

A Work Project, presented as part of the requirements for the Award of a Master Degree in Management from the NOVA – School of Business and Economics.

APPENDIXES

A Healing Solution to a Saturated Market:

An internationalisation framework for ABC

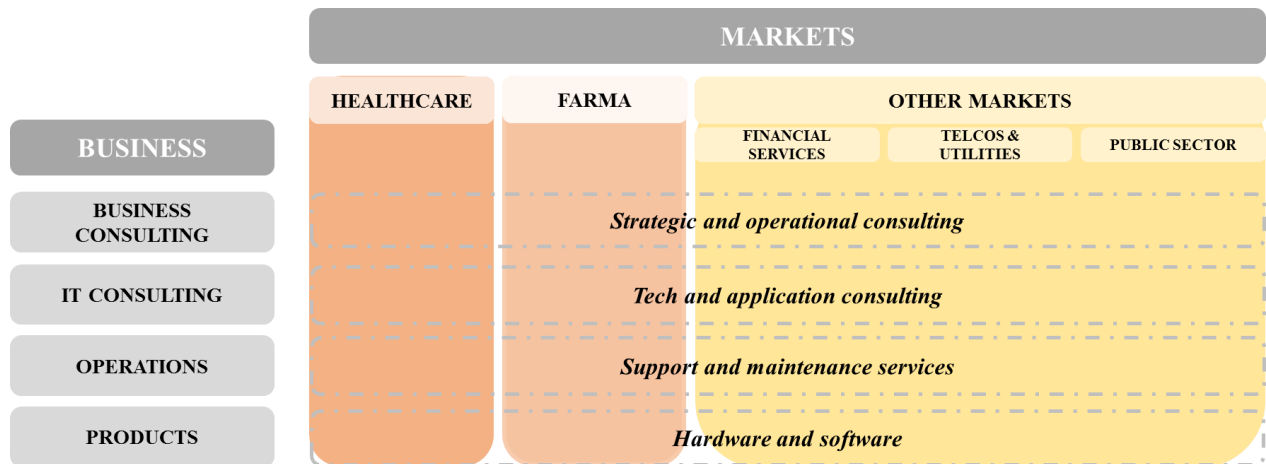
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A Project carried out during the Master in Management Program, under the supervision of:

Professor Sara Alves

May 22nd, 2016

Appendix 1 – ABC internal organization



Appendix 2 – GlobalCare

GlobalCare is an information system prepared to support all divisions of a healthcare institution. The product can be sold as a whole or by modules

Appendix 2.1 – Module description

- **Hospital Information System (HIS):** an integrated system for administrative management – check in, logistics, payroll, billing, human resources management, purchases, stock control. It is only compatible with other modules of GlobalCare, i.e. does not have interoperability with external systems.
- **Electronic patient record (EPR):** an integrated system that centralizes and shares all the information concerning the patient. Since the arrival of the patient until the end of the treatment. It covers all areas of the hospital (oncology, gastroenterology, obstetrics and gynaecology, cardiology, and others). It is prepared for both physician and nurse usage.
- **Pharmacy Management System:** comprises the logistics and stock management of the prescribed hospital medication, as well as the characteristics of the prescription: dosage, patient, time and price. Enables the complete workflow since the doctor's prescription, preparation and patient administration. All validation circuits are included in the systems.

- **Radiology and Diagnosis System (RIS):** manage the orders of medical imaging, database with images of the radiology area, also provided with tools to support medical analysis.
- **Laboratory Information Management Systems (LIS):** registry and tracking of laboratory-derived information. Follows the workflow since the scheduling of the analysis until the generation of reports-related exams.
- **Accident & Emergency Systems (A&E):** module that allows the full monitoring/control of the full process in case of emergency.

Appendix 3 – GlobalCare business model

Licensing
Implementation
 customisation
 interoperability and
 communication with other systems
 training
 consultancy services
Maintenance and Support

	Revenue	Revenue when consultancy services are included
Licensing	[40%; 50%]	≈ 20 %
Implementation	[50%; 60%]	≈ 80 %
Maintenance and Support	[18%; 25%] of the main contract	

Appendix 4 – Digitalization of the Portuguese healthcare sector

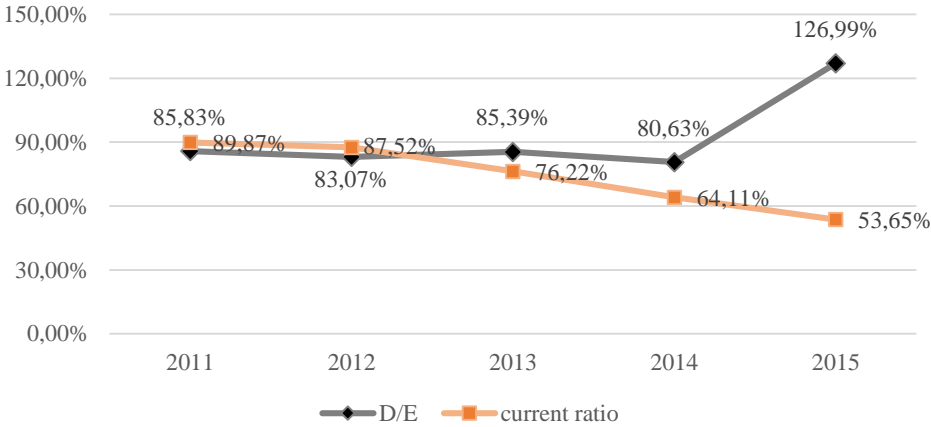
2014	%
Type of Activity	
Financial	94,2
Human Resources	92,9
Mailing	57,5
Supply chain	92,9
Queuing	71,7
Pharmaceutical stock	93,8
Other stock	89,8
Complementary means for diagnosis and treatment (imaging, laboratory)	81,0
Planning and activities scheduling	70,8
Medical scheduling	92,5
Internal exchange of medical imaging	72,6
Internal exchange of other files	89,4
Patient database	92,5
Physician and staff database	77,0
Virtual Private Network (VPN)	65,9

Source: Survey to the usage of ICT in Hospitals, 2014.

2014	%	
	Public Hospitals	Private Hospitals
Hospitalisation	100,0	89,5
Ambulatory	93,8	81,6
EPR	92,9	72,8
Surgery block	82,1	61,4
Emergency	79,5	42,1
Others	53,6	26,3

Source: Survey to the usage of ICT in Hospitals, 2014.

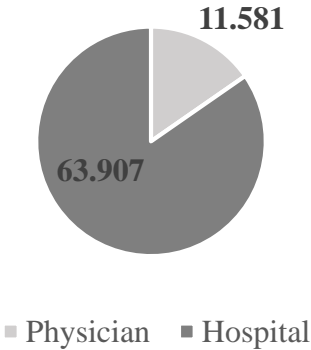
Appendix 5 – ABC’s Liquidity Analysis, 2011 - 2015



Source: ABC Annual Reports, 2011-2015.

Appendix 6 – ICT healthcare market size

Appendix 6.1 –ICT healthcare market size breakdown by vertical, 2014, in \$ M.



Source: Gartner, 2015

Appendix 6.2 – ICT healthcare market segments definition

Data Centres

Servers, storage and communication systems for enterprises.

Devices

Hardware related with the information system, such as computers, printers, mobile devices and tablets.

Internal Services

Services related with the planning, development, implementation and maintenance of information systems.

IT Services

External IT services, such as support, consultancy and implementation.

Software

Administrative software, such as ERP, supply-chain and salary processing, infrastructure software such as asset and storage management and industry-specific applications such as laboratory information system, radiology information system and pharmacy information system.

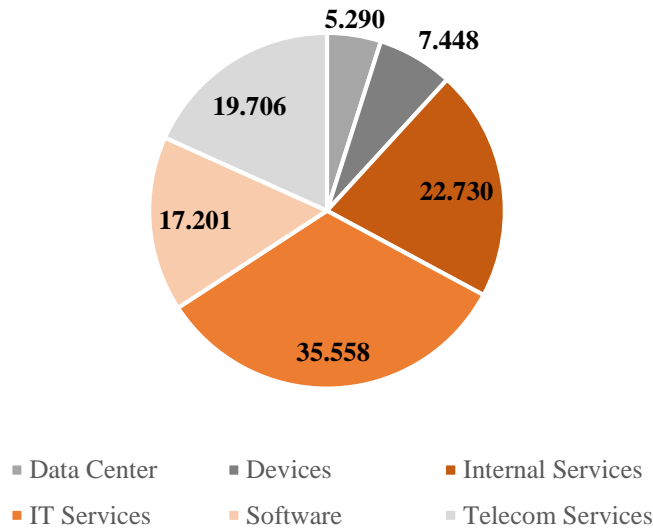
Telecom Services

Fixed and mobile telecommunication services, i.e. Telemedicine. Equipment and other infrastructure-related software not included.

ABC operates in Internal Services, IT Services and Software.

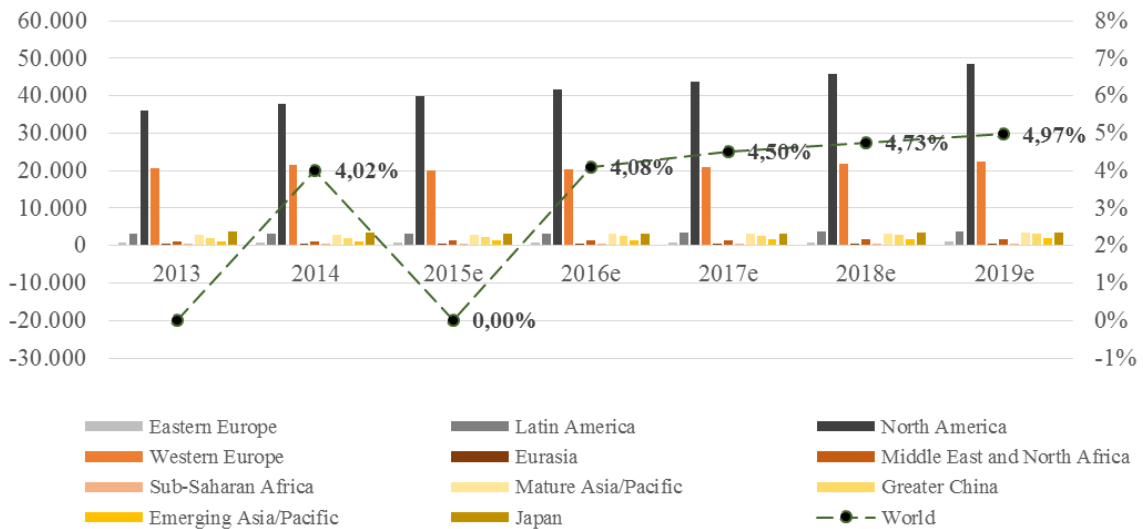
Source: Gartner, 2015

Appendix 6.3 – ICT healthcare market size breakdown by segments, 2014, in \$ M.



Source: Gartner, 2015

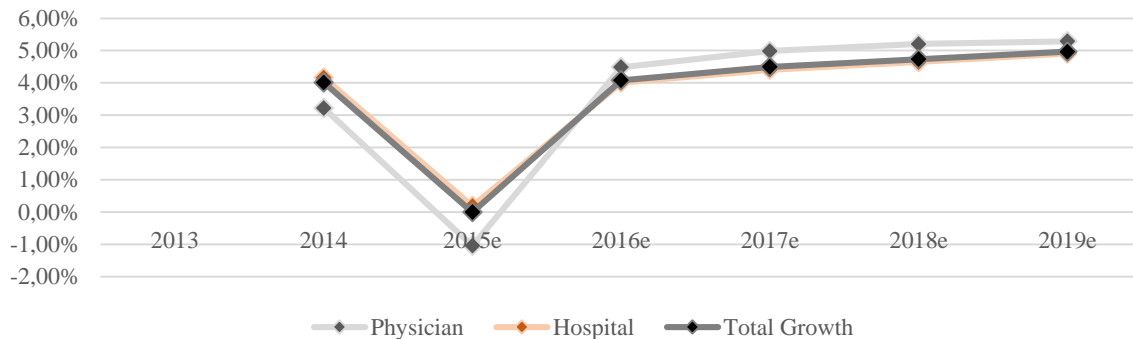
Appendix 6.4 – ABC ICT healthcare market size breakdown by region, in \$ M



Source: Gartner, 2015

Appendix 7 – ICT healthcare market growth

Appendix 7.1 – ICT healthcare market growth breakdown by vertical, in %.



Appendix 7.2 – ICT healthcare market growth breakdown by segment

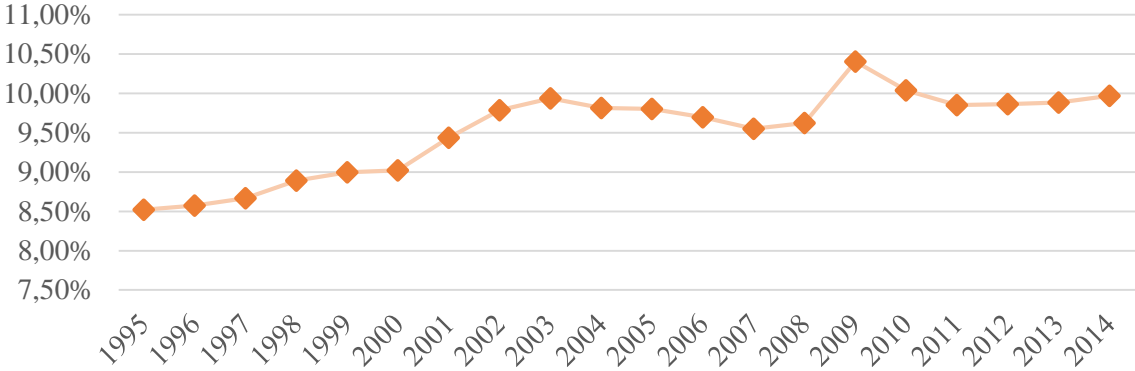
	2014	2015e	2016e	2017e	2018e	2019e
Data Center	2,15%	-4,11%	1,13%	1,05%	0,77%	0,40%
Devices	-0,17%	-9,69%	2,34%	1,55%	0,50%	1,57%
Internal Services	3,96%	3,62%	2,07%	2,32%	2,34%	2,44%
IT Services	2,87%	-3,43%	4,09%	4,60%	4,91%	5,15%
Software	6,55%	2,29%	6,76%	7,08%	7,33%	7,57%
Telecom Services	-0,75%	-10,20%	0,13%	0,79%	0,84%	0,63%
Total Growth %	2,73%	-2,73%	3,16%	3,54%	3,67%	3,88%

Appendix 7.3 – ABC ICT healthcare market growth breakdown by region

	2014	2015e	2016e	2017e	2018e	2019e
Latin America	2,95%	-4,39%	4,53%	5,37%	5,29%	5,19%
North America	4,98%	4,84%	4,67%	4,92%	5,08%	5,33%
Eastern Europe	3,00%	-5,88%	2,86%	3,53%	3,77%	3,95%
Western Europe	3,91%	-7,00%	2,16%	2,82%	3,12%	3,39%
Eurasia	-2,88%	-11,07%	4,74%	5,18%	5,61%	6,02%
Mature Asia/Pacific	2,67%	-2,69%	4,06%	4,30%	4,30%	4,27%
Greater China	6,39%	7,94%	8,15%	8,56%	8,62%	8,67%
Emerging Asia/Pacific	9,10%	7,94%	10,18%	10,31%	10,66%	10,95%
Japan	-4,79%	-8,44%	2,16%	2,15%	3,05%	2,66%
Middle East and North Africa	5,64%	1,32%	6,40%	7,27%	7,64%	8,66%
Sub-Saharan Africa	0,11%	-0,12%	5,23%	5,72%	5,88%	6,11%
Total	4,02%	0,00%	4,08%	4,50%	4,73%	4,97%

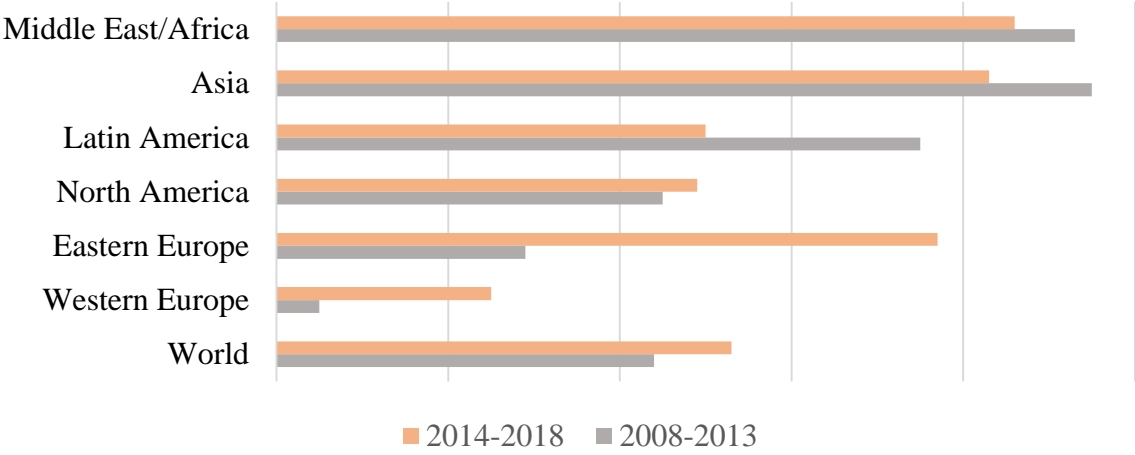
Source: Gartner, 2015.

Appendix 8 – World GDP allocation to health, 1995-2014







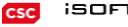






Source: World Bank, World Development Indicators.

Appendix 9 – Healthcare annual average growth forecasts, by region, 2014-2018.



Source: The Economist Intelligence Unit, 2014 Global Outlook: Healthcare.

Appendix 10 – Competitors’ analysis

											
HIS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EPR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PHARMACY	✓	✓	✓	✓	✓	-	-	✓	✓		✓
LIS	✓	✓	✓	✓	✓	-	-	✓	✓	✓	-
RIS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
EMERGENCY	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-

Appendix 11 – USA market: top 10 players, 2013.

TOP 10

Allscripts
 athenahealth
 Cerner
 CPSI
 eClinicWorks
 Healthland
 MEDITECH
 McKesson
 NextGen Healthcare
 Siemens

Source: Becker’s, Health IT & CIO Review.

Appendix 12 – Porter 5 Forces Analysis

Internal rivalry

The industry is seen as intensively competitive and dynamic¹, since is constantly subject to new technological developments and high pace innovation.² In the United States, the top 10 companies account for roughly 90% of the market³.

Buyer power

To assess the buyer power in the industry one should first understand who the buyer is. Governments play an important role in this decision, particularly when it comes to public hospitals, as most of ICT health initiatives start with government incentives. If the government is the ultimate buyer, its power is high, considering the product might chosen to cover the whole public sector. Inside the medical institution, health information systems salesman may decide to address managers or physicians, or both. Hence, there are several influencers in the choice of the system to implement. Doctors will likely be more concerned on how the system supports their operations, while the administration will probably prefer more affordable solutions. All these agents must be kept in mind when addressing a new market. Considering there are many solutions in the market, buyers have a wide range of options. Additionally, as the global product is divided in several modules, the possible combinations and suppliers are countless, providing even more negotiation power to clients, although questions for interoperability arise.

¹ McKesson Annual Report, 2014.

² Cerner Annual Report, 2014.

³ Becker's, Health IT & CIO Review.

The adoption of a healthcare information system is highly costly and a good implementation needs to assure all key agents (nurses, physicians, and administrative staff) know how to work with it, in order to foster efficiency. As a consequence, changing the system in the organization requires large investment and does not provide immediate benefits. Thus, choosing the system to be implemented has to be a well-thought process. Therefore, buyers have a lot of power in decision making, particularly considering this is a growing industry where more options are available. However, once the decision is taken, the high switching costs reduce buyers' willingness to look for other alternatives. In this sense, healthcare information systems providers benefit from first-mover positions, meaning the buyer power is medium high in this industry, but is increasing.

Supplier power

Suppliers in this industry are other technological companies that also produce information systems and provide hardware. Some of the systems in the market are developed having an external platform as a basis and the most complete solutions are offered to clients having external components involved. Key suppliers for the industry are transversal to all the information system markets, such as Oracle, IBM and Microsoft. ICT healthcare companies are dependent on the good performance of their suppliers to succeed⁴ and need to have the specific know how to integrate their solution with those of the suppliers. However, having a wide range of choice and considering most of the third-party software suppliers require a non-exclusivity partnership, the supplier power is rather medium and it is stable.

⁴ Cerner Annual Report, 2014.

Threat of substitution

The amount of initial investment required is a strong barrier to substitution of an information system, as well as the steep learning curve. As mentioned above, this industry benefits first movers. Network and higher interoperability amongst systems might trigger substitution if the medical institution peers rely on other solutions. However companies can address this issue by developing interoperable and compatible systems amongst those of their rivals. In this sense, the threat of competition is low but is increasing as the market becomes more competitive.

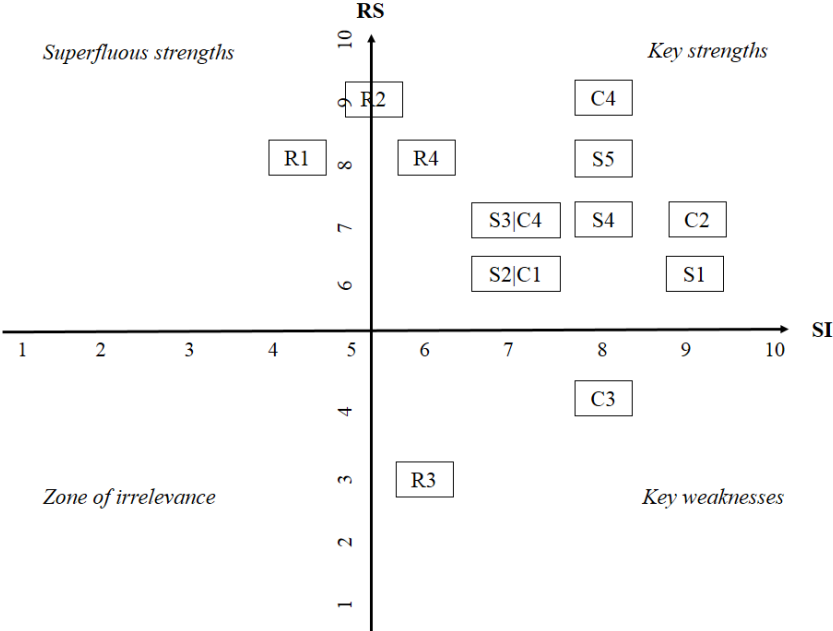
Appendix 13 – Organisational Resources Platform

	Specialized Assets	Strategic Importance	Relative Strength
S1	Intellectual property	9	6
S2	Brand	7	6
S3	Location/geography	7	7
S4	Experience	8	7
S5	Labour cost	8	8

	Competences	Strategic Importance	Relative Strength
C1	Marketing & sales	7	6
C2	New product development	9	7
C3	Market perception/information	8	4
C4	Cross-systems knowledge	7	7

	Architecture of Relationships	Strategic Importance	Relative Strength
R1	Microsoft Gold Certified Partner	4	8
R2	ABC main shareholder	5	9
R3	Partner in Angola	6	3
R4	Partner in Brazil	6	8

Appendix 14 – VRINO matrix



Appendix 15 – 2014 Annual real minimum wage of OECD countries, in constant 2014 prices at USD PPPs.

1	Luxembourg	23.417,2
2	Netherlands	21.496,1
3	Australia	21.204,9
4	Belgium	21.040,1
5	France	19.683,7
6	New Zealand	18.295,9
7	Ireland	17.983,5
8	Canada	16.735,9
9	United Kingdom	16.502,6
10	United States	15.080,0
11	Japan	14.347,5
12	Slovenia	14.166,3
13	Korea	12.851,9
14	Spain	11.962,2
15	Greece	11.391,8
16	Israel	11.328,9
17	Poland	10.546,0
18	Portugal	10.254,5
19	Turkey	9.302,1
20	Hungary	8.381,2
21	Slovak Republic	7.613,4
22	Czech Republic	7.106,9
23	Estonia	6.885,7
24	Chile	6.142,2
25	Mexico	1.873,6

Source: OECD.

**Appendix 16 – 2014 Annual average wage of OECD countries in 2014 constant prices
at 2014 USD PPPs.**

1	Luxembourg	61.511
2	United States	57.139
3	Switzerland	57.082
4	Ireland	53.286
5	Norway	51.718
6	Australia	51.148
7	Netherlands	51.003
8	Denmark	49.589
9	Canada	48.164
10	Belgium	48.093
11	Austria	45.988
12	Germany	43.872
13	United Kingdom	41.659
14	Sweden	40.994
15	France	40.828
16	Finland	40.742
17	Korea	36.653
18	Spain	36.013
19	Japan	35.672
20	Italy	34.744
21	Slovenia	33.068
22	Israel	29.635
23	Greece	26.436
24	Portugal	23.977
25	Poland	23.649
26	Slovak Republic	22.151
27	Hungary	21.399
28	Czech Republic	21.185
29	Estonia	21.020
30	Mexico	12.850

Source: OECD.

Appendix 17 - CORE™ questions

- 1 Which of the following best describes the scope of your marketing?
 - 2 Which of the following best describes your sales and distribution activity?
 - 3 Approximately how long has your firm been in business?
 - 4 Which of the following statements best reflects your current relative market share position in the domestic market?
 - 5 In comparison to your competitors in the industry, how does your firm rank in terms of sales revenues?
 - 6 The growth rate of your company sales over the past 3 years has been:
 - 7 Professional budgeting and financial management processes have been in place in our company for at least several years.
 - 8 Our management team includes a balance of key managers with long-term experience, as well as newer managers who have joined the company with state-of-the-art skills and experience.
 - 9 Our product lines are competitive in prices, features, and benefits compared to the best companies from all parts of the world.
 - 10 Our company has evolved past its start-up phases and it now has moved into a mature and stable stage with professional managers in all key management positions.
 - 11 Our company has achieved a strong positive, sustained cash flow from its domestic operations for the past two to three years.
 - 12 Disposing of excess products and/or utilizing excess production capacity is our primary motivation for entering foreign markets.
 - 13 We plan to engage in exporting by filling unsolicited orders only.
 - 14 The sole benefit we seek from foreign markets is to stabilize the seasonal market fluctuations we face in our domestic market.
 - 15 Our primary motivation in entering foreign markets is to supplement our firm's domestic sales with occasional export sales.
 - 16 Our decision to start exporting is part of a conscious strategy to expand into key world markets.
 - 17 A clear benefit we expect to achieve through exporting is to enhance our company's competitiveness by acquiring market knowledge.
 - 18 We seek to extend the life cycle of our existing products by entering foreign markets.
 - 19 We seek to reduce our operational risk by selling to diverse foreign markets.
 - 20 We aim to exploit our firm's unique technology and know-how by entering foreign markets where such advantages can be maximized.
 - 21 One of our primary objectives from exporting is to improve the return on investment for our entire company in the long run.
 - 22 Our venture into exporting is part of our company's long-term expansion strategy.
 - 23 We seek to preempt aggressive moves of other competitors in global markets by entering foreign markets.
 - 24 Top managers and owners take this view of risk in getting into foreign markets:
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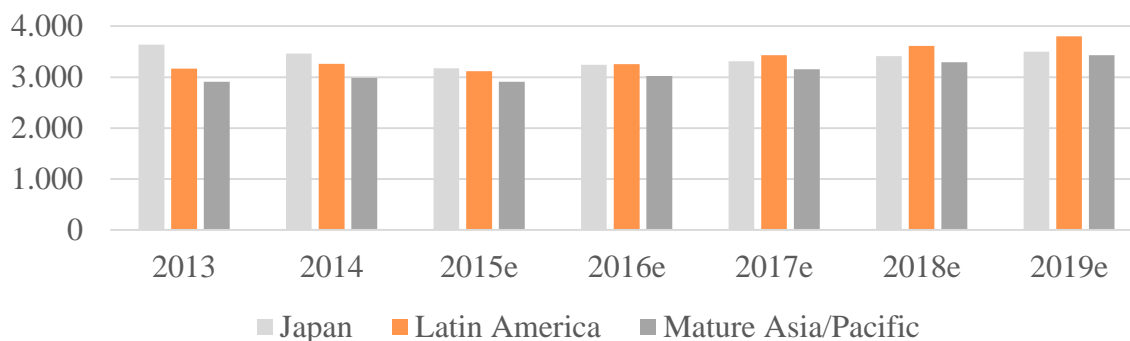
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- 25 Management intends within 3 - 5 years to sell in foreign markets through:
 - 26 How long is management willing to wait before achieving break-even point on their foreign market investment?
 - 27 Management takes the following attitude toward long-term contractual relationships with overseas partners
 - 28 Senior management envisages exporting in the following way:
 - 29 What percentage of your total company sales should be represented by foreign market sales within the next three to five years?
 - 30 The strategic emphasis of your company with regard to internationalization can be described as:
 - 31 With respect to the budget allocated to your efforts to cultivate export markets, which of the following best describes your company?
 - 32 We have a formal and sophisticated market research process, with appropriate resource commitment, to allow us to collect market and competitive intelligence using multiple information sources.
 - 33 How much time is senior management willing to allocate to international expansion efforts?
 - 34 Beyond the time committed by senior management, which of these arrangements will be made to develop international business?
 - 35 Foreign market planning and budgeting will take the following form:
 - 36 At what level will international personnel in your company be compensated?
 - 37 Our company is willing and able to provide training - directly, or by using in-country intermediaries - in the use of our products for customers in foreign markets.
 - 38 Our company (or our overseas distributor) is willing and able to provide any required after-sales support competitively for customers in foreign markets.
 - 39 Our product is not bulky; therefore the cost of transportation to a foreign market is not a high percentage of the landed cost.
 - 40 The product is unique, differentiated, or represents an advanced technology.
 - 41 The production processes for our products are unique to our firm.
 - 42 Our company's expenditures on research and development exceed the industry average throughout the world.
 - 43 Our prices are likely to be competitive in key foreign markets.
 - 44 Our products have significant advantages over products of the best companies in the world in terms of prices, features and benefits.
 - 45 No extensive inventory investment by distributors is needed.
 - 46 Our products require a special license to export from the country of manufacture.
 - 47 Our company is willing and able to arrange for any special storage (for example, controlled temperatures and humidity), if needed.
 - 48 Product and/or packaging can be made suitable for foreign customers.
 - 49 Our products are designed to facilitate their compliance with standards and regulations in all key markets of the world.
 - 50 Which of the following best describes your firm's current exporting activity?
 - 51 Access to external funds for expansion into export markets is likely to be:
-

-
- 52 As you expand into foreign markets, your resources of time and money to sustain international business expansion can withstand the home market "ups" and "downs" in your business.
 - 53 In budgeting for foreign market development, our knowledge of the costs that must be incurred to enter markets and to comply with standards and regulations is:
 - 54 Our knowledge of foreign market costs, or where to get cost information, is:
 - 55 Your knowledge of tariff and non-tariff barriers for your products in key foreign markets is:
 - 56 Your knowledge of foreign competitors, their products, and their marketing strategies and practices is:
 - 57 Your knowledge of legal systems that affect key legal agreements (such as sales agreements, agent and distributor agreements, etc.) in key foreign markets is:
 - 58 Your understanding of foreign currencies and how they affect your export transactions, and your knowledge of the financing of foreign operations is:
 - 59 Your knowledge about sources of information on potential foreign markets, and your willingness to invest in getting that information, is:
 - 60 In terms of past experience with international business transactions, your staff has:
 - 61 Key members of your management team have had considerable work and living experience in foreign markets
 - 62 Key members of your management team have had short-term project work or study experience in foreign markets:
 - 63 Key members of your management team have had training in international business topics of sufficient length and depth to be qualified to undertake export responsibilities.
 - 64 Your board of directors has had considerable experience in, or with, foreign markets
 - 65 Our management team has had considerable experience working with domestic trade facilitators (e.g. banks, law firms, freight forwarding companies, market research firms).
 - 66 We have expanded our knowledge of international business by becoming a member of a trade association that has placed considerable emphasis on development of international business.
 - 67 Our participation in overseas trade fairs can be characterized as:
 - 68 Key members of your management team have language competency in at least one foreign language.
 - 69 Your management has had training in cross-cultural management and negotiations.
 - 70 Your management has had experience in building trust and relationships with foreign companies.
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Appendix 18 - CORE™ results

Category	Score	Readiness qualification
Competitive capabilities in domestic market	56	Moderate
Motivation for going international	[45-54]	Moderate Low
Commitment of top management	[57-70]	Moderate
Product readiness for foreign markets	[64-68]	Moderate
Skills, knowledge and resources	[48-58]	Moderate Low
Experience and training	[29-68]	Moderate Low
Overall	[51-61]	Moderate

Appendix 19 – Regions ranked 3rd, 4th and 5th concerning ABC market size.



Appendix 20 - Initial set of countries

Countries

Afghanistan	Haiti	Oman
Argentina	Honduras	Panama
Bahrain	Iran, Islamic Rep.	Paraguay
Belgium	Iraq	Peru
Bolivia	Israel	Qatar
Cape Verde	Jordan	Saudi Arabia
Chile	Kuwait	Syrian Arab Republic
Colombia	Lebanon	Turkey
Cuba	Luxembourg	United Arab Emirates
Ecuador	Mexico	Uruguay
Egypt, Arab Rep.	Mozambique	Venezuela, RB
El Salvador	Netherlands	Yemen, Rep.
Guatemala	Nicaragua	

Appendix 21 – Preliminary screening

Country	Index of Economic Freedom	Country Risk Rating	ICT health action plan
Afghanistan	N/A	D	N/A
Argentina	43,77	C	N/A
Bahrain	74,25	B	Yes
Belgium	68,41	AA	Yes
Bolivia	47,4	D	N/A
Cabo Verde	66,46	D	N/A
Chile	77,66	A	Yes
Colombia	70,79	BB	Yes
Cuba	29,79	D	N/A
Ecuador	48,56	C	N/A
Egypt, Arab Rep.	55,96	D	N/A
El Salvador	65,12	B	No
Guatemala	61,81	B	Yes
Haiti	51,3	D	N/A
Honduras	57,74	C	N/A
Iran, Islamic Rep.	43,49	D	N/A
Iraq	N/A	D	N/A
Israel	70,7	BB	Yes
Jordan	68,25	B	Yes
Kuwait	62,69	BB	Yes
Lebanon	59,52	D	N/A
Luxembourg	73,86	AA	Yes
Mexico	65,18	BB	Yes
Mozambique	53,19	C	N/A
Netherlands	74,55	AA	Yes
Nicaragua	58,59	D	N/A
Oman	67,08	BB	Yes
Panama	64,8	BB	Yes
Paraguay	61,46	C	N/A
Peru	67,4	BB	Yes
Portugal	65,08	B	Yes
Qatar	70,71	BB	Yes
Saudi Arabia	62,09	BB	Yes
Syrian Arab Republic	N/A	D	N/A
Turkey	62,07	C	N/A
United Arab Emirates	72,55	BB	Yes
Uruguay	68,75	BB	Yes
Venezuela, RB	33,74	D	N/A
Yemen, Rep.	N/A	D	N/A

Appendix 22 – Final set of countries

Countries

Bahrain	Mexico
Belgium	Netherlands
Chile	Oman
Colombia	Panama
Guatemala	Peru
Israel	Qatar
Jordan	Saudi Arabia
Kuwait	United Arab Emirates
Luxembourg	Uruguay

Appendix 23 – Criteria of the scoring model

Appendix 23.1 – Criteria characteristics – year, designation, units and source

# ID	Variable	Variable Designation	Units	Year	Source
1	Index of Economic Freedom	IEF		2016	Heritage
2	Country Risk Rating	RR		2016	Euler Hermes
3	Existence of an ICT development health plan	ICT		2015	WHO - Global Observatory for eHealth, countries profiles.
4	GDP	GDP	\$	2014	World Bank
5	Forecasted real growth GDP	FGGDP		2016-2021	IMF
6	Population	POP			World Bank
7	Population aged 65 or more	OPOP	% total population	2014	World Bank
8	Forecasted growth of population aged 65 or more	FOPOP	% total population	2015-2030	United Nations - Department of Social Affairs
9	Health expenditure	TOTH	% GDP	2014	World Bank
10	Average growth of public spending in health	AVGPH	% GDP	2009-2014	World Bank
11	ICT health market growth	GRW	%	2016-2019	Gartner
12	ICT and Health ranking	HICT		2015	<i>health:</i> Human Development Reports <i>ICT:</i> International Telecommunication Unit
13	Readiness	READ		2014	World Forum Economic Global Information Technology report
14	Importance of ICT to government vision	IMPG	[1-7]	2014	World Forum Economic Global Information Technology report
15	Electronic hospital record system	NEHR		2014	WHO - eHealth observatory survey
16	Density of hospital beds	BEDS	per 1.000 inhabitants	variable	World Bank
17	Density of physicians	PHYS	per 1.000 inhabitants	variable	World Bank
18	Density of nurses and midwives	NUR	per 1.000 inhabitants	variable	World Health Organization's Global Health Workforce Statistics

Appendix 23.2 – Criteria description

# ID	Variable	Description
1	Index of Economic Freedom	Index calculated having into consideration several components such as property rights, freedom for corruption, fiscal freedom, business freedom. Countries are classified according to the following scores: [100; 80] - Free]80; 70] - Mostly free]70; 60] - Moderately free]60; 50] - Mostly unfree < 50 - Repressed
2	Country Risk Rating	Assess the risk of default from companies of a given country. It is a combination of three different scores: macroeconomic rating, structural business environment rating and political risk rating.
3	Existence of an ICT development health plan	Yes or No question, answered in the eHealth observatory survey on whether the country had an ICT health development plan.
4	GDP	Sum of services and all finished goods net of capital expenditures of a country, for a given year, at market prices.
5	Forecasted real growth GDP	GDP growth adjusted to inflation.
6	Population	Total number of residents in a given country, excluding refugees.
7	Population aged 65 or more	Number of residents in a given country, excluding refugees with 65 or more.
8	Forecasted growth of population aged 65 or more	Forecasted growth of total population aged 65 or more.
9	Health expenditure	Country's expenditure in the healthcare sector
10	Average growth of public spending in health	Final consumption in health goods and services from the public sector.
11	ICT health market growth	Growth rate of ABC market.
12	ICT and Health ranking	Composite index through the product between the ICT development index IDI, composed by three sub-indexes: the access to ICT, usability and skills and the Health Development Index (HDI), measured by three dimensions: long and healthy life, knowledge and standard of living.
13	Readiness	Measurement of the country's readiness to implement and benefit from ICT, through three variables: affordability, skills and infrastructure.
14	Importance of ICT to government vision	Weighted average of the 2013 and 2014 country's answer to the question: To what extent does the government have a clear implementation plan for utilizing ICTs to improve your country's overall competitiveness?
15	Electronic hospital record system	Yes or No question, answered in the eHealth observatory survey on whether the country had a national EHR system or not.
16	Density of hospital beds	Number of beds.
17	Density of physicians	Number of physicians per country.
18	Density of nurses and midwives	Number of nurses and midwives per country.

Appendix 24 – Correlation matrix

	GDP	FGGDP	POP	OPOP	FOPOP	TOTH	AVGPH	GRW	HICT	READ	IMPG	NEHR	BEDS	PHYS	NUR
GDP	1														
FGGDP	-0,2375	1													
POP	0,7808	0,1045	1												
OPOP	0,1449	-0,2530	-0,0670	1											
FOPOP	0,0125	-0,1747	-0,0949	-0,6961	1										
TOTH	0,1848	0,0396	0,0250	0,8840	-0,7716	1									
AVGPH	0,2116	-0,0985	-0,1022	0,8283	-0,5894	0,8925	1								
GRW	0,0749	0,4745	0,7233	-0,9770	0,9129	-0,9697	-0,7600	1							
HICT	-0,1209	0,5707	0,3326	-0,2931	-0,2718	-0,0630	-0,3121	0,4905	1						
READ	0,2577	-0,4322	-0,1221	0,5498	-0,0308	0,4150	0,6439	-0,8716	-0,8107	1					
IMPG	-0,0679	-0,3429	-0,3043	-0,1388	0,5351	-0,2171	-0,0357	0,5719	-0,5342	0,4260	1				
NEHR	0,1530	-0,0311	0,0296	-0,1610	0,2460	-0,1201	-0,0239	0,2787	0,2723	-0,2288	0,0371	1			
BEDS	0,1428	-0,4007	-0,2250	0,7766	-0,4499	0,6519	0,7788	-0,7969	-0,5680	0,7884	0,0656	-0,2274	1		
PHYS	0,0429	-0,5568	-0,2359	0,2002	0,1393	-0,0400	0,1214	-0,6368	-0,4951	0,3963	0,3526	0,1709	0,3077	1	
NUR	0,2035	-0,6155	-0,2584	0,5033	-0,1252	0,3138	0,5634	-0,6806	-0,5798	0,6827	0,2664	0,1532	0,7887	0,6949	1

Appendix 25 – Standardized results

Country	GDP	FGGDP	POP	OPOP	FOPOP	TOTH	AVGPH	GRW	HICT	READ	IMPG	NEHR	BEDS	PHYS	NUR
Bahrain	1	21	2	8	55	33	19		19	75	72	1	26	1	14
Belgium	40	7	9	88	5	97	83	1	16	100	38	1	100	59	100
Chile	19	57	15	50	20	65	28	46	43	54	41	1	26	3	1
Colombia	28	66	38	30	28	58	47	72	60	61	47	100	16	9	4
Guatemala	3	62	13	20	4	47	7		100	1	13	100	1	1	5
Israel	22	41	7	52	4	65	39	38	26	79	51	1	46	36	30
Jordan	1	69	6	15	11	61	39		75	51	54	1	21	25	24
Kuwait	11	52	4	6	49	11	9		35	58	1		28	27	27
Luxembourg	3	37	1	67	7	55	48		1	96	81	1	82	30	75
Mexico	100	46	100	28	20	48	20		78	65	26	1	16	18	15
Netherlands	67	24	14	86	10	100	100	5	3	100	51	100	70	29	90
Oman	5	17	4	9	40	17	21		42	61	63	1	19	23	32
Panama	2	100	4	34	16	67	53		72	72	54	1	28	12	8
Peru	14	53	25	30	16	38	21		85	40	13	1	16	4	9
Portugal	16	1	9	100	8	84	53	8	33	82	57	1	48	47	37
Qatar	15	9	2	2	70	1	1		23	65	91	100	11	100	71
Saudi Arabia	58	18	25	10	44	29	24	100	31	54	72		26	24	29
United Arab Emirates	30	48	8	1	100	18	10		23	68	100		9	24	19
Uruguay	3	53	3	69	1	74	58		38	58	35	1	33	42	33

The results were standardized by using the following formula:

$$X'_{ij} = \frac{X_{ij} - \min_j}{\max_j - \min_j} * 99 + 1$$

Where i refers to the country and j to the indicator.

Appendix 26 – PESTLE analysis - Netherlands

Political

The Netherlands is a country politically stable, having a country grade of AA according to the Euler Hermes index. Currently it is governed by a central coalition between the labour centre-left and centre-right parties, the Labour Party and the Liberal-Party, respectively. Fiscal consolidation is one of the country's top priorities⁵ through a decrease in expenditure, namely in healthcare.

Economic

The Netherlands is the second highest country in terms of health expenditure in relation to GDP, only falling behind the USA. In fact, despite the economic crisis that affected Europe, the Netherlands presented an annual real growth rate in health expenditure of roughly 3%, between 2006 and 2012⁶. In 2013, 12.9% of the GDP was allocated to healthcare⁷. In 2015, its GDP per capita was \$ 49.486⁸ ppp, which poses the country amongst the high-income OECD countries and between the top 20 economies of the world. Dutch GDP is forecasted to grow at a 2.7% real annual growth rate in 2017, slightly above the OECD countries average of 2.28%. Its geographic location constitutes a strategic economic position as the Netherlands serve as a transportation hub. Nine sectors are identified as the main of the country: agriculture and food, horticulture, high-tech, energy, logistics, creative industries, life sciences and health, chemicals and water⁹. It wishes to be among the top five economies in the world by 2020. Its unemployment rate finally decreased in 2015 (6.87%) after continuingly increase since 2008.

⁵<http://country.eiu.com/article.aspx?articleid=364105020&Country=Netherlands&topic=Summary&subtopic=Fact+sheet>

⁶ OECD Health Statistics 2014, How does the Netherlands compare?

⁷ WHO, Countries Profile – Netherlands.

⁸ OECD

⁹ <http://www.hollandtradeandinvest.com/business-information/trade-and-invest-information>

Social

Dutch population amounts to 16.9 million people, of which 18.2% are aged 65 or older and expected to be 27% in 2035. Dutch life expectancy is 81.4 years.

Technology

In technological terms, the Netherlands is seen as a frontrunner, ranking 8th in the IDI index and setting incentives to support Research and Development (R&D). One of the country's strategic goal is to rise its R&D expenditure to 2.5% of GDP, by 2020. It also possesses a good structure to foster R&D, as many research companies are based in the Netherlands¹⁰. Ninety three per cent of total population is internet users.

Legal

The Dutch corporate tax of 25% is slightly above the OECD average (24.6%), but is lower than Belgium's (33.99%) and Luxembourg's (29.22%)¹¹. According to the World Bank group, it takes on average 4 days to start a business and 2.5 days to register property¹².

Environment

When it comes to environmental concerns, the OECD describes the country as *an early leader in environmental policy*. Nevertheless, its renewable energy levels are below target¹³ and its ranked in the bottom 5 European countries in the 2016 EPI of Yale University, although occupying the 36th position overall.

¹⁰ <http://www.hollandtradeandinvest.com/business-information/trade-and-invest-information>

¹¹ KPMG, Corporate Tax Rates for 2010-2016. <https://home.kpmg.com/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online.html>

¹² World Bank, Doing Business. <http://www.doingbusiness.org/data/exploreeconomies/netherlands/#close>

¹³ Economic Survey for the Netherlands.