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## Conference Paper

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# **A preliminary analysis of mergers and acquisitions by Microsoft from 1992 to 2016: a resource and competence perspective**

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## **Abstract**

Merger and acquisitions (M&A) have been a frequently used growth mode in the ICT Industry during the last two decades. They did so for several reasons, such as expanding the scale and scope of their business or acquire new capabilities. Microsoft is highly representative of those ICT firms who have intensively relied on M&A for growth. Microsoft since its foundation has acquired around 200 companies; in average 6 companies per year and has targeted different sectors of the ICT business. Up to the authors' knowledge, no exhaustive analysis of the acquisitions made by Microsoft over a long period has been made, in particular with a focus on Resources and Competence. In this paper, we aim at identifying the patterns behind the acquisition of numerous companies made by Microsoft since 1992, in terms of end-product, type of business, core product, resource and competences. We put a particular emphasis on the resource and competence acquired through these deals. By document research, we have been able to collect relevant information on 178 acquisitions between 1992 and 2016. In this paper, we present the methodology we have followed and some preliminary results. We conclude by discussing possible research extensions based on the current research.

**Keywords:** Merger and acquisitions, resource and competence, strategy, Microsoft,

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## 1. Introduction

Merger and acquisitions (M&A) have been a frequently used growth mode in the ICT Industry during the last two decades. They did so for several reasons, such as expanding the scale and scope of their business or acquire new capabilities. Microsoft is highly representative of those ICT firms who have intensively relied on M&A for growth.

The historic analysis done by Sudarsanam (2003) explains that merger and acquisition activities (M&A) followed a cyclical behavior that started in United States of America in 1893. Over time M&A transactions have experienced several transitions from low to high activity, modelling a wave behavior, as summarized in table 1.

Wave	Wave #1	Wave #2	Wave #3	Wave #4	Wave #5	Wave #6	Wave #7
Period	1893-1904	1910-1929	1955-1975	1984-1989	1993-2000	2003-2008	2011-Onwards
Outcome	-Horizontal integration -Creation of monopolies	-Creation of oligopolies	-Diversification	-LBO	-Globalisation	-Globalisation -LBO	-Industrial consolidation -LBO
Beginning of the wave	-Economic Expansion -Technological Innovation	-Economic recovery.	-Laws on anticompetitive M&A. -Economic recovery after WWII.	-Deregulation of financial sector. -Economic recovery.	-Strong economic growth. -Privatisation.	-Economic recovery after dot-com bubble. -Shareholders activism.	-Cross-border mergers -M&A activities in emerging economies
End of the wave	-Stock market crash	-The great depression -World War II	-Market crash -Oil crisis	-Market crash	-9/11 terrorist attack	-US banking emergency. -US recession	

Table 1: Historical M&A waves. Source: Nouwen (2011)

Microsoft Corporation was founded in 1975, when the third wave of M&A was declining. At that moment Microsoft had only 3 employees, and started by developing an interpreter for the BASIC programming language that ran on one of the first microcomputers, the MITS Altair 8800. Now it is a large corporation with more than 114000 employees. Microsoft since its foundation has acquired nearly 200 companies and has targeted different sectors of the ICT business.

While the M&A activity by Microsoft has drawn attention of the professional press, up to the authors' knowledge, no exhaustive analysis of the acquisitions made by Microsoft over a long period has been made. Additionally, no attempt has been made to map the Resources and Competence acquired. In this paper, we aim at identifying the patterns behind the acquisition of numerous companies made by Microsoft since 1992, in terms of end-product, type of business, core product, resource and competences. We put a particular emphasis on the resource and competence acquired through these deals.

## 2. Methodology and analytical framework

Following a general cycle in the US industry, Microsoft really started its M&A activity from 1992 (figure 1). Therefore, in this study, we analyse the M&A activity by Microsoft from 1992 to 2016. As can be also seen in figure 2, the M&A follow a succession of three cycles that we will use to distinguish between different phases, when needed.

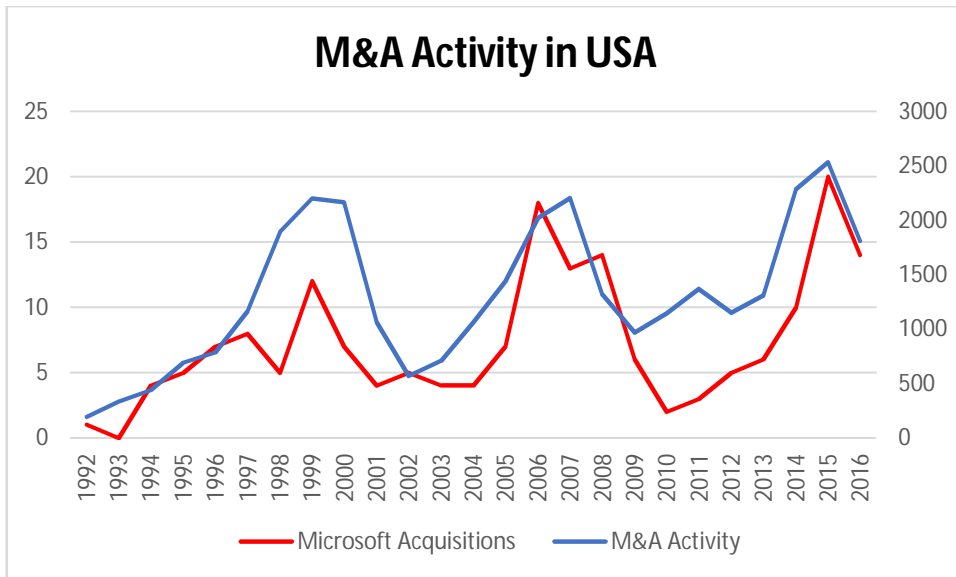


Figure 1. M&A transactions of Microsoft and Global USA (source: author's own research and IMAA-Institute, 2017)

By document research, we have been able to collect relevant information on 178 acquisitions between 1992 and 2016. For each acquisition, we rely on documents by Microsoft, specialized press well as on the author's expertise, in order to attribute characteristics in terms of contribution to end-product, business segment, core product, resource and competences. We followed the structure presented by Prahalad and Hamel (1990) in a seminal article (figure 2). Since electronic sources were diverse, they were cross-checked with alternative sources to validate the reliability.

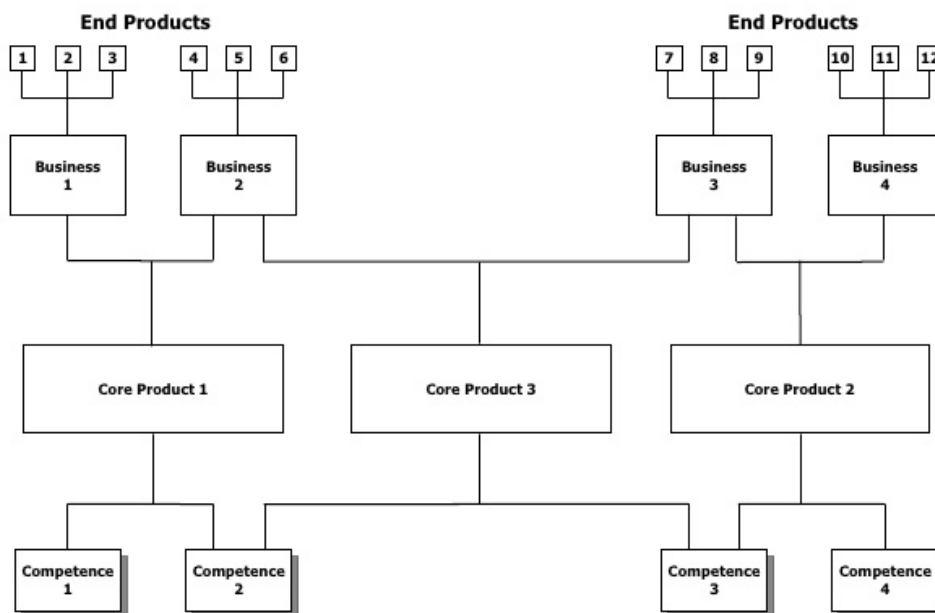


Figure 2. Model for analyzing competencies. Prahalad and Hamel (1990)

The logic of the model proposed by Prahalad and Hamel (1990) is the following: different competences allow the design and provision of core products, and core products can contribute to different businesses segments. At a given point in time, core products and business segments can be identified by analyzing documents produced by the company. The challenge we met is that, during such a long period, Microsoft had continuously changed its way to categorize core products and businesses, thus preventing comparisons over time. Therefore, we had to find stable categorizations that may differ from the ones used by Microsoft at a given time. For the business segments, we have adopted the classification made by the OECD in 2009 to measure the information society (OECD, 2009). This guide splits ICT businesses according to the product or service that is delivered to the final customer. This classification includes 3 categories which are ICT Products, Content and Media and E-Business, 17 sub-categories, and 178 products. For core products, we have adapted the framework from Geis (2015), which has already been applied to Google by this author. It includes 3 segments: Internet & Software Services, Media and Technology Platforms. However, as Microsoft has a significant activity in productivity and home use softwares, we added a Software category. For mapping the Resource and Competence identified, we followed the classification by Grant (2010). It divides the resources in 3 categories (Tangible, Intangible and Human), and the competencies according to 7 functional areas that can be carried out inside an organization. Furthermore, in order to characterize the motives for M&A, we draw on several authors such as Trautwein (1990) Schoenberg (2003), Godbole (2010), Gaughan (2013), and Berk and Di Marzo (2017). In order to complement traditional motives with specific motives related to the digital economy, we also use Shapiro and Varian (1999).

In order to provide links between M&As and a more general context, such as market trends and strategic orientation, we also conduct a qualitative analysis to detect the statements given by the CEO of Microsoft through the “Letter to Shareholders” included in annual reports during this period.

### **3. Preliminary findings**

#### **3.1. Business Segment view**

The classification given by OECD allows to classify the M&A according to the business in which the target company was operating. There are 3 classes which are ICT products, Content and media and E-Business. The following tables (2 to 4) show the quantity of companies acquired and the sub-classes for each category; the distribution indicates that 90% of the companies belong to the ICT products, 8% to Content and Media and 2% to E-Business.

The M&A activity follows a cyclical behavior of ups and downs over time. Figure 3 shows the patterns of distribution according over time according to the Business of companies acquired by Microsoft Corporation.

<b>Content and Media</b>			
<b>Categories</b>	<b>Sub-Classes</b>	<b>Com Acq.</b>	<b>Total</b>
Motion picture, video, television and radio content, and related service	Animation services	1	13
	Audiovisual editing services	2	
	Broadcasting services	1	
	Motion picture, videotape and television programmed distribution services	4	
	Sound editing and design services	3	
	Visual effects services	2	

Table 2. Number of acquisitions for Content and Media 1992-2016

<b>E-Business</b>			
<b>Categories</b>	<b>Sub-Classes</b>	<b>Com Acq.</b>	<b>Total</b>
E-Business	Retail	3	4
	Tourism	1	

Table 3. Number of acquisitions for E-Business 1992-2016

<b>ICT Products</b>			
<b>Categories</b>	<b>Sub-Classes</b>	<b>Com Acq.</b>	<b>Total</b>
Business and productivity software and licensing services	Database management software, packaged	6	66
	Development tools and programming languages software, packaged	15	
	General business productivity and home use applications	39	
	Licensing services for the right to use computer software	1	
	Network software	1	
	On-line software	1	
	Operating systems	2	
	Other application software, packaged	1	

Computers and peripheral equipment	Input peripherals (keyboard, joystick, mouse etc.)	2	2
Consumer electronic equipment	Monitors and projectors, not incorporating television reception apparatus and not principally used in an automatic data processing system	1	1
Games software	Computer game software	10	18
	On-line games	8	
Information technology consultancy and services	Business process management services	18	43
	Computer systems management services	1	
	IT consulting services	1	
	IT design and development services for applications	13	
	IT design and development services for networks and systems	5	
	IT support services	5	
Music content and related services	Sound recording services	1	2
	Sound editing and design services	1	
On-line content and related services	On-line directories and mailing lists	1	17
	Other information services	1	
	Other on-line content n.e.c.	2	
	Sale of Internet advertising space	8	
	Web search portal content	5	
Telecommunications services	Broadband Internet Access Services	5	12
	Mobile telecommunications services – access and use	4	
	Other Internet telecommunications services	2	
	Telecommunications services	1	

Table 4. Number of acquisitions for ICT Products 1992-2016

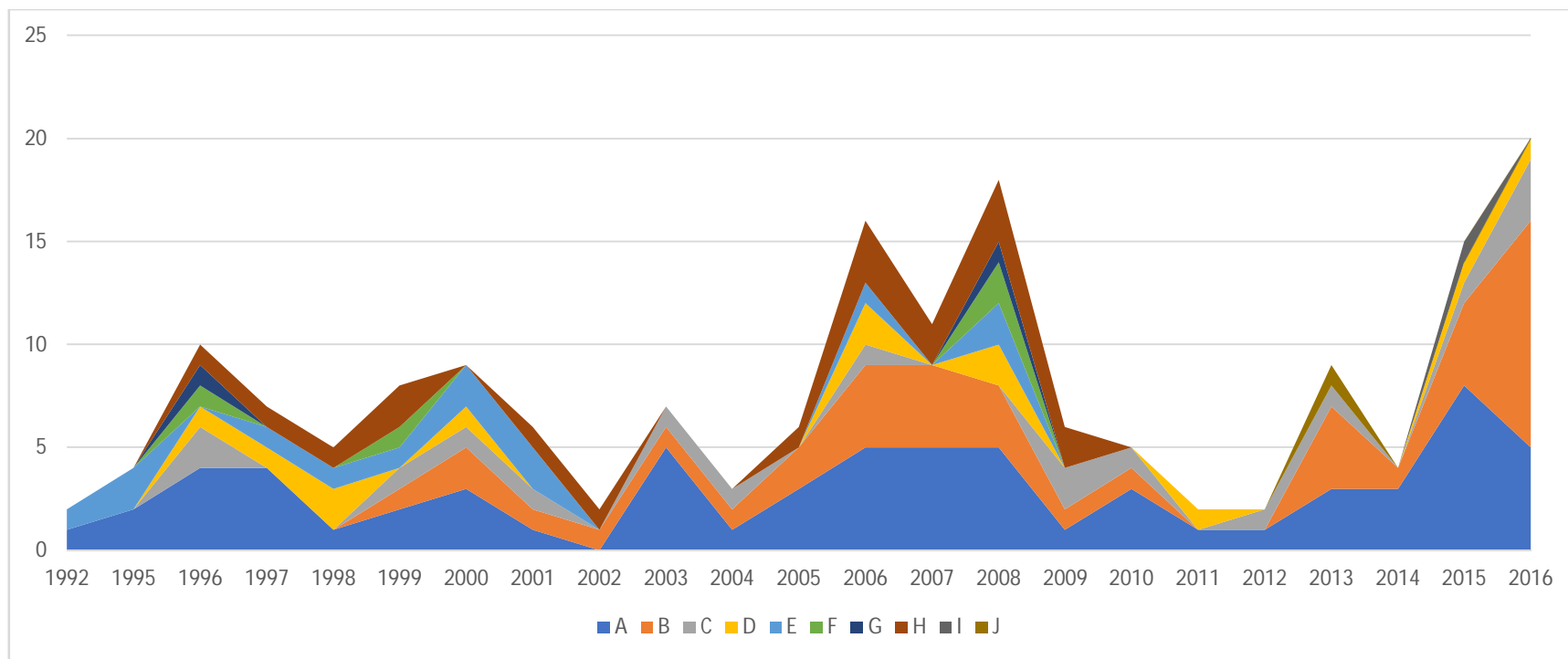


Figure 3. M&A by Business category

A: Business and productivity software and licensing services; B: Information technology consultancy and services; C: Games software; D: Telecommunications services; E: Motion picture, video, television and radio content, and related service; F: E-Business; G: Music content and related services; H: On-line content and related services; I: Computers and peripheral equipment; J: Consumer electronic equipment



### 3.2. Core product view

Table 5 displays the number of acquisitions for each core product. Figure 4 to 6 display the pattern of evolution over time. We can observe that acquisitions related to Microsoft Windows not only represent the highest number of acquisitions (87), but also that these acquisitions occurred rather regularly over time. Acquisitions related to the Web core product, which represents the second highest number of acquisitions (46), are mostly concentrated between 1995 and 2009. Acquisitions related to TV (7) and Xbox (10) are rather irregularly distributed over time. Acquisitions related to cloud (15) and Mobile platform (8) occurred during the 2010-2016 period, which is not surprising.

Core Product							
Cloud	Microsoft Windows	Mobile Platform	Peripherals	TV	Web	Xbox	Other
15	87	8	3	7	46	10	2

Table 5. Distribution of acquisitions by Core Product.

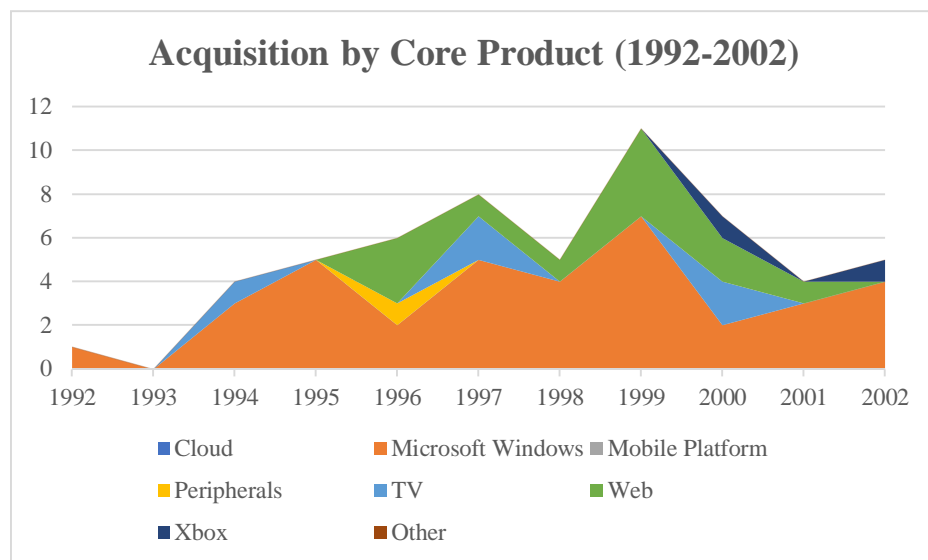


Figure 4. Timeline of acquisitions by core product (1992-2002)

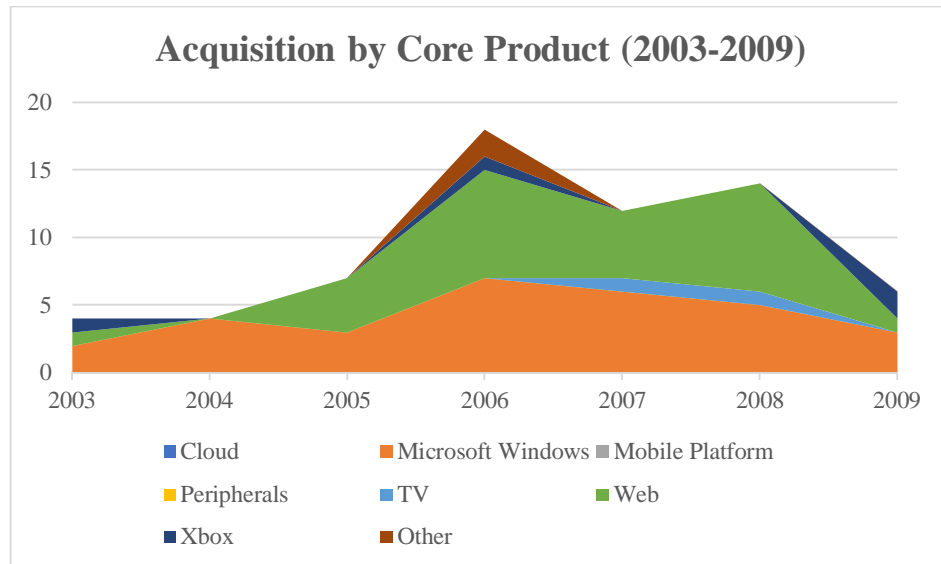


Figure 5. Timeline of acquisitions by core product (2003-2009)

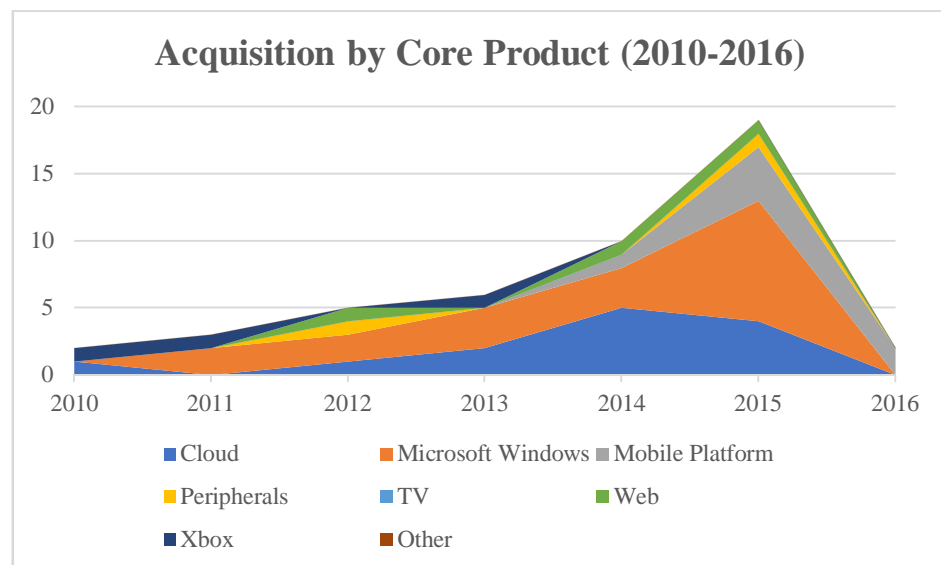


Figure 6. Timeline of acquisitions by core product (2010-2016)

### 3.3. Resource and Competence view: the case of Cloud Business

In order to be able to conduct an in-depth analysis, we have improved the framework proposed by Prahalad and Hamel (1990) by distinguishing between competences and resources (figure 7). We then apply this framework to the case of acquisitions related to Cloud Computing. In 2009 and 2010 the top management of Microsoft declared that Cloud computing is creating new business opportunities for growth. In order to benefit from this opportunity, 17 acquisitions have been made in order to enable Cloud functionalities on Business and Productivity products (Table 6)

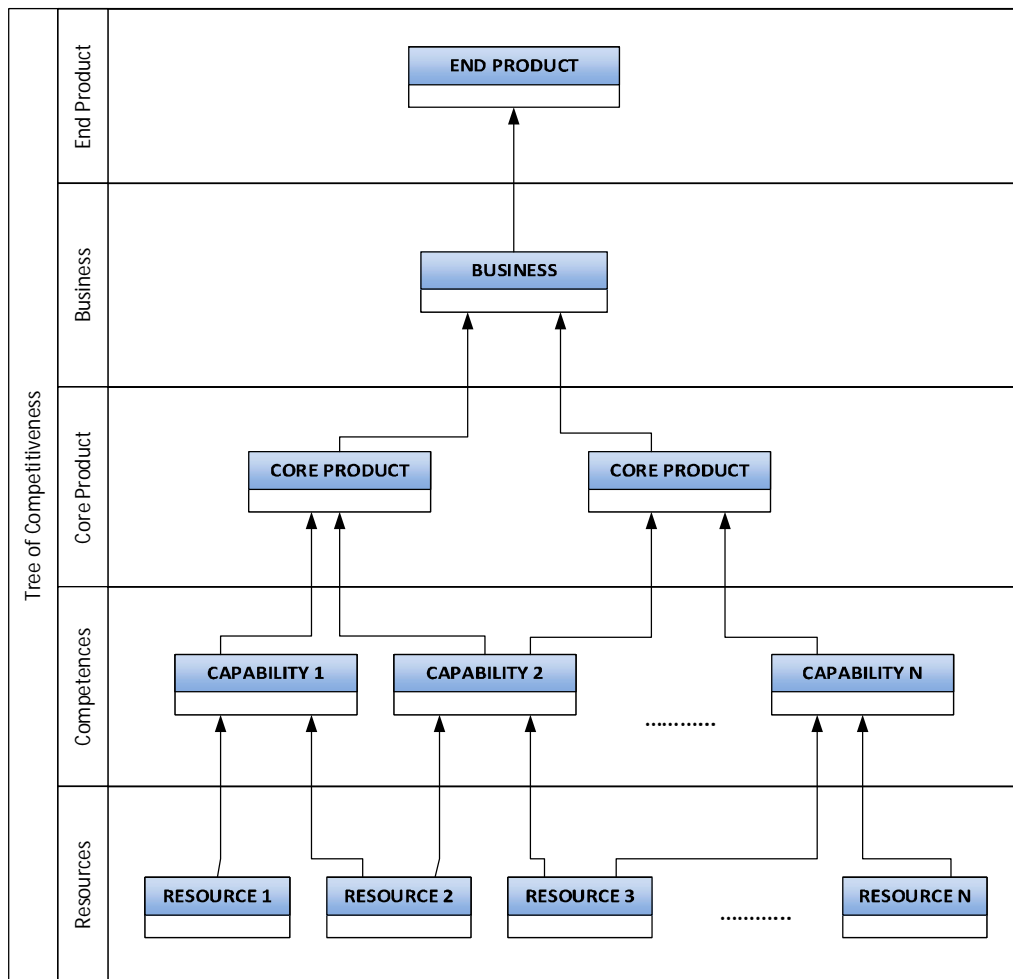


Figure 7. Full analytical model (adapted from Prahalad and Hamel (1990))

. In 2010 and 2012 R&D resources and capabilities have been acquired, which allowed Microsoft to develop performance monitoring and diagnostics for distributed applications associated to .NET framework on the cloud. Furthermore, the inclusion of CiS technology added important IT features of data storage, backup and recovery for Microsoft Azure platform. In 2013 and 2014, the strategic aim evolved towards the creation of an intelligent Cloud Platform under the premise of Mobile First Cloud First. Therefore, the M&A activities were focused on the Microsoft Azure platform, the automatization of the management of performance, as well as adding gating and selectivity capabilities on the cloud. Additionally, the acquisitions done during 2014 also enabled on-demand capabilities for software developers, real time data analysis through mobile applications and machine learning to detect unusual activities on the cloud. Furthermore, Microsoft strengthened the capabilities of disaster recovery by acquiring another company that provided services of cloud-business continuity. Finally, the addition of Cloud-based customer engagement technology, helped to improve services for the Business and Productivity segment by enabling cloud capabilities to its ERP system. Finally, during the years 2015 and 2016, the strategic direction was to develop new capabilities in order to create an intelligent platform able to convert data into predictive and analytical services. The Microsoft Azure platform

was significantly improved by the addition of security and right management services, real time collision detection for cloud based games, machine learning and IoT (Internet of Things) capabilities. The security features developed for cloud services, also allowed also Microsoft to release cloud-versions of Office 365 and of its search engine Bing. Additionally, the improvement included troubleshooting across heterogeneous operating systems for datacenter and cloud environments to complement the OMS (Operation Management Suite). Figure 8 shows the resulting map of competencies acquired for cloud products and of their contribution, between 2010 and 2016.

Year	Name	Characteristics	Contributes to	Business Classification
2010	AVIcode, Inc.	Develop cloud-based services.	Cloud Platform	General business productivity and home use applications
2012	StorSimple	Cloud-integrated Storage (CiS) solutions	Windows Azure	IT design and development services for applications
2013	MetricsHub	Automates cloud performance management	Microsoft Azure platform	Business process management services
2013	Apiphany	Application Management Technology	Microsoft Azure platform	General business productivity and home use applications
2014	Parature	Cloud-based customer engagement solutions	Microsoft Dynamics	General business productivity and home use applications
2014	GreenButton	Integrated on-demand solutions on the cloud	Microsoft Azure platform	General business productivity and home use applications
2014	Capptain	Mobile push analytics	Microsoft Azure platform	Business process management services
2014	InMage	Cloud-based business continuity	Microsoft Azure platform	General business productivity and home use applications
2014	Aorato	Enterprise IT security	Microsoft Azure platform	General business productivity and home use applications
2015	BlueStripe Software	Cloud Technology	System Center and Operations Management Suite (OMS)	IT design and development services for networks and systems
2015	Adallom	Design and development service	Office 365 and the Enterprise Mobility Suite (EMS)	IT design and development services for networks and systems
2015	Telekinesys Research Ltd.	Game-development technology	Visual Studio, Microsoft Azure,	Computer game software, packaged
2015	Secure Islands Technologies Ltd.	Azure Rights Management Service. Microsoft's cloud-based information protection solution	Azure Windows Office 365	General business productivity and home use applications
2016	Solair	Innovative Internet of Things (IoT) services	Microsoft's Azure cloud	IT design and development services for applications

Table 6. Acquisitions related to Cloud computing

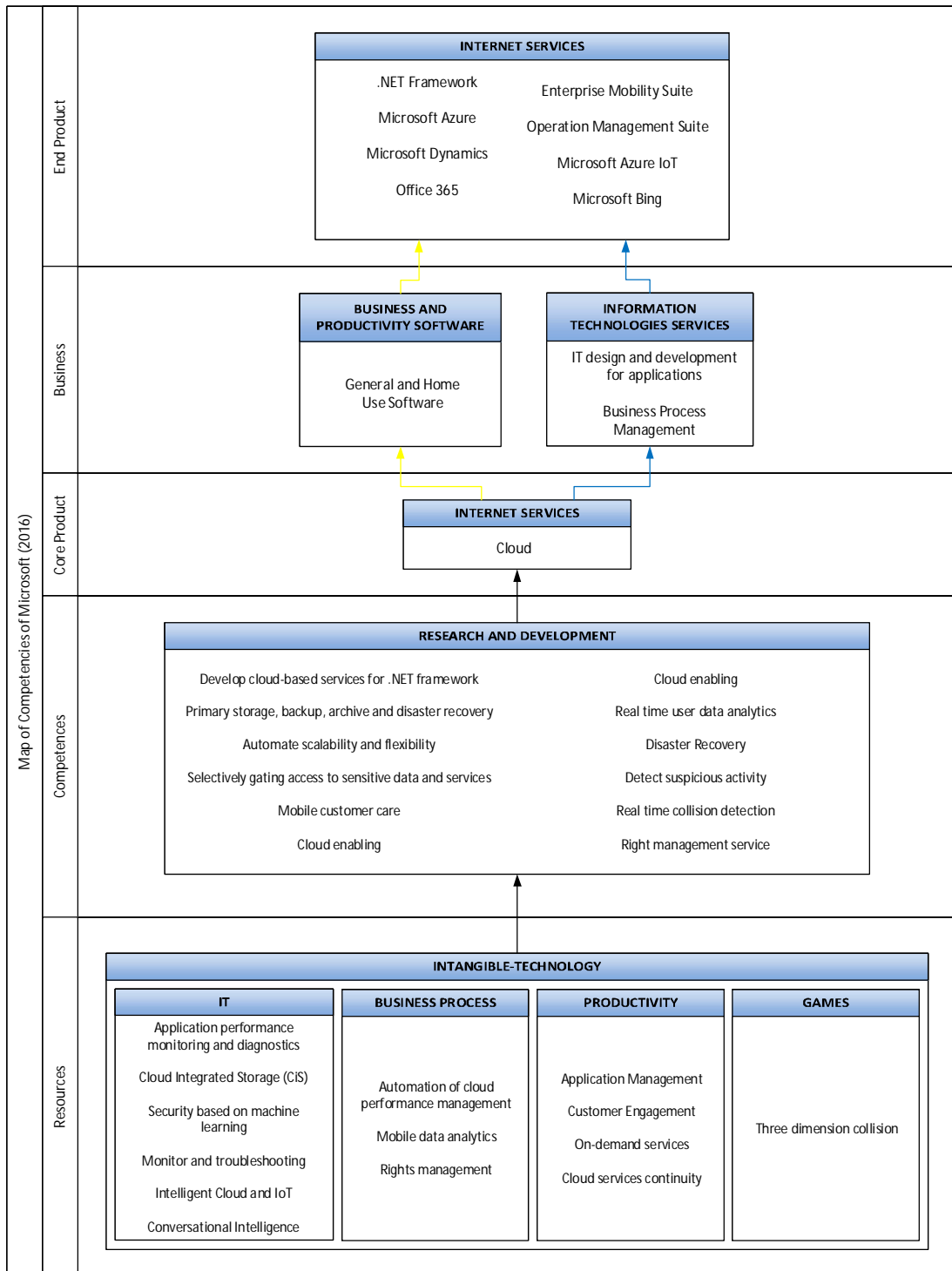


Figure 8. Map of Competencies acquired by Microsoft for Cloud Computing

#### **4. Conclusive discussion**

In this paper, we have presented a first exploration of M&A acquisitions of Microsoft over most of its history, from 1992 to 2016. We have displayed the distribution of these acquisitions by business segment and by core product during this period. We have also provided an example of the application of our analysis framework, adapted from Prahalad and Hamel (1990), to the Business of Cloud services.

Referring to the number of acquisitions, it can be observed that the dominant share of acquisitions focus on complementing the core business, rather than supporting diversification. In terms of Business segment, Business and Productivity Software and Information Technology Consultancy and Services are the dominant categories. In terms of core products, Microsoft Windows and Web services are the two most frequent categories.

The main limitation to our research is that we have been only able to compute the number of companies acquired, and not the value of these companies, as this information was not always available. An analysis based on acquisition price rather than acquisition number may provide a different picture.

Up to now, our research has been mainly descriptive. We have started working on the motives for acquisitions, which may allow further development, such as hypothesis support. Another extension project is to assess how reactive or proactive was Microsoft, and if its behavior differed according to factors such as type of activity, market trends etc... The difficulty we meet is to find a timeline that would allow us to compare the timing of acquisition with the position on the life-cycle of the technology or product considered. Due to the long period and the large variety of businesses considered, it is a real challenge.

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