ΠΑΝΕΠΙΣΤΗΜΙΟ ΜΑΚΕΔΟΝΙΑΣ
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ΤΜΗΜΑΤΟΣ ΕΦΑΡΜΟΣΜΕΝΗΣ ΠΛΗΡΟΦΟΡΙΚΗΣ

Η ΝΕΦΟΫΠΟΛΟΓΙΣΤΙΚΗ ΣΤΟΝ ΚΛΑΔΟ ΑΠΕΥΘΕΙΑΣ ΠΩΛΗΣΗΣ. ΜΕΛΕΤΗ ΠΕΡΙΠΤΩΣΗΣ ΤΗΣ ΕΤΑΙΡΕΙΑΣ AMWAY

Διπλωματική Εργασία

του

Πουλιανίτη Βάιου

Θεσσαλονίκη, Ιούνιος 2019

Η ΝΕΦΟΫΠΟΛΟΓΙΣΤΙΚΗ ΣΤΟΝ ΚΛΑΔΟ ΑΠΕΥΘΕΙΑΣ ΠΩΛΗΣΗΣ. ΜΕΛΕΤΗ ΠΕΡΙΠΤΩΣΗΣ ΤΗΣ ΕΤΑΙΡΕΙΑΣ AMWAY

Πουλιανίτης Βάιος

Πτυχίο Οικονομικής Επιστήμης, Οικονομικό Πανεπιστήμιο Αθηνών, 2012
Μεταπτυχιακό στο Διεθνές Μάρκετινγκ, Herriot-Watt Πανεπιστήμιο του Εδιμβούργου, 2013

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υποβαλλόμενη για τη μερική εκπλήρωση των απαιτήσεων του

ΜΕΤΑΠΤΥΧΙΑΚΟΥ ΤΙΤΛΟΥ ΣΠΟΥΔΩΝ ΣΤΗΝ ΕΦΑΡΜΟΣΜΕΝΗ ΠΛΗΡΟΦΟΡΙΚΗ

Επιβλέπουσα Καθηγήτρια

Μάνθου Βασιλική

Εγκρίθηκε από την τριμελή εξεταστική επιτροπή την

Μάνθου Βασιλική	Κίτσιος Φώτιος	Μαντάς Μιχαήλ
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Βάιος Πουλιανίτης

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Περίληψη

Τα τελευταία χρόνια έχει παρατηρηθεί ραγδαία αλλαγή στην τεχνολογία των υπολογιστών με την εισαγωγή της Νεφοϋπολογιστικής. Η εξέλιξη της Νεφοϋπολογιστικής θεωρείται ως ένα από τα πιο σημαντικά επιτεύγματα στον τομέα της Τεχνολογίας Πληροφοριών καθώς παρέχει ευελιξία, άνεση, συνέπεια και απλότητα καθώς χρησιμοποιείται για μια σημαντική ποικιλία σκοπών και διαδικασιών. Αποτελεί ένα αναπόσπαστο κομμάτι προόδου αναφορικά με την ανάπτυξη, κλιμάκωση, συντήρηση και μείωση κόστους των υπηρεσιών καθώς προχωρούμε σε μια κατάσταση όπου η υπολογιστική δεν θα συμβαίνει μέσω τοπικών συσκευών αλλά σε κεντρικές εγκαταστάσεις που διαχειρίζονται σε επίπεδο υπολογιστών και αποθήκευσης από τρίτους. Αυτή η έρευνα έχει σκοπό να εξετάσει τη Νεφοϋπολογιστική ως βασικό παράγοντα για επιχειρηματική ανάπτυξη μέσω της πρόσβασης σε πληροφορίες εικονικά και της ευελιξίας σύνδεσης με την επιχείρηση οπουδήποτε, οποιαδήποτε στιγμή. Επίσης σκοπό αποτελεί η αξιολόγηση μέσω της μελέτης περίπτωσης της επιχείρησης Amway σε ποιο βαθμό η συγκεκριμένη εταιρεία χρησιμοποιεί τη συγκεκριμένη τεχνολογία. Είναι η Νεφοϋπολογιστικής που έχει διευκολύνει και καταστήσει ικανή την πιο πρόσφατη στρατηγική της εταιρείας να προχωρήσει σε μια νέα ψηφιακή εποχή εφαρμόζοντας σχέδια ψηφιοποίησης των διαδικασιών που παρέχουν σύγχρονες και εύχρηστες λύσεις στους πελάτες. Το θεωρητικό υπόβαθρο των ειδών Νεφοϋπολογιστικής καθώς και τα οφέλη μαζί με τις προκλήσεις που αντιμετωπίζονται στον επιχειρηματικό κλάδο καθώς εφαρμόζεται αυτή η τεχνολογία, θα είναι το επίκεντρο της θεωρητικής προσέγγισης. Η μεθοδολογία που χρησιμοποιείται στην έρευνα βασίζεται στην μέθοδο της Ερμηνευτικής και πρόκειται για τυπική μέθοδο ποιοτικής ανάλυσης. Επιλέχθηκε αυτή η μεθοδολογία καθώς η έρευνα λαμβάνει χώρα με την συμμετοχή συγκεκριμένων ανθρώπων, μέσω των συνεντεύξεων, ενώ παράλληλα αχολείται και με την βαθύτερη κατανόηση του επιχειρηματικού τομέα και της αλληλεπίδρασης με την τεχνολογία. Κατά τη μελέτη περίπτωσης θα διευκρινιστεί περαιτέρω αυτή η αλληλεπίδραση με την τεχνολογία με την παρουσίαση των πλεονεκτημάτων που απορρέουν από τη χρήση της Νεφοϋπολογιστικής μέσω της πλατφόρμας ηλεκτρονικού εμπορίου. Τα κύρια ευρήματα δείχνουν ότι η εταιρία Amway δίνει βάση στη Νεφοϋπολογιστική ως μοντέλο εξυπηρέτησης και θεωρείται αναπόσπαστο κομμάτι του στρατηγικού σχεδιασμού και της εφαρμογής της πλατφόρμας Hybris e-Commerce. Συνοψίζοντας, το βασικό συμπέρασμα της έρευνας

είναι ότι η Νεφοϋπολογιστική και οι εφαρμογές της μέσω του Hybris εξηγούν τα οφέλη των υπολογιστικών εργαλείων για γρηγορότερη, ευκολότερη, λιγότερο δαπανηρή και πιο αξιόπιστη εφαρμογή των σύγχρονων επαγγελματικών διαδικασιών, ενώ συνεισφέρουν επίσης στην αύξηση της αποτελεσματικότητας της Amway σε επιχειρησιακό επίπεδο.

Λέξεις Κλειδιά: Νεφοϋπολογιστική, Εφαρμογή τεχνολογίας πληροφοριών, Εταιρεία Amway, Ενσωματωμένα ψηφιακά εργαλεία, Επιχειρησιακό κόστος, Διευκόλυνση διαδικασιών, Ανάπτυξη εφαρμογών, Μοντέλο υπηρεσιών, Επιχειρηματικό περιβάλλον

Abstract

Over the last few years, with the introduction of Cloud computing, radical change in technology of computing has been noted. The evolution of Cloud computing is considered as one of the most significant achievements in the field of Information Technology as it provides flexibility, convenience, consistency and simplicity while being used for a considerable variety of purposes and procedures. It constitutes an integral part of advancement to the deployment, escalation, maintenance and cost reduction of services as we have proceeded to a situation where computing will not take place through local devices but on centralized facilities operated by third-party compute and storage utilities. The aim of this research is to review the literature of Cloud computing as a key factor for business development through access of information virtually and flexibility to connect to the business anywhere, anytime. Moreover, a main purpose is to discover through the case study of Amway Corporation to what extent the company has been using the specific technology. It is a context of Cloud computing that has facilitated and enabled the latest strategy of the enterprise to proceed to the new digital era implementing plans for digitalization of the procedures that provide modern and easy-to-use solutions to the customers. The theoretical framework of Cloud services along with the benefits and the challenges that may appear in business environment, as this type of technology is applied, will form the core of the theoretical approach. The methodology used in this research is Interpretivism, a method formed when there follows quantitative analysis. This methodology has been selected as the research takes place with the participation of specific people through interviews, while simultaneously deals with the deeper understanding of corporate sector and the interaction with technology. During the case study there will be further explained this interaction with technology by presenting the advantages arising from Cloud computing implementation through an e-Commerce platform. The main findings indicate that Amway Corporation pays a lot of attention to Cloud computing as a service model and it is considered as an integral part of its strategic planning with the implementation of new Hybris e-Commerce platform. To sum up, the main conclusion of the research project is that Cloud computing and its applications, through Hybris, may explain appropriately the benefits of IT tools for faster, easier, less expensive and more reliable implementation of modern business

procedures, while contributing to increasing the efficiency of Amway's organizational level.

Keywords: Cloud Computing, IT implementation, Amway Corporation, Integrated digital tools, Operational cost, Facilitating procedures, Applications deployment, Service model, Business environment

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Short names

AaaS	Anything as a System
ABOs	Amway Business Owners
ASM	Assisted Service Module
BV	Business Volume
CAPEX	Capital expenses
IaaS	Infrastructure as a System
LOS	Line of Sponsorship
OPEX	Operational expenses
PaaS	Platform as a System
PV	Points Value
SaaS	Software as a System
SLA	Service Level Agreement
SLE	Service Level Expectation

CHAPTER ONE: INTRODUCTION

1.1 Introduction

In the introduction, a general description of the topic is going to be presented. To be more specific, short reports about the goals that have been set, as well as the purpose of the study, the questions that have been posed across the specific paper and the general contribution of the study are included.

1.2 Topic - Importance of the issue

The study of Cloud computing and its implementation in business environment has aroused the interest of the enterprises since they are trying to maximize their undeniable significant benefits, form their strategic planning and stabilize a powerful place in the market by applying this advanced technological tool extensively and effectively. Cloud computing is targeted to offer a scalable and limited cost on-demand computing infrastructures, providing high quality of service levels and network based services that allow access to data and information in a pervasive way enabling simplicity and reliability. A major component of this technological service constitutes the necessary value proposition for outsourcing the infrastructure of the technological areas of Information and Communications at an organizational level while adding value to the corporations by offering new business opportunities for service oriented models (Chang et al., 2013). In a business sector with many particularities like direct selling industry, many corporations can take advantage of the tools Cloud technology may offer through proper planning and management. Additionally, they can advance their procedures to a higher level while overcoming the obstacles that may appear and convert challenges into opportunities.

1.3 Aim of the study

The main aim of the study is to highlight the importance of cloud computing in modern business environment and to identify the elements of different cloud services that

promote and contribute radically to rapid business development. This study will be focusing on analyzing the major characteristics of Cloud computing like rapid elasticity, resource pooling and broad network access (Shahzad, 2014), without omitting reference to the opportunities arising from the extensive usage of Cloud computing in the business sector and the possible threats emerging from its adjustment to modern corporate rules, needs and expectations. Significant obstacles with data security and privacy in a quantitative manner being the most prominent ones, but also potential strengths like collaboration and cost reduction (Gupta et al., 2013) will be presented in order to provide a deeper understanding on the reasons small/medium companies, as well as large scale enterprises have invested in Cloud services platforms for their business strategies effectuation and formulation short and long term.

A case of a corporation using cloud services was studied, as Cloud computing integration is constantly increasing, considering that more and more companies are turning to Cloud service for real time benefits. The case study refers to Amway, an American pioneer in direct selling industry. Amway corporation will be researched as a company that has already invested and continues to emphasize its strategic planning and ongoing digital projects on Cloud computing. Amway is an American corporation and a pioneer for the industry with a history of sixty years in direct selling. Its product range includes three major lines: beauty, health and home products. The company has been using a standard e-commerce platform to service and interact with its consumers along with a wide range of IT tools, applications and back end supporting programs. The pivotal idea of this research was that as Cloud computing integration is constantly increasing since more and more companies are turning to Cloud service for a variety of real time benefits. There are definitely corporations in the business sector with many particularities like direct selling industry that can take advantage of the tools this type of technology has to offer and advance its procedures to a higher level while overcoming the obstacles that may appear and convert challenges into opportunities through proper planning and organization.

1.4 Research questions

This research project aims not only at studying in depth the theoretical perspectives of Cloud computing application through business processes implementation that appear in literature review, but also to analyze the practical impact this method may have on different functions and operations. The case study of Amway Corporation aims at analyzing the extent of use of this technology from the company.

The main research questions of this study are:

- How does Cloud computing implementation affect business according to the literature?
- How do Cloud service model elements promote business development by simultaneously avoiding functional obstacles?
- Which are the challenges or threats that may arise during the implementation of modern IT tools based on Cloud computing?
- How are the procedures assessed in terms of efficiency and effectiveness while comparing Cloud application with technological methods the company used in the past?
- Should a company invest in advanced IT tools and which changes may be noticed across different departments?
- Which key points should be taken into consideration for current and future digital projects in order to optimize their effectuation?
- How KPIs are used in order to provide information for the results/success of the digital implementation in business objectives?
- Which suggestions are provided to companies concerning IT planning, based on the direction of digital transformation?

1.5 Contribution of the study

Cloud computing appeared as an advanced technological tool, not long ago, and its implementation in business environment was rapidly spread. Thus, through customization of the procedures and the variety of benefits that cloud was providing, it facilitated its adoption not only from multinational corporations, but from smaller and medium size enterprises as well. For that reason, this study appears to contribute to the

deeper understanding of Cloud computing as a technological service model with the significant advantages it offers to business and the obstacles that industries need to pay attention to, so as to implement it properly while adding value to the processes. The results that are derived from the analysis of the interviews could appear as a useful tool for industry members of the higher hierarchy like managers, IT and business analysts, business consultants and directors that plan to implement Cloud services in different business procedures.

1.6 Structure of the research

The specific study is composed of five chapters. The first one is the introduction where the general framework is described, along with the importance of the issue to be researched, the aim of the study, some inquiries that have arisen from the procedure and the contribution of the study to organizations interested in implementing the proposed tools.

In the second chapter literature review concerning cloud computing is presented. In particular, the available service delivery and deployment models are presented, emphasizing on the advantages of Cloud adoption as well as the barriers and threats that have been noted during applications. Furthermore, the Key Performance Indicators applied in different corporate environments regarding Cloud computing are displayed.

In the third chapter, the research methodology is presented, as well as the methods that have been used for primary and secondary data collection.

In the fourth chapter, the efforts of digital transition using cloud services is evaluated in the case study, with information about the details of IT tools implementation.

In chapter five, discussion and conclusions are drawing from the interviews and KPIs documents. Therefore, an analysis about the major points that were inferred through interviewing the specialists as well as information about KPIs results regarding Hybris platform with Cloud implementation are displayed. Finally, discussion and conclusions related to the interviews and the metrics as well as limitations of the study and recommendations about future research are also presented.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In this chapter, the theoretical background of the study is presented with references to direct selling industry, as Amway Corporation is part of the specific business section. Cloud definitions, the delivery service models, models of deployment and some benefits from the adoption of Cloud along with threats from its utilization, are further reviewed according to existing literature and reference to the methods that were followed in order to collect the necessary articles. In the last part of this chapter, KPIs metrics as tools of business and organizational assessment with some examples about KPIs implementation in different corporate departments are described. Attention has been paid to focus on KPIs elements that can facilitate their determination leading to proper configuration and calculation from the corresponding departments.

2.2 Preliminary Study

In order to gather useful material for this study, research on various online libraries has taken place. The articles have been extracted from Science Direct research database. The main search was about articles with the title including specific keywords: “Cloud computing”, “Cloud service”, “Direct selling industry” and “Cloud in business”, with the majority of the articles to be dated after 2010. As the whole research has been fulfilled in English language it was inevitable to look for articles only in English. The most significant articles that were included in the study were from Singh, S., Jeong, Y. - S. and Park, J.H. (2016) and Avram (2014) with the Table 2.1 to provide more details about their utilization in the specific study. In this research, through literature review and findings from the case study of Amway Corporation, the further investigation of IT tools implementation, like Cloud service, was decided to be studied due to the increasing interest that appears from the connection between technology and business and how IT can boost corporate procedures.

Table 2.1

Preliminary literature review

Authors	Year of publication	Methodology	Results
Singh, S., Jeong, Y. - S. and Park, J.H	2016	Literature review	Study with information indicating 4 Cloud delivery service models and 5 deployed models supporting Cloud architecture
Avram	2014	Literature review	Study of articles related to advantages and challenges of adopting cloud computing from an enterprise perspective, presenting 5 benefits and 7 barriers for Cloud adoption from an enterprise

2.3 Methodology of Literature review

In order to collect all the necessary information from the existing literature, the methodology from Webster & Watson (2002) was followed. There are three phases of this method. The first one forms the selection of keywords for searching articles, databases where scientific articles are collected and the presentations in conference. Then, choosing the corresponding criteria for searching, follows. In the second phase, the "backward" of research and the study of further articles referred to in the primary assembling takes place. The third stage consists of a "forward" research, where the study of the chosen articles in the primary stage takes place and finally, there is the classification of the chosen articles considering their consistency with the main target.

Additionally to the previous description of the methodology of literature review, firstly, the keywords were chosen taking into consideration the literature review of the primary study ("A survey on cloud computing security: Issues, threats, and solutions" from Singh, S., Jeong, Y. - S. and Park, J.H., 2016) and ("Advantages and challenges of

adopting cloud computing from an enterprise perspective" from Avram, M.C., 2014). The key words are: "cloud computing", "security", "issues", "threats", "advantages", "challenges", "enterprise". The way the keywords were filled in the research machine was: (TITLE-ABS-KEY ("cloud computing") AND (TITLE-ABS-KEY (security) OR TITLE-ABS-KEY (cloud computing) AND (TITLE-ABS-KEY(issues) OR TITLE-ABS-KEY(threats) OR TITLE-ABS-KEY(advantages) OR TITLE-ABS-KEY(challenges) OR TITLE-ABS-KEY (enterprise) AND (TITLE-ABS-KEY ("cloud computing"))

The first search took place using the flowing keywords with the specific row: (TITLE-ABS-KEY("cloud computing") AND (TITLE-ABS-KEY(business), (TITLE-ABS-KEY("cloud service") AND (TITLE-ABS-KEY (corporation) OR TITLE-ABS-KEY(enterprise), (TITLE-ABS-KEY ("cloud computing") AND (TITLE-ABS-KEY(advantages), (TITLE-ABS-KEY (cloud computing) AND (TITLE-ABS-KEY ("direct selling") AND (TITLE-ABS-KEY (KPIs) OR TITLE-ABS-KEY("key performance indicators"), (TITLE-ABS-KEY (cloud computing) AND (TITLE-ABS-KEY (architecture) AND (TITLE-ABS-KEY (issues) OR TITLE-ABS-KEY(threats).

Table 2.2

Correlation between research database and keywords

DATABASE	KEYWORDS
ScienceDirect	Cloud computing, Direct selling, Cloud service, business, advantages, barriers, threats, benefits, issues, key performance indicators, security, KPIs
Combinations of keywords	– (TITLE-ABS-KEY (Cloud computing) AND (TITLE-ABS-KEY (business) – (TITLE-ABS-KEY (cloud service) AND (TITLE-ABS-KEY (corporation) OR TITLE-ABS-KEY (enterprise) – (TITLE-ABS-KEY (cloud computing) AND (TITLE-ABS-KEY (advantages) – (TITLE-ABS-KEY (cloud computing) AND (TITLE-ABS-KEY (Direct selling) AND (TITLE-ABS-KEY (KPIs) OR TITLE-ABS-KEY (key performance indicators")

	– (TITLE-ABS-KEY (cloud computing) AND (TITLE-ABS-KEY (architecture) AND (TITLE-ABS-KEY (issues) OR TITLE-ABS-KEY (threats).

The articles that appeared after the first search in the platform were 7.998. After applying the criteria of research in ScienceDirect platform, the total amount of articles was 2.248, facilitating the assessment of really practical articles to properly support the project. Firstly, criteria were applied with specific date and language, from 2010 to 2019 in English, so as to avoid obsolete data and information. Then, more specific criteria including scientific topics, like computer science, information management, computers in human behavior, business and social science, computer systems and information technology services were applied. Finally, the source of the articles had to be either a conference or a scientific journal or magazine, while the rest of the articles were abandoned due to their lack of contiguity with the topic.

2.4 The Direct Selling Market

Direct selling constitutes a business model where a company takes advantage of interactions through personal relationships in order to sell products. This procedure usually involves an independent seller buying the products from the direct selling company at a lower price and then by selling them to other consumers at a retail price so that this person can achieve a profit from the margin of the prices. Another part of the process includes initiative on behalf of the sellers to persuade people and recruit them so as to become individual sellers for the company as well. Direct selling companies can participate in the production of many product categories, however the major players of the industry have been specializing in health/wellness supplements, cosmetics and household items (Peterson et al., 2018). Some of the most significant incentives of the direct sales' process in order to convince and engage people to become members of the specific project are:

- **Strong Customer Relationships**, as it is easier to provide personal relationships not only with company's sellers, but also with its customers, thus enabling the opportunity to engage in multiple interactions with a target

market segment and these relationships can provide the enterprise with a deeper understanding of their customers' needs so as to adapt more efficiently while fostering a sense of loyalty to the business's brand through different communications (Dong et al., 2018).

- **Access to More Consumers**, as it constitutes a direct approach from the company using the individual sellers to involve more and more people by recruiting them and introduce them to the environment of sales (Liao et al., 2011). As there are consumers who respond differently to specific campaigns of advertisement as well as the identity of stores changes from physical to online, it appears as a strong advantage for direct selling industry to approach customers while leveraging social networks and digital presence without missing a high level of sensitivity and discretion.
- **Cost and Price Control**, as it delivers more flexibility on monitoring two of the most significant factors regarding company's sustainability and competitiveness (Guenzi et al., 2014). As a result, the business has the flexibility to keep the prices competitive considering the production cost while investments in marketing of the products can be highly limited as the corporation maintains direct communication channels with its clientele. This aspect of the business model can provide a stronger position, compared with other industries, allowing the company to potentially secure a larger share of the profit from its products while rewarding individual sellers with considerable bonuses and other services. An enterprise can also ensure the sales' force since representing its products is knowledgeable, efficient and effective focusing on the initial strategy.
- **Coordination with other business strategies**, as the specific model gives the opportunity to coordinate the sales interactions with production process and marketing strategies. The company can ensure that the sales representatives interact directly with customers developing similar marketing language, tools and presentations aligned with its media advertising campaigns (Ferrell, L. & Ferrell, O.C., 2012). This can reinforce the marketing messages that a company intends on sending to consumers. Moreover the feedback received

from direct sales interactions can be used to evaluate the effectiveness of the applied marketing campaigns while tailoring the development of specific products range and optimizing portfolio according to consumers' interests.

However, the direct selling industry is considered partly controversial, with some of the strongest companies being accused of forming "pyramid schemes", an unsustainable business model in which sellers receive rewards for recruiting other sellers, who must also recruit more sellers as well, in order to turn a profit, creating a business structure that resembles a pyramid (Omar, 2014). Since 2015 the global retail sales from direct selling have increased from about 184 billion U.S. dollars to approximately 190 billion dollars in 2017 (Figure 2.1). Direct selling companies specializing in wellness products make up a 34 percent share of sales in this industry, making it the largest direct selling product category.

Figure 2.1

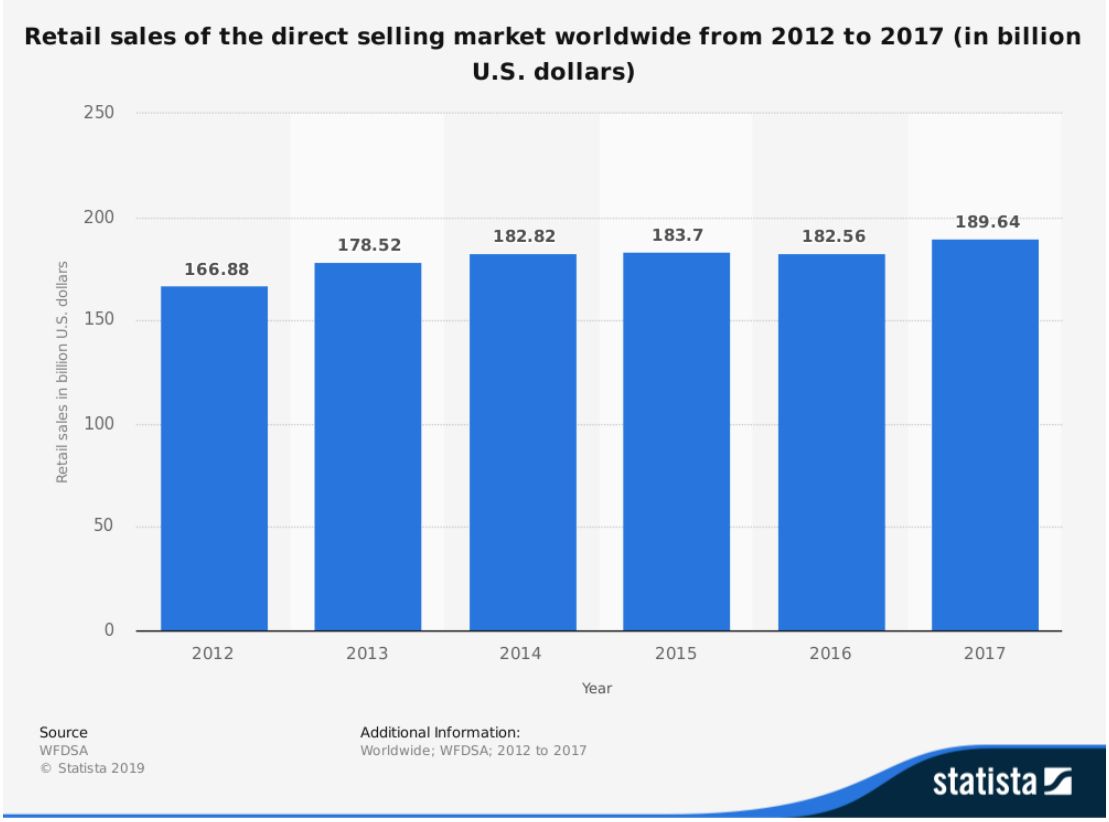
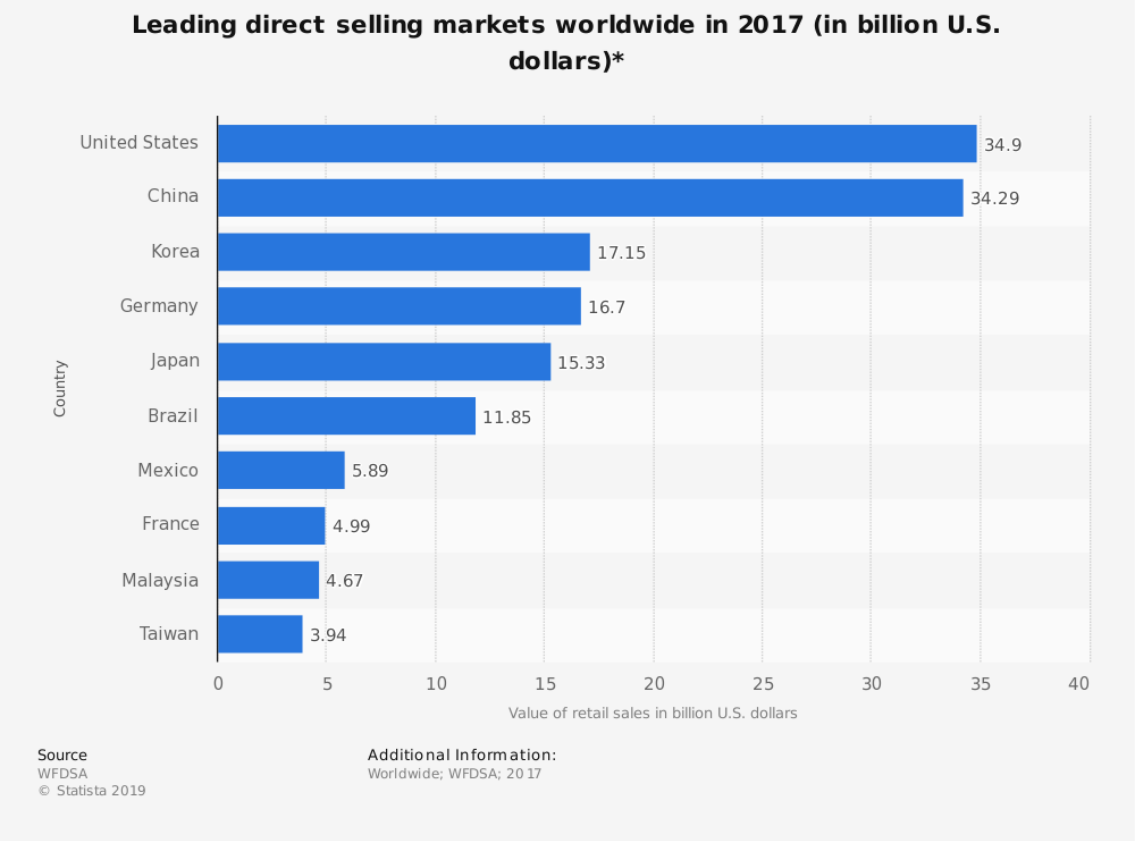
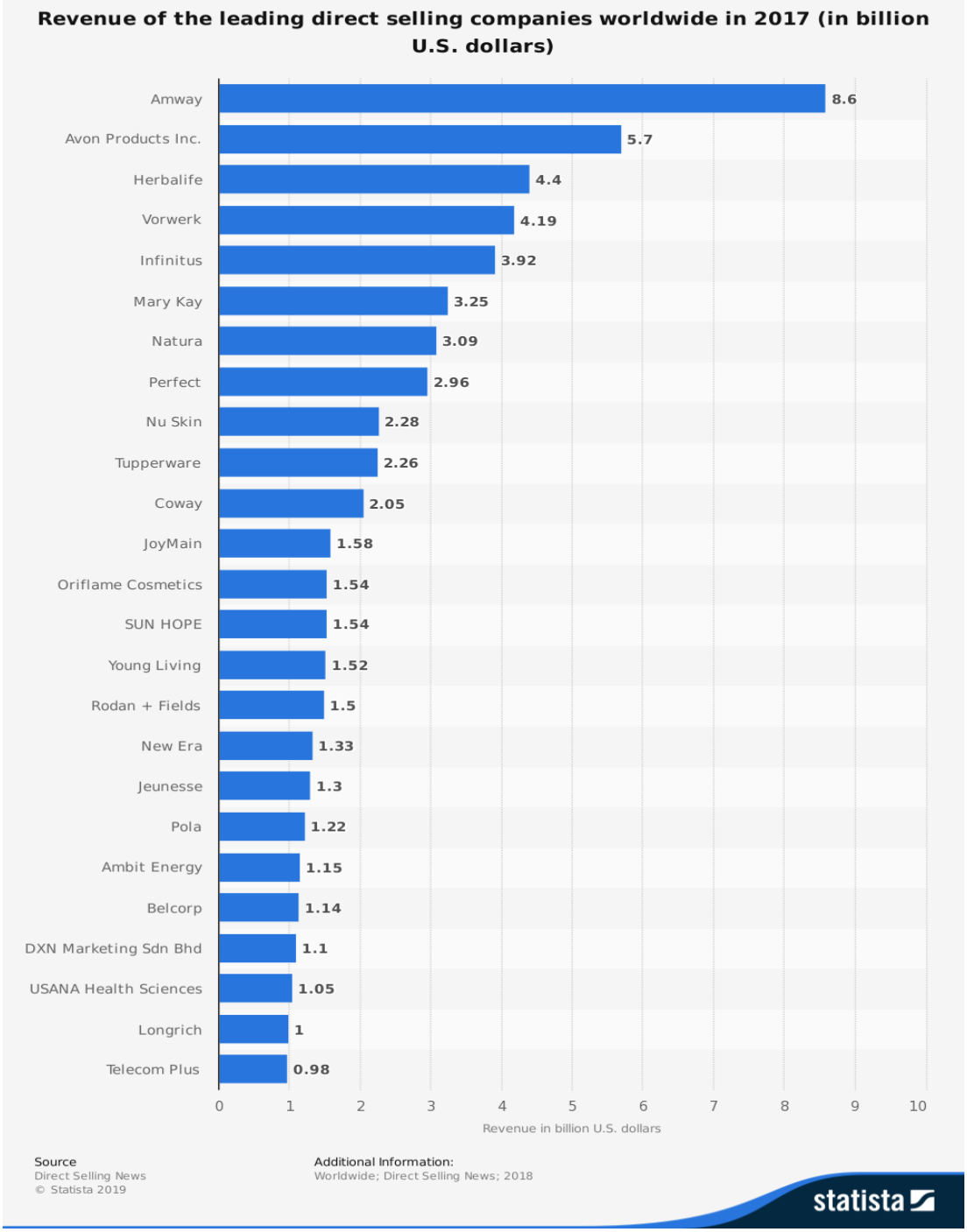


Figure 2.2



In the United States, direct selling has noted a decline in retail sales and the number of representatives in the last couple years, although it remains the most significant market for the industry in terms of value of retail sales (Figure 2.2). From 2016 to 2017 the size of the U.S. direct selling community decreased by about two million people. A recent survey found that the share of consumers who have a low opinion towards direct selling has increased by two percent since 2012, but that the share that have a high opinion also increased by one percent, demonstrating that direct selling has become a more polarizing topic.

Figure 2.3



The top direct selling companies worldwide are Amway, Avon, and Herbalife; each reporting revenue of at least four billion dollars in 2017 (Figure 2.3). The largest of these, Amway, offers a broad range of products, with nutritional products, cosmetics and home goods making up the vast majority of the company's sales. The second largest company, Avon, specializes in makeup, fashion, and home goods. Avon has seen a decline in net sales since 2013, decreasing from about eight billion U.S. dollars to about

5.7 billion dollars in 2017. Herbalife primarily offers weight management and nutritional products. It reported net sales of approximately 4.43 billion U.S. dollars in 2017.

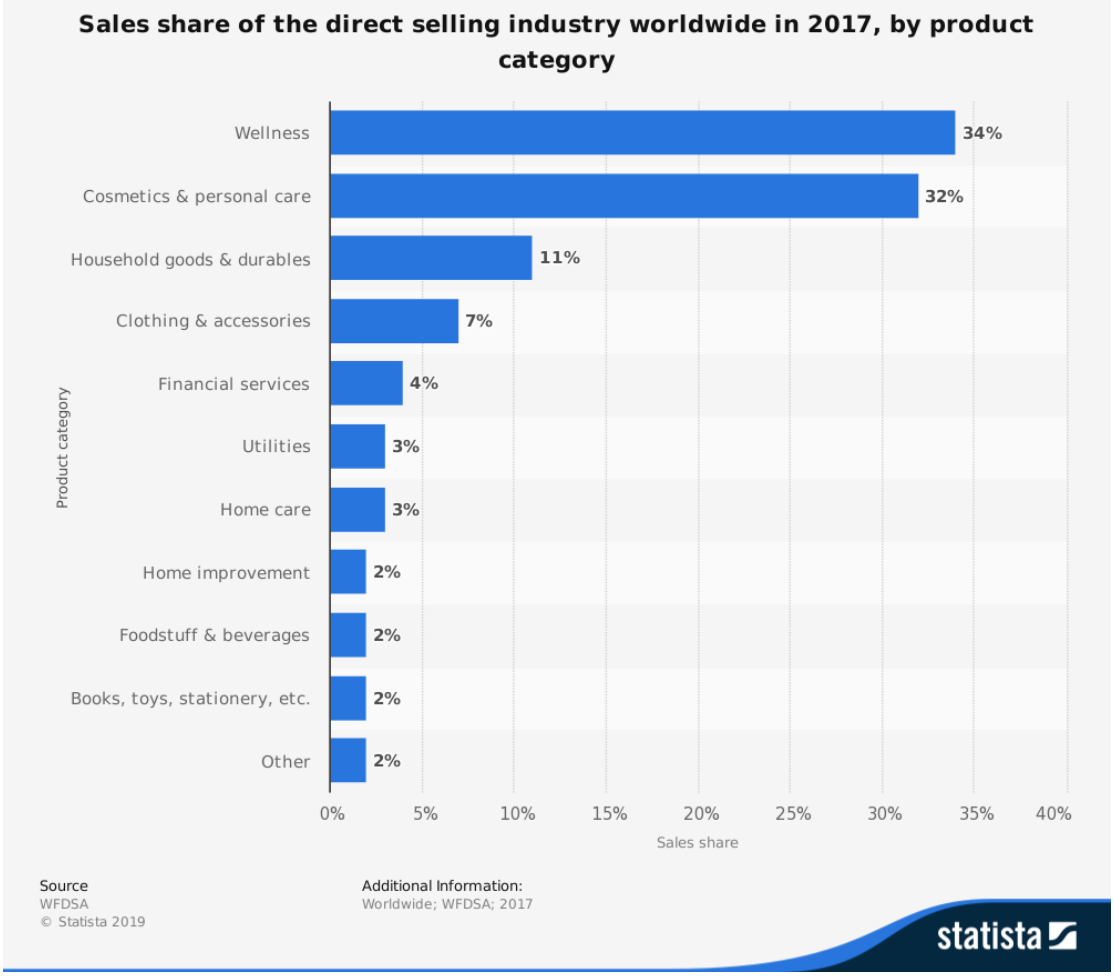
Table 2.3

Global revenue and comparison in direct selling industry for 2017&2018

#	Company	Revenue 2018	Revenue 2017	Change	Country
1	Amway	8,800	8,600	2%	US
2	Avon Products	5,571	5,715	-3%	US
3	Herbalife	4,900	4,427	11%	US
4	Natura Cosmeticos	3,550	3,090	15%	BR
5	Nu Skin	2,680	2,279	18%	US
6	Forever Living Pr.	2,600	2,600	0%	US
7	Tupperware	2,070	2,256	-8%	US
8	Melaleuca	2,050	2,000	3%	US
9	Primerica	1,937	1,715	13%	US
10	DoTerra	1,700	1,650	3%	US

(source: World Federation of Direct Selling Associations)

Figure 2.4



2.5 Cloud Computing and its effect on business

2.5.1 Cloud Evolution and Definitions

Some years ago, the magnitude of computing and infrastructure node was organized to form a distributed system that provided an increase in efficiency (Modi et al., 2013). More recently, there has been noted an increasing demand for data and online users that traditional computing infrastructure services could not correspond to and the offered solutions were becoming more expensive and harder to manage. Moreover, it appeared that traditional forms of computing were neither suitable nor efficient to facilitate access to data anywhere and anytime. Storing data on external storage systems, in order to meet modern needs in terms of advanced computing infrastructure, emerged as the unique option. Additionally, the steep increase to the number of users who proceed to different online activities such as streaming, surfing and videoconferencing, brought to

the surface the need for new paths, so as to manage the volume, variety and availability of data circulating on the global network (Singh et al., 2016). Cloud computing minimizes the appearance of obstacles to support users' online activities through various information procedures. As a matter of fact, people are not obliged to possess the necessary technology infrastructure as the process is elevated on Cloud service provider along with system and data management (Ghaffari et al., 2014).

A considerable amount of definitions regarding Cloud computing has been provided through literature in various papers. However one of the most integrated definitions has been mentioned by Misra & Mondra (2011, p. 504) referring that "Cloud computing can be defined as a collection of disembodied services accessible from anywhere using any mobile device with an Internet connection. It is provided by a type of parallel and distributed system of virtualized computers that are interconnected and that can be dynamically provisioned and presented as one or more unified computing resources based on Service-Level Agreements established between the service provider and the user". Due to Cloud Computing, the way computing resources are "invented, developed, deployed, scaled, updated, maintained and paid for" is drastically changing and more and more software and hardware solutions are transferred to Cloud-based technology (Nieuwenhuis et al., 2018). The table below (Table 2.4) provides a sample of the significant diversity that lies in Cloud's notions and aspects:

Table 2.4

Definitions of Cloud Computing

Rong et al. (2013)	A model for enabling convenient, on-demand network access to a shared pool of configurable computing resources, e.g. networks, servers, storage, applications and services, that can be rapidly provisioned and released with minimal management effort or service provider interaction.
Foster et al. (2008)	A large scale distributed computing paradigm where a pool of virtualized, scalable and manageable computing power, storage, platforms and services can be provisioned on-demand to customers over the Internet.
Chiregi & Navimipour (2016)	A combination of existing technologies that are succeeding in making an example shift in building and keeping

	distributed computing systems, multiprocessor, virtualization technology, network-based dispersed data storage and networking.
Ryan (2013)	The idea that data and programs can be stored centrally, in the cloud and accessed anytime from anywhere through thin clients and lightweight mobile devices.
Ghaffari et al. (2014)	A novel model that doesn't require user's ownership of necessary resources such as hardware and software and instead the users can utilize them over the internet.
National Institute of Standards and Technology (NIST)	A model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.
Shahzad (2014)	A disruptive technology that has the potential to enhance collaboration, agility, scaling, and availability, and provides the opportunities for cost reduction through optimized and efficient computing, the cloud model envisages a world where components can be rapidly orchestrated, provisioned, implemented and decommissioned, and scaled up or down to provide an on-demand utility-like model of allocation and consumption.

2.5.2 Cloud Architecture and models

2.5.2.1 Cloud service delivery models

It is considered that as technology advances and the amount of data is growing, leading to big data, new concepts of cloud services will appear, apart from the three major delivery models which are SaaS (Software as a Service), IaaS (Infrastructure as a Service) and PaaS (Platform as a Service). The new services are able to interconnect the increasing number of activities online, like Internet of Things that enhances Cloud computing capabilities (Botta et al., 2016). There are also different services according to

their functionality and capabilities provided from service providers that have resulted to the appearance of AaaS (Anything as a Service) as a new service model (Singh et al., 2016).

- **Software as a Service** constitutes a collection of remote computing services and it is considered the most popular service model. It offers to the applications the opportunity to deploy remotely by third party vendors and customers to utilize application of cloud service provider (CSP's) while running on cloud infrastructure online. Popular applications of SaaS include customer relationship management and enterprise resource planning software. Under this model, customers pay for access to software and databases, while the infrastructure and platforms are managed by the service provider. Furthermore, SaaS is the prevalent service model in market, while it keeps growing rapidly and some examples of providers are Salesforce, Google App, Adobe and SAP. However, this service model, in terms of security, have been facing a considerable amount of errors, from a customer perspective, that have highlighted its vulnerability (Fan et al., 2015).

- **Infrastructure as a Service** includes hardware components of hardware, like data center, memory, processor, network storage and virtual servers, as a service and this service model is considered to support the revolution in business investments, in terms of IT infrastructure. So, customers (often enterprises rather than individuals) are entitled to provision and access to virtualized hardware and resources. At the same time they do not keep the responsibility for maintaining or developing those resources, but instead they can focus on managing the higher level resources, such as the platform or operating system and the necessary software. The elasticity of distributing virtual or physical resources facilitates the abstract character of the infrastructure, as it provides scalability and provisions issues of infrastructure without the necessity of high expenses and considerable amount of time. This service model, in terms of security, hinge around areas like intrusions, detection and prevention (Lombardi & Di Pietro, 2011).
- **Platform as a Service** delivers the services in the form of development tools, architecture, programs, framework, as well as Integrated Development Environments (IDE). It constitutes a cloud service model that offers the

opportunity to customers to control applications but without means to manage the underlying infrastructure. It means that, through PaaS, providers deliver to their customers the access to some computing platform for development of applications, usually through a programming language execution environment. So, customers have the opportunity to develop and execute the software according to their needs on the cloud platform, avoiding purchasing and maintaining the software, hardware and storage equipment. This can be very supportive when multiple developers, who are located in different places, need to work simultaneously together. It is considered a small segment of the total cloud computing market and one of the most popular provider is Google App Engine that is identified as a Software Development Kit (SDK) providing an environment that supports in demand programming languages like Python and Java. Providing features that are at some level customized for clients, makes PaaS more flexible than the other service models, while security can compromise during the runtime of applications or their deployment. However, some challenges arising from this model are third party relationship, development of lifecycle and underlying infrastructure security (Sun et al., 2011).

- **Anything as a Service** is a collective term combining items as a service. This service model tends to be interchangeable in cloud landscape and according to that, cloud systems can support the large resource to specific, personal and granular requirements using Monitor as a Services (MaaS), Data as a Service (DaaS), Communication as a Service (CaaS), Security as a Service (SecaaS), Routing as a Service (RaaS) (Ali et al., 2015). This cloud service is highly connected to Internet of Things.

2.5.2.2 Cloud deployment models

It is common knowledge that in general terms Cloud computing is contingent on shared resources by local servers or individual devices (Laura, 2011). Therefore, consistency can be easily achieved by capitalizing the sharing of resources. The classification of models according to their deployment describes the character and the objective of Cloud service. As a matter of fact, this may lead to reduction of the power of

servers, to expenditure of capital and to control of the operating cost. According to Singh et al. (2016) there are five deployment models of Cloud:

- **Public Cloud** represents the hosting of cloud where both providers and customers have a relationship distinguished by high rates of Service Level Agreement (SLA) in order to maintain reliance and certainty between them. This type of infrastructure is underlined by open access to the public and organization, while different types of organizations like academics, businesses and governments own and utilize public cloud services. However, it may result in different issues due to raising vulnerability and possibility of security threats as the location and the owner of the resources are not very clear and known, so protection is inevitably difficult to be applied.

- **Private cloud** is managed and operated within the data center of an organization, while a considerable amount of Cloud infrastructure clients has been implementing provision for exclusive use by an organization. In terms of private cloud, the connection between providers and clients can be easily identified as the infrastructure is both owned and operated by the organization, which leads to easier detection of security threats.

- **Community cloud** is involved in shared concerns of organizations (policy, purpose, security requirements and compliance applications) regarding special provision of clients for specific utilization by the community. This infrastructure model is owned and managed by a community organization, a third party or a combination of them and it is possibly present on or off campus. So, it is controlled and shared by multiple parties and thus results in reducing the cost of private and security risk of public cloud.

- **Hybrid cloud** is considered as the combination of two or more deployment models (private, community, public) and often both application and data are pinioned by propriety technology that is standardized. It delivers the benefits of different deployment models, however it is widely known to offer higher security levels than public cloud while accessing online.

- **Virtual private cloud** is evaluated as a form of semi-private cloud with smaller amount of resources and it is composed of Virtual Private Network (VPN) services. It constitutes a configurable pool of shared resources on-demand that are dispensed within the cloud environment.

2.5.2.3 Advantages of Cloud computing

The implementation of Cloud computing from an organization can deliver significant results in terms of its sustainability and contributes effectively by adding value to the procedures that are followed. Some of the major benefits according to Avram (2014) are:

- The cost of entry, especially for smaller enterprises, is considerably decreased, as they take advantage of advanced tools of business analytics that were mostly an asset of big corporations in the past. This process includes the application of modern computational tools and methods at the minimum time, so dynamic provisioning of resources tend to be feasible. In terms of governmental actions and decision making, Cloud services could provide significant help to third world countries which have stuck on the primary stages of IT development and would have traditionally lacked the resources for widespread deployment of IT services.

- The most prominent characteristic of Cloud computing is undoubtedly the instant and open access to hardware material, without demanding upfront capital investments for users and very fast approach to the market for different types of industry. Utilizing IT as an operational expense, provides drastic reduction of the upfront costs in a corporate environment, so most companies implementing Cloud service models and investing in IT infrastructure, have noted an immediate cut on operational costs. It appears that Cloud forms an adaptive infrastructure, shared by many users who can be in different locations and they can utilize it in many different ways. Moreover, it has facilitated and standardized the process of configuring infrastructure at a very high level, by increasing computing capacity and flexibility of processes.

- Cloud computing has been an integral part of businesses, as it has been mentioned by emerging startups, by minimizing IT barriers while enabling technological innovation, from simply structured online applications to complicated computing systems.

- Business services, for various departments and procedures, can be easily scaled through Cloud systems, with more accurate information, as customers tend to demand. Considering that new requirements for computing resources are arising due to a very competitive business environment, the management of these resources can be easily deployed through specific software. Furthermore, according to customers' needs, a main target is as resources are scaled up and down dynamically using corresponding software, with the least possible interaction from provider (Dubey & Wagle, 2007).

- Another advantage of Cloud implementation is considered the new and modern classes of applications and services that were not feasible before, like mobile interaction applications that respond in real time to information provided by human users or even from independent information services. In addition, parallel batch processing allows users to exploit significant amounts of processing power in order to analyze big data in relatively short time and business analytics that can use the vast amount of computer resources to understand clients, supply chains and consumers' behavior and so on, from voluminous amounts of data.

2.5.2.4 Issues and Threats of Cloud computing

As previously highlighted, Cloud computing can offer many advantages to organizations that invest in advanced infrastructure service models. However, there have been indicated some issues regarding Cloud utilization and some threats that have appeared during and after Cloud service implementation. Some of them are:

- **Privacy and Security** are the main concerns of Cloud users. In general, it is considered that there is some uncertainty on how data, host and applications security can be guaranteed. As a matter of fact, the ability of Cloud service to

address privacy regulations has been questioned and it forms the most challenging task for Cloud providers (Wang, 2017). To that direction, there have been noted many efforts from the side of organizations in collaboration with their provider while making efforts to increase their systems' security and protect the privacy of their data and information, so that they can avoid unpleasant situations of violation of regulations.

- **Reliability** is also a considerable issue for organizations who have invested in Cloud services. Taking into consideration that corporate assets like applications are critical for the operational part of a company, it is highly recommended that they provide constant support in order to avoid failure or outage (Zissis & Lekkas, 2012). In case of some distressing incident, contingency and recovery plans should instantly take effect minimizing the damage for the organization. Moreover, reliability can be highly connected with cost of services, as providers offering models of higher reliability may include additional costs during the procedures, nevertheless business priorities are usually linked to risk and cost of failure mitigation.

- **Open access and connectivity** can constitute and issue about Cloud utilization. An integral part of Cloud computing success has been the opportunity to deliver access of increased speed for all, so connectivity offers the possibility both for industry and a new wide range of products. It seems that a new era of industrialization and more advanced consumers' products and services are on demand, due to this open access and connectivity to high amounts of computing resources and available data and information (Fito & Guitart, 2014).

- **Interoperability and portability of information** between public and private cloud models can form a significant challenge in business environment as they are critical parts for a broad adoption of Cloud computing from an organization (James & Chung, 2015). As corporations have proceeded to a wider standardization of their procedures, technological assets, systems and data through the implementation of ERP systems. This direction was encouraged by scalable infrastructures creating single instances or even highly integrated

connections between them, in order to control more efficiently the consistency of master and transaction data while producing consolidated and reliable information. Instead of the fact that modern IT platforms are very advanced, there is always the risk of incapability on behalf of the IT department of an organization to implement on time the necessary changes that are demanded by market needs so as the company can achieve development. A solution that has delivered considerable results through Cloud systems is SaaS applications. A reason for this success lies on its attributes, as it constitutes fast deployment at low cost option. During the development of applications through this type of model, it is essential to integrate the specific applications with traditional ones that could be found either on a separate cloud or in traditional technology. A common case for interoperability forms either an enabler or a barrier to it and the specific case allows maintenance of both the consistency and the integrity of a corporate procedures and information.

- **Economic value of Cloud service** is closely related to the return on investments that accrues. It seems that sharing resources while cutting upfront capital investments in applying IT solutions will add value to the corporate procedures. However, it appears as a necessity to balance all costs and benefits from Cloud implementation not only short- but also long term. That can be a very useful plan due to the additional cost that may arise like issue recovery, total support, data loss insurance and modification of applications. Usage of applications may deliver a specific volume of transactions that can be realized through a semi-automated management of master data (Zhang et al., 2008). While usage of Cloud service expands and requirements of interoperability for the procedure tend to be more strenuous, an alternative approach is of high importance. Moreover, it looks as the most effective approach in terms of cost saving, despite this possible transition from one option to another can increase the expenses at such a high level that the first solution finally appears financially as the most profitable one (Dimitriu & Matei, 2015).
- Cloud computing may also provoke some **issues to IT organizations**, like with different technology shifts. It is considered there are two dimensions concerning technology shifts. One is by obtaining the new sets of capabilities in order to

deploy the technology and proceed to solutions about business problems. The other dimension is connected to the way that changes in technology alter the role of Information Technology. An appropriate example could be the differentiation of approaches regarding programming languages. In the past, users of these languages were involved in solving problems only through predefined paths. However, the advancement to latest generations of programming languages, new roles have emerged with analysts/developers to write reports and in terms of applications deployment, the procedures including operational data stores and data entry, as well as query programs, can now be completed in a considerable shorter period. Moreover, it seems that these changes will continue to happen and the adoption of Cloud systems will also be part of it, while delivering real value for businesses, however one of the most important challenges will form the increasing need for maintenance of controls for IT risk management (Ali et al., 2017).

2.6 Key Performance Indicators

2.6.1 Introduction

According to Amishi & Sukhbir (2015) and Lord Kelvin, Key Performance Indicators could be defined as “when you can measure what you are speaking about and measure it in numbers, you know something about it, when you cannot express it in numbers, your knowledge is of meager and unsatisfactory kind; it may be the beginning of knowledge but you have scarcely, in your thoughts advanced to the stage of science”. More specifically, a Key Performance Indicator is a measurable value that demonstrates how effectively a company is achieving key business objectives. Organizations use KPIs at multiple levels to evaluate their success at reaching targets they set, while promoting sustainability and a competitive character in a constantly changing business environment (Maté et al., 2017). Key Performance Indicators could be categorized in two levels according to the issue they are expected to measure. High-level KPIs may focus on the overall performance of the business (Stricker et al. 2017), while low-level KPIs may focus on processes in departments such as sales, marketing, HR, support and others. As a matter of fact, it seems KPIs are as valuable as the action they inspire. However, a common situation for organizations is to blindly adopt industry-recognized KPIs without

any customization to the needs of the enterprise and thus the results tend to be very disappointing and failure comes naturally. So, before setting KPIs it seems as a necessity to adapt them according to the specific circumstances and business priorities, so that they can bring about positive changes and provide critical solutions. Moreover, KPIs constitute a form of communication as they abide by the same rules as any other source of information and a clear and direct image of them is more likely to be properly absorbed and contribute to drastic measures and actions (Pérez-Álvarez et al., 2018).

2.6.2 Organizational approach

In terms of developing a strategy for formulating KPIs, the primary issue should be to clearly identify the objectives of the organization, while planning and analyzing the methods and tactics on how to achieve these objectives. The participants as well that will take action after obtaining this information, constitute an integral part of following the accurate steps to success (Bingol & Polat, 2017). The specific procedure will inevitably be iterative and involve human resources with significant experience and expertise like analysts and managers whose feedback is essential for the business processes. Thus the benefit of deeper understanding of which procedures and fields need to be measured using a KPI dashboard will appear and who will take advantage of this information leading to business prosperity. According to Badawy et al. (2016) there are four types of performance measures:

1. Key result indicators (KRIs) that measure the achievements in a perspective or critical success factor
2. Result indicators (RIs) that describe the issues that have been handled
3. Performance indicators (PIs) that mention the actions to be performed
4. KPIs that indicate steps to be made in order to significantly increase performance

In order to describe the relationship between these four performance measures, there could be used a parallelism of an opinion analogy. “The outside skin describes the overall condition of the onion, the amount of sun, water, and nutrients it has received; and how it has been handled from harvest to the supermarket shelf. The outside skin is a key result indicator. However, as we peel the layers off the onion, we find more information. The layers represent the various performance and result indicators, and the

core represents the key performance indicator". As a matter of fact, KPIs act as a set of measures that focus on the most critical operational parts of the organizational performance promoting success.

2.6.3 KPIs in business

There is a vast selection of KPIs that could be implemented and provide results considering all the aspects and departments of an organization. According to Lindberg et al. (2015) the units of the KPIs are considered important when the indicators are used for benchmarking, so as to utilize the same units in the comparison. If a KPI only will be used to track trends and find correlated process signals from, then units are less or not important. The following KPIs are some examples from the corporate environment:

KPIs for Finance department

- Gross Profit Margin - measures the percentage of total sales revenues generated
- Monthly Recurring Revenue (MRR) - measures the revenue generated each month which will re-occur with little to no additional investment
- Return on Equity (ROE) - measures the net income against each unit of shareholder equity
- Current Ratio – weights the assets like accounts receivables that are weighted against current liabilities, including accounts payable
- Revenue per Customer – counts how much gross revenue is made per customer
- Revenue Growth Rate - helps to ensure the business continues to grow at a target rate, measured by a percentage

KPIs for Marketing department

- Traffic – is measured by combining a volume measurement with a time period, like website visitors per day
- Cost per Lead – as there is traffic converting to leads, it calculates how much each of these leads costs

- Brand Recall - measures how many people remember and correctly identify the brand after having seen it somewhere
- Social Media Mentions – the more some issue is mentioned in social media, the more traffic it will attract and can be measured like 'mentions per week'
- Net Promoter Score (NPS) - measures how likely customers would refer a friend or colleague to a product or service
- Time On Site - measures the engagement timing on a website

KPIs for Sales team

- Lead Flow - count of the number of leads that sales people are working on each period
- Qualified Opportunity Rate - measures what percentage of the leads moved through sales pipeline into a qualified stage
- Total Sales Volume - calculates the total volume in a currency sold by sales team on a minimum of a monthly basis
- Sales Cycle Length - measures the average time as a lead becomes an opportunity and when it turns to be a sale
- Sales Cost to Sales Volume Ratio - measures the total cost of sales efforts in a month versus the total sales volume generated in that month
- Collateral Usage Rate - counts the percentage of successful sales that made use of a piece of marketing collateral and report on this as part of the monthly sales reporting

KPIs for IT department

- Project Delivery Time - measures if projects are managed with timelines and clear targets
- Quality Assurance - counts the number of issues per project and as a whole, that can help determine where there may be challenges when launching projects
- Service Level Agreements (SLAs) - measures and presents both performance (time) and quality

- Showback (Chargeback) - estimates and reports the resources allocated to each department, maintaining the awareness.
- Measuring Agility – measures how quickly and effectively the IT team can react to change according to the needs of an organization
- Application And Service Of Total Cost - helps to understand what is the cost of delivering each IT offering

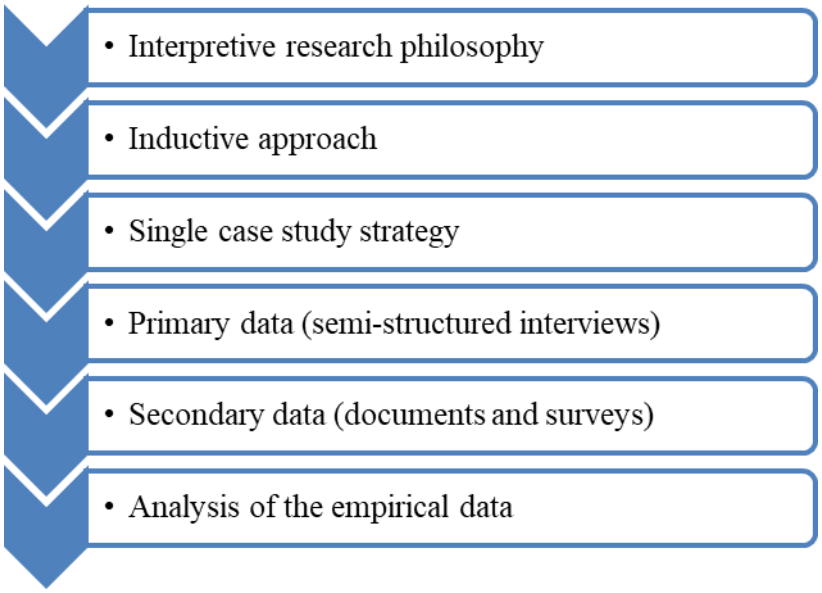
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research philosophy

The research at this case study was carried out on the grounds of a particular method in the context of a research approach so as to come with valid results which are expected to provide valuable feedback to Amway Corporation. The following diagram (Figure 3.1) provides a clear picture of the process that was followed in order to conduct this research.

Figure 3.1

Research methodology process



The research philosophy adopted at this case study was Interpretivism. More specifically, 'it is an epistemology that advocates for the researcher to understand differences between humans in our roles as social actors' (Saunders et al., 2003, pp. 106). It follows that the research takes place between human beings other than objects and as Blaxter et al. (2006) states it has to do with the understanding of the social world.

This case study attempts to examine the Information Technology strategies to be followed in order to achieve successful implementations of the company procedures at a faster, more accurate, more consistent and secure rate. Consequently, subjective research and understanding of the current practices followed are included in this investigation.

3.2 Research design

The project design that was followed is the Case study which is defined ‘as a strategy for doing research which involves an empirical investigation of a particular business solution within its real life context, using multiple sources of evidence’ (Robson, 2002, pp. 178). A research design provides, according to Bryman and Bell (2003), the outline and the technique for collecting information. Moreover, as it was stated in Chapter one, it is a single case study about Amway corporation and as Yin (2003) clarifies, it is a method which entails the analysis of a single case in a single organization.

The advantage of a single case study is that it is easier for the researcher to have a deep understanding of the research subject and make recommendations as well. On the other hand, although there are researchers like Saunders et al. (2003) that support the single case study because they consider it as a way to come to valuable conclusions about a specific company, there are others like Yin (2003) who are more skeptical due to the focus that is placed on one particular organization.

3.3 Data collection

The research was approached inductively, as qualitative methods were used and the theory was formulated after the collection and the analysis of the data (Saunders et al., 2003). According to Bryman and Bell (2003), qualitative research has the benefit to lead to a more in depth analysis and requires a small sample of data. It is generally accepted that personal interviews is the best method of collecting information and data for the purpose of qualitative analysis.

3.3.1 Primary data

The object of qualitative content analysis can basically be any kind of recorded communication, i.e. transcripts of interviews/discourses, protocols of observation or written documents in general. This means that in a comprehensive study which aims at analyzing different kinds of data material, the same method can be applied to different types of evidence - a major advantage not only from a pragmatic point of view, but also as far as quality criteria are concerned. In fact, Gillham (2000) states that case study ‘is a

main method,' within which different sub-methods are used: interviews, observations, document and record analysis, work samples. For this research it has been chosen to collect primary data from semi-structured interviews where the interviewer has a specific list of topics to be covered. As Smith (1995, pp. 9) points out, 'there is a natural fit between semi-structured interviews and qualitative analysis'. The main asset is the flexibility to reformulate the questions or the fact that you can give to the interviewee the choice to point out his own answers which might offer valuable information. Therefore a detailed questionnaire was developed in order to cater for the needs of the current research (see Appendix 1, p. 86-87).

The people who have been interviewed belong to high management, Business and Information Technology analysis as well as digital services, some of the most challenging departments in terms of procedures and decision making actions. They were asked to develop their thoughts on the results Cloud computing has delivered to the company and the steps that Amway should proceed to, in similar cases in the future, in order to achieve the goals set. King (2004) argues that in semi-structured interviews there are already prepared questions to be asked which make sure that detailed information will arise. This lack of standardization is the one that creates concerns on reliability as far as bias is concerned. Moreover Williams et al. (1999), highlights issues related to the reactions that the person who conducts the interview may create and that may have to do with age or gender. Hence, comments were avoided during the interview and the tone of the voice was clear and balanced throughout the process. The researcher was treated with respect and everyone was willing to help to the completion of the research partly due to ongoing working experience and collaboration at the specific company. Some of the interviews have been recorded while others have not since it seemed rather uncomfortable and stressful to some of the participants. All the interviews however took place in the managers' offices in order to feel more comfortable and express their views more easily, a fact that Saunders et al. (2003) considers as crucial during the procedure. The interviews took place from 25th of February to 12th of March 2019.

3.3.2 Selection of the sample

Saunders et al. (2007, pp. 206) argue that 'the full set of cases from which a sample is taken is called the population'. In sampling the term 'population' entails the full set of needs for the case study and not necessarily people. In this study case, the researcher had to choose some key respondents in order to get the information needed. Gubrium and Holstein (2001) state that in qualitative actions like interviews, the respondents may be chosen to act as key informants who can provide the researcher with useful and interesting information. The researcher in this case study, selected two key-managers of Amway Europe and the Managing Director of the Business center, who are the most suitable people to talk about the effects that the implementation of Cloud computing had served on the company. It is a specific size of sample with high level of representativeness due to the considerable experience as well as the key roles of the participants.

3.3.3 Secondary data

Secondary data was also used including documents with KPI metrics in order to aid the researcher confirm, modify or contradict the primary findings. The use of secondary data is very common in organizational research and as Schwab (2005) argues, it has many advantages connected to cost and time perspectives but validity is also an issue that comes up. Hence, the researcher has to evaluate those data and make use of them only in case their validity is ensured. Bryman and Bell (2007, pp. 326) define secondary research as 'the analysis of data by researchers who will have probably not been involved in the collection of those data for purposes that may not have been envisaged by those responsible for the data collection'.

The research in this case study includes secondary data that come from specific department of the company, which were carefully taken into consideration. Official documents from Amway Corporation with KPI metrics are the main part of the secondary data. Additionally, academic books and journals as well as reliable Internet based sources, like tables and figures from statistical organizations have formulated the literature review.

3.4 Method of analysis

In the case of using qualitative content analysis for a case study research, triangulation takes actually place on two different levels. On the first and more obvious level, data is triangulated by integrating different material and evidence, as well as by integrating qualitative steps of analysis. On second level, triangulation takes place by applying a method of analysis (qualitative content analysis) that has not been particularly developed for this purpose to a different research design (case study research). According to Morse and Richards (2002), there is not only one appropriate method to analyze qualitative data. More specifically, during a qualitative research, collecting data is not a process separate from analyzing data. Morse and Richards (2002, pp. 1) highlight that 'the strength of qualitative inquiry is in the integration of the research question, the data and the data analysis'.

3.5 Ethics

Informed consent is usually associated with a consenting adult and this consent is based on the participant gaining information about the research and then making a decision to participate based on that information. According to Flick (2009), ethics in research deal with the protection of the interest of those who are participating. Thus the author presents some 'codes of ethics' which have been established in order to ensure the ethical perspective of the qualitative research. Some of the requirements are: the participant's agreement to participate, the avoidance of harming, insulting or deceiving the participant as well as invading his/her privacy. In the following diagram the four issues that constitute the 'ethical theory' of Murphy and Dingwall (2001) are presented:

- **Non- maleficence**: researchers should avoid harming participants.
- **Beneficence**: research on human subjects should produce some positive and identifiable benefit rather than simply be carried out for its own benefit.
- **Autonomy or self-determination**: research participants' values and decisions should be respected.

- **Justice**: all people should be treated equally.

At this case study, the researcher followed exactly the code of ethics in order to have a valid and reliable outcome from the semi-structured interviews. Saunders et al. (2003, pp. 178) state that 'in the context of research, ethics refers to the appropriateness of your behavior in relation to the rights of those who become the subject of your work or are affected by it'. Finally, the research was conducted according to the general good practice principles and the guidelines of the University.

3.6 Limitations

As in almost every research it is inevitable that limitations like errors, bias or validity must be taken into account. Furthermore, the qualitative research is not as scientific as the quantitative research since errors may easily happen or the analysis of the interviews may be affected by bias as Newell and Burnard (2006) point out. During this dissertation, a small sample of managers was used to identify the results that Cloud computing application on business procedures provided. This may have affected the validity of the findings as well as the fact that it is a single case study and the results cannot be generalized as they might fit only to the organization under investigation. The researcher is also currently member of the organization and therefore the findings may be biased although a situation of objectivity and open-mindset was pursued.

To sum up, in the specific case study the philosophy of Interpretivism that has been followed, appears to suit and explain on an adequate level the issue that is studied. The analysis of the case study is about to be developed through qualitative primary and secondary data. For the primary data, semi-structured interviews were conducted, where managers relevant to the issue are involved, and the interviews took place under their full consent, avoiding questions that could put them into inconvenient position. When it comes to the secondary data, documents and assets from the company indicated KPI metrics have been taken into account, so as to provide useful conclusions on what elements and factors have affected the corporate processes and where planning and strategy formation should be focused on, in terms of Technology service models.

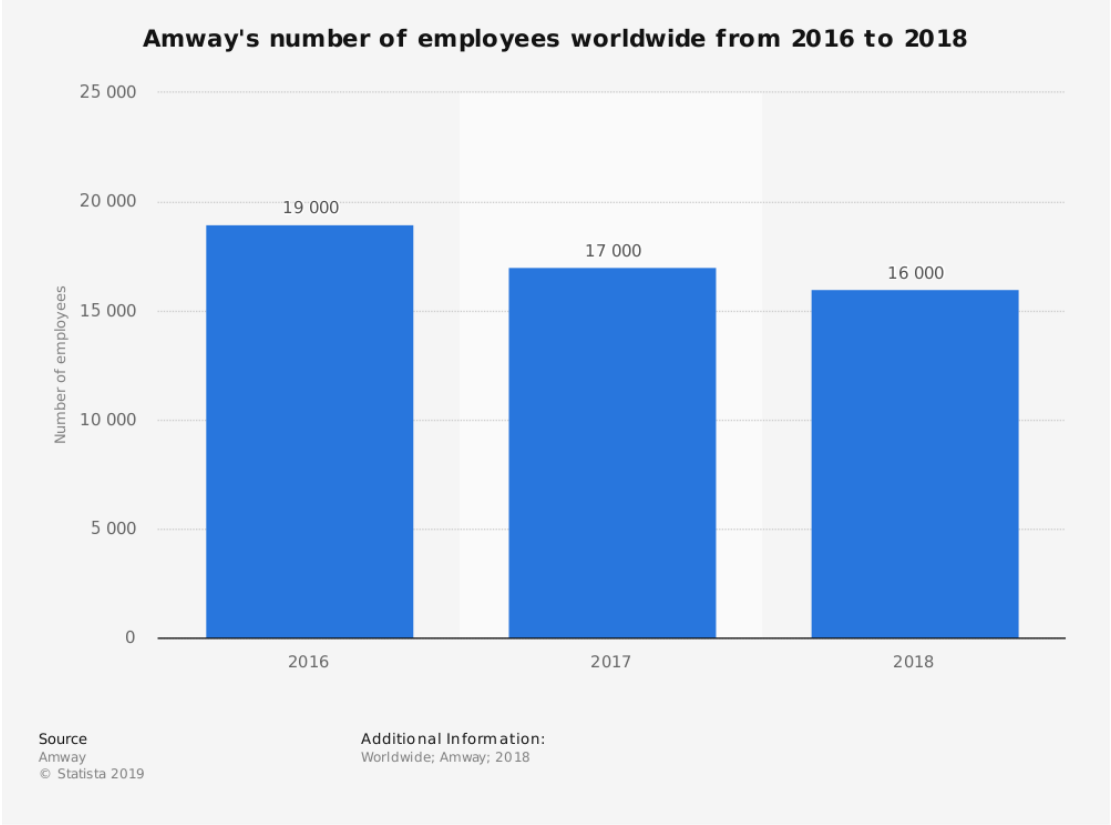
CHAPTER FOUR: THE ORGANISATION AND A BUSINESS ISSUE – CASE STUDY OF AMWAY

4.1 The Company and the Transition to Digital

4.1.1 The Company – AMWAY Corporation

Amway Corporation was founded in 1959 by two friends and business partners, Rich DeVos and Jay Van Andel, in Ada (Michigan), United States. Since then, the company has expanded worldwide and nowadays operates in more than 100 countries and territories. The presence of the company reaches 6 continents leaving an extraordinary large global footprint. It is a pioneer and the global for the industry of direct selling manufacturing and distributing more than 450 unique products, supported by a broad network of workforce counting more than 16.000 employees, a number slightly dropped last couple of years as it could be noticed in Figure 4.1 and millions of Amway Business Owners (ABO) who buy and sell to consumers the products of Amway.

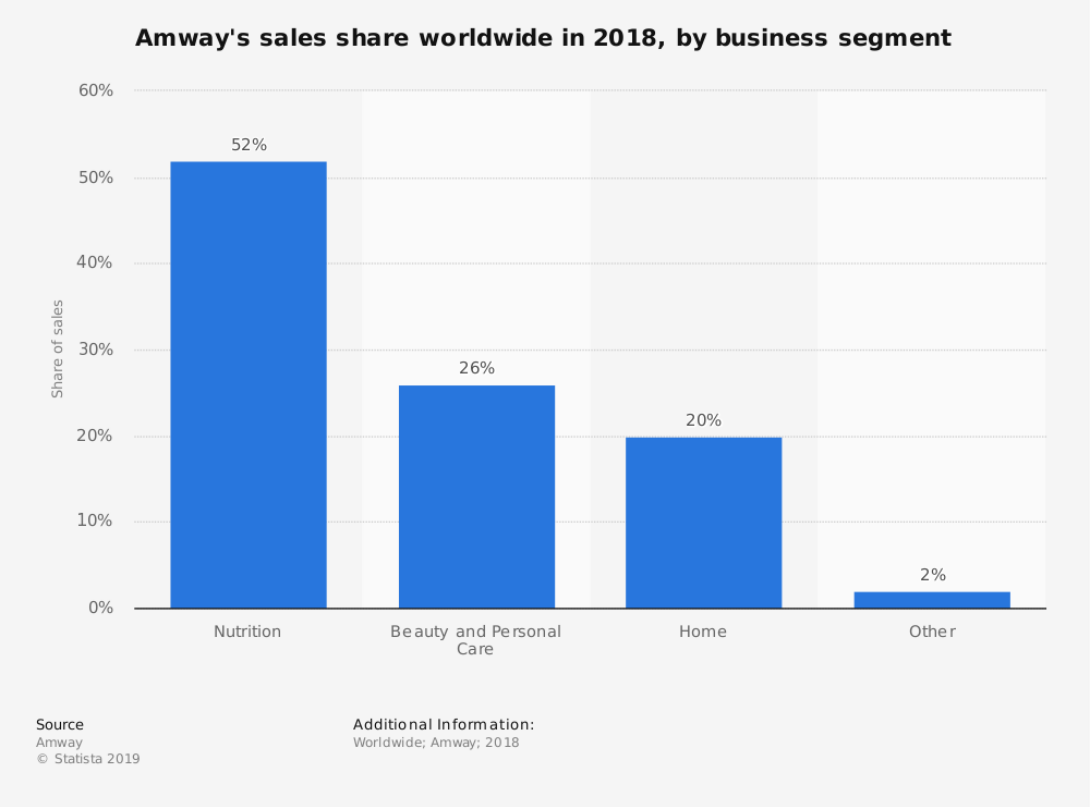
Figure 4.1



4.1.2 Amway Product Portfolio

The company has penetrated in specific markets of consumer goods; beauty, personal care, nutrition and home care. Beauty is one of the most significant categories for the company including one of the most prominent cosmetics brand, Artistry, with a wide range of products like make-up and skincare products as well as accessories mostly for women. For personal care, Amway produces shampoos, soaps, oral care and men's grooming products as well as fragrances. Nutrilite is the brand with highest sales worldwide in vitamins and dietary supplements offering customized solutions for people of all ages and different needs (Cardenas and Fuchs-Tarlovsky, 2018). XS brand offers energy drinks and sports nutrition options, while Bodykey brand is designed for people who intend on managing their weight by delivering specialized products focusing on structural components of human body like proteins, carbohydrates and fats. Moreover, Amway manufactures appliances for water cleaning with Espring being a very popular water treatment system and Sky, a device launched in European markets in 2017, delivering air purification by removing allergens and other contaminants. The enterprise also produces a best seller in home cleaning category, L.O.C., a very recognizable product and other house cleaners, while a variety of detergents is available for laundry and dish washing. Some other products Amway manufactures are cookware, cutlery, dispensers and applicators. As it can be seen in Figure 4.2, the corporation has been based on Nutrition which is the most considerable business segment for Amway (King et al, 2019), elevating the company into the first place among consumers' preferences for vitamins and supplements, while the statistics for Beauty and Personal care segment can justify the efforts from the corporate side to emphasize on it for further development and sales increase. The Cosmetics and Personal Care market is subject to constant challenges, innovations and transformations and the beauty industry is thriving, enabling the company decision to pay more attention to this market. These two business lines constitute the guide to future sustainability in terms of revenues and thus the enterprise has decided to support them further by optimizing constantly its portfolio and expand these segments by designing new products and offering enhanced solutions in order to cover more targeted consumers' needs.

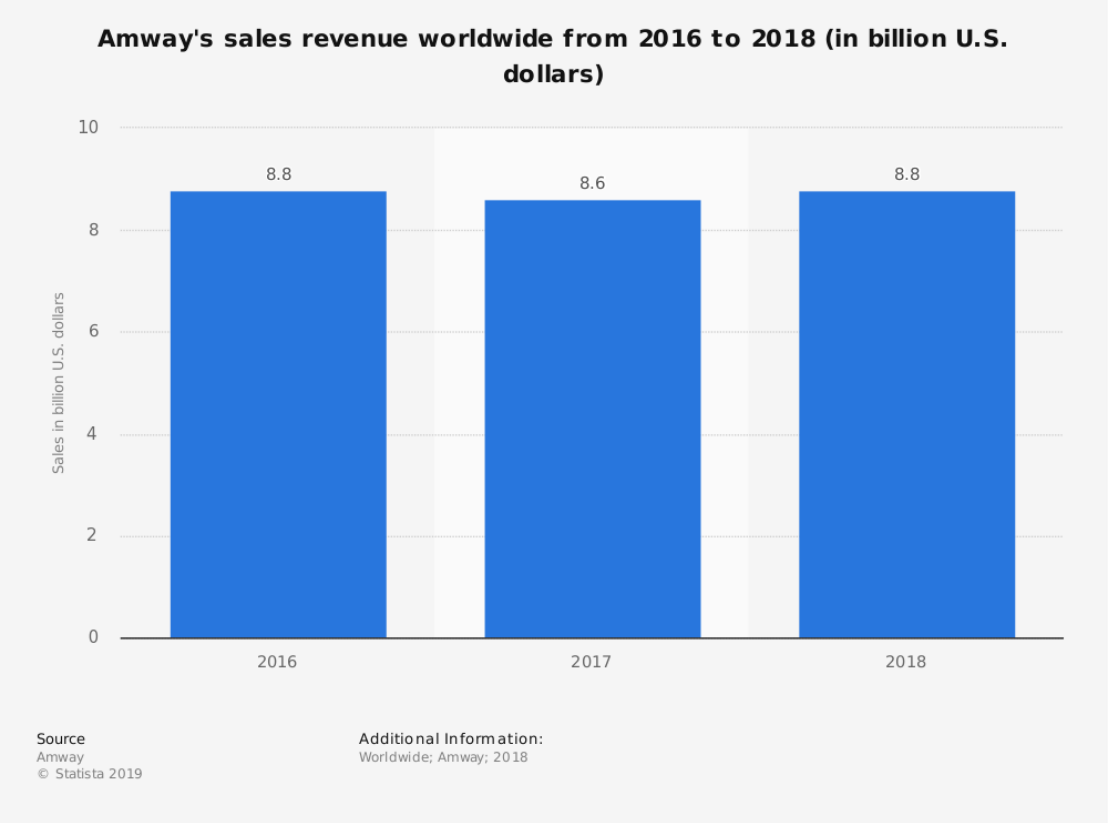
Figure 4.2



4.1.3 Assets of Sustainability

One of the main characteristics that make Amway a pioneer has been the forming of a team of more than 1000 scientists in 100 laboratories for research and development purposes, including technicians and engineers who are in constant communication and collaboration with institutes, universities and advisory teams in order to support product development and ensure the enterprise designs, manufactures and delivers high quality products, something that has driven the company to offer a unique program of customers satisfaction guarantee. In order to ensure its successful operations and an efficient control of the supply chain, Amway owns around 6.000 acres of land with certified organic farms in North and South America, where local farmers grow a significant amount of plants, the core of the ingredients for a variety of its products. Amway has established warehousing hubs in strategic positions in American and European continents as well as in East Asia, while the manufacturing facilities can be found in United States, India, China and Vietnam.

Figure 4.3



Amway announced sales of $8.8 billion for the economic year 2018, a slight increase of around 2.5% over sales in 2017, reaching the revenues levels of 2016 as it can be viewed in Figure 4.3. According to the company this growth was broad based across many of its top markets including United States, China, India and Thailand. It can be attributed to considerable investments the company has proceeded to (Edrak et al., 2013), emphasizing on modern technological equipment with digital tools and mobile experience to be the flag of Amway towards upgraded brand engagement as well as delivering product innovations encouraging ABOs to attract and retain more customers. With this process the company has focused on developing e-commerce and social media strategies, while customers were being informed about additional products through digital experience, also targeting to personalizing beauty products and customizing nutritional supplements. The market that delivered the most evident results was China, one of the most interactive markets for the company in terms of business (Pyke et al., 2000) as it can be seen from Figure 2.2, where it is considered a leader in business digital innovations and investments and this can be easily explained by the 70% of sales being achieved through mobile orders in 2018.

4.1.4 Amway digital transformation

As Amway is promoting its products and familiarizes the audience with its product portfolio and services, the company mainly makes use of the communication channel of personal relationships through Amway Business Owners, so it appears as of high importance to provide them with all the necessary tools (Bhattacharya and Mehta, 2000). When contacting customers and prospective ABOs, it is critical for Amway members to possess and know how to use flexible equipment in order to attract and register as many individuals as possible or proceed to sales, increasing their status and bonus level inside the company (Hiranponge et al., 2016) while leading to corporate profitability. So, Amway tends to invest in materials, especially digital, to empower people to be very active through Amway procedures and develop their business. Due to the raising competition, the specific investments seem to be more important than ever before. They target modern entrepreneurs who ran their business on the go from wherever they are at every moment and for them, tools and data they can easily access, constitute indispensable parts of their activities. Services provided on the digital sphere and applications offering them various possibilities are considered as a necessity, while most ABOs operate their business online via mobile devices, social media and platforms.

One of the first elements of the digital transformation the company started a few years ago was the transition from printed items to digital form. An investment in Adobe Digital Publishing Suite followed that decision with the company launching an app of its bookshelf with a new publication to be added every month. The specific publications form a kind of toolkit for sales perspectives of Amway Business Owners featuring product information along with clinical researches and articles regarding the process of manufacturing products, the innovation applied as well as how to use them more efficiently taking advantage of all of their attributes. Later, the delivery without cost of the digital form of Product Catalogues and Pricelist of the company in different language version followed, offering the motivation of downloading these items for free, as the printed one was offered at a price. This resulted in minimizing the cost for paper to 70% lower than previous years and it was a clear message about the direction the company has planned to follow.

Moreover, in order to cover increasing customers' needs through its warehouses procedures, Amway deployed JDA Warehouse Management in all its 50 warehouses globally. The operations of warehousing and inventory management started being

executed with robust process controls and offering an optimized experience to its distributors and customers. This deployment offered the company the opportunity to manage all tasks and activities around within warehouses in Europe, Russia and Asia, including storage of products, inbound receipts, picking of orders, packing and shipping as well, while consistent replenishment of distribution and pickup centers was being operated more efficiently. There were also deployed JDA Demand and JDA Enterprise Supply Planning to support market inventory requirements planning.

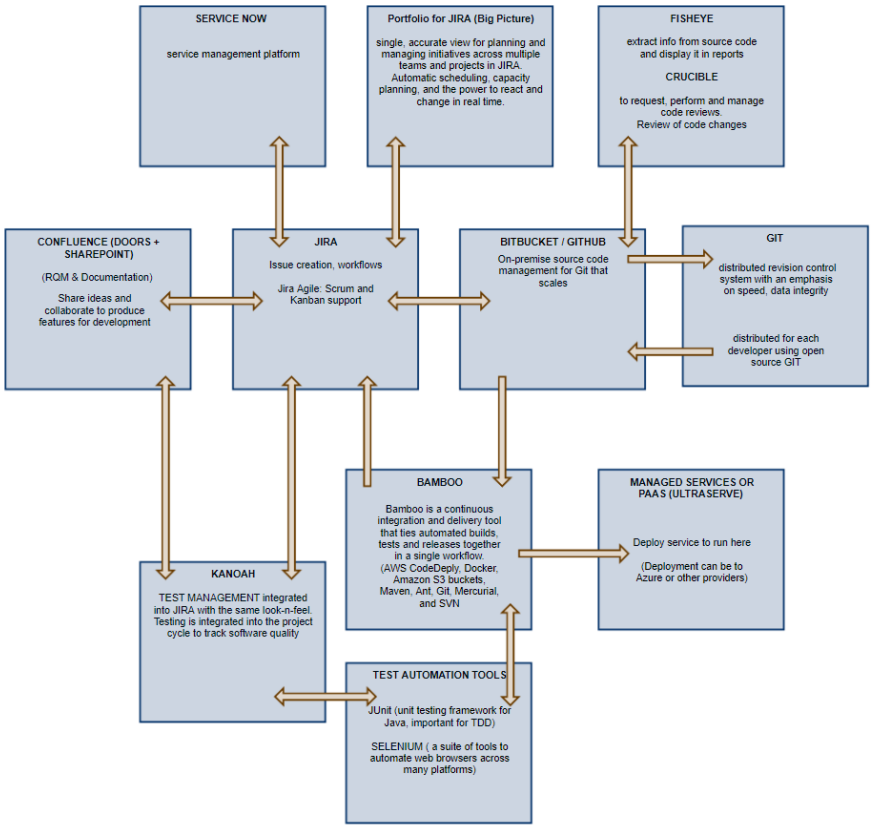
4.2 Cloud computing - IT tools utilization from Amway

4.2.1 Systems unification through digital tools

Amway is committed to implementing digital solutions that embrace the most exciting trends at the moment and prepare the company for the future. That is the reason why the company needed to unify its technological equipment, the systems and platforms that were used, so as to accelerate procedures and deliver high level services to all its stakeholders. As the company is operating in many markets around the world, Amway and its subsidiary companies have been present in different places, so employees at one place used to perform their tasks as their counterparts in different locations with different systems and tools. This inconsistency, causing many troubles and affecting the corporation’s operations, was eliminated when the company decided to standardize its systems in a single platform. The specific tools appeared very reliable and immensely functional providing openness towards innovative and unconventional solutions during the implementation.

Figure 4.4

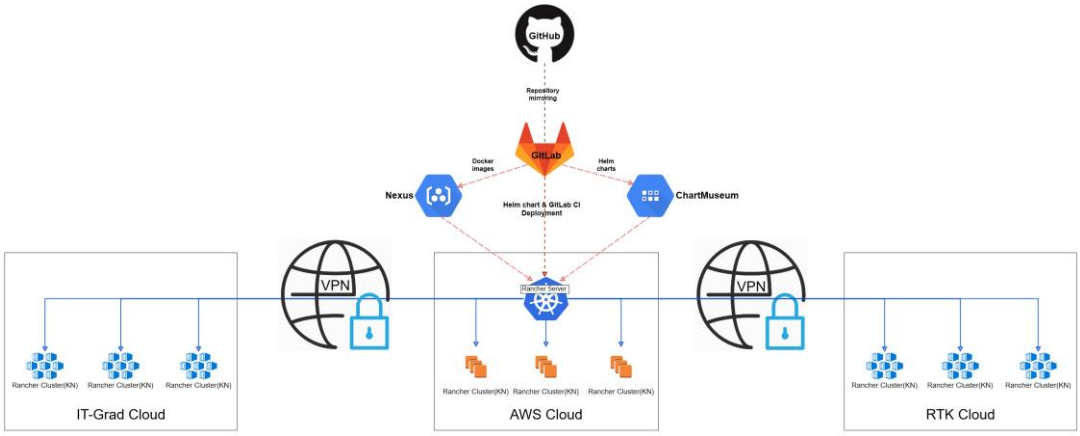
Systems Unification example



Jira, a platform used for bug tracking, issue tracking, and project management, offered a unification of the whole platform and all the systems involved through setting up new instance and interconnecting it with existing instances of various systems. For the unification of data repositories which was the next step, the entire repository was transferred and stored in Confluence system. Confluence Cloud is a collaboration tool bringing information, files, applications and many other assets together in a shared workspace. As a matter of fact, this process offered a database that was common and easy to access and as a result it could be easily utilized simultaneously by both the company employees and the selected collaborators as well. The rest of the applications deployment and platforms integration were then easily unified through the whole standardized system (Figure 4.4), facilitating the procedures and needs of various departments with cross functional collaboration.

Figure 4.5

Application deployment structure example



4.2.2 Cloud computing for Amway business

In order to provide a more spherical approach about the interconnection among Cloud computing and the opportunities and issues that arise from such an implementation in a corporate environment, a SWOT analysis follows:

Table 4.1

SWAT Analysis of Cloud implementation

STRENGTHS	**WEAKNESSES**
• Establish and strengthen partnerships with preferred Cloud providers for IaaS and PaaS • Improve visibility into costs • Manage Cloud resource utilization and right size Cloud deployments • Higher connectivity to data centers	• No defined roles and responsibilities or governance to guide IT projects • Missed opportunities before implementation to provide business value to Amway through Cloud • Proceed to effective assessment whether IT solution is unique or a commodity
OPPORTUNITIES	**THREATS**
• Create processes to maximize business value for running applications in the Cloud • Incorporate Cloud roles and responsibilities into IT Disciplines • Enhance project delivery and operational efficiencies • Achieve short and long term goals of IT solutions	• Uncertainty whether currently used Cloud services and the offered capabilities are the best available option • Solutions security and business satisfaction • Increasing risk to project execution and budget planning • Meet network, server and storage requirements

STRENGTHS

By implementing Cloud computing to facilitate in total its operations, the company has achieved to establish strong partnerships with the most suitable providers for Cloud services according to the needs of different departments. Proceeding to the choice of a modern solution that can provide flexibility as well as close monitoring of the procedures

is the key to a successful implementation. Moreover, an extensive planning regarding the proper utilization of Cloud resources and tools, while choosing the right size of Cloud deployments can without doubt be a strong asset for the corporation. The specific implementation has evoked Amway to improve monitoring of costs not only for IT, but also for the rest of the departments. At the same time, as Cloud computing is present and interacts with the IT systems supporting data flow, the goal of higher connectivity and exchange of data and information across various departments of Amway is achieved.

WEAKNESSES

Along with the benefits arousing with the Cloud service implementation for Amway, some weaknesses could not be avoided, and seem reasonable considering the significant changes that should take place in order to adapt to a fast growing digital environment. Some issues arose from the specific digitalization of procedures as the company especially during its first steps towards that direction did not possess neither the knowledge nor the experience to define roles and responsibilities in order to guide shortly and with confidence IT projects while applying Cloud service. Moreover, it seems the company used to face considerable issues about the efficient assessment if the specific IT solution is unique or a Cloud commodity, something that could have significant impact on the cost and across the procedures. Moreover, it seems that Amway needed a lot of time to decide to proceed to an advanced Cloud service approach and according to some higher members of the hierarchy of the enterprise this resulted in missing opportunities to add value to the business.

OPPORTUNITIES

The implementation of modern IT tools can easily lead to a horizon of opportunities as long as the process is being developed successfully. In the case of Amway, the challenge to incorporate Cloud roles and responsibilities into the disciplines of IT framework was elaborated with sobriety and the management of the company was very subtle during the specific procedure in order to avoid any unpleasant outcome. Furthermore, it appeared as a considerable opportunity to enhance the delivery of the project and increase the efficiency of the operations showing that Amway could cope with such a demanding project securing the benefits for long term sustainability and increasing specialization of the teams throughout various procedures. This also allowed to meet the targets of

applying modern IT solutions, a significant challenge from time to time and create processes to maximize business value while utilizing Cloud technology to deliver applications to the audience.

THREATS

It is considered that projects of high importance, like Cloud service implementation, may bring on the surface some threats and unpleasant outcome. A reasonable concern is whether the company has proceeded to the best available solution or not, as there are plenty of options in the market. Moreover, proper customization of the components of the IT tool and optimization of the procedure and the offered capabilities constitutes and issue as well as meeting the network and storage requirements can always appear as a threat, although largest providers like Amazon offer solutions that almost never fail to meet these qualifications. Another threat for Amway could be some part of the project execution to perform lower than expected or be retarded while delivering results, especially during the first steps of the implementation. At the end, budget planning for such projects can sometimes not be very accurate as the specific solutions need a lot of resources due to the size and the needs of a company like Amway, resulting in options of significantly increased cost.

4.2.3 Transition to Hybris Cloud

In 2013, Amway decided to move forward and proceed to the most important project in terms of its technological capabilities and the service quality it offers to its customers and distributors by selecting Hybris platform for e-commerce. For the company it appeared as a critical factor to implement a new online system not only to handle more users through a completely modern, accessible and friendly environment, but also to deliver new and enhanced functionalities, allowing flexible modifications and keeping pace with a constantly changing industry. Placing orders, operating business and attracting customers has never been easier for ABOs, as they now possess a brand new technological tool with many smart applications and opportunities to take advantage of.

SAP Hybris is a specific product that is mainly used to enrolling customers on an e-commerce website and at the same time creates dynamic profiles and delivers excellent shopping experience, raising brand loyalty. Through the platform, purchasing history, in-

moment context and predictive analytics regarding customers' behavior can be visible, while specific services tend to provide valuable information for the corporation and its distributors:

- Segmentation
- Planning
- Recommendation
- Data Management
- Insights
- Loyalty
- Convert
- Acquisition
- Orchestration

SAP Hybris cloud focuses on management of customer experience and execution across different channels and it constitutes an Omni channel e-commerce solution with both storefront and backend services meeting the needs of:

- Commerce
- Marketing
- Revenue (Billing)
- Sales
- Services
- Hybris as a Service (YaaS)

Commerce

The major role of the platform is to provide a consistent solution for e-commerce using every possible channel. More specifically, it includes components for different types of collaboration like business to business and business-to-consumer commerce, product content and management, merchandising and omni-channel fulfillment to increase brand equity and platform experience.

Marketing

With Hybris, analyzing consumers' behavior and emphasizing on their buying behavior and needs has never been easier, while promotion of products and utilization of marketing tools can be very effective.

Revenue (Billing)

Backend solutions that are connected to frontend interface provide the capability to interact with various partner ecosystems, selling products and distributing appropriately revenues. Order management, Responsive quality control, Consolidated billing, Invoicing, Customer financial management and Revenue in Cloud are just some of many opportunities appearing with this platform.

Sales

In the sales department, information about customers through Hybris can be instantly transferred from back to front end, allowing experts to understand about consumers' approach and also how to target specific customers or market segments. Some of the services facilitating this issue are Sales performance management, Retail execution and Sales force automation.

Service

In terms of direct and indirect service to its distributors and customers, the platform provides excellent experience in a modern digital environment, enabling brand engagement through suitable channels, while Proactive field service, Omni channel Call center and Comprehensive self-service are brought on the surface adding value to the whole servicing process.

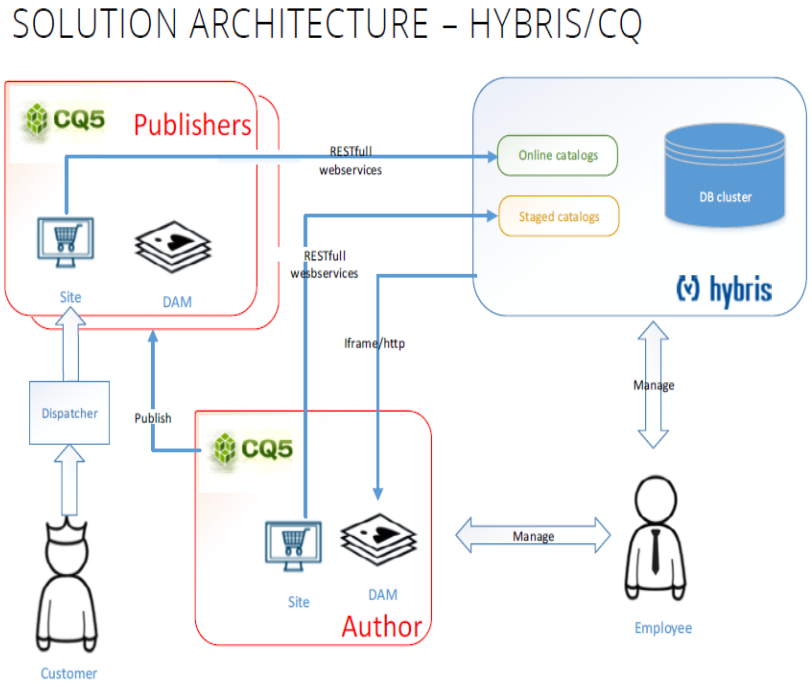
4.2.4 Hybris as a Service (YaaS)

YaaS has been introduced as a platform for Microservices. It is the set of small, isolated applications, each handling a single task. One of the most interesting and critical micro services ecosystem that offers the opportunity to develop regular or customized applications through the platform and permitting the enterprise to adapt existing services

and enhance customers' experience from a higher level. With the evolving digital transformation, the expectations and imaginations of software are increasingly changing from an architecture of monolithic solutions to an architecture of many small, isolated and modular applications, each fulfilling a single task, but forming a complete solution in the end (Figure 4.6).

Figure 4.6

Hybris Architecture



4.2.5 Issues of Cloud

As mentioned above, Cloud computing can really add significant value in the procedures of a corporation especially if the implementation is fulfilled properly and the customization takes place taking under consideration the needs and specifications of various departments. In the last few years Amway has made many steps ahead, making efforts to digitalize the processes and familiarize its employees as well as its customers with modern content and equipment, while investing considerable amount of resources in overpassing obstacles and threat in order not only to be competitive, but a pioneer of the industry as well. Deploying new applications to facilitate its customers and distributors and implementing and unifying the systems and platforms corporation has been a key

factor to increase brand loyalty and penetrate in new market segments. Hybris platform, through Cloud service, constitutes the latest asset of the company, while trying to develop modern and innovative solutions so as to accelerate the transition to the new e-commerce era. The platform, in the last couple of years, has been successfully implemented in some countries, while in others the project is still running as challenges are constantly arising. The main focus of the company is now on assessing the situation and evaluating the methods that are followed, applied tools and their effects on the procedures. Analysis of data collected concerning the IT tools that were applied and their correlation with Cloud computing, as well as KPIs can provide significant information about the effects of digital implementation and standardization on business objectives.

CHPATER FIVE: CONCLUSIONS

5.1 Findings

In this chapter, the findings of the research will be presented and analyzed so as to meet the objectives of the dissertation, mentioned in Chapter One. In the first part of this chapter, so as to obtain information about the subject of the research, the analyzed results of semi-structured interviews with three appropriate managers (Digital services Manager, Infrastructure solutions Manager and the Managing Director of Business center) are included. More specifically, they provide essential information about the company's approach through IT tools implementation, the assessment of modification in IT systems and applications across various departments and the impact on the company from the digitalization of the procedures. In the second part, two specific strategic documents are presented with KPIs metrics, concerning the results from Hybris implementation in 2018.

5.2 Cloud computing and business issues

Mr. Myszka, the Manager on infrastructure solutions design for Amway Europe-India-South Africa (EIA), who was interviewed on the 25th of February 2019, regarding Cloud computing and business issues arising from its implementation in a corporate environment, provided some very interesting aspects with significant amount of information (Questions 1-6, Appendix 1, p. 86). About the characteristics of Cloud service models and its efficiency compared to other IT infrastructure tools, Mr. Myszka stated that there are few characteristics which can be mentioned like on-demand resources availability (resources are almost always there ready to cover particular needs), self-service (which allows to request and manage resources by your own) to cost transparency, when there is exactly the knowledge on how much you need to pay for particular part of Cloud. He also mentioned that delivery is much faster compared to traditional Infrastructure and on top of that, he placed multitenancy, which allows to host multiple groups of workloads separately and independently and elastic scaling (on-demand) to satisfy the fast growth.

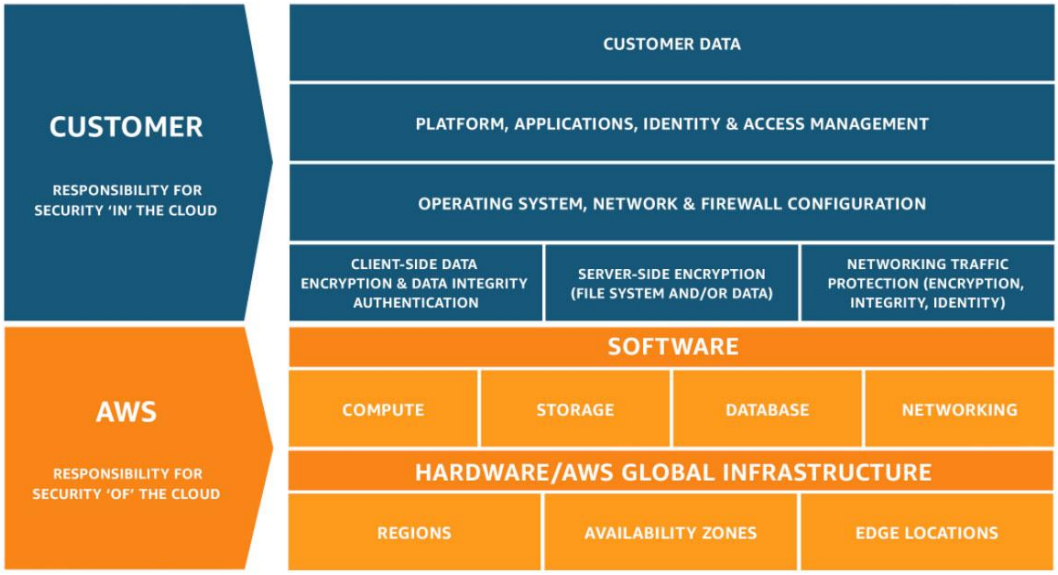
Then, Mr. Myszka referred to the elements included in an industry process so as the execution of IT planning is considered successful, that the goal is currently to provide

deliverables on time, without any delays as per market/demand requests. He also stated that in order to make that happen, a proper governance of cost, delivery and resourcing constitute a necessity, because otherwise failure with one or all of these factors will inevitably come. About the cloud solutions that have aimed at achieving suitable functionality at the application level for the industry where the company operates, Mr. Myszka claimed that “out of the box” functionalities or characteristics from cloud providers are not delivered for direct selling corporations. However he stated that cloud can offer a variety of tools to use, to speed up the delivery time of digital transformation and availability. He added then that more and more services are developed by cloud vendors to speed-up growth of any business, interested in advanced IT solutions.

Concerning the issues or threats for data security that may arise due to Cloud service as the company deals with so many challenging projects, Mr. Myszka pinpointed that it is critical to understand roles and responsibilities of Cloud provider in contrast with the IT framework and rules each company has set, as this may lead to some unpleasant situations or even some outage. He also added that cloud computing is as secure as the protection that someone pays attention to and refereed as an example AWS Shared Responsibility model that can bring a quite good overview of who is responsible for what in the Cloud. According to this model, Security and Compliance is a shared responsibility between AWS and the customer. This shared model can help relieve customer’s operational burden as AWS operates, manages and controls the components from the host operating system and virtualization layer down to the physical security of the facilities in which the service operates. The customer assumes responsibility and management of the guest operating system (including updates and security patches), other associated application software as well as the configuration of the AWS provided security group firewall. Customers should carefully consider the services they choose as their responsibilities vary depending on the services used, the integration of those services into their IT environment, and applicable laws and regulations. The nature of this shared responsibility also provides the flexibility and customer control that permits the deployment. As shown in the Figure 5.1 below, this differentiation of responsibility is commonly referred to as Security “of” the Cloud versus Security “in” the Cloud.

Figure 5.1

Shared Responsibility Model



(source: AWS © 2019, Amazon Web Services, Inc. or its affiliates)

Then, Mr. Myszka expressed his opinion on whether Cloud computing can lower IT barriers to innovation while increasing reliability of applications and interoperability of information, mentioning that it is a fact already happening. He also claimed that Cloud has already lowered IT barriers and reduced time-to-market at the same time, while Cloud vendors are instantly looking for innovations to facilitate their customers' needs. Moreover, Mr. Myszka stated "Go Cloud - Cloud First" concerning the emphasis Amway places on Cloud computing as a key role for IT planning. He mentioned that the characteristics, provided by Cloud, deliver a powerful tool to make company procedures transform digitally and innovatively. He also added that it may help to reduce capital expenses, as almost all Cloud payments are operational expenses and often, depending on the circumstances, it is a strong fit to the general strategy of corporations.

5.3 Strategy and Perspectives of modern IT tools based on Cloud service

Mr. Surma, the digital services Manager for Amway Europe-India-South Africa (EIA), interviewed on 2nd of March 2019, regarding the digital strategy based on modern IT tools and Cloud service, provided an in detail description on how IT solutions affect corporate horizon in terms of strategy and planning, emphasizing on the perspectives of

the project for the digitalization of processes (Questions 7-12, Appendix 1, p. 87). Concerning the point that Amway is currently using more than 80 IT systems and platform functioning with Cloud technology, Mr. Surma alleged that the company is still under the process of learning on how to combine a variety of Cloud platforms and offers. He also added that there has been noted significant progress towards that direction by providing cost transparency and required targets of time to meet among different departments. Concerning the investments and efforts on behalf of the company to transit to advanced digitalization and if significant changes in terms of accuracy, consistency, pace and efficiency across different operations have been noticed by digital service team, Mr. Surma claimed that changes are visible in almost all areas. It seems that resources are provided more quickly, IT operations have been adjusted to follow-up on new technologies and costs are moving constantly from capital expenses (CAPEX) to operational expenses (OPEX). He also pinpointed that Amway is much more open to new technologies than five to seven years ago and this is highly related to modern solutions (like Cloud) being used, as these solutions are "made on purpose" and very isolated with an example of micro-services (executing only the necessary actions).

When the question was posed about the direction of the company to the digitalization of the procedures and if that could be assessed as a value for money project considering the increasing cost of modern IT tools, Mr. Surma not only approved but also supported the decision from the enterprise for this transformation mentioning that the process of digitalization can help not only short-term but mostly long-term to reduce expenses, optimize business results and increase revenue. However, he pinpointed that it needs to be very properly planned and implemented, as the margin between good and bad implementation is very short and it all really depends on the process, the implementation and tools application costs and it is connected to the predefined expectations. Then, Mr Surma commented on the feedback that was received about the digital applications and IT tools Amway recently launched as part of a big strategic project, that there are some new mobile applications that have been (Artistry Vitrual Beauty app, Amway Mobile app, Atmosphere Sky app) or will be launched in the very near future (Smart Cooker) and added that very close cooperation with ABOs takes place during the analysis, requirements collecting and development of the applications that pays off with some very interesting results, after the applications go live.

Mr. Surma was also asked about his opinion on the new Hybris platform using as main infrastructure cloud computing and if he considers it will increase brand equity while establishing the project across different departments and which the operational challenges the company may face could be. He considers Hybris to be an eCommerce platform and the key is about its implementation, while Amway targets to achieve more in all business aspects through the execution of this new Commerce platform. He also stated that according to his experience, each change in selling area brings increasing challenges related mostly to daily operations and customers' interactions during the first phase of implementation. He highlighted that it is a natural trend which is always taken into consideration, as companies are aiming at quickly reducing both operations and interactions within their systems compared to previous tools in order to enable new upcoming changes making implementation even more efficient.

5.4 Cloud and IT tools contribution to project escalation and digital advancement

Mr. Karpinski, the Managing director of Amway Business Center Europe that delivers broad variety of services: Finance including Treasury, Analytics and Planning, Marketing Communications and Digital, IT including Project Management and Integrations, Customer Service and Human Resources, was interviewed on the 10th of March 2019. He provided a more general approach on the contribution of new IT projects in digitalization of services and focused on Hybris implementation indicating its role and the extended period of its completion (Questions 8, 9, 11 and 12, Appendix 1, p. 87). More specifically he stated that changes have been constantly noticed about accuracy, consistency, pace and efficiency across different operations for the company due to the investments on digitalization. He also considers the specific direction of the company as "a necessity to move forward", highlighting the increasing importance of digital meaning for the industry and encourages investing into digital literacy, agile processes and analytics. He claims that "time will tell how efficient the execution of this strategy will be". However, he is optimistic that the digital team along with IT specialists and participants from other departments will show implausible commitment to the fruitful implementation of the project.

Additionally to this idea, Mr. Karpinski highlighted that digital teams have very good resources, expertise and willingness to go beyond the current status quo. He also thinks that it will take some time before the company as a whole organization will adapt to the new pace and approach, where digital needs of ABOs and Customers are managed to the level of comparable with some of the best competitors in the market. About Hybris execution, Mr. Karpinski approach was temperate mentioning that the Implementation of Hybris is far away from being considered as done. He also added that the company is now focusing on improving the solution (mainly performance and usability) in order to prepare the foundation for the upcoming European launches, apart from Scandinavian markets where the platform has been implemented, as well as, Russia and India which are already live. Mr. Karpinski stated that some challenges, apart from the technical ones mentioned before, are also readiness of organization structure to handle such complex program and clear roles and responsibilities. In the end, he stated that a lot of attention to all stages and aspects of the project need to be paid to, as deficient deployed solution may have vast cost, like damage on the reputation of the organization. In that case, there have been companies that decided to stop (or even cancel) the implementation of new platforms due to uncertainty of results compared to the expectations from them.

The example of Hertz case with a new platform of e-Commerce they intended on launching and so hired Accenture for the project, resulted in significant damage for the Car rental company and a lawsuit against Accenture. What happened is that Hertz Corporation hired management consultancy firm Accenture in August 2016 to completely revamp its online presence. The new site was due to go live in December 2017. But a failure to get on top of things led to a delay until January 2018, and then a second delay until April 2018 which was then also missed. As Hertz endured the delays, they found out that it was a product and design that apparently didn't do even the half of what it was specified and it still wasn't finished. The claim was that Accenture didn't incorporate a responsive design, in which webpages automatically resize to accommodate the visitor's screen size whether they are using a phone, tablet, desktop, or a laptop. That has been standard website practice for years and it was even included in the contract that was signed, but Accenture decided that only desktop and mobile versions were needed and when the tablet version was asked from Herz, Accenture demanded hundreds of thousands of dollars in additional fees to deliver the promised medium-sized layout. Another claim was that the specifications called for a common core of libraries to be "a

fundamental principle of the design" so that the company could share information and structures across all its companies' websites and apps, which were completely ignored by Accenture. Last but not least, Hertz considers that Accenture decided to use Adobe's AEM analytics but they didn't follow its archetype in either the coding or the file structure, which made the application unreliable and difficult to maintain, as well as making future updates challenging and inefficient. To sum up, Accenture told Hertz it would cost an additional $10m – on top of the $32m it had already been paid – to finish the project and so a lawsuit from Hertz against Accenture was filed (McCarthy Kieren, 2019). Taking all the above into consideration, it seems that proper implementation of a platform can have tremendous impact on business processes and strategy, with the example of Hertz to be very useful for companies with similar plans, on how to approach and manage such a significant project when every single detail really matters.

5.5 KPIs on Hybris implementation

In the second part of the findings, two strategic documents from the company will be presented, including KPI analytics concerning the deployment of Hybris e-Commerce platform in 2018. Both documents include the metrics after the implementation of Hybris e-Commerce platform in four Scandinavian markets: Denmark, Finland, Norway and Sweden. The first document (Appendix 2, p. 88-92), refers to KPIs for February 2018, the first month of Hybris official launch in Scandinavian markets. There is noted an average stakeholder satisfaction of 5.4 (out of 10). It seems that this mark is mainly caused by some incidents and heavy workload occurred after launching the platform. In the first period, the workload in Contact center was doubled and some production system incidents had impact on the ABOs. Areas of improvement that were mentioned, include end-to-end user acceptance testing prior to the launch. Given resolution of technical challenges, the interviewees see the potential in the new Hybris platform. Some challenges for the first period of the launch were:

- ABOs struggled with completing Connect ID registration.
- Performance and user experience issues with new LOS (Line of Sponsorship) map
- Limited capabilities for Customer module daily operations without additional workload

- Time to provide solutions to critical issues should be improved
- Not positive perception due to insufficient readiness of interactive session with ABOs.
- Limited ABO involvement in requirement gathering

Some recommendations about better interaction with ABOs:

- ConnectID (automatic process to login in/get digital identity to Hybris and through that to all available platforms and applications) instructions to be shared with ABOs much in advance or even the ConnectID accounts created before the launch for the ABOs
- More training on the solution to allow users to familiarize with the system
- End-to-end business processes to be tested more deeply to ensure that all of the system integrations work as expected (like Hybris and Oracle)
- Having the same support experts after the launch as during Trainings (like return process)

In terms of digital adoption, there has been noted a positive feedback during the first period with good rates at individual order completion that was increased by +3% comparing to the same month in 2017 and the trend is for improvement after initial challenges with Connect ID. There was mentioned that 89% of individual users who started it, also completed the process during the month, with +7% considering the numbers in February 2017. From the observation of the ABO Registration process we can see completion of the started process decline by - 4% comparing to the same period in 2017. That is because many of the clients try to understand the online process differentiation and get familiar with it. It was also observed that an untypical high number of customers have started the registration process however, as the site is new, some registrations may have been only started for demonstrational purposes though. The ConnectID completion rate was at 85% and the new signup process aroused questions while completing at a relatively high rate. Here it should be highlighted that there were significant challenges for the users to complete the ConnectID creation process and thereby link existing ABO accounts to the new global digital identity. Moreover, when it comes to solution performance, the stability of the system was impacted by issues after going live counting an average number of 4.9 days per ticket to resolve and only 33% of

total tickets were resolved as backlog of the open incidents was growing daily, the resolution velocity was not enough to balance the number of new logged tickets, while critical items impacting the business services were resolved as a first priority. Some issues were:

- Unplanned outage for Amway Denmark due to infrastructure issues where the storefront stopped serving content
- Connect ID outage impacted ABO login for all 4 markets
- LOS (Line of Sponsorship) reverted back from global to the previous regional solution
- Price promotion incorrect setup for the newly launched items
- Backoffice order entry due to wrong ABO information shown in ASM (Assisted Service Module)
- Missing PV/BV (bonus points according to orders for awards and rewards for customers) display on bundles in Storefront

At the same time, the sales performance recorded a slight growth on PV points and revenues base, showing that registration and contribution rate need to be improved. So, the ABO contribution rate decreased comparing to the same month in 2017, however online sales were raised by 10% and the average order value was increased by 5% compared to last year's February performance. Concerning engagement with the platform the metrics showed that the time customers spent on site increased by 35%-45%, with the most possible reason to be that users explored the website and its content, increased usage by 5% to 59% for laptop users while the same rate for mobile users was 34%, but tablet users were decreased by 5% to 11%, all compared to the same month in 2018. In general, the traffic was increased by 2.5% showing the higher usability of the new system with overall search behaviour to appear as normal but with good potentials because of the new platform.

Considering the assessment of Hybris for the Scandinavian markets after eight months (Appendix 2, p. 93-95) - in October 2018 - it seems that the process for stabilization of the markets is progressing with some much better results compared to the previous months when the platform was still in the beginning of its launch. For stakeholders' satisfaction the score is 8.5 (out of 10) showing that the target of 7 for this

month had been achieved. The calls volume has dropped compared to the level as before the launch. However it was increased compared to the significant drop from the last month and very positive feedback was received on the smooth launch of new product promotions. The score indicates good stakeholders' feedback providing positive interactions with ABOs. There are areas of improvement that are mentioned, including some technical challenges especially with Finance department, although the advancement seems significant in comparison with the first trimester of the year and the interviewees highlighted the dynamic correlation between Hybris platform and the digital procedures. There are still some challenges in order to achieve even higher levels of satisfaction. Some of the key challenges after this month are:

- ABOs unable to login to the website for 1hr
- Performance challenges with My Office
- ABOs unable to complete the order – being stuck in the confirmation page – 15 mins
- During guest check out the connect id screen related with ABO migration was appearing
- Slow loading time of My Office
- Norwegian ABOs not able to create a list of their groups
- Manual workaround needed for the order reconciliation
- Order payment process impacted by the credit card issue
- Login challenges on Amway Finland website
- May & June invoices not available for download at Storefront as well as Backoffice

Regarding digital adoption, the situation looks stabilized and increased at some rates in October, as it can be monitored in second KPIs document (Appendix 2, p. 93-95), and the impact of Hybris starts being obvious, as the order completion was 80%, higher than the prior month (65%) and decreased from last year monthly benchmark of 84%. Registration completion was 42%, considerably above the 2017 values of 32% for ABOs and shows a raising monthly trend with 17% for Customers for October period. AmwayID completion rate has dropped from 73% (September) to 63% revealing some new technical and counseling challenges for customers' registration. Furthermore, the mobile traffic share was increased at a rate of 37% (+7% from September) and as a result

it was slightly above last year average (33%) showing that traffic is still growing but slowly helped by the new platform. Improvements have also been noticed in solutions performance, with considerable number of tickets resolved within SLE (46% in October) and very high rate of tickets resolved at 95%, while working on closure on long-term incidents and having Hybris code hot-fix planned in early November. To sum up, it looks like the new platform, after being launched at the beginning of 2018 provides very good results after 8 months for Scandinavian markets. However there are some issues to be fixed and implementation proceeds smoothly while ABOs and customers need further guidance in order to explore more efficiently this e-Commerce platform.

5.6 Discussion and Conclusions

By analyzing the results of the case study of Amway Corporation, useful information could be extracted regarding the implementation of Cloud based systems and platforms from Amway, as well as the plans of other corporations to deploy similar technology. From the interviews, the key points that are highlighted are related to time, cost, resources and specialization. More specifically, it is pinpointed that delivery of the project and different smaller tasks on time is essential, otherwise many more resources are used with significant cost for the company. It is also noted that the company has made a transition last 5-7 years to advanced digital tools with a significant progress of the operations to be visible and the cost of IT function was transferred from capital to operational expenses. Furthermore, all participants in the interviews made special claim of proper implementation, as the deployment of a new e-Commerce platform like Hybris could have some instant effect on the interaction with customers. Thus, it is noted that the workload of operations and inquiries from customers will inevitably increase while company will make efforts to reduce both interactions and operations and enable new modifications on IT services facilitating their efficiency. That is how it will add more value to the services offered to its customers and accelerate the implementation of the procedures.

The KPIs documents from the company displayed a considerable difference and effect on business processes and interactions after the implementation of Hybris platform in four Scandinavian markets. The first feedback was average, 5.4 out of 10, with stakeholders to evaluate with skepticism how to use the new platform, as some technical

and operational incidents arose, however there was noted some optimism about the potentials of the new platform among them. In order to overcome these primary obstacles the company proceeded to sharing more information about platform features and familiarize them with the system through constant support. The digital adoption was also very positive in the beginning with number of registrations in the new platform to be completed at high rates and completion of order to note a 3% increase comparing to previous IT solution one year ago. Moreover, very challenging was the stability of system performance with registering of issues and incidents to be raised while resolution remained imbalanced. The new platform was appealing to customers making them spend much more time online and so sales numbers increased. The second document presenting the corresponding metrics after eight months from the implementation of Hybris were very representative clearly demonstrating the positive impact of the platform. Stakeholders assessed their interactions with Amway through Hybris with high grade, 8.5 out of 10, even higher that was estimated from the corporation for that period, following a considerable decrease on calls from customers regarding complaints and inquiries, although some technical challenges with Finance processes, orders and registrations in specific markets for a certain period still appeared. Order completion and successful registration noted also high rates with engagement and traffic through the platform to continue growing, while faster response on customers' incidents and so higher SLA was achieved. These feedback after only 8 months from the implementation of the platform is undoubtedly positive and shows the real prospects of the Cloud based tool.

During this study, it seems the enterprise achieved considerable benefits for its IT strategic planning through Cloud computing and made significant steps towards the digitalization of procedures, as well as the services it offers to its stakeholders. As a matter of fact, this study was focused on highlighting the benefits and opportunities deriving from the deployment of a modern platform like Hybris, using Cloud as one of its major components, on Amway Corporation IT planning as an advanced e-Commerce solution. It was also attempted through that project to demonstrate the threats and barriers that could come as a result from that implementation based on the literature provided in the corresponding chapter. The service model used during this implementation was Hybris as a Service, offering the opportunity to develop regular or customized applications through the platform and permitting the enterprise to adapt existing services and enhance customers' experience from a higher level. Furthermore, through that study

it was highlighted a considerable amount of benefits when a company attempts to transform its processes emphasizing on the proper implementation of modern digital tools and proceeding to significant changes in terms of accuracy, consistency, pace and efficiency across various operations. Major Cloud service features like rapid elasticity, resource pooling and broad network access can have a direct impact on an industry that aims to reduce operational costs and increase digital solutions through technological innovations. However, much attention should be paid on the challenges and barriers that may arise from this deployment as security of the systems should be provided not only from the provider, but from the company utilizing Cloud as well. Reliability of the provider of the technology could also pose a threat as this study described. Last but not least, interoperability with standardization of the procedures could also be an issue with IT departments to play a very important role during services implementation when they develop applications and further technical changes on systems so as to cover efficiently stakeholders' needs.

5.7 Limitations

The limitations of the specific research are mainly explained from the fact that the research took place in Amway Corporation. The first limitation is derived from the fact that Amway is a multinational corporation, with appearance in more than 100 countries and territories, with total control of the supply chain and also using its own logistics operations. So, it is not a research that was held in a small/medium enterprise that form the majority of corporations in most economies. However, as smaller companies try to adopt bigger players' methods and strategies, this study could also incorporate a suitable guide for smaller companies as well, when they try to use modern IT tools as a vehicle through their planning for development. The fact that this research includes the study of just one company forms also a limitation, meaning that the sample doesn't provide elements from many units that would make the research broader and more subjective. The study took place concerning a specific enterprise, Amway Corporation, because the writer is an employee of the company, so the collection of necessary information and data could be easily achieved, in contrast with other companies. Another limitation forms the fact that the company could not provide more information in detail regarding other aspects of the procedures, as well as from other critical departments that were directly

affected by Hybris deployment as a new e-Commerce platform, due to confidentiality reasons. One last limitation from the KPIs mentioned, is that the company has only launched the platform in four markets around Europe with the rest to be still progressing in order to support them as efficiently as it can be before launch and avoid unpleasant situations and complaints.

5.8 Suggestions for future research

In this specific section, a few points regarding future study that could take place about the issue that has been handled along this research will be presented. As mentioned in the introduction, the implementation of modern IT tools like Cloud service, on behalf of big companies, major players in their industries, constitutes a very interesting and challenging approach concerning the development of processes across various departments and the differentiation of sustainability solutions.

For future and further research about this topic, it is suggested to investigate the implementation of Cloud based systems and platforms in other big companies, underlining the effects and challenges they may face during the deployment of applications. This study could also constitute a special tool for deeper investigation on how modern IT service models like Cloud, could facilitate procedures of organizations and provide an alternative approach to different methods and tactics regarding the advantages, benefits, challenges, barriers and issues that may arise from these implementations. Furthermore, the trends of the market should be taken into serious consideration, while proceeding to actions during various demanding procedures. This is the key to proper design, beneficial organizing and sustainable executing with a long term horizon, as the size of these enterprises demands considerable time and resources for significant projects. The study of different IT efforts from smaller enterprises can also form a very interesting topic regarding the effects of IT applications on business environment with different needs and targets

Moreover, it is highly recommended to search further, as a company proceeds to cost, time and resources saving while implementing modern IT tools like Cloud. The examples should be studied, not only from successful but from unsuccessful IT implementations also, so as to monitor more closely other parts of business procedures through departments that could deliver useful opinions about this implementation. Such

parts could be the employees involved in the processes, the direct competitors' reactions and mostly consumers' recommendations, as they form the most determining factor about future corporate decisions. It is also suggested to new researchers to use more details and information from smaller companies as it could be possibly easier to provide data for research purpose and thus proceed to a deeper study regarding the effects of implementation of new technological services on specific corporate departments.

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Appendices

Appendix 1

Questions during interviews

Cloud computing and business issues

1. Which are the characteristics of Cloud service model enabling it as an efficient method of computing infrastructure compared to the rest of IT service tools?

2. Which elements do you think the processes of an industry include, so as the application of IT planning could be considered successful?

3. Do you consider that Cloud solutions have aimed at achieving suitable specific functionality at the application level for direct selling industry?

4. Do you believe that issues or threats concerning data security may arise due to Cloud service, while dealing with so many projects?

5. Do you agree with the claim that Cloud computing can lower IT barriers to innovation while increasing reliability of applications and interoperability of information?

6. How much emphasis is placed by the company on Cloud computing as a key role for IT planning and how could its possible importance be explained?

Strategy and Perspectives of modern IT tools based on Cloud service

7. The company is currently using more than 80 IT systems and platforms functioning with Cloud technology. How would you assess Cloud computing implementation from Amway, considering the needs of various departments?

8. It is indisputable that Amway has considerably invested and made efforts to move to an advanced digital era. Have you noticed significant changes in terms of accuracy, consistency, pace and efficiency across different operations?

9. What do you think about the direction of the company to the digitalization of the processes? Would you assess it as a value for money project according to your experience considering the increasing cost of modern IT tools?

10. Amway has recently launched some new digital apps and IT tools for its customers, as part of a major project (Brand Next). Have you received a positive feedback from these launches? Are there further plans to keep up on this track in the future?

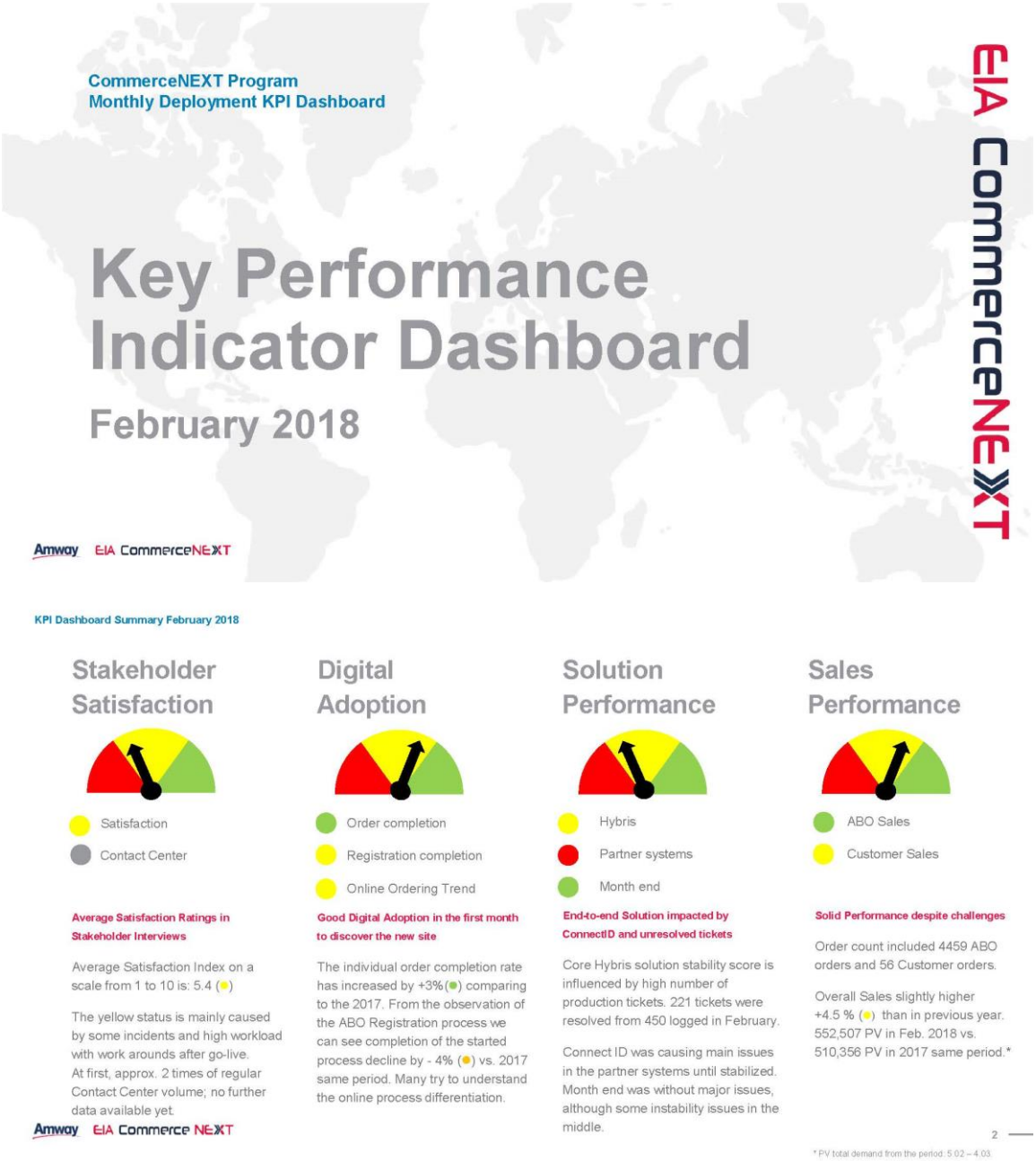
11. Do you consider that the new platform (Hybris) will increase brand equity while establishing the project across different departments? Which are the operational challenges the company may face?

12. How would you rate Amway's digital services towards its stakeholders compared to direct competition?

Appendix 2

KPI metrics

February 2018



KPI Dashboard: Stakeholder Satisfaction

Stakeholder Satisfaction Interview

Status

Overall satisfaction level: 5.4 (●) out of 10 for the Roll-in 1 markets for the February 2018 period. The yellow status is mainly caused by the some production system incidents with impact to the ABOs. Areas of improvement mentioned, include end-to-end user acceptance testing prior to go-live. Given resolution of technical challenges, the interviewees see the potential in the new Hybris platform.

Key Challenges

- ABOs struggled with completing Connect ID registration.
- Performance and user experience issues with new LOS (Line of Sponsorship) map
- Limited capabilities for Customer module daily operations without additional workload/workarounds.
- Critical issues solutioning time should be improved
- Not positive perception due to insufficient readiness of interactive session with ABOs. Limited ABO involvement in requirement gathering.

Key Recommendations

- ConnectID instruction to be shared with ABOs much in advance or even the ConnectID accounts created before the launch for the ABOs.
- More training on the solution to allow users to familiarize with the system
- End-to-end business processes to be tested more deeply to ensure that all of the system integrations work as expected (e.g. Hybris).
- Having the same support experts after the launch as during Trainings (e.g. return process).

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KPI Dashboard: Digital Adoption

Digital Adoption is improving after initial challenges with Connect ID

+3%

Ordering Completion Rate

Slightly more Orders were completed per Visitor

89% of individual users who started also completed the process during the month. In absolute numbers these are 3722 visitors starting and 3093 completing the ordering process. (multiple visits of the same visitor are excluded)

In the previous year's comparison these had been 82%

-4%

Registration Completion Rate

ABO and Customer still get familiar with new Registration Process

3053 ABOs and 1598 Customers have started the process. This is a untypical high number. As the site is new, some registrations may have been only started for demonstrational purposes though.

22% of ABOs and 21% of Customers have actually completed the registration process. The previous year's average had been 25%.

85%

Connect ID Completion Rate

The new Signup Process caused questions while completing at a relatively high rate

There were significant challenges for the users to complete the ConnectID creation process and thereby link existing ABO accounts to the new global digital identity.

From 7123 started processes 5909 where completed between Feb 5th and March 2nd.

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KPI Dashboard: System Stability

System Stability was impacted by issues after go-live

4.9 days

Average Ticket resolution time

33%

Tickets resolved

Backlog of the open incidents was growing daily, the resolution velocity was not enough to balance the number of new logged tickets

- February Critical incidents logged: 9
- February High incidents logged: 84
- Average resolution time: 4.9 days
- Average New : 33 tickets per business day
- Average Resolved: 8 per business day.

Examples of critical items impacting the business services were resolved as a first priority

- Unplanned outage for Amway Denmark due to infrastructure issues where the storefront stopped serving content.
- Connect ID outage impacted ABO login for all 4 markets.
- LOS (Line of Sponsorship) reverted back from global to the previous regional solution.
- Price promotion incorrect setup for the newly launched items.
- Backoffice order entry due to wrong ABO information shown in ASM (Assisted Service Module).
- Missing PV/BV display on bundles in Storefront.

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KPI Dashboard: Sales

Sales is slightly growing on PV and $ base Registration and contribution rate need improvement

-4%

ABO Contribution rate decreased

Compared to 2017 same month

+10%

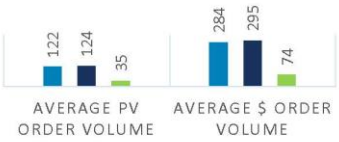
Online Sales vs. prev. year (PV)

Shift from Offline to Online Sales

+5%

Average Order Value increased

PV and $ compared to 2017



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ABO same month 2017 ABO current month 2018 Customer month 2018

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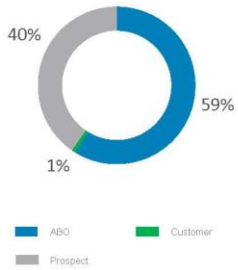
KPI Dashboard: Digital Adoption

ABOs spend more time on the new site to explore its features

Device Usage



ABO share of visits during this month was 26% lower while Prospect share of visits is 18% higher. Customer share of visits remained steady. Similar happened with the Page views.

Desktop/ Laptop

Increased usage by 5% to 59% compared to same month last year with 54%.

Mobile

Stable amount of usage with 34% compared to same month last year

Tablet

Decreased usage by 5% to 11% compared to same month last year with 16%

40%

Time spent per visit increased

Time spent on site increased by 35%-45%. Reason may be that the users explored the website and its content.

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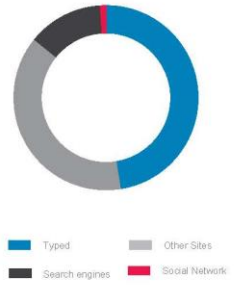
KPI Dashboard: Digital adoption

Overall Search Behavior is normal on new Website

Traffic Source



Visitors accessing the website via directly typed URL into browser, coming from other websites, search engines, or social networks.

URL Typed or Bookmarked

This is the usual way accessing the page which was changed this month due to GlobalAmway Link usage increase

Re-directed from other web sites

Untypical due to Global Amway site usage directing to Amway Online

Search engines

Stable usage with potential to increase

Social Network

Stable usage is low as this is not focused right now

+2.5%

Search button usage is stable

Slight increase in search usage shows us the usability of the new page

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How the colors are defined

Stakeholder Satisfaction

Monhtly 30 minute interview with key stakeholders within Amway during the first 10 days of a month

Scoring 1-10

- Green = 7-10
- Yellow = 5-7
- Red = 1-5

Personal Conversation that provides direct feedback on improvement areas

Digital Adoption

Comparison with 2017 performance

Comparison is taken to average of 2017 values or numbers of same month last year.

- Green = same or better than 2017
- Yellow = up to 10% decrease compared to 2017
- Red = more than 10% decrease compared to 2017

Adobe Analytics gives a real time information about the trends in site usage.

Actual measurement of online user behavior is influenced by factors like e.g. the (non) acceptance of cookies or which browser is used.

System Stability

Target 99% working system (market benchmark)

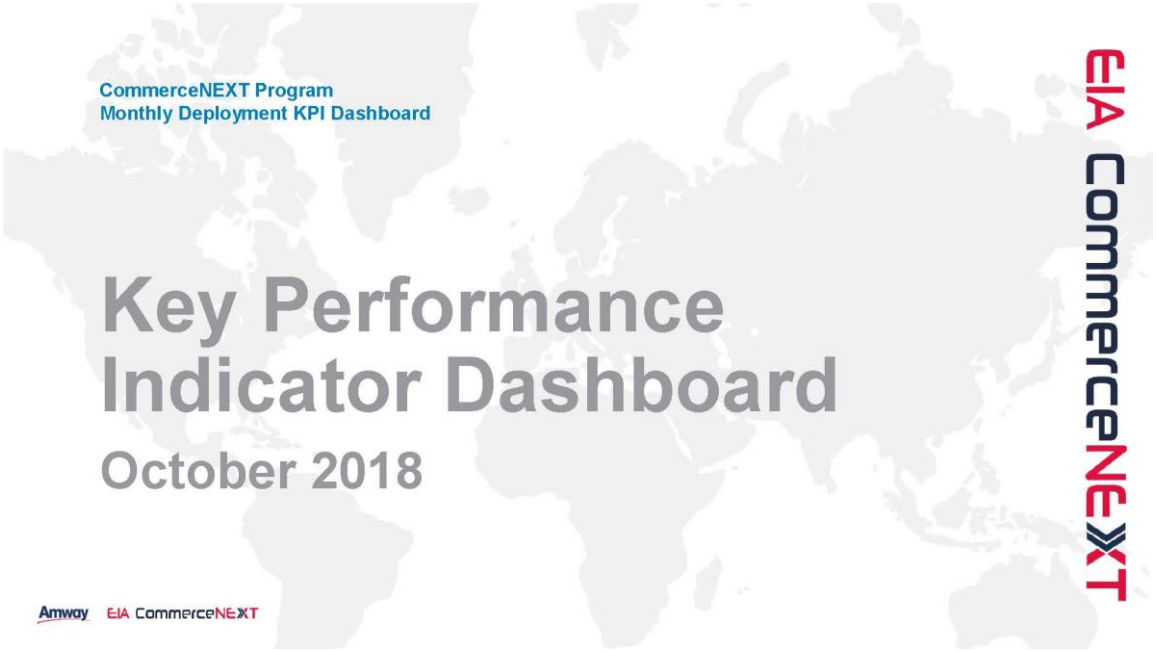
System stability goal is 100% where planned outages are not counted

- Green = 99% and above
- Yellow = 95% - 99%
- Red = below 95%

Ticket resolution goal is to have not more new tickets than can be solved at the same time

- Green = same or less new tickets than new ones
- Yellow = more than 10% higher number of new tickets compared to solved tickets
- Red = more than 20% higher number of new tickets compared to solved tickets

October 2018



KPI Dashboard Summary October 2018

Scandinavia markets stabilization is progressing

Area	KPI	Baseline/ Target	Actual	Rating	Status	Trend (vs prior month)
Satisfaction	Internal Satisfaction	7 (of 10)	8,5 (out of 10)	N/A	●	
	Contact Center Volume	1,347 (before Hybris)	1181 (10/2018)	-6%	●	↑
Digital	Order Completion	84% (10/2017)	80% (10/2018)	-14%	●	↓
	ABO Registration Completion	32% (average 2017)	42% (10/2018)	+10%	●	↑
	Amway ID Completion	95% (*global target 80%)	63%*(10/2018) *data for Oct 19-Nov 1	-32%	●	↓
	Mobile traffic share	33% (average 2017)	37% (10/2018)	+2%	●	=
Solution	Hybris System Availability	99.00%	99,7 % (10/2018)	-0,03%	●	↑
	Partner Systems New Tickets	74 (2/2018)	95 (10/2018)	+29%	●	↓
	Hybris System New Tickets	422 (2/2018)	147 (10/2018)	-66%	●	↓
	Month End Critical Issues -post deployment	0 0	0 0	0 0	●	↓
Registration	Registered ABO	714 (10/2017)	638 (10/2018)	-11%	●	↓
	Registered Customer	175 (9/2018)	208(10/2018)	+19%	●	↑

Stakeholder Satisfaction

There representative satisfaction score is 8.5 (●) showing that the target has been achieved . Call volume has dropped comparing to the level as before go-live, however increased comparing to the significant drop from the last month. Very positive feedback was received on the smooth launch of new product promotions.

Digital Adoption

October order completion with 80% is higher comparing to the prior month (65%) and decreased from last year monthly benchmark of 84%. Registration completion is with 42% above the 2017 values of 32% for ABOs and shows a raising monthly trend with 17% for Customers for October period. AmwayID completion rate has dropped from 73% (September) to 63%. Mobile traffic share increased at 37% (+7% from Sept.), slightly above last year's average (33%).

Solution Performance

Considerable number of tickets resolved within SLE (46% in October) while working on closure on long-term incidents and having Hybris code hot-fix planned in early November only. By the end of October, the backlog of the open incidents was 221 (compared to 202 in Sept.). October Month End was smooth with some delays in some details update.

ABO & Customer Registration

ABO Registrations decreased by 11% compared to 2017. Compared to the previous month, there is a slight increase (588 in September). Customer registration shows 19% increase compared to the previous month.

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KPI Dashboard: Stakeholder Satisfaction

Stakeholder Satisfaction

Status

Overall satisfaction level: 7.6 (●) out of 10 for the Roll-in 1 markets for October 2018 period. The green status mainly indicates good stakeholders' feedback provided by high positive on ABOs. Areas of improvement mentioned, include stil some technical challenges especially with Finance, although the advancement seems considerable comparing to the first trimester of the year and the interviewees highlighted the dynamic correlation between Hybris platform and the digital procedures. There are still a some challenges in order to achieve even higher levels of satisfaction.

Key Challenges

- ABOs unable to login to the website for 1hr
- Performance challenges with My Office
- ABOs unable to complete the order – being stuck in the confirmation page – 15 mins
- During guest check out the connect id screen related with ABO migration was appearing
- Slow loading time of My Office
- Norwegian ABOs not able to create a list of their groups
- Manual workaround needed for the order reconciliation
- Order payment process impacted by the credit card issue
- Login challenges on Amway Finland website
- May & June invoices not available for download at Storefront as well as Backoffice

KPI Dashboard: Digital Adoption
EIA Digital Transformation CommerceNEXT Program

Completion Rates stabilizes, except for Amway ID

80%

Ordering Completion Rate

Slight decrease compared to last year stabilized

After a start with 86% in February the rate dropped to 80% in October 2018. The monthly trend fluctuation is stabilized. Comparing to the same monthly measurement from the past year 2017 the rate shows a decrease of 6%.

42%

ABO Registration Completion Rate

Stabilisation trend after hybris launch

ABO completion rate is at 42% for October. Comparing to the September period there is an increase of 5%.The 2017 benchmark is at 37%.

Customer Registration Completion Rate has increased to 17%, comparing to the September period it was 15%.

63%

Amway ID Completion Rate

Connect ID Completion Rate is below the regional target (95%) as well as the global target (80%).

14716 accounts of ABO's were converted since launch, 122 in October 19 – November 1 period*

*Metric includes daily observations from the period of Oct 19 – Nov 1

The backlog reduction exercise is progressing and impacting SLE

46%

Resolution on time

The Service Level Expectation (SLE) rate of 46% has increased comparing to the September - 42% (this indicator includes the backlog of the tickets from the previous months)*. Looking at the tickets that were raised only during October period the resolution time is at 55%.

95%

Tickets resolved

Backlog of the open incidents has slightly decreased from 210 to 204 open incidents, the number of resolved incidents (278) is lower than the number of new incidents (285).

Oct 31: total number of incidents backlog: 221
Oct 1-31: Critical incidents: 5
Oct 1-31: High incidents: 24
Sept 30 backlog -202
Average resolved: per business day - 18
Average new: per business day - 22
Total new tickets raised in Oct 1-31: 260

New Incidents, Backlog and SLE Experience since February Go-Live

* Preliminay results for Sept 18-24. Starting from Jul 15, new global SLE criteria's have been introduced. According to the old approach the metric would have been 45%

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