



Title: Autodesk, 1997: Strategically Planning for the Upcoming CAD Wars

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Abstract: Autodesk is a leader in the computer-aided design (CAD) market, and has a current strategy that is positioned well for success within the historical parameters of the industry. The CAD industry is changing, and shows the possibility of changing dramatically. Autodesk faces several significant challenges to its position. With price pressures on one front and a strong adversarial new entrant going after its market on another, Autodesk must revamp its overall strategy in order to continue its success into the future. Autodesk's current market and strategy are reviewed, as are existing and foreseen threats. Alternatives are discussed, and a recommended strategy is proposed

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AEC

Maintaining dominance in the AEC market, and thwarting PTC's attempts to enter the market is a key priority for Autodesk. AEC is a low-cost, high-demand market that will be very expensive for PTC to pursue. However, at the moment, PTC can afford to attack expensive markets. To protect AutoCAD's dominance in AEC, Autodesk has recently acquired Softdesk, Inc. Building on Softdesk's technology, Autodesk will provide a next-generation AEC solution based on AutoCAD.

Multi-Media

Autodesk's string presence in Multi-Media will continue, although investment in this area will continue to be lean. This market is seen as complementary to MCAD, with its real value being in market perception of technology leadership.

Gap Analysis

Autodesk's current strategy is well designed for competition in the historical environment. However, that environment is quickly changing and the current strategy needs to be amended to account for recent important developments. Some particular gaps in the current plan include:

How to protect the low-end 2D market. This market has previously been perceived as impenetrable by traditional competitors, but Microsoft is not a traditional competitor. Autodesk must proceed with the awareness that Microsoft may be willing to loose in the short-term in order to succeed in CAD. Autodesk should position itself to make the cost of entry as high as possible for Microsoft.

How to react to PTC's price reductions. It has previously been assumed that if a price war was to breakout in mid-range CAD, Autodesk would be the instigator. As a low-cost vendor, Autodesk is better positioned in terms of distribution and marketing, but has yet to refill the 'war chest' expended on damage control during the R13 cycle.

Alternatives to Present Strategy:

The just-completed month-long strategy planning sessions have just been completed. The results of these sessions, intending to address the two most significant threats to Autodesk's position are discussed below.

1. *Become integrated into Office Suite and the world wide web.*

Increasingly, engineers and designers who use CAD tools are taking on a wider range of tasks, beyond the traditional boundaries that existed when Autodesk first developed AutoCAD. The boundaries between specialties and functions is becoming blurred, so that design professionals are producing all types of documents: word processing, spreadsheet analyses, CAD drawings, finite element analyses, web pages, and much more. Also, with the tremendous success of integrated packages such as Microsoft Office, the boundary between applications is

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Performance and Expected Performance of Top Competition:

The relative performance of the top four competitors against the historical KSFs is shown in Figure 1. The top four competitors used in the figure are:

1. IBM/Catia (IBM)
2. Autodesk (AD)
3. Intergraph (IG)
4. Parametric Technology (PTC)

This figure shows that Autodesk is positioned well against the competition to succeed on the historical Key Success Factors. Autodesk's challenge is to do as well or better in its performance against the future Key Success Factors.

A projection of expected performance of Microsoft and Autodesk against the future KSFs is shown in Figure 2. This figure is based on the assumption that Autodesk does not adequately address the problem and that Microsoft is at least moderately successful in its efforts. This figure shows that Autodesk, without significant and conscious effort, could lose some significant market positioning to Microsoft.

Critical Issues Facing Autodesk:

Protecting 2D Market Base

The revenue from the 2D CAD market currently funds the development of next-generation products, and is critical in the short- to mid-term. Additionally, Autodesk's dominance in market share has proven to be a valuable competitive advantage, allowing a volume distribution model and defining a standard for engineering information exchange. Autodesk must take actions to protect its 2D market.

MCAD

Autodesk has established a strong position in the mid-range MCAD market with the delivery of the Mechanical Desktop. This position has not yet achieved critical mass. The MCAD division must be positioned for aggressive growth over the next five years. The 3D market is developing rapidly. It would be very beneficial to establish early dominance, as Autodesk did with the 2D market in the early 80s.

Operational Efficiency

Costs at Autodesk have been outpacing revenue. This is partially due to the dismal performance of AutoCAD R13, and the rapid growth of the MCAD product group. As R14 revenue accrues, operational costs need to be minimized so that maximum funding can be directed to R&D activities. If Microsoft's 2D strategy succeeds and low-end revenue begins eroding Autodesk, operational efficiency will be critical to survival.

Financial Supporting Information:

The annual reports of Autodesk, Microsoft, and PTC were examined to see if Autodesk is positioned adequately to fund a possible strategic battle with these competitors. The focus was on Current Assets, Current Liabilities, and Cash in an effort to see how much Autodesk could

Abstract:

Autodesk is a leader in the computer-aided design (CAD) market, and has a current strategy that is positioned well for success within the historical parameters of the industry. The CAD industry is changing, and shows the possibility of changing dramatically. Autodesk faces several significant challenges to its position. With price pressures on one front and a strong adversarial new entrant going after its market on another, Autodesk must revamp its overall strategy in order to continue its success into the future. Autodesk's current market and strategy are reviewed, as are existing and foreseen threats. Alternatives are discussed, and a recommended strategy is proposed.

2. Pace of software improvements compared to customer hardware improvements. Improved software brings with it the need for improved computer software for maximum effectiveness. Customers who wish to stay at the leading edge face continuous investment that may prove painful to them to bear. Autodesk, to some extent, drives this problem through releases of more and more complex software.
3. Ease of use. Autodesk software has historically not been overly intuitive to use or easy to learn, giving a need for training courses in order for customers to take full advantage of the product.

Opportunities

1. Huge MCAD market, with little Autodesk penetration. MCAD is the largest portion of the CAD market, and Autodesk only has about 10% market share. Small increases in this market share can mean lead to huge increases in revenue.

Threats

These threats are discussed in more detail below.

1. High end software is coming down in price towards Autodesk's software pricing.
2. Microsoft's appearance as a strong new entrant in the low-end CAD market.

Autodesk's Core Competencies:

Autodesk has developed three core competencies that are essential to its success in the industry. These are:

1. The volume distribution model. Autodesk is the market leader in successful volume distribution of its products.
2. Third-party developers. A \$2.5 billion ecosystem has evolved around Autodesk, including over 2000 independent software developers. This huge system works to Autodesk's distinct advantage, as Autodesk products get broadly distributed and incorporated in a wide range of products.
3. Profitable Value-Added Resellers (VARs). The concept of selling product and training being more profitable and successful than just selling product has led to beneficial relationships between Autodesk and its VARs.

Environmental Threats:

The Industry is Changing:

Autodesk must prepare itself for battle on two fronts. In the West, Microsoft, Inc. is positioning itself as an entrant into the low-cost 2D CAD market – Autodesk's traditional cash cow. In the East, Parametric Technology Corporation is threatening Autodesk's developing MCAD market through aggressive price reductions. These developments represent long-term threats that require immediate attention.

Microsoft

Microsoft is positioning itself for entrance into the CAD market. The standalone packaging of AutoShapes technology (previously only available as an integrated module in MS Office), along with substantial upgrades to the product's functionality alludes to an internal effort to

Company Background:

Autodesk is a world leading supplier of computer-aided design (CAD) and desktop multimedia software. It is the world's fourth-largest PC software company. Autodesk's product line is led by AutoCAD®, the industry-standard design software, and has significant strengths in mechanical computer-aided design (MCAD) software, multimedia, and other areas. The focus of this strategy analysis and recommendation has been to protect and extend Autodesk's leadership position in the CAD market, and to enhance its penetration and position in the MCAD market.

Strategy Development Process:

Background:

Autodesk's growing concern over changes in the industry and general industry direction initiated discussions between Strategic Perceptions Incorporated (SPI) and Autodesk. A strategy development team was needed, and since Autodesk has a culture of "anti-hierarchy," representatives from all levels of the company were assembled to participate in discussions and strategy development. The team consists of junior and senior software engineers, product managers, and executive vice presidents. Team dynamics are driven by multiple perspectives to develop a balanced strategy with synergy between the internal organization and external activities. The technical perspective brought internal "reality", the marketing perspective added external "reality", and the corporate top level management brought fiscal "reality." Without any of these three "realities," the strategy would have been either narrow and self-serving or wildly unrealistic.

The team's charter was to develop a strategy within a month to respond to Microsoft's entering the market. Speed was essential, since with passing time, precious resources aimed in a direction that might change were jeopardized. Also, Microsoft, along with its tremendous resources, has the ability to act quickly, and in fact had already acted. Autodesk's "reactive strategy" had to be implemented quickly to gain momentum and keep ahead of Microsoft.

Strategy Sessions:

In order to accomplish its goal, the team decided to get away from the office for four Saturday sessions, meeting at the Edgefield Inn in the Columbia Gorge. A remote location was selected because the offices are too distracting, and the people on the team were distributed from Detroit, Michigan to San Rafael, California. Flying to Portland four times in a month wasn't too difficult, the change of scenery was good for those in Michigan and California, and the associated expenses are minor compared to the risk and potential gains associated with the situation. SPI facilitated the meetings, and provided the participants materials in advance to prepare for them.

The first two sessions were taken up with discussions and arguments questioning every word in Autodesk's existing SWOT analysis, Key Success Factors (KSF) list and critical issues descriptions. Revisions were developed, which are included in this report. On the third Saturday, strategy development started. Much of it resulted from creative brainstorming

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