

Dell Computer Corporation (Dell), is exposed to a variety of business and financial risks, such as foreign currency exchange rate fluctuations and changes in the market value of its investments. A comprehensive and integrated risk management framework forms the basis of all the de-risking efforts of Dell. This article highlights the risk management practices at Dell computers.

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ERM at Dell Computers

Dell Computer Corporation is a leading provider of computing products and services. In fiscal year 2002, the company generated revenues of \$31.2 bn. The company's climb to market leadership is the result of relentless focus on delivering the best customer experience by selling computer systems and services directly to its customers.

Dell has attempted to enhance the customer experiences by continually striving to introduce efficiencies in its entire business and by rapidly passing those efficiencies on to its customers. Dell's direct model and its efficient procurement, manufacturing and distribution processes allow the company to generate substantial cost-savings.

Product range

The Dell™ line of high-performance computer systems includes PowerEdge™ servers, PowerApp™ server appliances, PowerVault™ storage products, PowerConnect™ networking products, Dell Precision™ workstations, Latitude™ and Inspiron™ notebook computers, and OptiPlex™, Dimension™ and SmartStep™ desktop computers. The company also markets and sells Dell/EMC storage products under a long-term strategic relationship with EMC Corporation. Dell provides targeted services for consulting, deployment and support, as well as an extensive selection of peripheral hardware, including handheld products and computing software. Dell sells its products and services to a full range of customers, including global enterprises and other large corporations; federal, state and local governments; educational and healthcare institutions; small-to-medium businesses; and consumers.

Business strategy

Dell believes that its direct model provides it with several distinct competitive advantages. The direct model

eliminates the need to support an extensive network of wholesale and retail dealers, thereby avoiding dealer mark-ups. The model avoids the higher inventory costs associated with the wholesale/retail channel and the competition for retail shelf space; and reduces the high risk of obsolescence associated with products in a rapidly changing technological market. In addition, the direct model allows Dell to maintain, monitor and update a customer database that can be used to shape future product offerings and post-sale service and support programs. This direct approach allows the company to rapidly and efficiently deliver relevant technology to its customers.

The direct model is based on the principle that delivering custom-built computer system is the most effective business model for providing solutions that are truly relevant to customer needs. This concept, together with the company's flexible, build-to-order manufacturing process, enables the company to achieve faster inventory levels and allows the company to rapidly incorporate new technologies and components into its product offerings.

Dell has attempted to apply the efficiencies of the Internet to its entire business. Approximately half of the company's technical support activities occur online. Approximately three-quarters of the company's order-status transactions occur online.

Dell's customers range from large corporations, government agencies, healthcare institutions and educational institutions to small-to-medium businesses and individuals. In general, the company uses similar sales and marketing approaches across all customer groups, as demand levels for each customer group are principally driven by similar changes in market prices and overall general economic conditions. Within each region, Dell has divided its sales and marketing forces among the various customer groups to more effectively meet each customer group's specific needs. No single customer

accounted for more than 10% of the company's consolidated net revenues during any of the last three fiscal years.

Manufacturing

Dell operates manufacturing facilities in and around Austin, Texas; Eldorado do Sul, Brazil; Nashville, Tennessee; Limerick, Ireland; Penang, Malaysia; and Xiamen, China. The company's manufacturing process consists of assembly, functional testing and quality control of the company's computer systems. Testing and quality control processes are also applied to components, parts and sub-assemblies obtained from suppliers. The company's build-to-order manufacturing process is designed to achieve rapid inventory turnover and reduced inventory levels. This flexible manufacturing process also allows the company to quickly incorporate new technologies or components into its product offerings.

Quality control is maintained through the testing of components, parts and sub-assemblies at various stages in the manufacturing process. Quality control also includes a burn-in period for completed units after assembly, ongoing production reliability audits, failure tracking for early identification of production and component problems and information from the company's customers obtained through service and support programs. The company conducts a voluntary vendor certification program, under which qualified vendors commit to meet defined quality specifications.

Patents, trademarks and licenses

Dell holds a portfolio of approximately 730 US patents and approximately 535 US patent applications pending and has a number of related foreign patents and patent applications pending. Dell's US patents expire in years 2003 through 2020. The inventions claimed in those patents and patent applications cover aspects of the company's current and possible future computer system products, manufacturing processes and related technologies. Dell is developing a portfolio of patents that it anticipates will be of value in negotiating intellectual property rights with others in the industry.

Dell has obtained US federal trademark registration for its DELL word mark and its Dell logo mark. The company owns registrations for 42 of its other marks in US. As of February 8, 2002, the company had

pending applications for registration of 50 other trademarks. The DELL word mark, Dell logo and other trademark and service mark registrations in the US may be renewed as long as the mark continues to be used in interstate commerce. The company believes that establishment of the DELL mark and logo in the US is material to the company's operations. The company has also applied for or obtained registration of the DELL mark and several other marks in approximately 176 other countries or jurisdictions where the company conducts or anticipates expanding its international business. Dell has also registered approximately 1000 global domain names. In addition, the company has registered approximately 400 country-specific domain names. Dell has also taken steps to reserve corporate names and to form non-operating subsidiaries in certain foreign countries where the operations are likely to be exploited.

From time to time, other companies and individuals assert exclusive patent, copyright, trademark or other intellectual property rights to technologies or marks that are important to the technology industry or Dell's business.

The company evaluates each claim relating to its products and, if appropriate, seeks a license to use the protected technology. The licensing agreements generally do not require the licensor to assist the company in duplicating its patented technology nor do these agreements protect the company from trade secret, copyright or other violations by the company or its suppliers in developing or selling these products.

The company's continued business success may be largely dependent on its ability to obtain licenses to intellectual property developed by others on commercially reasonable and competitive terms. If the company or its suppliers are unable to obtain desirable technology licenses, the company could be prohibited from marketing products, could be forced

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Box 1: Company and financial highlights

Dell Computer Corporation (Dell), the world's leading computer systems was founded by Michael Dell in 1984. Since then it has emerged as one of the most remarkable success stories in the computer industry. It became the largest PC marketer in the US when it overtook Compaq in the second quarter of 1999. Its direct selling model has been one of the striking innovations in the industry. Dell has also been one of the pioneers in the use of the Internet. The company manufactures its computer systems in six locations: Austin, Texas; Nashville, Tenn.; Eldorado do Sul, Brazil (Americas); Limerick, Ireland (Europe, Middle East and Africa); Penang, Malaysia (Asia Pacific and Japan) and Xiamen, China (China). Dell's direct model starts and ends with our customers. With the power of direct and our team of talented people, Dell provides its customers with superb value; high-quality, relevant technology; customized systems; superior service and support; and products and services that are easy to buy and use. With its singular focus on the customer, the model takes five basic tenets and creates a unique way of buying and selling technology. That not only sets Dell apart, it means that the customer experience is revolutionary.

Dell sells its products and services worldwide. Supply chain management is one of Dell's core strengths. Dell outsources most components from various suppliers and assembles them according to the customers' specifications. The company's primary product offerings include enterprise systems, notebook computers and desktop computer systems. The Dell line of high-performance computer systems includes PowerEdge servers, PowerApp server appliances, PowerVault storage products, PowerConnect networking products, Dell Precision workstations, Latitude and Inspiron notebook computers and OptiPlex, Dimension and SmartStep desktop computers. The company also markets and sells Dell/EMC storage products under a long-term strategic relationship with EMC Corporation. The company provides targeted services for consulting, deployment and support, as well as an extensive selection of peripheral hardware, including hand-held products and computing software. DELL designs, develops, manufactures, markets and services and supports a range of computer systems, including desktop, notebooks and enterprise systems (including servers and workstations). DELL also markets software, peripherals, service and support programs.

Financial Highlights

(in millions, except per-share data)

	FY02	FY01	FY00	FY99	FY98
Net revenue	\$31,168	\$31,888	\$25,265	\$18,243	\$12,327
Operating income	\$2,271	\$2,768	\$2,457	\$2,046	\$1,316
Net income	\$1,780	\$2,310	\$1,860	\$1,460	\$944
Diluted earnings per share	\$0.65	\$0.84	\$0.68	\$0.53	\$0.32
Closing stock price	\$26.80	\$25.19	\$37.25	\$50.00	\$12.43

Source: www.dell.com.

to market products without desirable features or could incur substantial costs to redesign its products, defend legal actions or pay damages.

Risk factors

Many factors that affect Dell's business are beyond the control of the company. These factors include:

- General economic and business conditions;
- The level of demand for the company's products and services;
- The effect of armed hostilities, acts of terrorism or other conflict on the economy generally, on the level of demand for the company's products and services, and on the company's ability to manage its supply and delivery logistics in such an environment;
- The level and intensity of competition in the technology industry and the pricing pressures that have resulted;
- The ability of the company to timely and effectively manage periodic product transitions, as well as component availability and cost;
- The ability of the company to develop new products based on new or evolving technology and the market's acceptance of those products;
- The ability of the company to manage its inventory levels to minimize excess inventory, declining inventory values and obsolescence;
- The product, customer and geographic sales mix of any particular period;
- The company's ability to recover its investments in venture capital activities; and
- The company's ability to effectively manage its operating costs. The following is a description of some of the important factors that may cause the

actual results of Dell's operations in future periods to differ materially from those currently expected or desired.

General economic and industry conditions

Any general economic, business or industry conditions that cause customers or potential customers to reduce or delay their investments in computer systems could have a material adverse effect on Dell's business, prospects and financial performance. During fiscal 2002, worldwide economic conditions had a negative impact on demand for Dell's products and resulted in declining revenue and earnings compared to the previous year. Dell believes that worldwide economic conditions will improve. However, if such improvements do not occur and economic conditions continue to worsen, or if economic conditions do not improve as rapidly as expected, the company's revenues and earnings could be negatively affected.

The September 11, 2001 terrorist attacks on the United States created significant economic and political uncertainty. The long-term effects of such attacks on the company's business are unknown, but could be material to the company. Further terrorists acts or acts of war, whether in United States or abroad, could cause damage or disruption to the company, its suppliers, distributors or customers, or could create political or economic instability, any of which could have a material adverse effect on the company's business.

Competition

Dell encounters aggressive competition from numerous companies in all aspects of its business. Dell competes on the basis of price, technology availability, performance, quality, reliability, service and support. The company believes that its cost structure and business model creates a competitive advantage over its competitors. However, the company cannot provide any assurance that it will be able to maintain this advantage if its competitors alter their cost structure or business model, or take other actions that affect the company's current competitive advantage.

International activities

Dell conducts operations worldwide and is managed generally on a geographic basis. The three geographic regions are the Americas, Europe and Asia-Pacific and Japan regions. The Americas region is based in Round Rock, Texas and covers the US, Canada, South America and Europe region, which is based in Bracknell, England, covers the European countries and also some countries in the Middle East and Africa. The Asia-Pacific and Japan

region covers the Pacific rim, including Japan, India, China, Australia and New Zealand and is based in Singapore.

The company's corporate headquarters is located in Austin, Texas. Its manufacturing facilities are located in or around Austin, Texas; Nashville, Tennessee; Eldorado do Sul, Brazil; Limerick, Ireland; Penang, Malaysia; and Xiamen, China.

Sales outside United States accounted for approximately 35% of the company's revenues in fiscal year 2002. The company's future growth rates and success are dependent on continued growth and success in international markets. As is the case with most international operations, the success and profitability of the company's international operations are subject to numerous risks and uncertainties, including local economic and labor conditions, political instability, unexpected changes in the regulatory environment, trade protection measures, tax laws and foreign currency exchange rates.

Product, customer and geographic mix

The profit margins realized by the company vary somewhat among its products, customers and geographic markets. Consequently, the overall profitability of the company's operations in any given period is partially dependent on the product, customer and geographic mix reflected in that period's revenues.

Seasonal trends

Dell experiences some seasonal trends in the sale of its products. For example, sales to governments (particularly US federal sales) are often stronger in the company's third quarter, European sales are often weaker in the third quarter. Consumer sales are often stronger in the fourth quarter. Historically, the net result of seasonal trends has not been material relative to the company's overall results of operations. But many of the factors that create and affect seasonal trends are beyond Dell's control.

Technological changes and product transitions

The technology industry is characterized by continuing improvements in technology. This results in the frequent introduction of new products, short product life cycles and continual improvement in product price/performance characteristics. While Dell believes that its direct model and asset management practices afford it an inherent competitive advantage over some of its competitors, product transitions present some of the greatest executional challenges and risks for any computer systems

company. A failure on the part of the company to effectively manage a product transition will directly affect the demand for the company's products and the profitability of the company's operations. Dell has meaningful relationships with some of the world's most advanced technology companies. But continuing technological advancement, which is a significant driver of customer demand, is largely beyond the control of the company.

Inventory management/supplies

Dell's direct business model gives it the ability to operate with reduced level of components and finished goods inventory. The company's financial success in recent period has been due in part to its asset management practices, including its ability to achieve rapid inventory turns. However, temporary disruptions in component availability can unfavorably affect the company's short-term performance. Supply conditions have generally been favorable both to the company and to the industry in recent years. However, less favorable supply conditions, as well as other factors, may require or result in increased inventory levels in the future.

Dell's manufacturing process requires a high volume of quality components that are procured from third-party suppliers. Reliance on suppliers, as well as industry supply conditions, generally involves several risks, including the possibility of defective parts, a shortage of components and reduced control over delivery schedules and increases in component costs.

Dell has several single-sourced supplier relationships, either because alternative sources are not available or the relationship is advantageous due to performance, quality, support, delivery, capacity or price considerations. If these sources are unable to provide timely and reliable supply, the company could experience manufacturing interruptions, delays or inefficiencies, adversely affecting its result of operations. Even where alternative sources of supply are available, qualification of the alternative suppliers and establishment of reliable supplies could result in delays and a possible loss of sales, which could affect operating results adversely.

Strength of infrastructure

Dell's continued success and profitability partly depends on its ability to continue to improve its infrastructure (particularly personnel and information systems) in order to increase operational efficiencies. There can be no assurance that Dell can continue to make sufficient improvements to maintain its competitive advantage.

Environmental laws and regulations

Some of the company's operations are subject to regulation pursuant to various federal, state and international laws governing the environment. Dell's compliance with such laws has not had a material effect upon the company's financial position or operations. Dell does not anticipate that such laws will have a material adverse effect on the company in the future. However, no assurance can be given that such laws, or any laws enacted in the future, will not have a material adverse effect on the company.

Financial risk

Dell is exposed to a variety of risks, including foreign currency exchange rate fluctuations and changes in the market value of its investments. In the normal course of business, the company employs established policies and procedures to manage these risks.

Equity risk

On February 1, 2002, the fair value of investments in equity securities of privately and publicly held technology companies was \$335 mn. These investments were made in order to strengthen Dell's direct business model and other core business initiatives. Dell has made and continues to evaluate and make, strategic equity investments in privately held technology companies. Because these companies are typically early-stage ventures with either unproven business models, products that are not yet fully developed or products that have not yet achieved market acceptance, these investments are inherently risky. Many factors outside the company's control determine whether or not the company's investments will be successful. Such factors include the ability of a company to obtain additional private equity financing, to access the public capital markets, to effect a sale or merger, or to achieve commercial success with its products or services. Dell does not intend to make significant additional investments in fiscal 2003 and will focus on managing its current investments. Nevertheless, there can be no assurance that Dell's existing investments or any new investments will be successful or that the company will be able to recover its net basis in the investments.

Foreign currency risk

Foreign currency exchange rate fluctuations can have negative impact on earnings and cash flows. Dell utilizes foreign currency option contracts and forward contracts to hedge its exposure on forecasted transactions and firm commitments in most of the foreign countries in which the it operates. The principal currencies hedged during fiscal 2002 were the British pound, Japanese yen, Euro and Canadian dollar. Dell monitors its foreign currency exchange exposures to ensure the overall effectiveness of

its foreign currency hedge positions. However, there can be no assurance Dell's foreign currency hedging activities will substantially offset the impact of fluctuations in currency exchange rates on its results of operations and financial position.


Based on Dell's foreign currency exchange instruments outstanding at February 1, 2002, the company estimates a maximum potential one-day loss in fair value of approximately \$20 mn, using a Value-at-Risk ("VAR") model. The VAR model estimates were made assuming normal market conditions and a 95% confidence level. Dell uses a Monte Carlo simulation type model that values its foreign currency instruments against a thousand randomly generated market price paths. Forecasted transactions, firm commitments, receivables and accounts payable denominated in foreign currencies are excluded from the model.

As Dell utilizes foreign currency instruments for hedging forecasted and firmly committed transactions, a loss in fair value for those instruments is generally offset by increases in the value of the underlying exposure. As a result of the company's hedging activities, foreign currency fluctuations did not have a material impact on the company's results of operations and financial position during fiscal 2002, 2001, and 2000.

Interest rate risk

As on February 1, 2002, Dell had \$8.3 bn of total cash and investments all of which is stated at fair value. The company's investment policy is to manage its total cash and investment balances to preserve principal and liquidity

while maximizing the return on the investment portfolio through the full investment of available funds. Dell diversifies its investment portfolio by investing in multiple types of investment-grade securities and through the use of different investment brokers. Based on the company's investment portfolio and interest rates at February 1, 2002, a 100 basis point increase or decrease in interest rates would result in a decrease or increase of approximately \$100 mn, respectively, in the fair value of the investment portfolio. Changes in interest rates may affect the fair value of the investment portfolio. However, Dell will not recognize such gains or losses unless the investments are sold. Moreover, such gains or losses have historically been immaterial, because Dell has generally held such investments to maturity—a practice it currently intends to continue.

Dell has entered into interest rate swap arrangements that convert its fixed interest rate expense to a floating rate basis to better align the associated interest rate characteristics to its cash and investments portfolio. The company has designated the issuance of the Senior Notes and Senior Debentures and the related interest rate swap agreements as an integrated transaction. The difference between the company's carrying amounts and fair value of its long-term debt and related interest rate swaps was not material at February 1, 2002 and February 2, 2001. The differential to be paid or received on the interest rate swap agreements is accrued and recognized as an adjustment to interest expense as interest rates change. 

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