Product development at dell computer corporation

In 1993, after enjoying continuous explosive growth for 10 years, Dell absented from the portable computer market because of its informality in product development. Though delivered several successful products with a free-wheeling development structure in the early nineties, the company suffered from the inconsistent process and the unpredictable result. Several other problems involved the depressing performance in the retail market, the lack of capable senior management and early setback in portable computers also contributed to the sagging situation.

In order to shorten the decision-making period, the management team reorganized the product development process to six phases: profile phase, planning phase, implementation phase, qualification phase, launch phase and acceptance phase. To capture back the market share and rebuild the Dell legendary, the company would like to differentiate the new generation of Dell portables through battery life. The new LiOn technology being developed at Sony was promised to largely extended battery time but it was not yet matured.

Whether to adopt the new but unproven powering technology, or to stick to the mature battery technology, or if there was another option that would compromise, became an issue on the table. Option 1: Continue with a proven battery technology (NiHi) No doubtful this the most reliable option: proven technology, stable product, no one would be blamed for. Traditional batteries could ensure Dell a good product. Functions and performance of the mature technology were predictable, which made the result less risky. With 100% confidence on the technology, the company could realize a predicted net margin of $485 million.

However, as a laggar in the portable computer market, this conservative attitude would not help Dell to win back the lost market share. In an increasingly competitive market, delivering bourgeois products equaled to putting yourself in the position of chronic death. Adding a second battery to double the powering life is not a sweet solution. The lack of highlight or differentiation would submerge Latitude line. This was definitely not what Dell wanted to see. Option 2: Go with the new battery technology (LiOn) Rated as the third most important feature for laptops, battery life is critical to portable users.

Most conventional NiHi rechargeable could offer less than three hours of power and suffered from fraction capacity unless properly managed. The cutting-edge battery LiOn, in contrast, solved the problems. Dell might lock up all Sony’s LiOn battery and banned other competitors out of the new technology in the following period. A commitment to the not yet qualified but promising new powering technology might catapult a superb product that amazed the industry and win the customers. Three percent of the market share and a total of $584 million were expected. This option sounded sweet if LiOn works.

But the confidence for the success of the new technology was merely around 60%. A failure might possibly ruin the company’s reputation, not to mention the worker morale. Dell might have the chance to switch back the traditional battery, however, the company would loss 70% of original schedule, 30% of cost and 50% of projected units sold. Betting all the hope on a risky technology did not seem to be a wise choice. Option 3: Defer commitment to either battery technology With no absolute confidence in either of the

options above, Dell could reserve the final decision timing to the qualification phase.

It is estimated that the conclusive result of the LiOn would be available until that time. To achieve the delay, the development team should choose to over design the battery space in order to accommodate either battery, or to have two development teams work simultaneously. Either of the alternatives would occur additional variable costs. The “ over-design” would require high standard to the compatibility of the system and become less attractive to the customers. The “ dual path” would stem the opportunity cost of relocation of the engineers from other projects and the possible demoralization.

The alternatives allowed the development team to have room to decide which battery to adopt as well as not delay the cycle of the product development. In this case, Dell could lower the risk and keep the chance of applying the most leading technology. These scenarios would guarantee the company over $475 million margin, compared to the $234 million where stick to LiOn and LiOn fails. [Exhibit 1] If consider the confidence factor, the Dual Development option would distinguish with the highest value. [Exhibit 2] The development team should pursue the “ dual path” alternative in which two products are developed simultaneously.

Despite the additional variable costs, this option would win Dell time to make the final correct decision. The team could avoid the delay in the development cycle; lower the risk of ruin the portable business and Dell’s reputation; reserve the chance to adopt the cutting-edge battery technology and differentiate the product from conventional laptops; catapult the superb

product occupying the market share and rebuild the Dell legendary. Thus, deferring commitment to either battery technology and following a dual development approach would be the best option.