**Moore’s Law**

Student Name

Department of & Institutional Affiliation

Instructors Name

Course Number

Date

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I am inclined to believe that Moore's Law has been a motivator for designers of new chips. Gordon Moore's predictions about the increase in transistor were only anticipations that turned out to be true. He made observations from a graph he plotted that illustrated trends in chip manufacturing at Intel. From his observations, he came up with a law after foreseeing a trend of chips doubling after two years, thus reflecting the need for increasingly sophisticated technology and slower development trends. The Law steered the semiconductor industry in longstanding forecast and setting objectives for research and has been a motivating force of social as well as technological change (Tardi, 2021). However, there is a physical limit that makes me view the Law as a motivator for designers of new chips instead of a predictor of chip design. If industries relied on the Law for predictions, by 2025, the size of transistors would be approximately the size of a molecule.

According to Moore's Law, the size of the transistor continually decreases with the expansion of a host of engineering inventions comprising transistor process technology, silicon straining, high-k dielectrics, and immersion lithography. If the development continues at this rate, it will be less than a decade for developers to find the need to shift into quantum chip computing. According to research, computers will reach the physical parameters of Moore's Law sometime in the 2020s (Tardi, 2021). The high temperatures of transistors would ultimately make it difficult to produce lesser circuits. On this note, cooling down the transistors uses more energy than the energy already passing via the transistors. Moore himself admitted in a 2007 talk that the fact that constituents are made of atoms is the significant drawback of his theory. Therefore, Moore's Law is a motivator for inventors of new chips since they must find other ways to make CPUs more proficient very soon. For instance, Intel pronounced its achievement of Israeli startup Mobileye, that makes software and chips for self-driving vehicles (Mims, 2017). Moreover, Nvidia publicized the modern generation of a system envisioned to accelerate machine learning, and it is vital for artificial intelligence.

Moore's Law is coming to an end since central processing units (CPUs) are not getting quicker at the rate they formerly were. However, Moore’s idea has driven specialized computing, which transforms precise software errands into physical silicon chips rather than relying on a quicker CPUs. In this regard, the main reason that makes me view Moore’s Law as a motivator for designers of new chips is since the idea that computers keep getting quicker, more power-efficient, and smaller is not occurring as it used to be. If it was a predictor of chip design, I am convinced that developers would use Moore's knowledge to develop efficient and fast CPUs. Therefore, as other chip foundries and Intel devote affluences to retain the wheel rotating, chip inventors across the business are finding inventive ways to linger at the ancient rate of Moore's Law.

The notion of Moore's Law impending its expected demise is the most excruciating present for chip manufactures, for they are encumbered with the duty of structuring ever-more-dominant chips against the actuality of physical odds (Tardi, 2021). However, I believe that Moore's Law is a motivator for inventors of new chips since it has directly impacted the progress of computing power. Conferring to the chief scientist of Nvidia, William Dally, most advances nowadays come from chip software and design. Consequently, Moore's Law is currently the impelling cause behind everything fantastic in technology, from self-driving cars to artificial intelligence. Furthermore, Moore's Law assisted developers in making transistors in integrated circuits much faster. In conclusion, I am convinced that Moore's Law is a motivator for inventors of new chips since it is estimated to come to an end despite the fact that computers are increasingly operating faster.

References

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