Intel: Success in the Microprocessor Industry

This article follows Intel's strategic moves in its journey to be the market leader in microprocessor manufacturing. Succeeding in any arena is a matter of scoping out challenges and playing to your strengths. In applying the concepts from Porter's five forces that shape strategy, we understand that two key forces shaped the microprocessor industry at the time, rivalry among competitors and powerful buyers / buyer groups. Intel, by leveraging its expertise in R&D, manufacturing and marketing, was able to compete with rivals and attract buyers in terms of innovative advantage, competitive pricing and superior brand value.

Intel believed that to stay one step ahead of its rivals in a dynamic market, it would have to be a front-runner in innovation. To that end, it invested heavily in R&D. The customer base for microprocessors at that time primarily consisted of PC (Personal Computer) manufacturers. The computational performance of a PC was considered a key metric in determining its quality. This largely depended on the microprocessor being used. PC makers were in constant pursuit of better processors. This generated a demand for innovation in the industry, driving manufacturers to design faster and more efficient microprocessors. Most companies worked towards releasing products of similar specifications. In a market where most products were similar and switching costs were minimal, buyers had considerable options. The first player to get the product on the table often gained a competitive edge over rivals by temporarily dominating the market for the product and getting a head start on ramping up production efficiency and thereby minimizing cost. As in most semiconductor businesses, once other companies joined the foray and ramped up production, the competition turned to the basis of price and so, reduced profits. Due to these

reasons, the shelf life of a microprocessor (or the window to make a profit) was quite short. Intel's investment in R&D paid off as Intel pioneered several products like the 4004, 8008, 8086 processors. According to Casadesus-Masanell et.al. (2002), with Intel's mass of intellectual property, it also gained negotiating power when signing cross-licensing agreements for its patents with rivals[1].

Intel's initial success in the microprocessor industry was closely tied to IBM's success. According to Porter (2008), " Buyers are powerful if they have negotiating leverage relative to industry participants"[2]. This was the case for IBM which was a leader in PC manufacturing at the time. As one of Intel's biggest clients, IBM controlled Intel's market share of the x86 processor line by forcing Intel to share licensing with other rivals. IBM's rationale was to expand the number of its suppliers to ensure sufficient supply for itself. Intel sought to change the status quo. According to Intel (2018), through its memory chip business, Intel had built considerable expertise and scale in manufacturing in the 70s [3]. By expanding the production capacity of subsequent products starting from the 80386, it switched to single sourcing. This unprecedented move had the dual advantage of gaining an edge over rivals who continued to second source. With larger production capacity, they were also able to offer competitive pricing by spreading fixed costs.

It should be noted here that such a move would not have been successful if Intel's product had been mediocre. Despite the disadvantage of single sourcing, buyers continued to flock to Intel because of guaranteed superior performance. Intel was able to meaningfully couple its innovative advantage with its manufacturing prowess. This brings us to the third major tool Intel used

effectively: Marketing. Intel's marketing campaigns were used in an ancillary capacity to further augment the advantages gained through its other key strengths.

As a B2B company manufacturing not an end product, but just a part of it, Intel's market share could drop drastically should a large PC manufacturer choose an alternative supplier. This way powerful buyers could dictate terms by playing off Intel against a rival. To ensure its demand among PC manufacturers, Intel increased its brand value among end-users. It bypassed the middle man and advertised directly to PC owners via its " Intel Inside" marketing campaign which cultivated a culture among end-users of discussing PC performance in terms of the processor used. The campaign, a first of its kind, educated users about the value of Intel processors over cheaper substitutes and encouraged them to ask for PCs with Intel microprocessors.

Other iconic marketing campaigns run by Intel against its competitors include "Operation Crush" and "Red X". Operation Crush, in particular, is of significance since the campaign was instrumental in signing the deal between Intel and IBM which launched Intel's success in the microprocessor industry. In operation Red X, Intel sought to divert the customers who were buying second-sourced 80286 processors from competitors like AMD, to buy Intel's single-sourced 80386 processor which offered more value for the same cost.

In each of the above cases, the organization seems to have asked the question "How can we change the status quo to benefit us?" and turned the tables to its advantage. Intel's success, therefore, can be attributed to the excellent use of its strengths in a careful elimination of vulnerabilities/weaknesses. If Intel had chosen to maintain the status quo and be a participant

instead of a game-changer, it is possible that it might have still been profitable. But, it is certain that it would not have been a market leader.

REFERENCES:

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3. *Intel at 50: The 8086 and Operation Crush*. Intel Newsroom. (2018, May 31). https://newsroom.intel.com/news/intel-50-8086-operation-crush/#gs.4lcb9m.