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INFORMATION TECHNOLOGY AS AN ADDED-VALUE PROMOTER IN VIRTUAL ORGANIZATIONS

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ABSTRACT

This paper was the result of the analysis of totally virtual and hybrid organizations, through the usage of a Business Model, Financial Analysis and Information Technology frameworks for a sample of companies and a case-study in particular.

The following findings were attained: if companies do not think of their IT architecture as a differentiating factor, they will face an integration and interfacing problem, as well as business model differentiation; integration between IT, processes and organization has also been helpful in linking IT and business, which has given a competitive advantage to companies who are heavily IT-based, such as virtual organizations.

INTRODUCTION

It is widely believed that technology, namely Information Technology has had strong impact on almost every company in the last few years, having moved from a supporting to a core role inside the organizations.

Specifically, virtual organizations have been driven by technology innovation due to its own nature. Virtual organization is understood as a "temporary network of independent companies linked by information technologies to share skills, costs, and access to one another's markets". Furthermore, it is "an organization distributed geographically and whose work is coordinated through electronic communications" [1].

Moreover, a virtual organization is a specific type of a Business Web (B-Web), which is defined as a "system of suppliers, distributors, commerce service providers, infrastructure providers and customers, that use the Internet for their primary business communications and transactions" [2].

Therefore, this paper aims at analysing two categories of organizations:

- totally virtual: these are totally present in the virtual value chain;
- hybrid: traditional companies that are partially present in the virtual value chain.

A value chain is "a model that describes a series of value-adding activities connecting a company's supply side (raw materials, inbound logistics, and production processes) with its demand side (outbound logistics, marketing, and sales)." A value chain is virtual when "its value-adding steps are performed through and with information" [3].

This research will specifically address three driving forces in their B-Web environment, which constitute the Business Innovation Model:

- the companies' business model;
- the information technology strategy, organization and architecture that supports the business model;
- the companies' relative financial performances.

Figure 1 shows the three strategic dimensions that are the driving forces for the analytical model. In the next sections, each of the driving forces will be characterized and analysed.

The statistical basis for this research is a sample of companies – virtual and hybrid – analysed through their respective B-Webs.

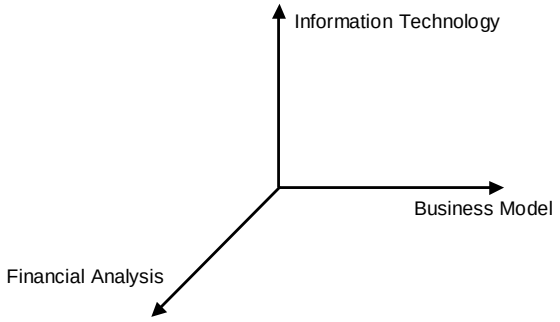

Figure 1: Driving forces of the Business Innovation Model.

BUSINESS INNOVATION MODEL

Business Model

A business model is "the totality of how a company selects its customers, defines and differentiates its offerings (or response), defines the tasks it will perform itself and those it will outsource, configures its resources, goes to market, creates utility for customers and captures profits. It is the entire system for delivering utility to customers and earning a profit from that activity" [4].

Figure 2 represents the business model analysis framework. It will be analysed through three main components: the customer, the provider, and the value experience between both entities.

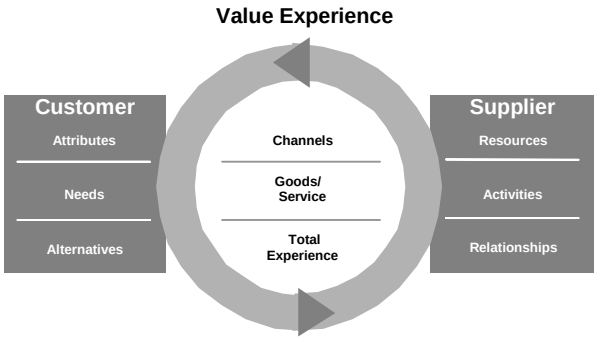

Figure 2: Business model analysis framework.

On the customer side, for each company in the sample, we will evaluate their customers' attributes, needs and alternatives, facing the company's goods and services offer.
The supplier will be analysed according to its impact on each company's activities and the established relationships with third-parties (partners). On the value experience component, we will analyse the channels, with a special focus on the Internet channel, the products (goods and services) and a characterization of the customer support activities.

Information Technology

There isn't a widely accepted definition for information technology. Therefore, IT is considered, for the purpose of this research, as the computing and telecommunications systems, their supporting infrastructure and interconnectivity used to acquire, transport, process, analyse, store, and disseminate information electronically.

This component will be analysed in three main aspects as shown in Figure 3:

- IT strategy;
- IT organization (Tatics);
- IT architecture (Operacional).

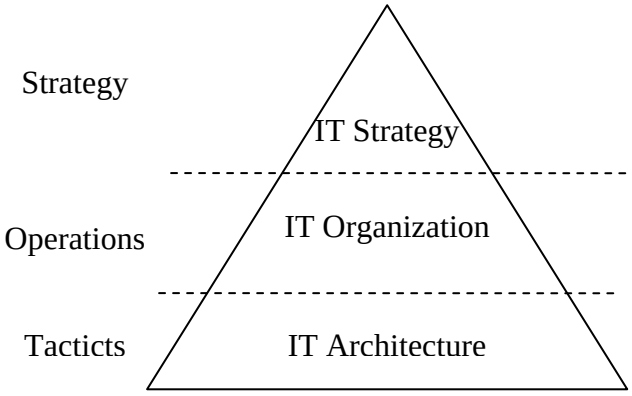

Figure 3: IT framework conceptual model.

IT strategy will address the main options that a company takes when addressing its business requisites. It will analyse the conversion of IT investment and operational costs into business value. The quantitative analysis of this conversion will be done in the financial analysis component. IT strategy will also analyse the high-level process of business-IT alignment.

IT organization will deal with the position of the IT functions in the company, as well as the organization of the IT department, should it exist.

IT architecture will analyse the existence and usage of applications, such as, Enterprise Resource Planning (ERP): Customer Relationship Management (CRM): Supply Chain Management (SCM): e-Business Marketplaces (e-BM), Electronic Data Interchange (EDI), Strategic Enterprise Management (SEM) and Business Intelligence Systems (BIS). Major telecommunications and communications options taken by the companies will also be analysed.

Several definitions are given by authors to these usage applications. The definitions below describes the common concepts.

Enterprise Resource Planning (ERP) is the industry term used to describe a broad set of activities supported by multi-module application software that helps a manufacturer or other business manage the important parts of its business. These parts can include product planning, parts purchasing, maintaining inventories, interacting with suppliers, providing customer service, and tracking orders. ERP can also include application modules for the finance and human resources aspects of a business. [5],[6]

Customer Relationship Management (CRM) is at the core of any customer-focused business strategy and includes the people, processes, and technology questions associated with marketing, sales, and service. It is the methodologies, software, and usually internet capabilities that help an enterprise manage relationships in an organized and efficient manner. In many cases, an enterprise builds a database about its customers. This database describes relationships in sufficient detail so that management, sales people, and customer service reps can access information; match customer needs with product plans and offerings; remind customers of service requirements, and others. Lastly, CRM is a core element in any customer-centric eBusiness strategy.[7]

Supply chain management (SCM) is the oversight of materials, information, and finances as they move in a process from supplier to manufacturer to wholesaler to retailer to consumer. Supply chain management involves coordinating and integrating these flows both within and among companies. It is said that the ultimate goal of any effective supply chain management system is to reduce inventory (with the assumption that products are available when needed). As a solution for successful supply chain management, sophisticated software systems with Web interfaces are competing with Web-based application service providers (ASP) who promise to provide part or all of the SCM service for companies who rent their service. [6]

EDI (Electronic Data Interchange) is a standard format for exchanging business data. The standard is ANSI X12 and it was developed by the Data Interchange Standards Association. ANSI X12 is either closely coordinated with or is being merged with an international standard, EDIFACT. An EDI message contains a string of *data elements*, each of which represents a singular fact, such as a price, product model number, and so forth, separated by delimiter. The entire string is called a *data segment*. One or more data segments framed by a header and trailer form a *transaction set*, which is the EDI unit of transmission (equivalent to a *message*). A transaction set often consists of what would usually be contained in a typical business document or form. The parties who exchange EDI transmissions are referred to as *trading partners*. [8]

Strategic Enterprise Management (SEM) is important to make strategic decisions on the basis that the globalization and the revolutionary change brought about by the internet are increasing the dynamism of markets and presenting company managers with increasingly complex challenges. Its goal is to implement these decisions quickly in the form of operative measures. [16]

Business intelligence (BI) is a broad category of applications and technologies for gathering, storing, analyzing, and providing access to data to help enterprise users make better business decisions. BI applications include the activities of decision support systems, query and reporting, online analytical processing (OLAP), statistical analysis, forecasting, and data mining. Business intelligence applications can be:

- Mission-critical and integral to an enterprise's operations or occasional to meet a special requirement;
- Enterprise-wide or local to one division, department, or project;
- Centrally initiated or driven by user demand. [5]

Figure 4 illustrates a typical organization, its IT department and key strategic relations.

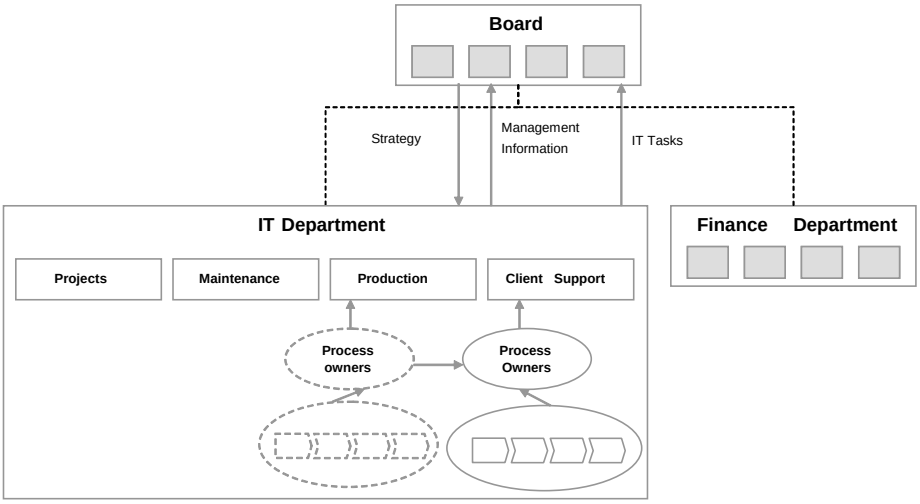

Figure 4: IT organization and key strategic relations

The IT department shown in Figure 4 is an example of a functions oriented organization structure.

Financial Analysis

The financial analysis component will address the most quantitative issues behind the relative success or lack of success of a company. Two main areas will be analysed: company-wide performance and IT-specific performance.

The company-wide performance will use indicators, such as, Price Earnings Ratio (investment ratio) and Debt-to-Equity (solvency ratio) to measure overall company performance; Return on

Assets, Return on Equity, Total Asset Turnover, Net Profit Margin and Gross Profit Margin (performance ratios) to measure company productivity; Current Ratio and Quick Ratio (liquidity ratios) to measure the companies' liquidity situation; and Percentage of Revenue made through the Internet channel to measure the channel significance.

The IT-specific performance indicators will be the percentage of IT operational costs on overall operational costs and the percentage of IT investment on overall company investment in order to measure IT significance in the company and correlate it with the global company performance.

Figure 5 illustrates a possible outcome for relative financial analysis.

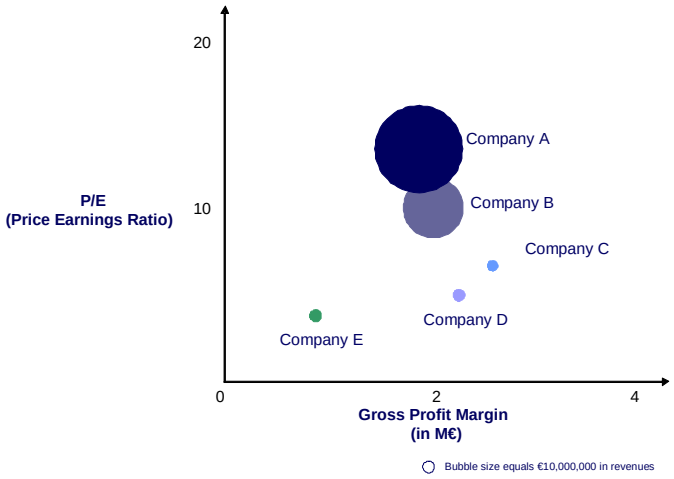

Figure 5: Example of financial analysis chart

METHODOLOGY AND BUSINESS INNOVATION MODEL DEFINITION

The methodology that was defined for this project is the following:

- Phase 1: Companies selection;
- Phase 2: Framework definition;
- Phase 3: Data gathering;
- Phase 4: Case-studies selection;
- Phase 5: In-depth analysis;
- Phase 6: Conclusions.

The sample is composed by 7 companies.

Phase 1 (companies selection) considers several essential assumptions: firstly, all companies that were selected should have a considerable amount of information available for research, therefore all the chosen companies are publicly-held; secondly, the companies should have a strong Internet footprint, with products and services being sold online and with strong revenues made through this channel, for example, Dell, is an hybrid virtual organization with very strong revenues generated through the Internet channel; thirdly, the sample should include competitive and sustainable companies, even those with negative final results, such as Amazon.com; fourthly, there should be "counter-part" companies which are major companies who have a minority of their sales made through the Internet, but which may be compared to its totally virtual counter-parts, for instance, Walmart, which may be compared on part of its product offer with Amazon; finally, there will be no Financial Services companies considered on this research, since their financial analysis has specificities that would not allow for a proper inter-industry comparison.
Therefore, the listing is composed by seven companies from different industries:

- Amazon.com – Retail (Ticker: AMZN)
- Dell Computer – Computer/Manufacturing (Ticker: DELL)
- Cisco Systems – Communications/Manufacturing (Ticker: CSCO)
- PayChex – Professional Services (Ticker: PAYX)
- Starbucks – Consumer Goods (Ticker: SBUX)
- Wal-Mart – Retail (Ticker: WMT)
- AOL Time-Warner – Media/Communications (Ticker: AOL)

On phase 2, the frameworks for each of the three driving forces were defined. Considerations on feasibility and accuracy of data gathering was taken into account while defining these frameworks.
In terms of Business Model, innovation is the key aspect of this research. Therefore, the Business Model framework is divided into:

- Customer
  - Attributes – what are the key segmentation issues considered by the company?
  - Needs – what are the specific customer needs and how is the company innovatively addressing them?
  - Perceptions – what are the customers' perceptions on the company and how can the addressed customer influence prospects?
- Value experience
  - Channels – what are the specificities of the Internet channel and how is this channel influencing the company's branding strategy?
  - Goods/Services – what is the specific good/service offer for the Internet channel and how is the delivery innovative?
  - Total Experience – what are the "total experience" mechanisms implemented by the company?
- Supplier
  - Resources – what are the key resources of the company, namely in terms of culture, when implementing partnerships with other companies?
  - Activities – how are the partnerships being leveraged in terms of value-chain and what are the innovations in terms company's activities?
  - Relationships – how are the relationships implemented and managed?

In terms of financial analysis, the indicators that were analysed for 1999, 2000 and 2001[1] as part of the framework, were the following:

- Investment Ratio
  - P/E (Price Earnings Ratio).
- Solvency Ratio
  - Debt-to-Equity.
- Performance Ratios
  - Return on Assets; Return on Equity; Total Asset Turnover; Gross Profit Margin; Net Profit Margin.
- Liquidity Ratios
  - Current Ratio; Quick Ratio.
- Channel Significance
  - % of revenues made through the Internet channel.
- IT Specific
  - % Operating Cost in IT; % Investment in IT.

Finally, the IT framework will address specific questions:

- IT Strategy
  - Is IT mentioned on the mission or vision of the company?

[1] AOL Time-Warner is the result of the merger between AOL and Time Warner. Their consolidated financial results will only be analysed for the year 2000 and 2001.

    - Is IT mentioned in any of its strategic objectives?
    - Is IT considered as core business of the company?
- IT Organization
    - Is there a specific IT department?
    - How many people work in it?
    - How many people work on IT functions throughout the company?
    - What type of organizational structure is the IT function associated with (function-oriented, process-oriented, etc)?
    - In which areas is the IT function outsourced to other companies?
    - Where is the company based in terms of the IT function?
- IT Architecture
    - What is the network technology used by the company?
    - Where are the company's network nodes located?
    - Are there any ERP, CRM, SCM, eBM, EDI, SEM or BIS systems?
    - Which are the vendors of these systems?
    - What are the critical features of the company's IT Architecture?
    -

Phase 3 identifies the major information sources for each framework and gathered data on the chosen companies. For the Business Model framework business press was chosen as the main source of information, such as "The Economist", "Forbes", "Fortune", "Business Week" and "Financial Times". Some of the information was also gathered through the companies' corporate websites. For the Financial Analysis framework, the main source was the companies' Annual Reports, as well as specialized Internet sites, such as hoovers.com. Finally, for the IT framework, the research was made through specific generalist press (e.g. "Business Week"), IT-specific sites (e.g. "IT Republic"), and the "state of the art" literature on the subject.

Phase 4 selects the case-studies that will be analysed in-depth in phase 5.

Finally, phase 6 presents the conclusions of the analysed case-study and identifies patterns that will determine the role of "Information Technology as an added-value promoter in virtual organizations".

CONCLUSIONS

Table 1 shows the aggregate results from the Business Model evaluation for the seven sample companies.

Item	Sub-item	# of criteria	AMZN	DELL	CSCO	PAYX	SBUX	WMT	AOL
Customer	Attributes	4	3	4	3	3	4	3	4
	Needs	2	3	3	3	3	3	3	3
	Perceptions	2	3	1	5	3	3	3	3
Value Experience	Channels	6	4	4	4	2	5	2	4
	Goods/ Services	9	2	2	2	2	2	2	4
	Total Experience	3	1	5	4	1	1	1	4
Supplier	Resources	3	4	1	5	1	4	4	5
	Activities	8	4	5	2	2	2	4	2
	Relationships	3	2	4	4	1	2	1	1
Overall	**(relative)**		4	5	5	2	4	3	5
Legend: From 1 not addressed to 5 totally addressed									

Table 1: Business Model matrix.

The Financial Analysis evaluation table of the seven sample companies is shown in the Annex.

Based on the results from the Business Model and Financial Analysis, Amazon.com and Cisco Systems were chosen has the case-study to be analysed.

Amazon was considered on of the two most interesting companies for this investigation, since it is a near-totally virtual organization, which is almost totally present in the virtual value chain. Its sole presence in the classic value chain is related to logistics and warehousing.

Although it has partnerships with companies such as with Ingram Micro, a wholesale provider of technology products and supply chain management services, Amazon has had the need to develop its own warehousing infrastructure and, in some cases, its own logistics mechanisms, due to the need of increasing margins on a very tight-margin business, which is Retail. By owning part of its warehousing infrastructures, Amazon has considered it has being part of its core business, thus trying to ensure a firm grip on its value chain [9].

On the business model front, Amazon has scored high. Although other companies showed a more innovative business model, Amazon has developed a very strong brand since its inception, not so long ago, in 1995 and has defined the clear objective of becoming the largest retailer in the world [10].

On the financial analysis side, Amazon has had Net Losses since its creation and until the fourth quarter of 2001. Then, something unexpected happened: Amazon not only announced its first profit, but also a profit much higher than that expected by analysts [11]. This sole event has turned Amazon from a strong player with a lot of potential into a full case-study Retailer.

On the IT side, which was only analysed on the in-depth analysis stage, Amazon showed an interesting IT Architecture, by using a classic ERP system, but also very strong CRM and Data Warehousing systems, which would allow it to have a differentiating offer on its channel of choice, the Internet. Amazon is currently developing a Data Mining system that will support its

personalization features and that will be based on its existing Data Warehousing platform. Integration aspects between the various sites (e.g. UK, France, Germany, USA) have also been taken into consideration. Nevertheless, there isn't a total system integration between the various sites since, for instance, the Goods/Services offer varies from site to site. The sites themselves may be considered as e-Business Marketplaces for Business-to-Consumer and Consumer-to-Consumer (zShops). [12],[13]

In terms of IT strategy, Amazon does not explicitly refer to IT as any of its strategic objectives. It is always considered as an enabler by the organization but since a large part of its software/web development is made internally, one may only conclude that it is a core area. [12],[13]

On the IT organization aspect, Amazon is physically located in the following locations: Seattle, Washington (Headquarters); Tacoma, Washington; Campbellsville & Lexington, Kentucky; Grand Forks, North Dakota; Huntington, West Virginia; New Castle, Delaware; Coffeyville, Kansas; Fernley, Nevada; Northern Virginia; England; Germany and Japan. The IT Department at Amazon.com is called the Technology department and includes all technological areas. [12],[13]

Amazon perfectly illustrates deconstruction, which is known as the "dismantling and reformulation of traditional business structures" and which "results from two forces: the separation of the economics of information from the economics of things, and the blowup of the trade-off between richness and reach" [14], will make Internet presence a strategic imperative rather than a strategic option, which will emphasize IT's role on every company.

Business and IT managers have a common goal, which is to reduce costs. However, this persistent activity can be considered as a driving force to changes in the use and management of IT. Reengineering has been and internal and effective goal of most organizations. Managers should understand the different types of technology and processes that are the most suitable to their organizations, and they can benefit from reference business model showing where operational and economic impacts are created by the adoption of the Internet.

Indeed, Amazon in 2001, "in a filing with the Securities and Exchange Commission, the e-commerce giant [Amazon] said it was able to cut technology expenses by about 25 percent". Moreover, "the reduction was attributed primarily to Amazon's migration to a Linux-based technology platform that utilizes a less-costly technology infrastructure, as well as general price reductions for data and telecommunication services due to market overcapacity" [15].

As for Cisco, it is undoubtedly a company that developed a similar B-Web to that of Amazon.com. The main difference between both structures, is that while Amazon.com has a aggregation-based structure, Cisco's "Networked Virtual Organization" is based on process integration, therefore it serves has an integrator to its "producers" and "customers. [17]

Cisco's business model is an example of innovation. The way it addresses both its buy-side and sell-side is not only a case-study in Strategy, but has also given birth to a new Cisco Unit, named "Internet Business Solutions Group" which acts as a consulting enabler for client companies that want to develop a similar model to that of Cisco. [18]

On the financial side, in 2002, Cisco Systems was able to save an impressive 1.94 billion dollars through the development of initiatives related to its virtualization, i.e, evolution to *Networked Virtual Organization* [19], and many of its activities have been outsourced to companies, such as Flextronics (Production). The initiatives that drove such strong savings were related with four main areas: optimization of its Supply-Chain Management, development of strong HR/knowledge sharing tools (e-Learning/e-Knowledge Management), standardization and integration of processes and IT infra-structures and the development of customer-centric tools, such as "online customer self-service" [17].

On the IT-side, Cisco has produced a true revolution. Until 1994, it was a centralized function reporting to the finance department. It was a cost-center and it was difficult for it to scale to keep pace with growth. Then, IT was decentralized and distributed through the various business

units. IT became more aligned with the business needs and its investments are now analysed through its impact on customer service, i.e, all IT projects must have, in some way, on the quality of the goods/services Cisco delivers to its clients [17].

Therefore, the organization of the IT function inside a company has proven to be decisive on the optimization of IT investments. On the other hand, IT architecture provides the picture for the matching between applications and processes and also how applications interact and share data. If companies do not think of their IT architecture as a differentiating factor, they will face a real problem of integration and interfacing, as well as business model differentiation.

Te integration between IT and processes has also been helpful in linking IT and business, which has given a competitive advantage to companies who are heavily IT-based, such as virtual organizations.

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ANNEX

Type	Name	Amazon.com, Inc.			Dell Computer Corporation			Cisco Systems, Inc.		
		1999	2000	2001	1999	2000	2001	1999	2000	2001
Invest. Ratio	P/E	36,64	7,08	7,66	50,00	37,25	25,19	12,01	15,37	20,18
		-2,20	-4,02	-1,56	0,53	0,68	0,84	0,29	0,36	0,41
		-16,66	**-1,76**	**-4,91**	**94,34**	**54,78**	**29,99**	**41,41**	**42,69**	**49,22**
Solvency Ratic	Debt-to-Equity	2205273000	3102420000	3077547000	3695000000	5192000000	6543000000	3047000000	6373000000	8118000000
	(ballance sheet)	266278000	-967251000	-1440000000	3182000000	6279000000	6892000000	11678000000	26497000000	27120000000
		8,28	**-3,21**	**-2,14**	**1,16**	**0,83**	**0,95**	**0,26**	**0,24**	**0,30**
Perf. Ratio	Return on Assets	719968000,00	1411273000,00	-567277000,00	1460000000	1860000000	2310000000	2023000000,00	2668000000,00	-1014000000,00
		1560005500,00	2300509500,00	1886358000,00	5572500000	9174000000	12453000000	11848500000,00	23881500000,00	34054000000,00
		0,46	**0,61**	**-0,30**	**0,26**	**0,20**	**0,19**	**0,17**	**0,11**	**-0,03**
	Return on Equity	-719968000,00	-1411273000,00	-567277000,00	1460000000	1860000000	2310000000	2023000000,00	2668000000,00	-1014000000,00
		202511500,00	-350486500,00	-1203625500,00	2376500000	4730500000	6585500000	9413000000,00	19154000000,00	26808500000,00
		-3,56	**4,03**	**0,47**	**0,61**	**0,39**	**0,35**	**0,21**	**0,14**	**-0,04**
	Total Asset Turnover	1639839000,00	2761983000,00	3122433000,00	18243000000	25265000000	31888000000	12173000000,00	18928000000,00	22293000000,00
		1560005500,00	2300509500,00	1886358000,00	5572500000	9174000000	12453000000	11848500000,00	23881500000,00	34054000000,00
		1,05	**1,20**	**1,66**	**3,27**	**2,75**	**2,56**	**1,03**	**0,79**	**0,65**
	Gross Profit Margin	1349194000,00	655777000,00	798558000,00	4106000000	5218000000	6443000000	7914000000,00	12182000000,00	11072000000,00
		1639839000,00	2761983000,00	3122433000,00	18243000000	25265000000	31888000000	12173000000,00	18928000000,00	22293000000,00
		0,82	**0,24**	**0,26**	**0,23**	**0,21**	**0,20**	**0,65**	**0,64**	**0,50**
	Net Profit Margin	-719968000,00	-1411273000,00	-567277000,00	1460000000	1860000000	2310000000	2023000000,00	2668000000,00	-1014000000,00
		1639839000,00	2761983000,00	3122433000,00	18243000000	25265000000	31888000000	12173000000,00	18928000000,00	22293000000,00
		-0,44	**-0,51**	**-0,18**	**0,08**	**0,07**	**0,07**	**0,17**	**0,14**	**-0,05**
Liquidity Ratio	Current Ratio	1012178000,00	2135169000,00	1207920000,00				4615000000,00	11110000000,00	12835000000,00
		738935000,00	974956000,00	921414000,00				3003000000,00	5196000000,00	8096000000,00
		1,07	**1,40**	**1,15**	**1,57**	**1,48**	**1,45**	**1,54**	**2,14**	**1,59**
	Quick Ratio	791532000,00	1361129000,00	1064198000,00				3963000000,00	9878000000,00	11151000000,00
		738935000,00	974956000,00	921414000,00				3003000000,00	5196000000,00	8096000000,00
		1,37	**2,19**	**1,31**	**1,28**	**1,3**	**1,27**	**1,32**	**1,90**	**1,38**
Channel Signif	% Revenues Internet	1597220000,00	2693260000,00	2411650000,00				471000000,00	1380000000,00	1991000000,00
		1639839000,00	2761983000,00	3122433000,00	18243000000	25265000000	31888000000	12173000000,00	18928000000,00	22293000000,00
		97,40%	**97,51%**	**77,24%**				**3,87%**	**7,29%**	**8,93%**
IT-specific	% Op. Costs IT	159722000,00	269326000,00	241165000,00				**Custos Op. IT dos ultimos 3 anos -**		1000000000,00
		896400000,00	1519657000,00	1210815000,00						27064000000,00
		17,82%	**17,72%**	**19,92%**						**3,69%**
	% Investment IT	287055000,00	134758000,00	50321000,00				1663000000,00	2704000000,00	3922000000,00
		951959000,00	163978000,00	253294000,00				7032000000,00	13688000000,00	10346000000,00
		30,15%	**82,18%**	**19,87%**				**23,65%**	**19,75%**	**37,91%**

Starbucks Corporation			Wal-Mart			AOL Time-Warner			Paychex, Inc.		
1999	2000	2001	1999	2000	2001	1999	2000	2001	1999	2000	2001
			43	69,44	58,44		23,23	31,88	34,00	46,00	41,00
0,28	0,25	0,48	0,99	1,21	1,41		-0,82	-0,73	0,37	0,51	0,68
			43,43	**57,39**	**41,45**		**-28,33**	**-43,67**	**91,89**	**90,20**	**60,29**
291501000	344732000	475112000	28884000000	44515000000	46787000000		63976000000,00	50932000000,00	1634936000	1892145000	2149354000
961013000	1148399000	1375927000	21112000000	25834000000	31343000000		152071000000,00	157627000000,00	369022000	563432000	757842000
0,30	**0,30**	**0,35**	**1,37**	**1,72**	**1,49**		**0,42**	**0,32**	**4,43**	**3,36**	**2,84**
101693000	94564000	181210000				1027000000	-4370000000	-4921000000	139099000	190007000	254869000
1122634500	1372822500	1671292500					216047000000	212303000000	1711444000	2164339000	2681386500
0,09	**0,07**	**0,11**	**9,6**	**9,5**	**8,7**		**-0,02**	**-0,02**	**0,08**	**0,09**	**0,10**
101693000	94564000	181210000				1027000000	-4370000000	-4921000000	139099000	190007000	254869000
877655000	1054706000	1262163000	**22,4**	**22,9**	**22**		157627000000	154849000000	382703500	499616000	660637000
0,12	**0,09**	**0,14**					**-0,03**	**-0,03**	**0,36**	**0,38**	**0,39**
1686828000	2177614000	2648980000	137600000000	165000000000	191300000000	5724000000	36213000000	38234000000	597296000	728119000	869857000
1122634500	1372822500	1671292500	47690000000	60172500000	74239500000		216047000000	212303000000	1711444000	2164339000	2681386500
1,50	**1,59**	**1,58**	**2,89**	**2,74**	**2,58**		**0,17**	**0,18**	**0,35**	**0,34**	**0,32**
747630000	961885000	1112785000	28909000000	35349000000	41074000000	2400000000	16326000000	17530000000	187562000	258893000	336702000
1686828000	2177614000	2648980000	137600000000	165000000000	191300000000	5724000000	36213000000	38234000000	597296000	728119000	869857000
0,44	**0,44**	**0,42**	**0,21**	**0,21**	**0,21**	**41,93%**	**45,08%**	**45,85%**	**0,31**	**0,36**	**0,39**
101693000	94564000	181210000	4430000000	5377000000	6295000000	1027000000	-4370000000	-4921000000	139099000	190007000	254869000
1686828000	2177614000	2648980000	137600000000	165000000000	191300000000	5724000000	36213000000	38234000000	597296000	728119000	869857000
0,06	**0,04**	**0,07**	**0,03**	**0,03**	**0,03**	**0,18**	**-0,12**	**-0,13**	**0,23**	**0,26**	**0,29**
386500000	459819000	593925000	21132000000	24356000000	26555000000		13710000000	10274000000	1933877000	2362575000	2791273000
251197000	311666000	445264000	16762000000	25803000000	28949000000		12671000000	12972000000	1629148000	1886495000	2143842000
1,54	**1,48**	**1,33**	**1,3**	**0,9**	**0,9**		**1,08**	**0,79**	**1,19**	**1,25**	**1,30**
205614000	258163000	372672000	3583000000	4185000000	4911000000		12127000000	8483000000	1879205000	2287200000	2695195000
251197000	311666000	445264000	16762000000	25803000000	28949000000		12671000000	12972000000	1629148000	1886495000	2143842000
0,82	**0,83**	**0,84**	**0,2**	**0,2**	**0,2**		**0,96**	**0,65**	**1,15**	**1,21**	**1,26**