An Analysis of How CA Technologies Acquisition Can Bring Broadcom Into The New Era

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Executive Summary

The recent CA Technologies acquisition can be a major game changer for Broadcom by bringing in new expertise and business opportunities previously not available to both companies on a global scale. A successful merger will also lay a strong foundation for Broadcom to make a significant inroad into the digital technology services and digital transformation industry and provide important diversification in global revenue against future downturn from cyclical hardware sales business through the more recurring service business of the former. According to IDC, global ICT spending is estimated to grow from 5.3 trillion USD in 2020 to more than 6 trillion USD in 2022 (IDC Corporate USA, 2018)

However, merging two separate multi-national companies of similar size but different business models is never going to be an easy task especially with their respectable Fortune's rankings (Broadcom ranking was at 150 in 2019 after redomicile from Singapore while CA Technologies ranking was at 602 at 2018). (Fortune Media IP Limited, 2018) With this background, the consolidation that took place after the acquisition of CA Technologies is indeed a corporate level restructuring challenge since Broadcom has no prior experience with the mainframe industry which contributes upto 90% of CA Technologies profit. (CA Inc. 2018) Moreover, trying to marry the hardware sales focused business model of Broadcom with the sales, services and licensing approach of CA Technologies is always going to be challenging from sales, development and customer support perspective as Broadcom's sales workforce are simply not able to promote CA's mainframe software to the hardware makers they know so well.

More importantly, the almost immediate termination of 2000 US based CA Technologies staff out of the total 4837 just after the completion of acquisition (Schachter, K. 2018) may not bode well for the growth of Broadcom services business going forward. First of all, selling services is a more people and long term relationship focused business. Besides, Cloud and Mainframe computing has never been part of Broadcom's technical expertise so there will be a strong requirement of skill retention and the re-deployment of skilled workers and managers within the

existing CA Technologies organization. This 40% redundant rate announced for CA Technologies' US based staff will also send a negative signal to employees, of potential merger and acquisition targets, especially those based in US, from their job security perspective. The employee mix in CA Technologies, especially more mature individuals with expertise related to Mainframe, could also lead to corporate and social responsibility backlashes which may end up as court cases due to redundancy as seen in previous occasion with Jonathon Vaughn. (United States District Court, N.D. Illinois, Eastern Division 2016)

Since Broadcom's future is highly related to achieving growing through IT services business, conducting a thorough review of actions taken after CA Technologies merger and evaluate them against alternative actions, such as the role of inclusion and diversity, that could be taken is critical to future success of Broadcom especially a possible Symantec acquisition is being studied. As such, the aim of this report is to propose and highlight alternative approaches that can help to improve this CA Technologies and future merger arrangement and lay the platform for other IT services business acquisition going forward.

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Background Introduction

Broadcom and CA Technology Product and Sales Structures Prior to Merger

1) Broadcom Structure Prior to this Merger (Broadcom Limited 2017, Broadcom Inc. 2018)

Broadcom sells its products to a wide variety of branded product manufacturers or their contract manufacturers as well as to distributors and end customers through its direct sales force and a select network of distributors globally. Many customers often depend on time-critical delivery of Broadcom products to multiple locations around the world. Hence, the company already has an effective logistics division in serving customers' needs. Historically, a significant portion of Broadcom net revenue depends on a relatively small number of customers . For instance, direct sales to Foxconn Technology Group companies, accounted for 14% of Broadcom's net revenue for both fiscal years 2017 and 2016. Aggregate sales to Apple, Inc., through all channels, accounted for more than 20% of Broadcom net revenue for fiscal year 2017 and approximately 15% for fiscal year 2016. Sales to end customers through distributors accounted for 28% and 30% of Broadcom's net revenue for fiscal years 2017 and 2016, respectively. Expected aggregate sales to the top five end customers, through all channels, accounted for more than 40% of Broadcom's net revenue for fiscal year 2017 and more than 30% for fiscal year 2016. Under the current forecast, significant customer concentration is expected to continue in future periods. Hence, the loss of, or significant decrease in demand from, any of the top five end customers could have a very negative effect on the business condition for Broadcom, thereby driving the need for revenue diversification.

With the concentration of business to a small number of customers, the direct sales staff is focused on supporting large customers. Broadcom sales personnel has specialized product and service knowledge and have sales offices located in various countries, with a significant presence in Asia, which is a key center of the worldwide electronics supply chain. Since many of Broadcom's customers design products in North America or Europe and then manufacture in Asia, dedicated regional customer support call centers, where customer issues and logistics are

handled, are present in various parts globally. For thousands of smaller customers around the world, instead of dealing with them directly, Broadcom has also strategically developed distributor relationships with many large global electronic components distributors to generate a significant amount through these sales channels.

From a product line perspective, Broadcom is a global technology leader that designs, develops and supplies a broad range of semiconductor and infrastructure software solutions. They are mainly used in end products such as enterprise and data center networking, home connectivity, set-top boxes, broadband access, telecommunication equipment, smartphones and base stations, data center servers and storage systems, factory automation, power generation and alternative energy systems, as well as electronic displays. For fiscal year 2018, Broadcom product can be represented by four major reportable segments: wired infrastructure, wireless communications, enterprise storage and industrial & others.

The wired Infrastructure segment provides semiconductor solutions for set top box and broadband access markets. This division also provides a wide variety of semiconductor solutions for the transfer of data in data center, telecom, enterprise and SMB/ROBO networking applications. Wireless communications segment sells a broad variety of RF semiconductor devices, connectivity solutions and custom touch controllers to device manufacturers including manufacturers of mobile handsets and tablets.

Enterprise storage segment enable secure transfer of digital data to and from host machines such as servers, personal computers and storage systems to the underlying storage devices such as Hard Disk Drives and Solid State Drives. The Industrial & Other division provides a variety of products for the general industrial and automotive markets.

Broadcom continues to invest in product development, both organically and through acquisition, to drive business growth, including process development and fabrication capabilities to optimize processes for devices that are manufactured

internally. Field application and design engineers are located in different locations around the world, and in many cases near top customers to enhance customer reach and visibility into new product opportunities. Close proximity to customers enables supporting customers in each stage of their product development cycle, from early stages of production design through to volume manufacturing and future growth and therefore assist customers to develop high value-added and customized products based on Broadcom's existing and emerging technologies. Broadcom will continue to make significant research and development expenditures to maintain the competitive position, through the continuous offering of innovative and sustainable product platforms.

2) CA Technologies Structure Prior to This Merger (CA Inc 2017)

CA Technologies' goal, prior to the merger, is to be the world's leading independent enterprise software provider which help customers to plan, develop, automate, manage and secure applications across mobile, cloud, distributed and mainframe platforms. Many of the largest companies in the world, including most of the Fortune 500 and many government agencies are CA Technologies' customers.

Figure One : Portfolio and Platform Overview (CA Inc 2018)

CA Technologies tried to leverage its portfolio of solutions to enable customers to execute their software based digital transformation. CA is one of the few companies which deliver solutions spanning across mobile, cloud, open systems and mainframe environments. Before the acquisition in fiscal 2018, CA Technologies's business was organized in three distinct operating segments: Enterprise Solutions, which offers a broad range of software planning, development, and management tools for mobile, cloud, and distributed computing environments, Mainframe Solutions which includes solutions for the IBM z Systems® platform and tries to help customers to increasing reliability, availability and agility while protecting enterprise data with security and compliance, and Services segment which helps customers to achieve rapid implementation and adoption of CA Technologies's software solutions using expert support from services team.

The three segments strengthen each other in several ways. Customers benefit from the ability of CA solutions to span across their entire infrastructure, across mobile, cloud, distributed, and mainframe, enabling customers to focus on their end users' experiences. In return, CA can bidirectionally leverage its core strengths and development efforts within the Enterprise Solutions products to bring new innovations to the Mainframe Solutions and vice versa. As CA mainframe platform penetration is among the largest in the industry, the ability to support, improve and sustain ongoing customer commitment CA's Mainframe Solutions is critical to the success of the business as a whole.

Prior to the Broadcom acquisition, CA plans to drive organic innovation through the promoting wider adoption of the Agile methodology (RALLY SOFTWARE®) to control software development process in order to improve product development time-to-market, quality and relevance to meet with customer requirements. CA Technologies also research and develop solutions from areas such as containers, data analytics, big data, artificial intelligence, machine learning and open source, some of which may enhance or extend CA's current product portfolio while others may evolve into new product categories.

There were approximately 5,100 employees globally who design, develop, and support CA's software. Principal research and development centers in the United States include California, Colorado, Illinois, Massachusetts, New York, Pennsylvania, and Texas. Internationally, principal centers are located in Austria, Canada, Czech Republic, India, and Israel.

CA Technologies is currently serving customers across most major industries globally, including banks, insurance companies, other financial services providers, government agencies, global IT service providers, telecommunication providers, transportation companies, manufacturers, technology companies, retailers, educational organizations and health care institutions. The emphasis of customer engagement on a global scale is supported by CA Technologies' services team which consists of experienced professionals who provide a variety of services, such as consulting, implementation, application management services, education and support services, to both commercial and government customers. It has approximately 900 certified consultants, architects, project managers and advisors located in 31 countries and an extensive partner ecosystem. This team has the responsibility to help customers to deploy and maintain CA's Mainframe and Enterprise Solutions, bridging their historical investments in Mainframes with what they are building for the future such as automation.

The Global Customer Success ("GCS") organization within CA Technologies made up of customer experience designers, customer advocates, technical support engineers, community managers and an advanced customer data analytics team that is responsible for delivering a superior end-to-end customer experience. GCS support engineers also work with customers during trials and after the sale to assist in migration and upgrades, resolve issues 24/7, create self-help knowledge documentation, and proactively mitigate risks to prevent issues before they occur. The goal of GCS, which operates in 42 locations worldwide and provides assistance in 16 languages, is to create customer satisfaction and loyalty on a continuous basis in order to maintain the competitive advantages for CA Technologies.

Traditional customers generally consist of large enterprises that have computing environments from multiple vendors and are highly complex. The emergence of cloud computing enable CA, through its buy, install, deploy, manage and secure solutions, to further broaden its customer base as cloud-based and try-and-buy models is becoming more attractive to both existing and potential customers through the acceleration of value derivation from new solution investments. New delivery models allow the extension of market reach, speed up the adoption of CA's solutions, thereby improving delivering efficiencies and compete more effectively for a larger number of customers globally.

Currently, no single customer accounted for 10% or more of CA Technologies' total revenue for fiscal 2018, 2017 or 2016. Approximately 7% and 6% of total revenue backlog at March 31, 2018 and 2017, respectively, is associated with multi-year contracts signed with the U.S. federal government and other U.S. state and local government agencies, which are generally subject to annual fiscal funding approval and/or renegotiation or termination at the discretion of the government. The ability to upsell cloud-based solution remotely will increase the revenue CA Technologies can extracted from each customer, reduce the labour and travel costs involved as well as the chance of breaking into new customers via the try-and-buy model.

However with an estimate sales team of 2000 (Cohan, P. 2018), the merger with Broadcom, may offer potential opportunities to further expand relationships with potential customers that CA Technologies do not currently serve. In parallel, both entities can seek to broaden the customer base to new buyers in geographic regions that are underserved. It is also important for the sales team to focus on maintaining and expanding the strong relationships with the established customer base.

CA Technologies sells through direct and digital sales forces as well as indirectly through partners. The top 2,000 accounts is labelled as“Enterprise” accounts. These customers are normally maintained through multi-year agreements and renewals to increase account penetration to help drive revenue growth. “Commercial” account opportunities are normally managed through partners and

digital sales efforts. In using a data-driven approach of aligning global partner strategy with market opportunities, channel trends and dynamic changes in the industry enables CA Technologies to match its offerings and investments to specific markets. These group of commercial and potential customers also represent an opportunity for CA Technologies to access via cost-effective distribution, especially since CA Technologies has a lower levels of penetration with them so far.

CA Technologies' sales organization operates globally, with groups serving North America, Europe, the Middle East and Africa, Latin America, and Asia Pacific and Japan geographies by operating through branches, subsidiaries and partners around the world. To reach a broader customer footprint cost effectively, CA Technologies has also been increasing its investment in digital sales and marketing organization by trying to change to a more solutions-driven sales approach by using real-time data and intelligence to drive its go-to-market strategy towards the highest potential and highest-yielding opportunities. Geographically, approximately 37% and 36% of total revenue in fiscal 2018 and 2017, respectively, was from operations outside of the United States. At March 31, 2018 and 2017, there were approximately 2,800 and 3,000, respectively, of sales and sales support personnel.

CA Technologies also jointly builds its business with partners in various geographic regions. These partners include Resellers which derive revenue primarily from the resale of third-party products, Global Service Providers which CA work with via outsourcing arrangements to support their development of innovative and differentiating service offerings, Global System Integrators, which offer CA software within their business practices to joint customers, Managed Service Providers which leverage CA solutions to power their subscription-based IT services and Global Technology Partners which include Independent Software Vendors and Infrastructure and Public Cloud Vendors.

Besides product and services sales, CA Technologies also derive revenues from licensing and engagements with customers either on a subscription basis for a specified term or via a subscription license where the customer has the right to

usage and maintenance of the licensed products during the term of the agreement. Currently, customers can license the software products under multi-year licenses, with most customers choosing one to five-year terms. Customers can obtain licenses through individual discrete purchases to meet their immediate needs or through the adoption of enterprise license agreements which are comprehensive licenses that cover multiple products and also provide for maintenance and support. For mainframe solutions, the majority of licenses provide customers with the right to use one or more of CA products up to a specific license capacity, generally measured in MIPS. For these products, customers may acquire additional capacity during the term of a license by paying an additional license fee and maintenance fee. For enterprise solutions, licenses purchase may provide customers with the right to use one or more of the products limited to a number of servers, users or copies, among other things. Customers may license these products for additional servers, users or copies, etc., during the term of a license by paying an additional license fee and maintenance fee.

SaaS is another delivery model CA Technologies offer for certain products when a customer prefers to use technology off-premises with little or no infrastructure required and is becoming a larger part of CA Technologies' Enterprise Solutions portfolio. This typically have a shorter average duration and smaller initial contract values compared to the more traditional on-premise delivery model. CA Technologies SaaS offerings are typically licensed for a designated term using a subscription fee but others is transaction or usage-based.

Why the ICT and Software Services Business is Important to Broadcom

As forecasted by IDC, global ICT spending could reach a staggering 6 trillion USD per year by 2022. (IDC Corporate USA, 2018) On the other hand, spending growth on the Telecom and Hardware portion of ICT, which has been the main income stream of Broadcom before the acquisition of CA Technologies, will lag behind the general ICT revenue growth. Hence, the successful integration of ICT services company like CA Technologies into Broadcom is very important for the continuous growth of both companies.

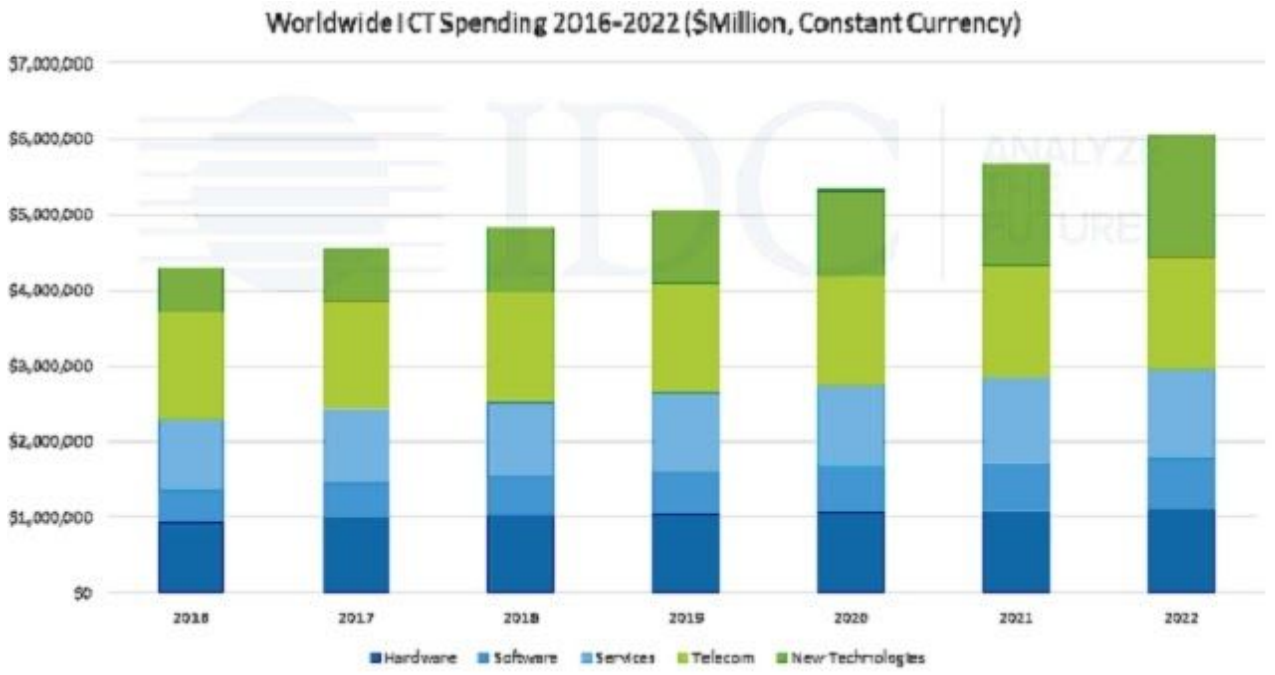

Figure Two - Worldwide ICT Spending 2016-2022 ((IDC Corporate USA, 2018)

Technology	2016 Spend, $M	2017 Spend, $M	2018 Spend, $M	2019 Spend, $M	2020 Spend, $M	2021 Spend, $M	2022 Spend, $M
Traditional Technologies	$3,698,055	$3,857,728	$3,986,997	$4,099,343	$4,211,785	$4,330,101	$4,453,711
New Technologies	$611,688	$713,877	$825,978	$961,763	$1,130,615	$1,345,751	$1,601,824

Table One - Detail Spending Figures Traditional vs New Technologies 2016-2022 (IDC Corporate USA, 2018)

Technology Spending $M	2017 Spending	2018 Spending	2018 Growth	2019 Spending	2019 Growth
Hardware	$996,376	$1,033,759	4%	$1,053,959	2%
Software	$477,615	$512,537	7%	$550,567	7%
Services	$971,434	$1,009,573	4%	$1,048,654	4%
Telecom	$1,412,303	$1,431,128	1%	$1,446,164	1%
Traditional ICT	$3,857,728	$3,986,997	3%	$4,099,343	3%
New Technologies	$713,877	$825,978	16%	$961,763	16%
Total ICT	$4,571,604	$4,812,974	5%	$5,061,106	5%

Table Two - Breakdown of Global ICT spending by Category 2017 - 2019 (IDC Corporate USA, 2018)

Figure Three - Regional Share of Traditional ICT Markets Spending by Technologies 2017 (IDC Corporate USA, 2018)

Competition Landscape

The technology industries that the merged entity will be operating under is extremely competitive and characterized by a rapidly changing technological environment which creates continually changing customer requirement since new companies and products emerging very frequently. Evolving industry standards, application of new ideas and technologies and continuous consolidation within the industry also drives new go-to-market approaches and business models.

1) ICT Industry Competition for CA Technology Business (CA, Inc. 2018)

Competition for the software business can generally be categorized into the following groups:

a) Smaller point product vendors which only address specific issues of customers instead of offering comprehensive solutions.

b) Vertically integrated technology companies that can bundle software to generate other revenue by tying software offerings with hardware, platform, and services. These companies are normally of larger size and could also be local system integrators with own development teams.

c) Extension of offerings from cloud service providers. Amazon Web Services, Microsoft Azure, and Google Cloud Platform all continue to evolve and enhance their services by embedding more management, analytics and security capabilities.

d) Adoption of open source solutions is increasing as customers also want to reduce spending. This also opens the market for more smaller local system integrators or developers to come into the market.

2) Hardware and Semiconductor Industries served by Broadcom (Broadcom Inc. 2018)

Competitors range from large, international companies that offer a wide range of products to smaller companies specializing in narrow markets. As an ongoing trend, existing competitors will continue to improve or expand their product offerings as new companies also enter the market. Ability to compete effectively depends on a wide variety of factors including product quality, price, features, technical performance as well as compatibility with other external solutions. Engineering expertise in design and new product innovation, technical support responsiveness to customers, reliability as well as ability to meet product availability and delivery schedule required by customers are all important factors. Broadcom competes with integrated device manufacturers, or IDMs, and fabless semiconductor companies, as well as the internal resources of large, integrated OEMs.

To successfully compete in the wired infrastructure segment, Broadcom utilize the strength of its high speed proprietary design expertise, customer relationships, and broad product portfolio. While in wireless communication, competitive advantage is based on expertise in advanced filtering technology, amplifier design, module integration and proprietary material processes. In the enterprise storage segment, expertise in multiple storage protocols and mixed-signal design enable Broadcom to compete while in the industrial & other segment, design expertise, broad product portfolio, reputation for quality products and large customer base enable the continuous success of this division.

3) The Road Ahead for New Broadcom (Broadcom Company Overview 2019)

Based on the management target, the expected revenue contribution, post merger, from different segments is provided below. Around 20% of revenue is to be provided by its software division mainly from the CA Technologies division.

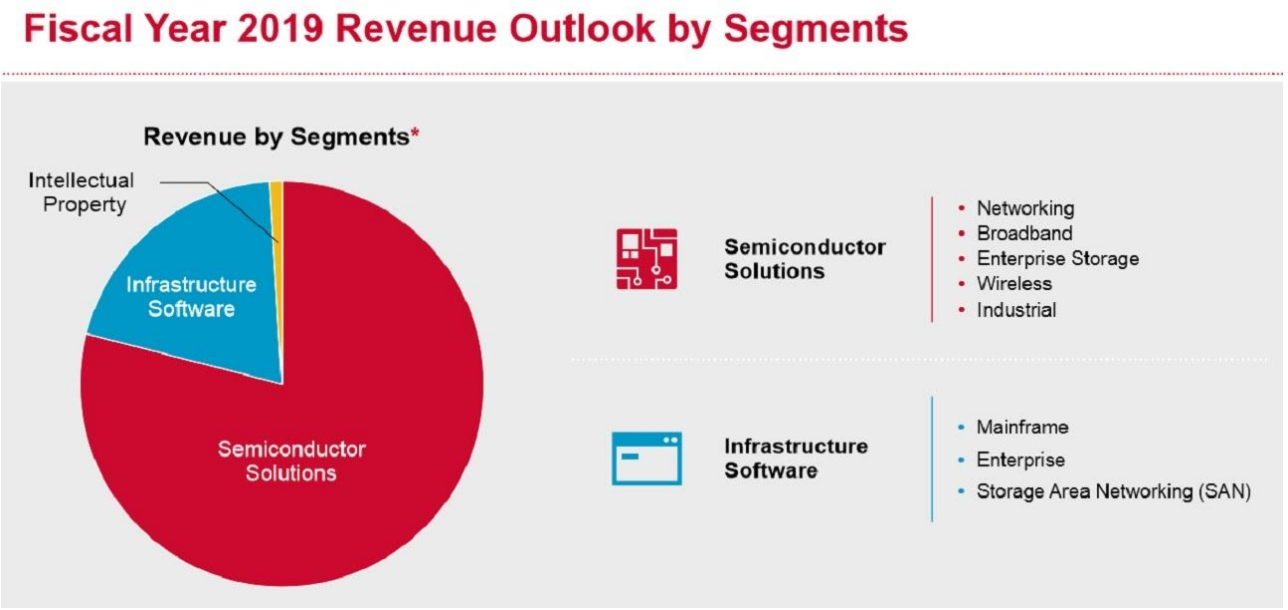

Figure Four - Illustrative revenue split by Product Category (Broadcom Company Overview 2019)

Impeding Factors against a Successful Merger

1) Broadcom Culture and Legacy Impact from Previous Acquisition

Broadcom, previous known as Avago before the Broadcom acquisition back in May 2015, has a long and successful history of expansion through acquisition followed by subsequent disposals of non core assets and staff. This expansion process, which has been heavily influenced by previous Broadcom acquisition practices, worked well in previous acquisitions as nearly all of the target companies are product and component oriented which has a much shorter support lifecycle than services and licences based businesses as in CA Technologies and Computer Sciences Corporation. More noticeable examples of acquisitions are larger companies such as Brocade, a network switch manufacturer for 5.9 Billion USD in 2017, LSI, a component manufacturer for 6.6 Billion USD in 2013, and Broadcom itself by Avago in 2015 for 37 Billion USD.

In the recent acquisition of Brocade, 1100 employees were terminated out of a total of 4600 (Sumagaysay, L. 2018) and Ruckus Wireless and ICX Switch businesses, which was part of Brocade's IP Networking business, was sold to ARRIS International plc. not long afterwards (Ruckus Networks 2017). This strong handed approach will undoubtedly impact target companies' employee fear of job security/safety which corresponds to the safety needs of humans in Maslow's hierarchy of needs model. (Maslow, A.H. 1943)

Although the rapid removal of non essential employees is necessary to protect certain Intellectual properties and customer relationship of the new entity, extractions of full merger benefits between Broadcom and CA Technologies required in depth knowledge transfer within the organization especially the Mainframe market is now a niche segment for both customer and staff expertise perspective.

From a Research and Development perspective, CA Technologies have approximately 5,100 employees globally who design, develop, and support its

software. It operates principal research and development centers across the US, including New York, California, Colorado, Texas, Illinois and Massachusetts. Internationally, principal centers are located in Prague, Czech Republic as well as Hyderabad and Bangalore, India. (CA Inc. 2017) Hence, the dismissal of 40% of US based staff will have significant impact on the capability of CA Technologies in new product development post merger.

On the other hand, according to Payscale.com survey for 2018 (PayScale, Inc. 2019), one of the successful competitors of CA Technologies, Computer Sciences Corporation (CSC), has a tenure of 3.6 year per employee who has a median age of 37. This is indeed even longer tenure than more prestige company like Apple which has an employee median age of 31 and tenure of only 2.0 years. This clearly points to the need of better organization planning, especially in the staff retention area, and should be given more time for execution and transition due to the lack of overlapping businesses and certain expertise between Broadcom and CA Technologies.

2) Implication of Disposal of CA Technologies Security Business, Veracode (Broadcom Inc. 2019)

Broadcom has always been a hardware and component company throughout its history. With its lack of experience in software sales management, there is always going to be a managerial challenge to merge a software company into its existing structure. One of the immediate disposal from the CA Technologies' merger is the selling of Veracode application security testing platform to Thoma Bravo, private equity firm specializing in investing in the cybersecurity software sector. Veracode offers a software-as-a-service platform to find and fix security defects and CA Technologies originally bought Veracode back in March 2017 in trying to blend application development and security.

The disposal of Veracode indicates Broadcom lack of enthusiasm in expanding in the IT system security business which is always seen as essential for any IT systems. Employees with expertise in the platform security area would either leave

with the Veracode sale or potentially consider leaving to pursue better career opportunities. This will potentially open up more brain drain in the merged entity as ex-CA Technologies employees from security or related division if no future action is announced as these employees would feel they are not wanted in Broadcom's long term business plan.

To address both the Broadcom acquisition culture and the hasty Veracode disposal in mind, the following suggestions are proposed in detail to offer an alternative set of approaches and considerations to maximize the benefit of this and future IT acquisition.

Recommendation

To ensure and maintain the success of the new company, it is important that existing business can continue to operate and grow in both short, medium and long term and different phases will require different actions.

Short Term Approach

In the short term, priority is to maintain customer relationships for smooth integration. As such, five major actions can be taken here.

1) Establish clear channel of communication so all employees have access to company and restructure related information. This can start in the form of all staff communication meetings, regular email and also face to face meetings between top leaders and staff in major offices. These actions serve to address the physiological and safety level of Maslow's Hierarchy of Needs so all employees can have clarity of management arrangements and given the opportunity to understand the overall situation rather than surrounded by uncertainty, influenced by inaccurate rumours and blindly "running for safety" instead of performing their normal duties.

Management should start clarifying job expectations for all roles after the merger to allow employees to cope with changes more realistically. Employee stress audit can also be arranged for certain functions to identify any potential concerns and address them via clear communications accordingly. The inability of companies to operate normally due to communication gap is detrimental to any mergers as it will prolong the duration of productivity dip due to time required for the adoption of change in work processes. Communication gap also allows fear of uncertainty to grow even further among employees so this gap needs to be addressed by leaders as a top priority, especially where redundancy would be involved.

2) Immediate commencement of talent audit especially for high level managers as the retention of talented managers can ensure the future success of the merged entity. Emphasis can start with market facing teams but also expand to other

internal divisions to ensure all types of organizational talents will remain plentiful post merger. High performance employees from all departments especially sales, products, marketing and services staff serving in high revenue, high growth and high potential regional markets should be offered attractive KPIs and target based incentive plans immediately. This can smoothen the operation of the merged entity and also maintain its competitive edge post merger especially if leaders can use this opportunity to show they are willing to reward performers in a fair and transparent manner. Regional managers should also be informed their successful completion of assigned tasks could lead to bigger remuneration and higher position in the company going forward to attract their commitment for this merger.

In applying Locke' goal setting theory (Locke, L. A., & Latham, G. P. 2002), target and measurable sales and KPIs requirement in the incentive offers should be a continuation of performance expectations before the merger. As such, this target should create no new surprise and is already of clarity to employees. Nevertheless, since this program is focusing on high performer individuals and high performing markets, this incentive exercise should be conveyed clearly also as a challenge for the employees involved. Although high performers are expected to be able to meet their target, there should be mechanisms also to allow individual feedback on this structure so minor adjustment of KPIs is possible to guarantee employees' commitment. Finally, if required, attainment of KPIs can be broken into stages through the break down of bigger tasks into smaller milestones. Hence, individual stages becomes more achievable for employees by meeting them gradually over an acceptable period.

Broadcom has also established some incentive and retention program as part of the merger. (Broadcom Inc. 2018) A multi-year equity award has been made to most of Broadcom and CA Technologies employees. Prior to this merger, many CA Technologies employees were not eligible to receive equity awards. An award, which will vest in four tranches with successive four-year vesting periods has been put in place as a long-term retention incentive to employees especially engineering and technical personnel who are the source of technological and product

innovations. Nonetheless, it needs to be more extensive especially skilled resources in the USA and SE Asia could be hard to retain. (Broadcom Inc. 2018)

3) Categorise teams and employees from CA Technologies into different profiles using both the Skill/Will matrix as well as diversity and personal preference information. Categorisation through Skill/Will matrix also helps to identify high-performance staff as well as potential staff currently with high skill low motivation ranking who may be more suitable for relocation or role adjustments before deciding whether new company should release them.

The identification of diversely is very critical because CA Technologies has been involved in a court case related to Jonathon Vaughn (United States District Court, N.D. Illinois, Eastern Division 2016) due to alleged sacking due to age discrimination. Such court case will not only be damaging to the image of the future company from a social and corporate relationship perspective but will also affect the attractiveness of the company to more mature employees, which could be important, as CA Technologies main revenue and profit still comes from the mainframe related business, an industry whom skilled workers are averaging above the age of 50s. (Shacklett, M 2015)

4) Employee friendly projects such as in house child care nurseries, 12 weeks parental leave (Connolly, B 2018) and wellbeing programs should continue and perhaps even expand to the entire company post merger to give all employees a clear message business is as usual and company is interested in continuing best practices that looks after employees welfare. These can be promoted as hygiene factors as stated in Herzberg's Motivation and Hygiene theory and help to reduce employees dissatisfaction. (Herzberg, F 1964)

5) Swift formation of business transformation team or creation of transformation office which is responsible for the end to end integration of the company. This team will compose of leaders from all relevant departments and internal as well as external experts if required. Within the transformation team, besides a transformation leader, there will also be a cross department expert investigation

team which focuses on metrics collection and distillation from an independent rather than departmental perspective.

Collection of metrics can begin immediately and initially focusing on gathering feedback from customers as well as relevant sales, marketing and services staff on company sales and services related performance. This should include both good and bad points to provide data to management for immediate remedy actions if something that will impact sales and services performance is detected.

The global coverage of the new Broadcom definitely includes a high level of cultural diversity and variation in corporate expectations. This presents itself as an extra dimension that needs to be analysed for medium and long term corporate performance enhancement. The opportunity to enhance employee contribution to the new entity on a global level is critical for the success of the new company especially it is counting on growth from the IT arm. The trend of declining employee headcount as shown by CA Technologies since 2010 (Statista Inc. 2019) almost 20 percent down from 2010 to 2018 definitely confirmed this task is a major challenge and warrants further actions by management.

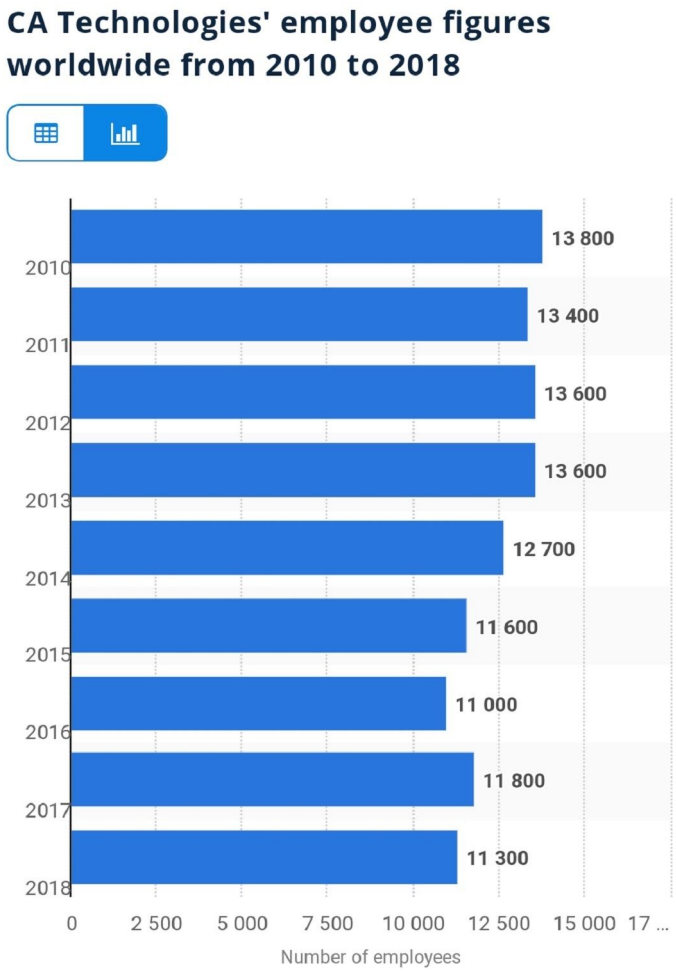

Figure Five - CA Technologies Employee Figures Worldwide from 2010 - 2018 (Statista Inc. 2019)

The transformation team should also start using the Agile Central management tool, currently known as Rally Software from CA Technologies (Broadcom Inc. 2019) to enhance the success rate of this merger as well as the possibility of increasing customers and employees satisfaction over the medium to long term. The Rally tool specialises in highlighting bottlenecks and helps to identify areas that can deliver most values. In using in house expertise to manage this integration project in a scientific manner, the tracking of milestones can be effectively shared with all stakeholders transparently. Top management can also keep track of the progress through the dashboard functions of the Rally tool.

Medium Term Strategy

Successful implementation of short term actions within the first 6-12 months of merger is merely the start of a long journey of maximizing the benefit of CA Technologies acquisition. Leaders must devise appropriate medium and long term plans while short term organisation changes is taking place.

The execution of a good medium integration plan is both a challenge and an opportunity since it resides in the most critical period of any merger and acquisition. Nevertheless the ultimate target of the medium strategy is to create a high performance team to take on the broader IT industry, using the CA Technologies' asset as a base within a three to five years time frame. The following action items are all of critical importance for the medium integration target to be achieved.

1) Any high performance team will need to have leaders with the right skills. Hence, it is essential to identify current and future potential managers within various departments within CA Technologies and Broadcom so they can be given the appropriate development and training opportunities whenever possible. The candidate pool can be from the high performance staff identified by the short term retention program as well as others discovered by metrics analysis done by the transformation team.

Training programmes, regular seminars and workshops should be arranged to close the skill and experienced gap needed by these individuals to step up to become leaders in a national and international context. This can be achieved by incorporating a global perspective with local insights especially for the regional based teams. This is important since the new Broadcom remains as a global multi-national corporation and its management will be trying to balance rigid external realities with company values on a daily basis.

For other general staff, knowledge gaps, such as product information from CA Technologies portfolio, found by transformation team can be addressed through

the introduction and delivery of more online and offline training forums to improve the skill levels of all employees efficiently.

2) In today's fast changing business world, any 3-5 years plan could be irrelevant due to new regulations, new products from existing competitors, new technology or even new competitor arising from a different industry e.g. Amazon entering the cloud computing industry. It is often difficult to use a one size fit all approach that can overcome the variations in scenarios.

To deal with this uncertainty, transformation project team need to research and create various models and organisational structures and identify the corresponding skillset to deal with the challenges of different situations. Regular brainstorming sessions with internal and external experts will be an important way to generate inputs. The use of RALLY SOFTWARE® (Broadcom Inc. 2019) , which is an agile based solution, from CA Technologies could be an important tool to track and adjust input details as part of the organisation optimization processes. Its ability to provide time and resources status enable management to stay focused to achieve the end target while monitoring the progress and resources consumption at real time.

3) With the expansion of its global workforce, the merged company presents itself as a major diversity opportunity and challenge. Cultural diversity is a source of new ideas and location diversity also offer second chances of applying business ideas generated in-house or by external parties in location elsewhere.

McKinsey (Hunt, V., Prince, S., Dixon-Fyle, S. and Yee, L. McKinsey & Company 2018) reported there is global correlation and relevance between financial performance and inclusion and diversity (I&D) for large companies including 17 companies that cover all major regions from their study. Consistent out performance by these I&D organizations from the financial results of both 2014 & 2017 support McKinsey's claim. In particular, in their study using 2017 data, companies are 33% more likely to enjoy industry leading profitability with the higher adoption of I&D. There is no doubt a more diverse environment covering age,

gender, sexual orientation, education, race and culture can attract more top talents from different backgrounds and thereby increasing the chance of companies providing products with better customer orientation.

On the other hand, according to a review conducted by Deloitte (Deloitte Review 2010) different regions and different culture definitely has different expectations of the workplace. More importantly, as each country developed at different pace, the influence due to the occurring changes on each particular generation will also impact that age group differently. For instance, the beliefs and attitudes of the post 80s that was raised under the One Child Policy in China will be much more self focused and likely to pursue own interest more than the Generation Y in India, Russia and the US where the children were likely to have some siblings. Interestingly, Deloitte even found certain age sections, covering the same age range, in different countries will be categorised differently due to variations in social, political and cultural events that happened during the period e.g. Generation Y in the US will include both Post 80s and Post 90s while in China, Post 80s and Post 90s are separate groups which was subjected to different economic situations. Hence, with careful balancing across different geographical locations and culture, enhancing the new Broadcom through more inclusive and diverse initiatives in the medium strategy will offer the company new competitive advantages across the globe. It is also likely to increase employee satisfaction as well as commitment, especially if their feedback can be acknowledged and acted upon by management, thereby achieving a better chance to become one of the top performing global multi-national organisations. As part of the medium term corporate integration, the investigation team will also need to work internally to gather employees profile covering their performance history, experience, education and individual diversity background to identify groups and individuals that could be of high potential but with low motivation due to role or management mismatch.

4) Feedback and metrics gathered from customers and employees by the transformation team can provide valuable insights for post merger optimization of corporate structures and workforce. For staff with high innovation ranking, they can become members of a special task force created to focus on generating new

innovation opportunities for the merged entity. This task force can also continue as a long term division even after the final organisation structure is put in place.

Conversely, poor performing markets and individuals after the completion of initial integration period can now be optimised and removed as they have shown their lack of ability to contribute to the new organisation by medium stage. Similarly, departments of lower productivities such as back office support teams can also be optimised if performance metrics proves this is indeed the case. However, optimization of offices and departments may indeed offers an opportunity to relocate and redeploy staff that have shown their potential to contribute in the new Broadcom. By clearly highlighting what reward will be given to those who participate in relocation and redeployment, leaders can assess employee capability and performance via the expected vs actual outcomes according to Expectancy Theory (Vroom, V.H., Deci, E.L., 1970) since the employees who choose to participate are clearly motivated by the relocation and redeployment opportunity.

Long term objectives

Any company that plans to survive and thrive in the long term must have a strong vision of where they want to be beyond a five year timeframe. As the dust settles after the initial stages of merger, management also needs to look at creating a new corporate culture corresponding during the medium and long term transformation period to ensure the new Broadcom is aligned to deliver its long term vision. This is particularly important since CA Technologies and Broadcom both have slightly different cultures before the merger. The new corporate culture must be identifiable to both Broadcom and CA Technologies employees going forward and clearly pointing in the new company direction . Four considerations are listed below for further management evaluation.

1) Management must have a clear strategy on how to achieve the long term company target so the organisation as a whole can be steered in the right direction. The vision must be shared with the entire company so all level of staff can align their goals and interest with this long term vision and avoid valuable resources such as time, money and people being wasted.

As such, management needs to first create a vision or mission statement as the launching platform of long term objectives. Company level objectives and directions must be prioritized over departmental objectives and it must be reflected in the mission statement. This will help staff to understand the strategic direction top management is trying to achieve in simple but important terms. In repeatedly communicating this statement, it will also help to reinforce the planned direction of the company and keep everyone staying in focus to achieve the ultimate goals. This statement must also create resonance with as many employees as possible to shape people's thoughts and belief of the vision once it is communicated and understood. For example, SpaceX mission is to "revolutionize space technology, with the ultimate goal of enabling people to live on other planets." It is clear to employees what SpaceX wants to achieve and thereby attracting those talents that have similar interests.

2) Management can also use regular strategic level review meetings for long term planning as a way to develop an employee empowerment culture. As successful strategies implementation are realized by employees, they should be given the opportunity to provide feedback and recommendation whenever possible. In addition, outstanding performers identified during these reviews can be included in the company incentive based retention program to ensure they are committed to stay with the merged entity after the completion of integration.

During the review process, employees can be involved to provide feedback from their area of responsibility about the current situation and how the company is moving in terms of aligning to the long term objectives. Fast changing business environment under which the new Broadcom will be operating also require regular review and by including employees in the review process, they will feel attached and empowered to the company development since they are also given the opportunity to voice their suggestions to top management.

Besides participating in regular review meetings, selected employees can also be part of the audit and review committee for ongoing activities. By asking employees to perform certain auditing function, they will feel like being treated as a trusted member of the company who is also given a high level of task ownership. Hence, they will be more willing to take initiatives to help overcome difficult issues in their area of daily responsibility. Additional benefits, such as inter-functional cooperation, can be accomplished also when the committee is an affiliation of employees from different departments. This approach is aligned with McClelland's three needs theory (McClelland, D. and Burnham, D., 1977, 2001) where employee is given the power to monitor company progress and can share the sense of corporate achievement when company long term development is progressing.

3) Building on the successful establishment of an inclusion and diversity (I&D) culture from the medium strategic plan, guidelines and procedures should be put in place to ensure this trend of diversity can be maintained and possibly expanded to all levels of the organisation to further capitalize the benefits on offer. Concurrently, the caring culture,as shown by the in-house child care and 12 weeks parental leave

(Connolly, B 2018), should also be institutionalised so employees can proudly identify themselves with a caring company. Both I&D and employer care programmes can also be incorporated as part of standard work practices and stated as part of the employee handbook so they will become work habits or company norm in the longer term.

4) As Broadcom is competing in the fast moving technology industries, transformation team should evaluate the possibility of adopting a modular structure going forward. The benefit of reducing inter-dependency between different parts of organization enable faster adoption and inclusion of new entities, such as new technologies and new companies through acquisitions, into the organisation. (Reeves, M., Levin, S., Fink, T., and Levina, A. 2020)

Another major benefit of modular organisational structure is to allow experimentation or trial of a new business model to take place within the organisation without creating significant impact to other parts of the company. This type of risk tolerance can foster entrepreneurship culture in the new organisation by allowing a limited amount of risk taking as long as it stays within the constraints of the modular organisation. Potential and future leaders can also be assigned to lead such internal entrepreneurial division both as a leadership training opportunity and as an ability assessment of the individuals involved. Conversely, this experimentation also provide opportunities to identify any outdated or redundant processes which can then be removed under the new business model upon validation.

New procedures can be established to encourage staff to participate in joining different modular divisions as a means to motivate highly skilled individuals to contribute to the overall development of the organisation. This can be particularly attractive to those who may be less motivated in their previous roles due to reasons such as skill and job mismatch or existing work relationship issues with colleagues. When new regional entities are established or acquired, employees can also be given the opportunity to relocate to other locations to prove their abilities. Conversely, high performing staff from regional divisions should also be given the

opportunities to enter the leadership group in the headquarters to contribute to the future success of the organisation once proven themselves in regional roles.

All these silo breaking arrangements can contribute to the creation of a new entrepreneurial corporate culture, enhancing employee loyalty to the organisation and provide additional motivation for those who are willing to try to succeed beyond their current context. By offering existing staff the chance of developing new business models through trial and error, the organisation can also gather valuable insights on how to optimize existing processes or structure to maximize the benefits of adopting new opportunities for future organisation growth. This freedom to innovate and subsequent opportunity to duplicate any success factors within the existing organisation is undoubtedly a significant competitive advantage to the new Broadcom aims to succeed in the fast moving hardware technology and ICT areas simultaneously.

Conclusion

As end consumers are looking for speed, personalization and convenience from their suppliers, ICT technologies are under enormous pressure to deliver services that can help these suppliers to meet end customers demands. Since CA Technologies is serving a lot of companies that are consumers focused, it needs to be able to provide fast, easy to use and customizable solutions just to stay in the game of technological evolution.

More importantly, CA Technologies' skillset is beyond Broadcom's traditional expertise so the immediate sacking of 2000 staff may erode the confidence and commitment to remain and support the completion of this merger from the remaining CA Technologies' staff. As a result, it may reduce the size of the skilled workforce within the new organisation and likely to create skill deficiency going forward.

The importance of inclusion and diversity must also be addressed in this merger as it offers the new Broadcom another means to generate more creative ideas, attracting top talents and achieving better employee satisfaction as highlighted by a 2018 study from McKinsey. (Hunt, V., Prince, S., Dixon-Fyle, S. and Yee, L. McKinsey & Company 2018)

From a social and corporate responsibility perspective, mass sacking could also lead to legal backlashes as seen in previous CA Technologies court cases due to the perception of age discrimintation against employees. (United States District Court, N.D. Illinois, Eastern Division 2016).

So instead of immediate and large scale downsizing, management should consider using the diversity setting offered by in CA Technologies, which was not available in Broadcom, as an opportunity to develop a new winning culture of innovation that mingle ICT solutions, services with hardware products for the new Broadcom. In fact, Apple is one great example that has successfully integrated hardware,

software and services together into their business model and could potentially be a reference for the new Broadcom to learn from.

All the above presents a unique set of challenges for the merged entity but at the same time, it also provides the new Broadcom a wonderful opportunity to address both the hardware, software and services market on a global scale. By covering not only enterprise but also government and product manufacturers, the new company is in a very unique business position with a business model that can provide more stable revenues under different economic cycles and able to generate financial backing for the continuous growth of Broadcom going forward. With the implementation of the short, medium and long term recommendations suggested, we are confident that Broadcom will become a world class player in hardware, software and services globally.

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