



BITP 3323

STRATEGIC INFORMATION SYSTEM PLANNING

PROJECT REPORT

INTEL CORPORATION

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1.0 INTEL CORPORATION



Intel Corporation, headquartered in Santa Clara, California, is an American multinational corporation and technology company. It is the world's largest semiconductor chip producer in terms of sales, and the creator of the x86 series of microprocessors, which are used in the vast majority of personal computers worldwide.

This year marks Intel's 40th anniversary in Malaysia. Intel launched its first foreign production site, a Penang assembly plant, in 1972. Since then, the company has expanded its operations in Malaysia, with locations in Kulim and Kuala Lumpur. Intel Malaysia was the first offshore site for Intel Corporation, with more than RM22 billion invested since 1972. Today, the company has over 12,000 employees in Malaysia.

1.1 INTEL PRODUCT / SERVICES

Microprocessors, which are present in the majority of personal computers throughout the world, are Intel's core product. The international technological corporation is also the world's top revenue producer of semiconductor chips, which are utilized in nearly all electronic products. Several prominent IT businesses, like Dell, HP, and Lenovo, employ Intel microprocessors in their computers. Graphics processors, flash memory, motherboard chipsets, and other computing equipment are all made by Intel.

A microprocessor is a computer processor that combines data processing logic and control on a single integrated circuit or a small number of it. The arithmetic, logic, and control circuitry required to accomplish the duties of a computer's central processing unit are contained in the microprocessor. The integrated circuit can interpret and execute computer instructions as well as conduct math operations. There are many types

of intel famous microprocessor product that has been used around the world such as intel x86, intel i7 and intel i9.

Intel also manufactured other kind of products such as Integrated graphics processing units (iGPU), Systems-on-chip (SoCs), Motherboard chipsets, Network interface controllers, Modems, Mobile phones, Solid state drives and personal brand of laptop and PCs

1.2 MARKET

Dell accounted for around 17% of Intel's total revenues in 2020, Lenovo accounted for 12%, and HP Inc. accounted for 10% of total revenues. The US Department of Defence is another major Intel customer as of August 2021. According to IDC, Intel had the most market share in both the total global PC microprocessor market (73.3%) and the mobile PC microprocessor market (80.4%) in the second quarter of 2011, but both percentages were down 1.5 percent and 1.9 percent from the first quarter. As of 2019, Intel's market share in the enthusiast market had dropped dramatically, and their 10 nm products had been delayed. Advanced Micro Devices (AMD), VIA Technologies, Silicon Integrated Systems, and Nvidia were among Intel's PC chipset competitors. NXP Semiconductors, Infineon Technologies, Broadcom Limited, Marvell Technology Group, and Applied Micro Circuits Corporation are among Intel's networking competitors, while Spansion, Samsung Electronics, Qimonda, Kioxia, STMicroelectronics, Micron, and SK Hynix are among Intel's flash memory competitors.

As of today, intel market worth in Asia is \$43.53 with a market cap of 177.99B USD. Intel company revenue is 79B USD with total assets of whopping 168.41B USD.

1.3 ORGANIZATION STRUCTURE

Intel Corporation's organizational structure is based on product divisions. Product-Type Divisions, Functional Groups, and Geographical Divisions are the three fundamental characteristics of Intel's organizational structure.

Divisions of Product Types. The strongest aspect characterizing Intel's organizational structure is product-type divisions. The company's divisions are based on the types of items it supplies. The Data Centre Group, for example, is a division that focuses on energy-efficient servers, networks, and storage. Each of these corporate structural divisions is considered as a separate company segment with its own marketing and growth objectives. Client Computing Group, Data Centre Group, Internet of Things Group, and Software and Services Group are product-type divisions in Intel's corporate structure.

The second most important feature of Intel's organizational structure is function-based groupings. These divisions are based on administrative tasks and managerial requirements. Intel's CEO's office and employees, for example, are a functional group. Given the company's corporate structure's emphasis on product types, many of these functional groups match to specific product types for the purposes of effective administration and management. CEO, Technology and Manufacturing, Intel Capital, Data Centre, Non-Volatile Memory Solutions, Human Resources, and other functional areas make up Intel's corporate structure.

Intel Corporation has geographical divisions as a minor characteristic of its organizational structure. These structural divisions are mainly used for financial reporting and other minor managerial tasks. Intel has the following geographical divisions which is either U.S or Non-U. S

1.4 MISSION, VISION, AND OBJECTIVES

- **Intel Mission:** “Delight our customers, employees, and shareholders by relentlessly delivering the platform and technology advancements that become essential to the way we work and live.”
- **Intel Vision:** “If it is smart and connected, it is best with Intel.”
- **Intel Objectives:** We create world-changing technology that improves the life of every person on the planet.

1.5 BUSINESS STRATEGIC PLAN

Intel's objective is to provide the greatest semiconductors in the world for an increasingly data-centric environment. We've been transitioning from a PC-centric company to a data-centric one over the last few years, and we've broadened our product offerings to take advantage of new market opportunities.

We can have a greater impact on our customers' success by focusing on our four strategic priorities which is speeding company development, increasing execution, strategically deploying capital, and developing our culture. As for intel company growth strategy, it is call intel's smart capital strategy. Intel's Smart Capital approach, which aims to help fund growth while generating flexibility and producing superior returns on investments, is at the heart of the company's long-term growth strategy. Intel wants to use a disciplined approach to its investments as part of the Smart Capital strategy, leveraging government incentives, consumer participation, and other creative partnerships as capital spending offsets. This will enable the company to respond rapidly to market opportunities and increase market share while keeping its margin structure and capital spending in check.

2.0 ORGANIZATION ANALYSIS

Understanding the issues and challenges facing the organization using SWOT, Porter Five Forces Model, or other tools and Business environment.

As a big company like intel, they are already figure out their strategic planning in company's competitive position. SWOT analysis is designed to facilitate a realistic, fact-based, data-driven look at the strengths and weaknesses of an organization, initiatives, or within its industry. SWOT analysis works best when diverse groups or voices within an organization are free to provide realistic data points rather than prescribed messaging. By using internal and external data, the technique can guide businesses toward strategies more likely to be successful, and away from those in which they have been, or are likely to be, less successful. Independent SWOT analysts, investors, or competitors can also guide them on whether a company, product line, or industry might be strong or weak and why.

Starting with S, which stands for strength. Strengths describe what an organization excels at and what separates it from the competition. For Intel's company. It is obvious that intel has the strength of technology leader in microprocessor manufacturing. For example, Intel inside has been one of Intel's strongest marketing campaigns and has made Intel the leader in terms of technology. Before the "Intel Inside" campaign, Intel had been largely unknown to consumers. The company had a reputation for its technical prowess and quality among original equipment manufacturers (OEMs), but it had not seen much need to cultivate a similar renown among end users. That began to change in the late 1980s, the PC market was creating a huge demand for central processing units, and with that came a new imperative for Intel to explain the desirability of its products to lay consumers. Intel's response to that imperative, the Intel Inside campaign, would make advertising history, turn Intel into a household brand name and create a valuable shortcut through which OEMs could signal the quality of their products to customers.

Next, we explore about the Weakness of Intel. Firstly, one of the intel's weaknesses is caused by their own strength. Since they are successful producing CPU's, they tend to push the production too much and lead to CPU overproduction. The reason for this is because back then, intel company monopolize the microprocessor's market and the manufacturer's suggested retail price (MSRP) was set too high. But after AMD released new cheaper product to the market, intel's product become lower in selling value and end up to overproduction. Plus, intel's product is not diverse. Intel is limited only to personal computer segment and only depends on microprocessor.

On the other hands, intel has the opportunities to shine since today is the era of technology computers. The demand of microprocessor is significantly increasing as well as technology advancing. For example, since Elon Musk announcing their first line of Tesla electric vehicle (EV). Other automobile company rush to make their own EVs. These will give chance to intel to develop a microprocessor that works with EVs. Technology such as Advanced Driver Assisted Systems (ADAS) and In-Vehicle Experience (IVE) is already available and used in most EV.

And finally, the threats for intel. There are three main threats that intel facing right now. First is competitors. Back then, IBM and AMD are the biggest threat for intel since they also produce and selling microprocessor. But nowadays, there is new competitor that enter the market, which is Apple Inc. The Apple M1 is an ARM-based system on a chip designed by Apple Inc as a central processing unit (CPU) and graphics processing unit (GPU) for its Macintosh desktops, MacBook notebooks, iPad Pro and iPad Air tablets. The new chip also brought Apple's third change to the instruction set architecture used by Macintosh computers, 14 years after they were switched from PowerPC to Intel.

Other than the SWOT analysis, we use Porter 5 Forces Model to identifies and analyses five competitive forces that shape every industry and helps determine an industry's weaknesses and strengths. Five Forces analysis is frequently used to identify an industry's structure to determine corporate strategy.

Firstly, a threat of new entrant. Intel is involved in making computer chips or semiconductor chips. The threat of new entrants in this industry is low. Computer chip making has evolved into complex designing (both hardware and software) due to

various companies' years of Research and development. Hence, it is not easy to enter computer chip-making without proper IP rights. Several brands like AMD, Nvidia, Intel, QUALCOMM, etc., have invested a lot of money in R&D, property, plant, and equipment required for chip designing and manufacturing. Hence, only firms who can invest a large capital and are willing to take risks can enter this industry. Several existing firms in this industry have invested heavily in advertisement to gain market share. As a result, only a few companies could survive and have been in the industry for several decades. There is high brand recognition of the existing players among the consumers. Hence, not everyone can enter this industry easily. If anyone wants to enter, it will take years to build its brand among the consumers. Existing players are quite aggressive, and it's not easy for a new player to survive. However, some Chinese firms are trying to enter chip-making and designing by providing low-cost products to the customer. Overall, the threat of new entrants is low.

Next, threat of substitutes. The threat of substitutes for Intel is moderate. As there are very few firms providing the same product in the market, there are not many options to substitute. Intel provides products that are better performing as compared to its competitors, which gives it an advantage. Also, Intel is the market leader and has the highest market share. The threat of substitutes is moderate as Intel has invested heavily in research and development. As a result, it provides better performing and higher quality products to their customer. Also, there is a high switching cost for a business/consumer in the computer chip industry because of compatibility and dependence issues. Availability is another factor while considering the substitute. There is a semiconductor shortage in the industry, and Intel, the industry leader, provides the majority of the chips. Hence even if customers want to switch to its substitute, it is not readily available. However, some firms offer chips that can perform the same task. Hence, a business/consumer can switch to another product.

Then we go investigate bargaining powers of suppliers. Bargaining power of suppliers depends on the following few factors. The raw material, which is for fabrication, is available from number of player but is provided by only few countries. Intel has easy access to raw material required for manufacturing/fabrication of its chips. Hence, bargaining power of supplier is moderate. Moderate size of supplier results in less

pressure on a firm which gives advantage to Intel which is huge in size. Hence bargaining power of supplier is low in this respect. For some chips Intel depends on other firms which are limited. This gives the supplier an upper hand. Intel has significant control on its supply chain. Also, R&D investment by Intel and IP right which it has does not allow forward integration to happen for its supplier. Overall, the bargaining power of suppliers is low.

And finally, competitive rivalry. The competitive rivalry among the existing firms competing with Intel is very high. The semiconductor industry faces high competition, and the rivalry among the firms is very high. Each player is expected to release the next and upgraded version of their product every year. Competitors release several products and features for their customers in a year. Some direct competitors of Intel are AMD, Samsung, Nvidia, and QUALCOMM. Most of the market is already covered in developed economies. However, some scope is there in developing economies. Hence, there is a high level of competition to gain market share in the highly penetrated market. There is a high switching cost for laptop and PC manufacturers, once you establish a contract with an OEM, it will continue for several years, and there won't be any competition there.

Definition of Business Environment is sum or collection of all internal and external factors such as employees, customers' needs and expectations, supply and demand, management, clients, suppliers, owners, activities by government, innovation in technology, social trends, market trends, economic changes, etc. These factors affect the function of the company and how a company works directly or indirectly. Sum of these factors influences the companies or business organisations environment and situation.

Intel employees all have strong problem-solving and communication skills, resilience, and risk takers. They are also able to articulate an idea and demonstrate passion about the subject matter they are discussing. As of 2022, Intel has a total of 121 thousand employees with 12 thousand employees working in Malaysia.

3.0 INFORMATION CAPTURE

Capture information related to IT and IS, infrastructure currently implemented or used in the Intel Corporation.

IT infrastructure refers to all of an organization's hardware, software, and network resources that are required to provide IT services (also known as information technology infrastructure). IT infrastructure may be utilised to supply services or resources to both internal and external clients. Many different sorts of businesses rely on IT infrastructure to increase efficiency and value generation via the use of technology. Many other types of businesses use IT infrastructure to drive efficiency and value creation through technology adoption. Software application developers use IT infrastructure to facilitate their specialised development approach, while many other types of businesses use IT infrastructure to drive efficiency and value creation through technology adoption. IT infrastructure components can be installed, organised, and used in a number of different ways. Some or all of the following components may be found in a typical IT infrastructure.

Start of with the components of IT infrastructure which is the hardware. Servers, data centres, personal computers, routers, and a variety of other hardware components are among the hardware components. Infrastructure also includes other amenities such as the warehouse, cooling equipment, and power supply. We think Intel is already employing top-of-the-line technology for its server, data centre, and personal computer because Intel's products are designed for IT infrastructure. Intel's Xeon processors, for example, are specialised server CPUs designed to handle multitasking such as AI training. Intel also has a storage line called Intel Optane that helps to minimise storage bottlenecks in data centres and enables for huge datasets. It can accelerate applications, reduce transaction costs for latency-sensitive workloads, and improve overall data center TCO.

There is also specific Intel software and driver to help support the advancement of their devices on the software side. Even for regular customer, we need to use Intel's dedicated driver that help to support their hardware architecture. Because Intel's drivers

are open source, we may use them with any operating system, including Windows, Linux, and Mac OS.

In terms of networking, we've previously announced Intel Gigabit Network for end-user products, which is accessible on most current and older generation motherboards. On the server side, Intel unveiled a new next-generation high-performance computing (HPC) fabric capable of speeds of up to 100 Gigabits per second. Intel networking infrastructure is without a doubt one of the greatest.

Intel has one of the most advanced data centre management systems in the world, with over 100,000 servers kept in 97 data centres across the world. Around 70% of those servers are dedicated to Intel's microprocessor designers, with the remainder going to the company's office, IT, and online operations. The company is in charge of more than 18 petabytes of main and secondary storage. These are only a few of the figures provided by Intel (INTC) in an interactive overview of its data centre operations on the company's website, which also includes a series of movies highlighting various facets of the company's data centre strategy.

4.0 IDENTIFY AND SUGGEST

Identify or suggest any competitive direction that the firm should adopt to achieve its mission, vision and business objectives such as according to

Strategies of low-cost leadership, market niche, product differentiation

a) Strategies of low-cost leadership

The problem with simply being a producer of processors is that other firms can move into your market. Once they produce similar products the only way you can differentiate is by offering lower prices. Intel also falls into the cost leadership strategy because Intel has invested in building manufacturing facilities around the world to produce its products. The lower end product such as the Intel's Celeron is a standard product with relatively little differentiation and is acceptable to the majority of the computer users in the world.

The generic strategy that Intel pursues in its core microprocessor a cost leadership strategy with their manufacturing of 1103 DRAM chip. They establish high yields and high volume in production so that the unit cost would fall. Low prices meant that DRAMS would be used more widely among computer manufacturers. Due to a manufacturing problem that only Intel had knowledge of how to solve, their chips were in high demand. With the advantage of economies of scale existing meaning the cost of production of each unit was falling every day, Intel was able to produce high volumes of chips at low prices.

However, with the launch of the 80286 microprocessors in 1982, Intel seemed to change strategy. Due to such high demand in the market for a faster chip, Intel decide to use a differentiation strategy. They lower the number of licenses to four in order to focus on the number of competitors. They launch an extensive marketing and sales campaign, Checkmate, which is successful in capturing more computer manufacturing companies. Their prices are set to premium mainly as they know they are in high demand.

Following on from this point, there is yet more demand for faster and more powerful chips. Intel produced the i386 in October 1985, however IBM are reluctant to comply and produce a computer which is compatible to the i386. Therefore, Compaq take full advantage of this situation and surge into market leader position in 1986, using the i386 by Intel. Sale revenues and profits are at their highest for Intel here as they use a cost leadership strategy.

They build two or four processors into this chip. This gives them specialization and better performance. Initially, they price their chip at premium prices as they know that their product is in high demand. As manufacturing yields improve, they are able to drop their prices, giving themselves cost leadership advantage.

b) Strategies in Market Niche

Targeting another niche in the computer industry, Intel introduced a workstation aimed specifically at conference rooms. The Team Station System 4.0 combines video conferencing, Internet access, corporate network access and PC applications. Intel says it "will allow people in a meeting to complete work without rushing back to their desktops for final adjustments". Intel estimates there are as many as 10 million conference rooms worldwide and that 37% of employee time is spent in meetings.

In its bid to increase PC penetration within the country, Intel has chalked out plans to engage in different pilot programs targeted towards niche market segments. Intel says that "Resellers need to add value to Intel products, and this is what Intel objective is. As of now Intel have just completed a pilot program targeted towards chemists where Intel is giving them an end-to-end inventory management solution coupled with the PCs".

Unable to gain dominance in the general markets, AMD is likely to concentrate efforts in the niche graphic market for gaming machines. In the short term, Intel should try to keep up at least technologically in the graphics end by cooperating with NVIDIA, since falling behind would potentially allow AMD to establish a reputation in this high prestige market first that can proliferate to other sectors.

Among all sectors, the low-end market was one of Intel's weakest points both because of the lack of focus as well as the success of the AMD Athlon 64 processor which cost less than Intel's equivalent Core 2 Duo and performed better than Intel's low-end Celeron. But now armed with a cheap high-performance processor better suited for this market than anything AMD can immediately offer; Intel should take this golden opportunity to "Atom" bomb the low-end market before AMD can respond in kind.

In the emerging markets of affordable Mobile Internet Devices and classmate PCs targeted toward first time users, the threat of competition is even higher due to Intel's lack of a well-established position as in the traditional PC market relative to the numerous competitors, but the potential for growth here is incredible. Intel must plant a strong foothold early by continually improving the Atom processor and developing strong ties with manufacturers of these products.

c) Strategies in product differentiation

In Intel's case, differentiation is applied through product quality and features. For example, Intel invests in rapid innovation to produce cutting-edge microprocessors and related technological products. The advanced features of these products ensure leadership in the global market, helping fulfil Intel's mission statement and vision statement. The implementation of the differentiation generic strategy helps Intel maintain its competitive advantage despite strong competitors like AMD.

AMD is capable of imitating or improving on most of Intel's technologies. Without such technological barriers, competition often degrades into price wars, causing both companies to lose profit. It can avoid costly price wars by differentiating its products towards the specific orientations of the customer. This can be done by bundling components into platforms, as it has successfully done with the Centrino platform, and also developing technologies fit the specific needs of a certain customer group, such as with the vPro technology which enhances security for businesses.

From a strategic standpoint, we can see that chip manufacturers don't have a strong dependence on any particular PC assembler, nor should they be worried at this

moment of an increase in buyer power that requires the creation of artificial competition. However, Intel should pay attention to a few changes in the industry structure that might make it interesting to integrate forward.

6.0 RECOMMEND

Recommend new ISIT strategic plan and uses various information systems that fit the direction. Systems from functional perspective:

- a) Customer relationship management systems**
- b) Supply chain management systems**
- c) Enterprise systems**

Customer Relationship Management systems

Customer is the main focus of a business as it is the only source of revenue. Considering this fact, marketers need to be more skilled in managing this base. In the competitive marketers are more concerned about loyalty management. Nobody knows who will buy for the first time but who have already got the taste can be satisfied with the performance.

The Internet also changes the demands on the data centre and makes the choice of Contact Centre architecture a strategic rather than a tactical decision. That's because the rapidly emerging world of Customer Relationship Management (CRM) is continually evolving more effective ways to obtain, delight, and retain customers

As a building block supplier to the worldwide Internet economy, Intel® Corporation develops the technologies that underlie today's computer and Internet revolution and lay the foundation for tomorrow's integrated CRM systems. Intel chips, boards, systems, software, networking and communications equipment and services are the "ingredients" of computer architecture and the Internet. Intel also influences the future of the industry through its leadership in industry initiatives and its services to software developers, application service providers (ASPs), Internet service providers (ISPs), e-business

solution providers (eBSPs), original equipment manufacturers (OEMs), and more.

Whether your company is developing its own CRM solutions, or creating, integrating, or selling customer-oriented products and services, Intel offers world-class products and an extensive range of technical and marketing services to promote your success.

Solutions Framework Architecture, in next-generation customer-focused applications, companies will deliver services and information to customers when, where and how the customer wants it. They'll also deliver information directly to customer systems, providing data in formats that can flow into customers' business applications without human intervention. The winning companies will use this emerging machine-to-machine capability to accelerate, automate and optimize not just their own business systems and decision-making environments, but also those of their customers. For those customers who prefer to speak, Voice Portal Platforms can still allow you to interact with them automatically, reliably and efficiently using the human voice interface for transactions. This transformation requires a new architectural framework for creating next-generation, loosely coupled machine-to-machine Internet solutions. Intel has developed a Solutions Framework Architecture (SFA), a set of layered services that provide an integrated, yet dynamic set of e-business services to applications. The SFA offers practical guidance to companies developing platform-independent, interoperable Internet business products and services for next generation solutions.

The Old Way of Doing Business. In the past they had used traditional focus groups, where engineers, scientists and businesspeople would gather from around the globe and spend a week or so together, creating new possibilities. What they found was that, in addition to the expense of flying people from all over the globe, while the conversations were great — they were more difficult to keep ongoing conversations at the same level of creativity and intensity. Once back at home, the everyday work/home life catches up with everyone. And they clearly saw the need and desire of the collective wisdom to be in more continuous conversations.

Intel decided to use social media as a platform to look at key business factors and sustain these conversations on a continuing basis. Intel engaged key customers in open discussion about how to improve their customer experience. First, they found a need for

customer's to be able to contact Intel quickly and securely to discuss product or process issues or ideas. And second, Intel found that the customers wanted the ability to engage with each other without involvement from Intel. Of course, privacy and security were of the utmost importance!

Intel began by evaluating the customer experiences, its methods of being in communication with its customers and its ability to target and engage customers and maximize effective, relevant, just-in-time communications. Intel's strategy to sales and marketing is shift from home grown apps to enterprise. Shift to the web for greater efficiencies marketing, support, sales. Greater user participation to improve decision support .3 years strategy but must deliver value every 3-6 months over the course of their transformation.

Next intel also business benefits like integrated SAPS solution to bring customer data together for better targeted marketing. Interaction centre enables our 230+ agent in 10 sales centres to increase personal touch in a lower cost model

Supply chain management systems

Intel's Supply chain strategy initially focused on the microprocessor as a computer enhancement that would allow users to add more memory to their units, the microprocessor's great potential--for everything from calculators to cash registers and traffic lights--soon became clear to ensuing competition in the manufacture of 8-bit microprocessors, Intel's Supply chain strategy introduced the 8085, a faster chip with more functions.

During the 1970s, Intel's Supply chain strategy had also developed the erasable programmable read-only memory (EPROM), another revolutionary but unintended research byproduct. Intel's Supply chain strategy physicist Dov Frohman was working on the reliability problems of the silicon gate used in the MOS process when he realized that the disconnected, or 'floating,' gates that were causing malfunctions could be used to create a chip that was erasable and reprogrammable.

In today's fast-paced business world, making rapid, data-driven decisions is crucial to maintaining a competitive edge. These decisions are especially important for Intel's supply chain, which spans order taking, resource procurement, manufacturing, testing, and final delivery of products. Intel IT is transforming our legacy supply chain into a modern "glass pipeline" that improves our decision-making capabilities and business agility. This glass pipeline is now possible with our new integrated data platform (IDP). Our IDP integrates the SAP HANA in-memory database with Cloudera Distribution of Hadoop. Reports that used to take hours to generate can now be created in real time as a result of faster access to data. Supply chain planners and experts are more efficient and effective at optimizing business processes, driving operational excellence, and providing higher levels of customer satisfaction.

Intel IT plays a leadership role in creating a supply chain that supports new business models and expands Intel's manufacturing capabilities. We are developing an integrated data platform (IDP) that integrates an SAP HANA system with our Cloudera Distribution of Hadoop* cluster.

SAP HANA offers real-time data management. That means our supply chain managers can analyze data within seconds of it being saved or created—no more having to wait hours for a report or to perform analysis. Such instantaneous access to data opens up endless possibilities. SAP HANA supports data for all primary supply chain capabilities such as core manufacturing, order management, supply demand, supply planning, financial data, analytic systems, dynamic inventory tracking, warehousing, supplier security management, and capacity utilization functions. We use Hadoop to store and process many structured and unstructured types of data, such as input from Internet of Things (IoT) sensors and social media streams. The combination of SAP HANA's in-memory capabilities and Hadoop's big data capabilities creates a real-time "sense-and-respond" supply chain.

Enterprise system

Intel IT has transformed Intel's enterprise resource planning (ERP) system into an agile, cost-effective tool that supports high-velocity business growth and ever-changing business needs.

The success of our ERP transformation depended on several key components, including governance and regular review of the plan to keep it aligned with changing business needs.

Our ERP transformation has resulted in an enterprise platform that can adapt to the speed of today's business. We can implement patches and enhancements from the supplier in five weeks, across our entire ERP landscape with minimal production downtime. Prior to the transformation, it took six months to apply an ERP system patch. We can better integrate new out-of-the-box capabilities, including business intelligence capabilities, which help us analyse business data, react quickly to changing business needs, and perform better predictive analytics. We now have a system that supports agile development processes, providing an optimal user experience across multiple devices. We have lowered our operational costs significantly with reusable horizontal services, minimal customizations, and fewer suppliers.

The transformation of our ERP system greatly reduced its complexity—providing increased business value through improved agility and velocity, increased reliability and support, and enhanced cost efficiency. Intel intends to further transform our ERP system to maximize our return on investment and minimize our total cost of ownership. We plan to streamline our agility so that we can deploy new services in as little as six days, deliver services through the cloud and on small form factor devices, and improve our real-time business intelligence capabilities.

7.0 CONCLUSIONS

For the conclusion, Intel is in good shape heading into what looks to be very profitable years for the industry because Intel has a good business plan. Intel can play an important role in the competitiveness of the industry. Intel comprises the bulk of manufacturing establishments, are integral parts of the supply chain for both commercial and defence products and provide the vast majority of manufacturing employment. Intel use of modern manufacturing equipment, methodologies, and management practices is inadequate to ensure that manufacturing will be globally competitive.