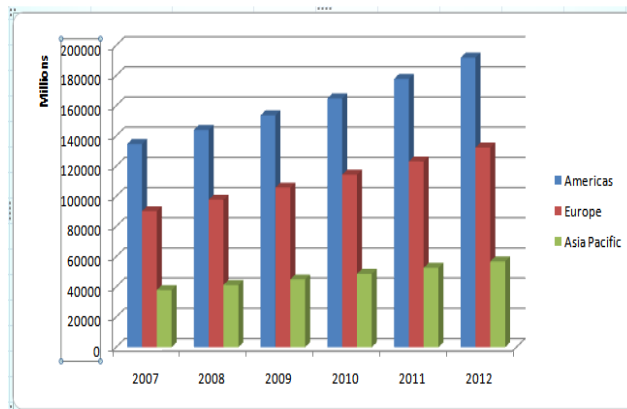
Source: IBIS Report – Software Publishing 2008

With respect to employment opportunities in the United States, the chart below shows the historical trends. This clearly suggests a decrease in growth rate of employment opportunities in the industry with the figures tapering off in 2009. We feel that the employment growth rates will clearly shadow the revenue growth rates in the industry showing signs of strengthening from 2010 onwards.



Source: IBIS Report – Software Publishing 2008

The global market for packaged software revenue forecast, by region (as published by IDC's July 2008 forecast report) is as follows:



Source: Standard and Poor's Industry Report 2008 – Computers (Software)

The chart above shows the trend in the industry with respect to a shift in revenue generation from overseas markets. The increasing dependence on foreign markets will help diversify the risk of the software publishing firms but we think that this diversification in turn will expose these firms to systemic risks such as foreign currency fluctuations.

Through the first half of 2008, software companies have generally reported strong growth from international markets, particularly Europe. We feel this was because of the weaker dollar relative to the US dollar in the first half of 2008. We believe that the recessionary climate in Europe will hurt overall spending on enterprise software.

Many countries in the Asia-Pacific region are among the fastest growing economies in the world. Till recently these regions have provided an offset to the slowdown in the US economy but that phenomena was short-lived and we are seeing contraction in the economies of the countries in the Asia-pacific region as well. Therefore, while we think that growth in IT spending on software could trend to the lower end of projected growth ranges, we do not see the spigot turning off completely.

INDUSTRY SUB-SECTORS

Technology platforms:

This is a \$500 billion industry with the major players being Microsoft, Oracle, IBM and SAP. The companies in this sub-sector are best equipped to do relatively well in a bear market because of the depth and breadth of the technology platform sub-sector.

Software as a Service (SaaS):

SaaS will help corporations reduce operational costs. Oracle and SAP are the major players in the SaaS sub-sector and will reap the benefits of being the first-movers in this vertical. The other



smaller players in this sub-sector are Salesforce.com Inc (CRM) and NetSuite (N).

► Security Platforms:

Data security is a major concern in the application software space, especially for data sensitive industries such as banking. Therefore there are opportunities for software security companies, especially for ones planning to provide solutions for hand-held devices. This sub-sector is expected to grow annually at almost 12%.

The major companies operating in this space are Symantec and McAfee.

RECENT DEVELOPMENTS

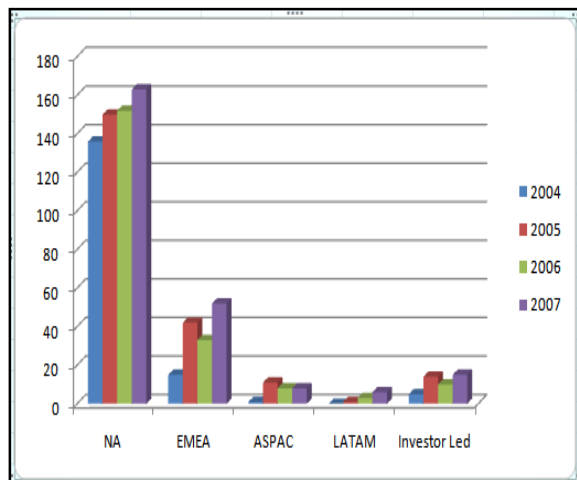
- Despite the grim economic scenario, IBM posted a 12% increase in fourth-quarter profit and surprisingly gave an upbeat outlook for 2009. This beat the market expectations hands-down. IBM cited the fact that despite the slowdown, IBM continued to get outsourcing contracts. The company said that it expected full year 2009 EPS of \$9.20 which beat the analysts forecast of \$8.75ⁱⁱ. We think that service providers such as IBM, Oracle, Microsoft, who are entrenched closely with various business verticals will continue to show steady growth rates despite the IT spending cuts. This clearly reflects the continuity of business that clients have with such firms and we think it is also a testament of client's flight to quality during recessionary weather.
- IBM in fact announced a deal with Amazon on the 11th of February 2009, which would allow corporations and software developers to run IBM's commercial software in Amazon's cloud. Cloud computing is a technology where virtual resources are dynamically located on the web and utilized for computing, without the knowledge of the end-userⁱⁱⁱ. We think that cloud computing is a industry trend which will continue to drive a lot of product development and R&D in the vertical. A testament to this fact is Google's recent launch of their internet browser – Chrome, which is conceptualized on cloud computing.
- SAP the German software major, recently announced a modular version of its flagship software product, Business Suite 7. This would allow its users to only purchase a module of the complete suite instead of purchasing and implementing the complete SAP suite. This strategy is to replicate 'on-demand' software providers such as Salesforce.com Inc^{iv}. This is in continuation of the trend in the industry to provide 'Software-As-A-
- Service'. This trend is being implemented by majors such as SAP, Microsoft and Oracle, who are modularizing their product offerings in addition to making these products more customizable, in-line with demands and needs of end-users.
- Microsoft is said to announce the launch of its new mobile devices software – Microsoft Mobile 6.5. Mr. Steve Ballmer is expected to announce the details of the release in Barcelona on the 16th of February 2009. Company sources claim, this release will spur on Microsoft's stagnant market share in the mobile devices industry from 13%, to counter Apple's growing share which has tripled from 3% to 9% in 2008. We forecast that Smartphone's will drive the growth in the wireless industry. There will be intense competition in this space with Apple, Microsoft, Symbian and RIM trying their best to be market leaders in this space which will drive retail data and entertainment needs in the near future.
- On 10th February, CA Inc announced the settlement of its claims of copyright infringement and trade secret misappropriation with Rocket Software Inc. As part of the settlement, Rocket Software Inc will license software from CA. In addition, CA recently posted revenue for its fiscal third quarter of \$1.04 billion, under-performing the market expectation by \$.03 billion. Revenues were down by 5% YTD. Non-GAAP profits in the quarter were 43 cents/share beating market expectations by 5 cents/share^v.
- On Feb 12th 2009, Amdocs announced the launch of two of its network usage software packages. This a product targeting internet service providers, helping them reduce operation costs by customizing the resource allocation utilities for customers. This boosted the performance of the stock, helping it gain almost 2.5% in a day.
- Israel based internet and network security company, Check Point Software Technologies Ltd, announced its 4th quarter earnings on the 27th of January, beating analysts' estimates. The company posted net profit of \$86.5 million. Revenue in the quarter increased from \$206.7 million to \$217.6 million^{vi}. The company is also contemplating acquiring Nokia's security appliance business.

INDUSTRY TRENDS and CATALYSTS for GROWTH

- The biggest trend in the industry has been the consolidation seen within the industry. In the last several years, software companies such as Oracle, IBM, HP, EMC Corp and Symantec have been completing M&A deals globally.



Shown below is a chart displaying the activity in the M&A space in the application software industry till 2007.



Source: Standard and Poor's Industry Report 2008 – Computers (Software)

The consolidation in the industry is critical to the survival and growth of some of the smaller players as they merge with the bigger vendors, because contracts for application software development and maintenance are being given to firms which are perceived to be bigger, more stable and less likely to fail in this bear market.

- The other key trends in the industry are growing demands for non-traditional products such as SaaS, CRM and Business Intelligence. Business Intelligence in particular has a lot of scope for growth because of the renewed focus on managing risk which requires management to get critical MIS data for risk analysis during business development.

Open source application platforms have always been in vogue and will continue to be a big favorite with the software application development community.

No segment of the software industry is immune to the unprecedented global economic downturn, but we firmly believe that companies with diverse and broad product offerings, well spread out customer base and a broad global geographical footprint with expected recurring revenues through license renewal fees and continued maintenance contracts on proprietary software will weather the storm best and will continue to grow.

As is applicable in all segments of the industry, the catalyst for growth in the application software industry will be innovation, reuse of knowledge and resources and development of newer products by concentrating on research and development.

We think that in the five years through 2008, there will be growth in the information and service sectors of the economy - sectors that are relatively dependent on software (compared with other sectors of the economy). Software is expected to account for a rising share of business' IT budgets. There is also a trend for businesses and governments to use "off-the-shelf" software in preference to internally-developed customized software. Enterprises will seek to increase productivity, improve customer service and marketing, reduce costs and comply with regulation through the use IT. Enterprises will also use IT to reduce the complexity of management and to respond to global competition. Growing security risks will promote investment in IT security. There is increasing interest from enterprises in strategic solutions for business intelligence. Software solutions will also assist companies in the efficient compliance with new regulatory regimes, such as Sarbanes Oxley, Basel II, International Accounting Standards, and the Health Insurance and Portability Act.

The software industry is affected by the computer hardware industry. In the 1960s, Gordon Moore of Intel ascertained that computing hardware power would double every eighteen months. Since then, this law has consistently been achieved. These developments provide the software industry with great benefits as the constant supply of more powerful computers has meant a continual demand for new and more powerful software. Similarly, the new software contributes to the demand for computing power. In addition, relatively rapid growth in emerging economies (such as China and India) as compared to growth in the economies of the US and countries in Europe will promote sales of computers and associated software.

Other factors will promote demand for software include the growth in: the Internet and online services, along with innovations to increase the utility and security of these services; networking and new tools to increase the utility of these networks; PC ownership and Internet connections in each of the business, government and household sectors; the electronic games industry; and computing functionality in various devices, such as in telephones, set-top boxes, consumer electronics and household appliances.

The other catalysts of growth in this industry will be innovations such as cloud computing.

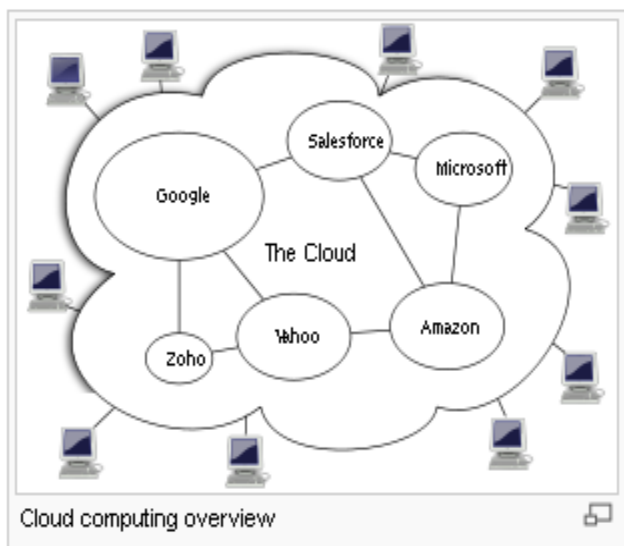
Cloud computing is a style of computing in which dynamically scalable and often virtualized resources are provided as a service over the Internet. Users need not have knowledge of, expertise in, or control over the technology infrastructure "in the cloud" that supports them.



The concept incorporates infrastructure as a service (IaaS), platform as a service (PaaS) and software as a service (SaaS) as well as Web 2.0 and other recent technology trends that have the common theme of reliance on the Internet for satisfying the computing needs of the users. Cloud computing services usually provide common business applications online that are accessed from a web browser, while the software and data are stored on the servers.

The term cloud is used as a metaphor for the Internet, based on how the Internet is depicted in computer network diagrams, and is an abstraction for the complex infrastructure it conceals.

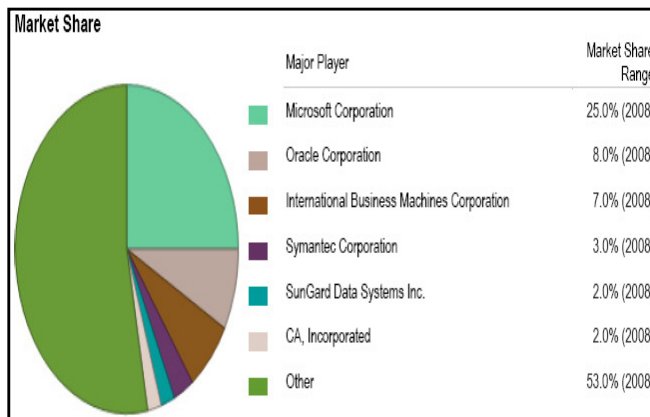
The below diagram illustrates the concept of cloud computing.



Source: Wikipedia– Cloud Computing.

MARKETS AND COMPETITION

Some of the key players in sector are shown in the chart below. The market share is displayed as a percentage of sales generated by the individual companies as compared to the total revenue stream in the industry.



Source: IBIS Report – Software Publishing 2008

MICROSOFT^{vii}

Founded in 1975, Microsoft is the world's leading software company. Microsoft's operating segments are:

- i) Client software e.g. Windows OS
- ii) Server and Tools e.g. SQL Server, Exchange Server
- iii) Online Services Business e.g. Live Search, MSN portals, instant messaging
- iv) Microsoft Business Division e.g. Office Suite of Products
- v) Entertainment and Services Division e.g. Zune, X-Box

In 2008, US sales accounted for 59.5% of the company's total revenue. As of June 2008, Microsoft had on its payroll 91,000 full time employees out of which 35,000 were in product RnD, 26,000 in sales and marketing, 17,000 in product support and consulting, 4,000 in manufacturing and distribution and 9,000 in general administration.

Proposed Acquisition of Yahoo! Inc. - To accelerate Microsoft's advertising strategy, during fiscal year 2008, it submitted a proposal to the Yahoo! Inc. board of directors to acquire all of the outstanding shares of Yahoo! For \$31 per share in a cash and stock deal valued at \$44.6 Billion. But the price demanded by Yahoo! was not agreed upon by Microsoft. Subsequently, proposals to purchase (\$33 per share) Yahoo!'s search business and make an investment in Yahoo!, all of which were rejected by Yahoo!. Though Microsoft persists to invest heavily in new tools, Web experiences, improved search performance, and advertiser satisfaction, its proposed takeover of Yahoo! finally fell through in March 2009.

The financial performance of the company till 2008 has been as follows:



Financial Results: 1998 to 2008.

Y/E	Million Dollars Revenue	Percent Growth	Million Dollars Net Income*	Percentage Net Profit Margin	Units Employees
June		NIC			
1998	14484	NIC	4490	31.0	27055
1999	19747	36.3%	7785	29.4	31395
2000	22956	16.3%	8172	35.6	39100
2001	25296	10.2%	5084	20.1	47600
2002	28365	12.1%	5355	18.9	50500
2003	32187	13.5%	7531	23.4	55000
2004	36835	14.4%	8168	22.2	57000
2005	39788	8.0%	12254	30.8	61000
2006	44282	11.3%	12599	28.5	71000
2007	51122	15.4%	14065	27.5	79000
2008	60420	18.2%	17681	29.3	91000

Source: Various
Note: Net Income for fiscal years 2000 to 2003 were restated (downward) to reflect with a new accounting standard on stock compensation

Source: IBIS Report – Software Publishing 2008

The revenue for the company by its different business segments has been as follows:

Sales by Segment

Segment	Million Dollars Revenue	Million Dollars Revenue	Percentage Ave Growth	Percentage Share of revenue 2008
Year ended June 30	2005	2008	(pa)	
Client	12042	16472	11.0	27.3
Server and Tools	8367	13189	16.4	21.8
Online Services Business	2344	3214	11.1	5.3
Microsoft Business Divn	13520	18937	11.9	31.3
Entertainment and Devices	3515	8139	32.3	13.5
Unallocated and Other	N/A	469	N/A	0.8
TOTAL	39788	60420	14.9	100.0

Source: Annual Report

Source: IBIS Report – Software Publishing 2008

Despite the highest growth in the entertainment and devices segment, we feel that this segment will be the worst hit in 2009 with a decrease in consumer spending, especially in the retail discretionary items vertical. In addition, continuing pressure from Apple will constrict Microsoft's growth in this segment.

Server and Tools will continue to perform strongly primarily on the basis of CAL's (Client Acceptance License). We think the client segment will witness strong growth in 2009 and 2010, fueled by the release of Windows 7 operating system.

ORACLE^{viii}

Founded in 1977 as SDL (Systems Development Laboratories), it changed its names in 1982 to Oracle. The company went public in 1986.

Oracle has made major acquisitions in the recent years:

- i) Primavera – project management software company
- ii) BEA Systems – enterprise infrastructure software company
- iii) Agile Software Corp – software life cycle solutions management company.
- iv) Hyperion Solution Corp – business intelligence software company
- v) Siebel Systems – CRM applications provider
- vi) Retek Inc – retail industry company
- vii) PeopleSoft – database software company.

We feel Oracle will continue to be aggressive in its growth strategy by targeting firms to bolster its middleware business.

Oracle's financial performance till 2008 has been as follows:

Financial Performance

Oracle's financial performance in the 10 years to fiscal 2008 is shown in the table below:

Oracle Corporation - Financial Data

Year ended	Million Dollars Revenue	Percent Growth Revenue	Million Dollars Net Income	Percentage Net Profit Margin	Units Employees
May 31					
1998	7143.9	NIC	813.7	11.4	36802
1999	8827.3	23.6%	1289.8	14.6	43800
2000	10130.1	14.8%	6296.8	62.2	41320
2001	10859.7	7.2%	2561.1	23.6	42927
2002	9673.0	-10.9%	2224.0	23.0	42006
2003	9475.0	-2.0%	2307.0	24.3	40650
2004	10156.0	7.2%	2681.0	26.4	41658
2005	11799.0	16.2%	2886.0	24.5	49872
2006	14380.0	21.9%	3381.0	23.5	56133
2007	17996.0	25.1%	4274.0	23.7	74674
2008	22430.0	24.6%	5521.0	24.6	84233

Source: Annual Report

Source: IBIS Report – Software Publishing 2008

INTERNATIONAL BUSINESS MACHINES

IBM is one of the world's leading providers of computer hardware and software. IBM's mainframe products account for 5% of its revenue.

IBM is also a world leader in IT, business and technology services, consulting services, IT research and development and is also the largest global financier of IT.

IBM annually spends \$6 billion in R&D. In the year end 2007, IBM reported revenue of \$99 billion and produced a net income of 410.4 billion.



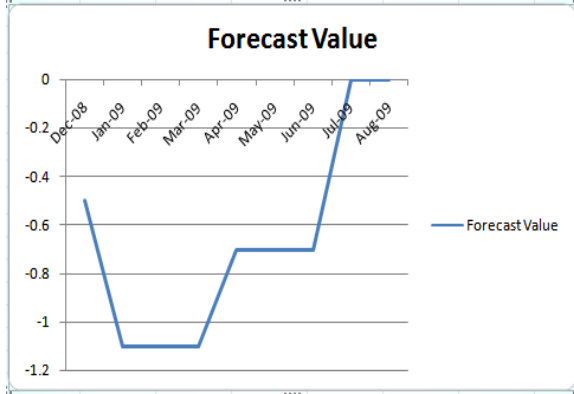
ECONOMIC OUTLOOK

The major economic factors affecting the application software industry are as follows:

▀ **Real GDP Growth**

Real GDP growth signifies a healthy economy. It measures the wealth of a society by indicating the growth of profits and the expected return in capital.

The below graph illustrates the short-term GDP forecast for real GDP growth rate the United States.



Data from Forecasts.org¹⁰

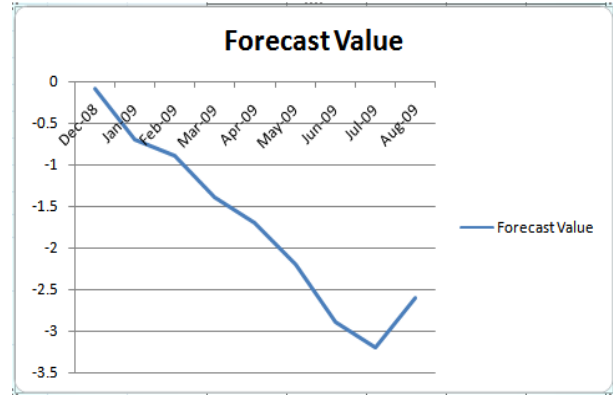
The real GDP for 2008 for the US was 1.8%, down from 2.0% in 2007. It is forecasted to further slow down to 0.9% in 2009.

The downward slope clearly suggests a recessionary environment which indicates lower IT spending and a bearish investor perception of application software companies.

▀ **Inflation**

Increased inflation eats into the income of households, decreasing the consumer spending as well. This directly hurts the industries such as housing, automobiles, retail and percolates down to industries such as healthcare and financial services, leading to decreased cash flows. This in-turn leads to budgetary cuts where the application software spending often faces the wrath of management of these organizations. Thus inflation and in-turn consumer spending is very important to the health of the application software industry.

The below attached graph depicts the short-term inflation rates forecast in the US

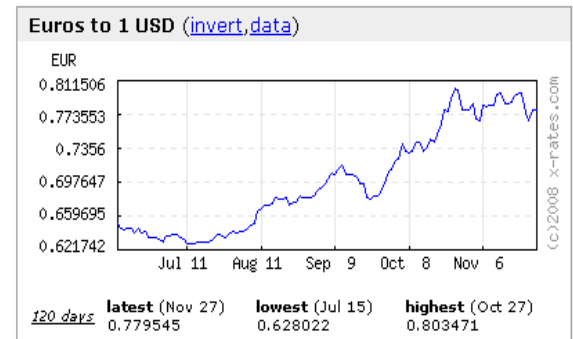
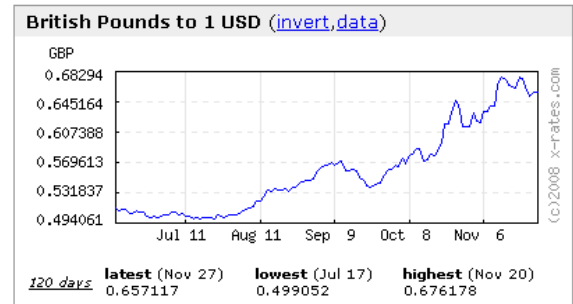


Data from Forecasts.org

The almost deflationary environment will have an adverse effect on the enterprise software industry.

▀ **Foreign Exchange Currency Rates**

In the recent past, the US dollar has strengthened significantly with respect to the global currencies.



Data from X-Rates.com



As is shown in the charts attached, the strengthening of the dollar has hurt the interests of most of the global application software developers and providers. We believe that the current USD rates against most global currencies will remain stable because of the economic downturn being faced by almost all regions of the world. This foreign exchange movement will hurt all major international software publishers.

INVESTMENT POSITIVES

- IBM declared good results recently, beating the market and analysts' predictions. Microsoft, Adobe, Sap continue to show strong fundamentals and growth in business and operations. Despite the lowered consumer confidence, the bigger application software providers will continue to be profitable by way of tight coupling of their products and offerings with mission-critical business processes of sectors/ such as healthcare, banking, transportation etc.
- The Obama administration's inclination towards technology innovation and their recent announcement of awarding \$11 million each to hospitals and medical facilities which automate their operations, will spur a spending for purchase of application software by healthcare providers.
- Product innovation has been a driver of growth across industry verticals. This will continue to be the driver for growth in the application software industry with focus on technologies such as SaaS, software for hand-held devices, business intelligence. We believe that companies with the financial bandwidth to invest in research and development of such product offerings will be best equipped to capitalize on the growth opportunities post the downturn.

INVESTMENT NEGATIVES

- We believe the recessionary climate will inhibit corporate IT spending.
- The biggest contributors to the application software growth story, the emerging markets, are also facing the brunt of the global downturn, thus hurting the growth opportunities in these countries, most of which are under-invested in IT.
- Increased cost-base of the outsourcing hubs of most of the global enterprise software providers has reduced the bottom-line profits for most global application software providers.
- We also believe that growth in licenses will slow down as corporate houses delay projects or add more processes to approve purchasing of application software products or services.

REFERENCES

The references section is more than just a list of sources used to create the report. We suggest using numbered endnotes for each citation. These numbers can then be referenced throughout the text where appropriate.

- i http://en.wikipedia.org/wiki/Software_industry
- ii <http://online.wsj.com/article/SB123248722075899523.html>
- iii http://en.wikipedia.org/wiki/Cloud_computing
- iv <http://online.wsj.com/article/SB123369737470844941.html>
- v <http://blogs.barrons.com/techtraderdaily/2009/01/29/ca-fy-q3-eps-beats-adjusts-guidance-slightly/?mod=yahoobarrons>
- vi <http://www.reuters.com/article/marketsNews/idINLR31161620090127?rpc=44>
- vii IBIS report – Software publishing
- viii IBIS report – Software publishing
- ix <http://www.forecasts.org/gdprealgrowth.htm>

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