



UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Master Degree Project in International Business and Trade

The Adoption and Long-Term Usage of an IT System in the Automotive Industry

An international case study of Volkswagen's package price system

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DISCLAIMER

The results, opinions and conclusion of this thesis are not necessarily those of Volkswagen AG.

Wolfsburg, Germany

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ABSTRACT

The automotive industry is increasingly affected by digitalization and servitization. In the after sales service sector, original equipment manufacturers are developing information technology systems to be used in multiple international markets as a means for providing more efficient customer service. For instance, Volkswagen has introduced an information technology system called Package Price System where the ongoing rapid international rollout has been a priority rather than ensuring that the system is being properly adopted and used in the markets where the rollout has occurred. The aim of this thesis is to analyze how Volkswagen can ensure the adoption and long-term usage of their Package Price System across markets. This thesis is based on a qualitative case study conducted in three different European countries. It was found that the organizational setup of the automotive industry (original equipment manufacturers, importers and dealerships) results in information asymmetry constraining Volkswagen's ability to ensure the proper implementation and usage of their system. Also, to make matters more complex, markets differed more than expected. The main outcome of the study suggests that original equipment manufacturers must consider the long-term usage of the system in their initial rollout strategy by putting in place an operational concept following the implementation of the system to further support the markets. This can only be successful if those involved at the original equipment manufacturer continue to further develop relationships with their importers. This will require more regular communication and face-to-face meetings with those involved in the adoption and usage of the system.

Key words: automotive industry, after sales services, information technology, Volkswagen, transfer of practices, knowledge transfer, principal-agent relationship, best practices, KPIs.



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ABBREVIATIONS

DMS – Dealer Management System

HQ – Headquarter

IT – Information Technology

KPI – Key Performance Indicator

MNC – Multinational Corporation

OEM – Original Equipment Manufacturer

PPS – Package Price System

VIN – Vehicle Identification Number



TABLE OF CONTENT

1. INTRODUCTION.....	1
1.1 Background.....	1
1.2 Problem Discussion.....	2
1.3 Research Purpose and Research Question.....	4
1.4 Delimitations	5
1.5 Research Outline.....	6
2. THEORETICAL FRAMEWORK	8
2.1 Neoinstitutional Theory	8
2.1.1 Global Integration versus Local Responsiveness.....	8
2.1.2 Transfer of Practices.....	9
2.1.3 The Social Context.....	9
2.1.4 The Organizational Context	10
2.1.5 The Relational Context.....	10
2.1.6 Implementation and Internalization	10
2.1.7 Patterns of Adoption.....	11
2.1.8 Change Agents for Adaptation and Reconstruction	12
2.2 Agency Theory.....	13
2.2.1 MNCs within Agency Theory.....	14
2.2.2 Monitoring.....	15
2.2.3 Incentives.....	16
2.2.4 Long-term Relationships.....	16
2.3 Knowledge Transfer.....	17
2.3.1 MNCs and Knowledge Transfer	17
2.3.2 Stickiness	18
2.3.3 Templates.....	21
2.4 Conceptual Framework	22
3. METHODOLOGY	24
3.1 Research Approach	24
3.2 Research Design.....	27
3.2.1 Research Unit	27

3.2.2 Data Collection Method.....	27
3.2.3 Interview Protocol and Process	29
3.2.4 Data Analysis Method.....	30
3.2.5 Qualitative Assessment.....	31
4. EMPIRICAL BACKGROUND.....	33
4.1 The After Sales Service Sector in the Automotive Industry	33
4.2 Volkswagen’s Package Price System	37
4.2.1 PPS – A Multi-brand Solution.....	37
4.2.2 The PPS Server	37
4.2.3 Value Creation.....	38
4.2.4 PPS Compatibility.....	41
4.2.5 Implementation of PPS	42
4.2.6 Global Impact	43
5. EMPIRICAL FINDINGS.....	44
5.1 Background.....	44
5.2 Neoinstitutional Theory	44
5.2.1 Global Integration and Local Responsiveness.....	45
5.2.2 Implementation	45
5.2.3 Internalization.....	46
5.2.4 Transfer Coalition.....	47
5.3 Agency Theory	47
5.3.1 Autonomy	47
5.3.2 Goal Congruence	48
5.3.3 Risk Aversion	48
5.3.4 Information Asymmetry	48
5.3.5 Monitoring.....	49
5.3.6 Incentives	50
5.4 Knowledge Transfer.....	51
5.4.1 Training.....	51
5.4.2 Relationships and Trust	52
5.4.3 Best Practices and Benchmark Countries.....	53

5.4.4 Templates.....	54
5.5 Southern European Market	54
5.5.1 Implementation Phase	54
5.5.2 Usage Phase	56
5.5.3 Current Status	59
5.6 Northern European Market	59
5.6.1 Implementation Phase	59
5.6.2 Usage Phase	61
5.6.3 Current Status	64
6. ANALYSIS	66
6.1 Differences Across Markets	66
6.1.1 Standardization vs. Local Adaptation.....	66
6.1.2 Similarities in Adoption.....	67
6.1.3 Differences in Usage	67
6.1.4 Patterns of Adoption.....	68
6.2 The Principal-Agent Relationship.....	71
6.2.1 Goal Incongruence and Risk Aversion.....	71
6.2.2 Monitoring and Incentives	72
6.3 Knowledge Transfer.....	74
6.3.1 Knowledge Transfer from Volkswagen to Importer	74
6.3.2 Knowledge Transfer from Importer to the Dealership Network	76
6.4 Ensuring Adoption and Usage in the Long-run	77
6.5 The Conceptual Framework Revisited	81
6.6 Limitations	82
7. CONCLUSION	83
7.1 Findings and Theoretical Contributions.....	83
7.2 Managerial Implications	85
7.3 Future Research.....	85
8. REFERENCES.....	87
APPENDIX	91

TABLE OF FIGURES

Figure 1 - Conceptual Framework	22
Figure 2 - Abductive Approach	26
Figure 3 - Three Channels in the After Sales Service Sector	34
Figure 4 - Overview of PPS Packages	38
Figure 5 - Work Flow Without PPS.....	39
Figure 6 - Work Flow With PPS.....	40
Figure 7 - Patterns of Adoption	69
Figure 8 - Principal-Agent Relationships	72
Figure 9 - Knowledge Transfer from Volkswagen to Importer	75
Figure 10 - Knowledge Transfer between Importer & Dealerships	77
Figure 11 - Ideal Knowledge Transfer Flow Between Volkswagen and Markets.....	79
Figure 12 - Increasing Performance Across Markets	80
Figure 13 - The Conceptual Framework Revisited.....	82

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1. INTRODUCTION

This chapter provides a background on the topic of after sales services in the automotive industry, and it highlights certain key trends that affect the industry. A problem discussion is then presented, followed by the purpose of the research as well as the main and sub research questions that will be addressed. The chapter concludes with an overview of the remaining sections.

1.1 Background

The automotive industry has increasingly been taken for granted ever since the first mass-produced automobile revolutionized mobility roughly a century ago. The automotive industry has also often been underestimated, despite the fact that it is one of the most important and competitive global industries. In 2015, there were eleven automotive manufacturers in the top 100 companies ranked by total revenue on Forbes Global 500 list, including two in the top ten (Forbes, 2016). Recently though, the industry has shown signs of volatility, with the acquisition of Land Rover/Jaguar by the Tata Group and of Volvo by Geely, two new players who are both seeking to compete in the dense market. It should also not be forgotten that General Motors and Chrysler nearly went bankrupt a few years ago were it not for the bailouts by the government of the United States.

Two of the main drivers of the present manufacturing economy, besides the frequently studied driver of globalization, are digitalization and servitization, both of which affect the automotive industry. Digitalization is making it feasible for automobiles to be highly embedded with electronics, software and sensors that enable them to collect and exchange data, up to the point where they are even nearly self-driving. Simultaneously, the concept of servitization has affected many product-based companies that are now integrating and adding services to their products (Gadiesh and Gilbert, 1998; Quinn, Doorley and Paquette, 1990; Wise and Baumgartner, 1999), as services tend to have higher and more stable margins than products (Anderson, Fornell and Rust, 1997; Quinn, 1992). The automotive industry is not necessarily known for its service offerings since the focus is largely on the production and sale of cars, rather than on the after sales services of a car in use. Despite this, margins on after sales services are higher than the

margins on new car sales (Arthur D. Little, 2015) and longer product life cycles increase the need for well-established after sales services in the automotive industry.

In the automotive industry, after sales services are becoming increasingly important given the diminishing profit margins on new car sales, despite the significant contribution of new car sales to total revenue. These days, the aftermarket contributes up to 50 percent of profits for original equipment manufacturers (OEMs) and more than 40 percent of profits for dealerships, despite accounting for only ten percent of dealership revenues. In 2014, the global aftermarket (service and parts) generated revenues of €480 billion (Brandt and Springer, 2016). The increased price of individual car components and the increasing number of cars with a demand for after sales services have boosted the aftermarket value (Aboltins and Rivza, 2014). In 2014, global passenger car production reached 72.3 million cars up from production levels of under 50 million cars per year prior to 2005. Not only are more cars being produced, but the average life span of cars is also rising, increasing the demand for after sales services. The average age of the European Union car fleet reached an estimated 9.7 years in 2014, up from an average age of 8.4 in 2006 (ACEA, 2015). Although OEMs continue to maintain a high market share in the after sales market, they are coming under increasing pressure from new entrants such as independent garages, service chains and the do-it-yourself segment (Arthur D. Little, 2015). This is forcing OEMs to continuously improve their services, which is easier said than done in practice.

1.2 Problem Discussion

The automotive industry has been undergoing significant change in large part as a result of digitalization and it is projected to continue to do so in the future. One of the main drivers is the increasing availability of data and information through advanced technology like sensors and telematic systems, which allow OEMs to further their understanding of vehicle usage and driving behavior. OEMs are seeking to offer a more proactive service, for example by notifying customers to upcoming maintenance or repairs. There is, however, still an uncertainty on how to work with this information efficiently to increase customer loyalty and sales (Hirsh, Kakkar, Singh and Wilk, 2016).

Making effective use of big data is a complex step that cannot be solved overnight. In the meantime, OEMs cannot stagnate and they must continue to improve their services by taking incremental steps within digitalization.

The consumer-dealership relationship in after sales services is also changing given the easy access to information regarding automobile specifications, prices, discounts, quality, and performance, thus changing consumer attitudes and increasing consumer buyer power and expectations (Hanna and Kuhnert, 2014; Hirsh et al., 2016). Because consumers are undertaking more research prior to visiting dealerships, the impact of face-to-face contact with dealerships diminishes (Hirsh et al., 2016; Mohr, Muller, Krieg, Gao, Kaas, Krieger and Hensley, 2013). In consequence, dealerships are adapting to changes in consumer attitudes. One important way is to invest in new technology, such as data management and customer care technologies, which will make the purchase transaction faster, more efficient, less pressured and more pleasing for consumers (Hirsh et al., 2016). Strong internal processes create the framework for good service, but new technology and data collected can be used as a tool to strengthen customer interactions and enable dealerships to provide a service beyond the basics (Hanna and Kuhnert, 2014). This leads us to the case of the Volkswagen Group, which faces a similar challenge regarding ways to improve the customer's after sales service experience.

The Volkswagen Group, consisting of multiple brands, is one of the largest conglomerates, which makes their international projects complex to manage. One of their main brands is Volkswagen Passenger Cars (from here on referred to as Volkswagen) headquartered in Wolfsburg, Germany. Hereby, an after sales division at Volkswagen has shared concerns regarding a multi-brand project that was started in 2013. Thus far, the project has mostly focused on the international rollout of an information technology (IT) based support tool called Package Price System (PPS), which requires a global transfer of knowledge between the after sales division and their representatives in various markets. As the system was rapidly implemented in multiple markets, the first implementers have started to become familiar with PPS as a support tool. Until now though, Volkswagen might have underestimated the reality that even with a standardized IT system, there are

likely local variations in its implementation and operation. Hence, it should be in Volkswagen's interest to follow up on the usage of the system once it has been implemented. By analyzing the operation of the system in different markets, it may be possible to determine which markets have made better use of the system than others, potentially also resulting in a set of best practices that can eventually be transferred to other markets.

Moreover, from an academic perspective, scholars have noticed that the concept of after sales services has not been treated with the attention it deserves in business literature (Verstrepen, Deschoolmeester and van den Berg, 1999), and there is little evidence today that this has significantly changed.

1.3 Research Purpose and Research Question

Given the importance of after sales services in a more competitive environment than ever, the main purpose of this thesis is to further the understanding of the issues faced by a representative automotive manufacturer, Volkswagen, in its attempts to improve its after sales service offerings across markets. This will require a deeper understanding of both the implementation and the operation of the IT system (PPS) that is being rolled out. In a perfect setting, a standardized system should be implemented and should function in the same way across markets. A secondary purpose of this research is to develop the study of after sales services, a rather unexplored setting in international business research. With this background, the following research question has been formulated:

How can an original equipment manufacturer in the automotive industry ensure the adoption and long-term usage of an IT system across markets?

As this is a rather broad question, the thesis will also attempt to answer three sub-research questions that will further guide the analysis. By definition, a multinational corporation (MNC) has international operations, which by nature means there is a probability that its operations will differ across countries. In order to ensure the adoption and usage of a new IT system in many countries, it is important to firstly understand if and how it differs.

Thus, the following sub-question was formulated: *How does the adoption and usage of the IT system differ across markets?* Secondly, the organizational structure of the automotive industry will likely affect the adoption and usage of an IT system across markets as well. To be able to ensure the adoption and usage, it is important to analyze the industry's organizational structure. Thus, the following sub-question was formulated: *How is the adoption and usage of the IT system influenced by the independent organizational setup in the automotive industry?* Lastly, a transfer of knowledge is at the heart of any new adoption from the source to many markets. To ensure a successful adoption and usage, it is important to understand how knowledge is being transferred and what difficulties there are, if any, during the transfer process. Thus, the following sub-question was formulated: *How is knowledge relating to the new IT system transferred between OEM and the markets?*

This study attempts to use different, but complimentary theories within international business literature to provide a theoretical base. Nevertheless, the nature of this research is practical and thus also seeks to provide managers at Volkswagen with a more detailed understanding of the linkages throughout the process in order to take more appropriate actions that result in a better adoption and usage of the IT system across markets.

1.4 Delimitations

For various reasons, there are certain delimitations to this thesis that include industry specificity, multi-brand complexity, international scope and type of services.

Firstly, this research is industry specific and company specific. There are many types of goods that are provided with after sales services, but the focus of this thesis is solely on the automotive industry, including only passenger cars, and not on any other segments such as busses or trucks.

Secondly, this is a complex multi-brand project, but the analysis will focus solely on one brand, Volkswagen Passenger Cars. The assumption is that the other brands in the multi-brand project behave in an equal or at least similar way when approaching markets.

Thirdly, given Volkswagen's extensive market presence, this research will focus on selected European markets that provide adequate differences of implementation and operation for a thorough analysis. Although the system in question is implemented and used in Volkswagen franchised dealerships, the scope of this thesis would not allow for an in depth analysis of large amounts of individual dealerships in the selected markets. For this reason, the subject of the study will remain on the importers in the selected markets (more information on this structure will be provided). It has been assumed that the importer has sufficient knowledge of its dealership network.

Lastly, the aftermarket incorporates a wide variety of services such as the sale of spare parts, maintenance, repairs, financing, warranty as well as technical support and training. The project at the Volkswagen Group relates to maintenance and wearing parts repairs only. All other services will not be included or discussed.

1.5 Research Outline

The thesis will be outlined as follows: theoretical framework, conceptual framework, methodology, empirical background, empirical findings, analysis and conclusion.

The theoretical framework will highlight the most relevant parts of the three streams of literature within international business: neoinstitutionalism, agency theory and knowledge transfer theory. A conceptual framework will then be presented that seeks to incorporate the key elements of all three theories to provide a simplified understanding as a tool for the analysis.

The methodology chapter will address the processes taken in adopting a case study approach. It explains in more detail the process and techniques used for collecting, presenting and analyzing the empirical data.

The empirical background chapter will highlight the structure of the automotive aftermarket industry as well as present a more detailed description of the company and

the IT system.

The empirical findings chapter presents the data gathered from interviews with representatives from Volkswagen and from importers in various markets. More specifically, it presents the respondent's views on the implementation and operation of the IT system.

The analysis relates the findings with the literature and the conceptual framework presented in the theoretical framework chapter. Various findings are compared and discussed in order to answer the research questions. Limitations will also be discussed.

The conclusion highlights and summarizes the main findings of the thesis and clearly answers the research questions that were formulated. It also discusses the implications for managers and also offers suggestions regarding further research on the topic.

2. THEORETICAL FRAMEWORK

The theoretical framework provides an overview of International Business related research that is likely to be applicable to the case of Volkswagen. It draws upon three different, but to some extent complementary, streams of literature that include neoinstitutional theory, agency theory and literature on knowledge transfer. Once each stream is developed, the chapter concludes with a conceptual framework anchored in key parts of the theories.

2.1 Neoinstitutional Theory

Neoinstitutional theory is chosen as the starting point to the theoretical framework as it is omnipresent in International Business studies. The implementation of organizational practices across countries is a key dilemma firms face in regards to global integration and local responsiveness.

2.1.1 Global Integration versus Local Responsiveness

Neoinstitutional theory has been widely used for studying the adoption and diffusion of organizational practices. One of the main arguments of institutional theory is that organizations that share the same environment will use similar practices and thus become isomorphic with each other. Legitimacy motives drive their conformity to the institutional pressures they face. However, institutions are often country specific. Therefore, practices are likely to vary across countries, which is a key consideration in International Business research (Kostova and Roth, 2002).

Multinational corporations operate in multiple countries and thus face pressures to maintain legitimacy in all their local environments by adopting local practices to fit in with the local institutional context. At the same time, MNCs derive a competitive advantage from transferring and using standardized organizational practices worldwide. This indicates the tension between the need for global integration and local responsiveness (Kostova and Roth, 2002).

2.1.2 Transfer of Practices

The internal transfer of practices is extremely important for MNCs given that their primary strength lies in utilizing their superior knowledge across subsidiaries worldwide. Nevertheless, there are significant barriers to a successful transfer of practices, relating to both the characteristics of the practice as well as others of a cultural and organizational nature (Kostova, 1999).

Kostova (1999) defines a strategic organizational practice as those considered to be dominant, critical or crucial for achieving the strategic mission of the firm. These practices often provide a source of competitive advantage that differentiates the firm from its competitors, meaning that they are often more complex and broad in scope and more ‘people’ rather than ‘technology’ focused making them more difficult to imitate.

The transfer of a practice is contextually embedded in three types of contexts: social, organizational and relational. The social context is framed in terms of institutional distance, the organizational context in terms of organizational culture and the relational context in terms of the past relationships between the parent company and the recipient unit (Kostova, 1999).

2.1.3 The Social Context

Meyer, Mudambi and Narula (2011) have introduced the concept of ‘multiple embeddedness’, where recipient units are both externally embedded in their local context, but also internally embedded within the organization’s network. This concept resembles that of institutional duality, where recipient units are confronted with two sets of isomorphic pressures to conform and maintain legitimacy within the organization and within the host country (Kostova and Roth, 2002). Practices vary in different local contexts (countries) because of the sociocultural environments in which they are developed and used (Kostova, 1999; Meyer, Mudambi and Narula, 2011). Country institutional profiles can be categorized into regulatory, cognitive and normative. The regulatory component reflects the laws and rules that promote a certain type of behavior. The cognitive component reflects cognitive programs shared by people such as schemas,

frames, representations, stereotypes, etc. that affect the way people notice, categorize and interpret information from their environment. The normative component reflects the values and norms (which specify how things should be done) held by individuals (Kostova, 1999). The greater the institutional distance, defined as the difference between the institutional profiles of the host and recipient countries, the more difficult it becomes to transfer practices (Kostova, 1999).

2.1.4 The Organizational Context

Organizational culture also affects the transfer of practices and can have both a general and practice specific effect. Firstly, the transfer of a practice requires organizational learning, change and innovation. An organizational culture that is supportive of learning, change and innovation will facilitate the transfer of the practice. Secondly, the success of transferring a practice is affected by the compatibility between the values implied by the practice and the values of the organizational unit. It is difficult to understand, implement and internalize a practice when the underlying values are incompatible (Kostova, 1999).

2.1.5 The Relational Context

The relational context affects the relationships between the recipient and parent organizations. The transfer of strategic practices is often drastic and requires time, effort and motivation on behalf of the recipient unit. The transfer coalition is the set of key decision makers at the recipient unit that serve as a link between the parent and the recipient and that has the responsibility of ‘selling’ and communicating the practice to the recipient’s employees. Although the transfer coalition plays a more critical role, the support of all employees at the recipient unit affects the transfer of the practice, as it is the employees at the recipient unit that must adopt the practice, making them the most important level of analysis. The motivation of the transfer coalition especially is affected by the quality of the relationship with the parent company (Kostova, 1999).

2.1.6 Implementation and Internalization

The successful transfer of a strategic organizational practice requires both the adoption of a formal set of rules describing the practice and the internalization of these rules at the

recipient unit. The success of the transfer is defined as the degree of institutionalization of the practice at the recipient unit, which requires both the implementation, a behavioral component, and the internalization, an attitudinal component, of the practice (Kostova, 1999; Kostova and Roth, 2002). Implementation is defined as the degree to which the recipient follows the formal rules implied by the practice. Internalization is defined as the state in which employees at the recipient unit attach meaning to the practice, see the value in using it and make it part of their organizational identity (Kostova, 1999).

2.1.7 Patterns of Adoption

There are four different patterns of adoption of a practice that include active, minimal, assent and ceremonial adoption (Kostova and Roth, 2002). There is also the possibility of non-adoption (Edwards and Molz, 2014).

Non-adoption is when the recipient unit resists the transfer and does not implement it. This is a result of dissimilar institutional environments, where the recipient does not believe the practice will lead to efficiency or flexibility gains. It is therefore not a failure to adopt, but rather a strategic decision (Edwards and Molz, 2014).

Active adoption is characterized by both high levels of implementation and high levels of internalization. This is due to trust in the parent that leads the recipient to believe that the practice is efficient, as well as favorable cognitive and normative contexts that reinforces their acceptance of the practice (Kostova and Roth, 2002). Other authors such as Edwards and Molz (2014) label this construct simply as adoption, which occurs when the institutional environments of the parent and recipient unit are compatible, that is when there are no contradictions and when interests are aligned. The transfer of the practice in this case is straightforward.

Minimal adoption is characterized by a low level of implementation and a low level of internalization. This is due to less favorable cognitive and normative institutional contexts, as well as low dependence, trust and identity with the parent. Thus, the adoption of a practice is least likely to be successful when there is little relationship between the

parent and recipient and when the recipient is located in unfavorable institutional contexts (Kostova and Roth, 2002).

Assent adoption is characterized by high internalization of the practice, but low levels of implementation. Despite the fact that recipient units are often dependent on the parent, implementation is low. Even if they believe in the practice, the recipient might have insufficient capabilities to adopt the practice (Kostova and Roth, 2002).

Ceremonial adoption is characterized by high levels of implementation, but low levels of internalization. It is defined as the formal adoption of a practice on the part of a recipient unit for legitimacy reasons without believing in its real value for the organization. Ceremonial adoption is more likely when uncertainty regarding the practice is high and when there is strong pressure to adopt the practice (Kostova and Roth, 2002).

Building on these four simplistic patterns of adoption, Edwards and Molz (2014) have added two new patterns of adoption based on the idea that the transfer of practices can be considered as a process of institutional change that encompasses factors such as institutional contexts, the agency of actors and the strategic nature of the practice.

2.1.8 Change Agents for Adaptation and Reconstruction

Given that there are sources of contradiction and misaligned interests, certain employees might act as change agents who attempt to adapt or reconstruct the practice. Thus, the transfer of practices can be seen as a process of institutional change resulting in two more possible patterns of adoption, namely adaptation and reconstruction (Edwards and Molz, 2014).

Change agents must possess a global mindset to be effective. A global mindset is defined as “an openness to and articulation of multiple cultural and strategic realities on both global and local levels, and the cognitive ability to mediate and integrate across this multiplicity.” This allows change agents to integrate complex ideas that encompass different cultural and strategic frames across the organization. When these change agents

occur only in the recipient unit, the practice will be adapted, however if they occur in both the parent and recipient unit, a process of reconstruction will occur (Edwards and Molz, 2014).

Adaptation occurs when the recipient unit is allowed or encouraged to change aspects of the practice in order to overcome the differences in institutional environments that result in contradictions and misaligned interests. If the recipient unit requires the practice (to overcome the liability of foreignness, to complement core competencies or is central to competitive advantage) and the parent is less concerned with direct adoption as long as the outcome is achieved, the recipient unit will adapt the practice. However, this requires motivated and skilled change agents within the recipient unit who adapt the characteristics of the practice that is being transferred. This outcome supports both global standardization and local responsiveness. It is also important to understand that institutional environments and actors change over time and contradictions from this change might occur (Edwards and Molz, 2014).

Reconstruction often occurs when the practice is transferred between two institutionally very different units where there are contradictions and misaligned interests and where the practice is considered critical to both the parent and the recipient unit. Again, motivated and skilled change agents are required, this time though at both the parent and the recipient unit. Their mutual interest motivates them to resolve inefficiencies and contradictions. They will reconstruct the practice borrowing elements from both institutional environments. Both the parent and the recipient unit adopt the final outcome and this reconstructed practice can be transferred to other recipient units as well. Reconstruction is ultimately a process of institutional change where actors collaborate to reconstruct the practice that generates new knowledge (Edwards and Molz, 2014).

2.2 Agency Theory

The following section on agency theory is closely connected to the relational context discussed in neoinstitutionalism. In an MNC, agency theory is especially important as relationships between international units form the foundation to transferring business

practices.

2.2.1 MNCs within Agency Theory

Agency theory is extensively used in business because it can be applied to many different areas of focus, both on a macro and micro level (Eisenheart, 1989). From a management perspective, agency theory has been widely used for some time in research, but only recently has it begun to appear more frequently in research involving multinational firms (O'Donnell, 2000). One of the more popular agency relationships analyzed in international business research has been between headquarters and subsidiaries (Roth and O'Donnell, 1996).

At the heart of agency theory is a relationship that can be understood as a contract between a principal and an agent, although the relationship can be extended to any situation involving cooperative effort, even if there is no easily distinguishable principal-agent relationship. The agent performs a service on behalf of the principal, who delegates some decision-making authority to the agent regarding the manner in which the service can be performed (Jensen and Meckling, 1976). A core assumption in agency theory is that both the principal and the agent are utility maximizers, resulting in a strong possibility that the agent will not always act in the best interest of the principal, by maximizing its own welfare (Jensen and Meckling, 1976). In consequence, both parties face goal incongruence or goal conflict (Roth and O'Donnell, 1996).

Another issue in the relationship is the problem of risk sharing, where different actions may be taken because of the different risk preferences of the principal and the agent (Eisenheart, 1989). To counter these divergences, the principal generally has two options whereby he or she can establish incentives for the agent that serve to align the goals of the principal and agent, or he or she can incur monitoring costs, which limits the ability of the agent to engage in self-interested behavior (Jensen and Meckling, 1976; O'Donnell, 2000). In other words, the focus of the application of agency theory is on finding the most efficient contract, either behavior-oriented (monitoring) or outcome-based (incentives), under varying levels of outcome uncertainty, risk aversion,

information, etc. (Eisenheart, 1989).

2.2.2 Monitoring

Monitoring is defined as activities or mechanisms used by the principal to obtain information about the behaviors and decisions of the agent, leading to increased efficiency because the principal can reduce the risk of opportunistic behavior. Monitoring can take the form of direct supervision by the principal or can be achieved through bureaucratic mechanisms such as rules, programs and procedures (O'Donnell, 2000). Eisenheart (1989) characterizes monitoring as an investment in information systems such as budgeting systems, reporting procedures, and additional layers of management.

These monitoring mechanisms can increase the amount of information the principal has about the agent, thus limiting behaviors and decisions that are not desired by the principal (O'Donnell, 2000), and leading to behavior-based contracts (Eisenheart, 1989). In simple situations and relationships, direct monitoring of the agent's actions is not that difficult. However, monitoring becomes more difficult in more complex situations characterized by information asymmetry where the agent has information that is not readily available to the principal. Information asymmetries are created and are more pronounced when the agent has a high level of decision-making authority and when the agent has more specialized knowledge than the principal about task performance (Roth and O'Donnell, 1996).

One of the main factors that affects the effectiveness of monitoring is the level of autonomy of the agent. Autonomy is defined as the degree to which the agent has strategic and operational decision-making authority. In the case of a subsidiary, often times an agent, autonomy is granted because the subsidiary can better identify and respond to the needs and demands of the particular market that it serves. It is also granted when the subsidiary can better determine the resources required to serve their markets and then use them appropriately. The greater the autonomy the agent holds, the more difficult and costly monitoring becomes, decreasing its effectiveness (O'Donnell, 2000).

2.2.3 Incentives

In instances where monitoring is ineffective, the principal will often establish incentives for the agent. One of the main factors that affect the effectiveness of incentives is the level of outcome measurability. For incentives to be effective, the outcome the principal desires has to be closely related to the receipt of the incentive. However, the more difficult it is to measure the outcome, the more difficult it is to determine when that outcome has been achieved and when and whom to give the reward. Thus, outcome measurability is the degree to which outcomes are specifiable and quantifiable. From an MNC standpoint, operating in many different countries makes it more difficult to specify and quantify the outcomes in advance, because headquarters may not have the expertise and knowledge to be able to determine them. Thus, incentives are more effective when the outcomes are more measurable (O'Donnell, 2000).

Moreover, using incentives that result in outcome-based contracts comes at the price of transferring risk to the agent. Risk arises because outcomes are only partly a function of behaviors and are subject to other variables. Thus, outcome uncertainty in the form of government policies, economic climate and competitor actions, etc., creates risk. As outcome uncertainty increases, it becomes increasingly expensive to shift the risk despite the benefits of outcome-based contracts. Thus, as outcome uncertainty increases, incentives become less effective and behavior-based contracts become more appropriate (Eisenheart, 1989).

Some authors argue that this picture is over simplistic and that the substitutability of monitoring and incentives might be too simplistic to accurately model the design of organizational control. There may be instances when there are combinations of opposing characteristics (O'Donnell, 2000).

2.2.4 Long-term Relationships

There are other variables that affect the effectiveness of behavior-based contracts (monitoring) and outcome-based contracts (incentives). For instance, the longer the relationship between the principal and the agent, the more likely it is that the principal

will gather information about the agent and will be better able to assess the agent's behavior. In short-term relationships, information asymmetry is likely to be greater, thus making outcome-based contracts more attractive. In long-term relationships, the principal is able to gather relevant information through monitoring mechanisms, making behavior-based contracts more attractive (Eisenheart, 1989).

2.3 Knowledge Transfer

Literature on knowledge transfer was chosen as the third stream because knowledge and information transfer is an underlying factor in the adoption of practices across countries. This is highly relevant for MNCs, given their global scope.

2.3.1 MNCs and Knowledge Transfer

The resource based view of competitive advantage analyzes the link between internal characteristics and performance. Firms develop sustained competitive advantage by implementing strategies that exploit their internal strengths, a unique bundle of idiosyncratic resources and capabilities (Barney, 1991). A new theory, the knowledge-based view, has emerged from the resource based view of competitive advantage. The view here is that knowledge is the firm's primary resource (Grant, 1996). Polanyi is widely regarded as the first, in his 1958 and 1966 seminal works, to categorize the concept of knowledge into explicit knowledge and tacit knowledge. Explicit knowledge is codifiable and can be transferred in formal and systematic language such as words and numbers (Nonaka, 1994). Thus, the fundamental property of explicit knowledge is its ease of communication (Grant, 1996). On the other hand, tacit knowledge has a large personal quality to it, which makes it hard to formalize and communicate as it is deeply rooted in a specific context (Nonaka, 1994). It is often only revealed through its application or acquired through practice, which makes its transfer slow, costly and uncertain (Grant, 1996; Kogut and Zander, 1993; Teece, 1981). One of the ways to overcome this ambiguity is through face-to-face communication, as tacit knowledge is difficult to transfer without personal contact, demonstration and involvement (Teece, 1981).

Firms exist and gain a competitive advantage because they can create the conditions for the effective integration of multiple individuals' specialist knowledge (Grant, 1996; Kogut and Zander, 1993) and because they understand how to transfer this knowledge efficiently that can be communicated and combined by a common language and organizing principles (Kogut and Zander, 1992; 1993). Internal transfers are generally faster and less complicated than external transfers that face confidentiality and legal obstacles and thus firms must make use of the internal transfer of capabilities to remain competitive. Yet, evidence has demonstrated that the transfer of capabilities within a firm is more difficult than expected (Szulanski, 1996). Even with goal congruence, there are difficulties in achieving effective coordination for knowledge integration and transfer (Grant, 1996).

2.3.2 Stickiness

Szulanski (1996) introduces the concept of 'internal stickiness' to connote the perceived difficulty of transferring knowledge within the organization, which is often related to problems that individuals cannot handle on a routine basis. An organization that has effective routines to handle all aspects of a transfer is unlikely to consider the transfer sticky. The higher the perceived difficulty of the transfer, the more the problems are identified over each stage of the transfer requiring ad hoc solutions (Szulanski, 1996).

There are four sets of factors that affect internal stickiness, or the difficulty of knowledge transfer: the characteristics -of the knowledge transferred, -of the source, -of the recipient and -of the context in which the transfer takes place (Szulanski, 1996).

Characteristics of the knowledge transferred

'Causal ambiguity' is defined as the lack of understanding of the linkages between actions and their results in the context of knowledge transfer (Uygur, 2013). Causal ambiguity is present when it is impossible to determine the precise reasons for success or failure in replicating a capability in new settings. It is also impossible to determine the correct factors of production and their contributions to the success or failure (Szulanski, 1996).

‘Unprovenness’: Knowledge that has proven to be useful in the past is less difficult to transfer. Without this record of usefulness, it is more difficult to convince people to engage in the transfer and to legitimize controversial integration efforts (Szulanski, 1996).

Characteristics of the source of knowledge

When a source is not perceived as reliable, the recipient unit will likely resist and challenge the transfer due to a lack of trust in the source and the perception that it is not knowledgeable (Szulanski, 1996).

Tie strength, a spectrum between weak ties and strong ties, characterizes the closeness and interaction frequency of the relationship between the source and the recipient unit. One important characteristic of tie strength is trust. ‘Perceived trustworthiness’ is defined as the quality of the trusted party that makes the truster willing to be vulnerable. Trust positively affects the motivation to transfer knowledge and the motivation to absorb the received knowledge, as well as lowering the costs of knowledge transfer by reducing conflicts and the need to verify the information (Levin and Cross, 2004).

There are two important types of trust: benevolence and competence. Benevolence based trust will likely create a safe environment where the recipient can acknowledge their lack of knowledge creating favorable conditions for learning. This type of trust will also lower the doubt the recipient has towards the intentions of the source. Moreover, competence based trust positively affects the recipient’s perception that the source knows what knowledge is useful for them. Thus, strong ties have a positive effect on the receipt of useful knowledge as the source will spend more effort to ensure that the recipient understands the knowledge and can properly put it into use (Levin and Cross, 2004).

Characteristics of the recipient of knowledge

A ‘lack of motivation’ can stem from the ‘not invented here’ syndrome and often results in ceremonial adoption, sabotage, or rejection of the knowledge being transferred

(Szulanski, 1996).

The recipient may also suffer from a 'lack of absorptive capacity', as it may be unable to exploit outside sources of knowledge because of its preexisting stock of knowledge (Szulanski, 1996). It might also be the case that the recipient lacks the money, time, and management resources to pursue and study knowledge in enough detail to make it useful (O'Dell and Grayson Jr., 1998, p.17).

Characteristics of the context

An 'arduous relationship' (i.e. laborious and distant) between the source and the recipient can increase the difficulty of transfer since it does not ease the communication required in the numerous individual exchanges, especially when the knowledge is tacit (Szulanski, 1996). Yet, having a non-arduous (i.e. strong) relationship is not always sufficient in and of itself. Perceived trustworthiness of the other party is required for successful knowledge transfer (Levin and Cross, 2004), since people often absorb knowledge from others that they know, trust and respect (O'Dell and Grayson, Jr., 1998, p.17).

Interplay of the four characteristics

Szulanski (1996) has argued that the major barriers to internal knowledge transfer (i.e. origins of stickiness) are knowledge related factors such as causal ambiguity, the recipient's lack of absorptive capacity, and an arduous relationship between the source and the recipient. Conventional wisdom often blames motivational factors instead. Thus, incentive systems are inadequate to lower internal stickiness. Instead, organizations should seek to devote resources to developing learning capacities, to foster closer relationships between units and to attempt to systematically understand and communicate practices. Because of internal stickiness, organizations often do not know what they know. These solutions should help organizations overcome this barrier (Szulanski, 1996).

Although there are difficulties to the internal transfer of knowledge, it has been argued that there is one particular method, namely templates, that can decrease internal stickiness and increase the effectiveness of the internal transfer of knowledge.

2.3.3 Templates

Jensen and Szulanski (2007) argue that the use of templates, an internal benchmark, increases the effectiveness of the internal transfer of knowledge, in terms of both adoption and performance at the recipient unit. Leveraging knowledge within the firm often requires re-using it differently in different settings, yet it can be beneficial to copy routines and best practices, rather than recreating them in each setting. Templates refer to working examples of organizational routines on how the work is completed, in what sequence, and how various components and subroutines are interconnected, which is important given that many aspects of the routine can be tacit or causally ambiguous. Leveraging knowledge assets through the replication of routines involves recreating knowledge from the source site. Thus, using the original routine as a template can facilitate knowledge transfer within the firm (Jensen and Szulanski, 2007).

Knowledge transfer effectiveness can be measured by the level of adoption at the recipient unit and by the performance of the recipient unit after the transfer or in other words if the new routine transferred performs better than the existing one. It has been argued that the use of templates increases the effectiveness of knowledge transfer. Although having a template does not equate to it being used, its purpose is especially useful as a reference after implementation. The use of a template can help initiate the transfer, when the recipient unit is holding out on its adoption. It helps overcome resistance by proving results and by showing its efficacy because someone else is already successfully using the practice. This allows recipients to rely on data and proof, rather than on faith (Jensen and Szulanski, 2007).

Some authors (e.g. Kostova, 1999; Kostova and Roth, 2002) have argued that the adaptation of practices to fit the characteristics of the host market will maximize effectiveness and assure a fit between the host unit and its environment. Standardized practices and procedures can result in suboptimal solutions since they do not account for the differences in heterogeneous markets. Moreover, local units have a better knowledge of the market conditions in their environment, meaning that local adaptation will increase their effectiveness (Winter, Szulanski, Ringov and Jensen, 2012). Thus, it is assumed

from this perspective that following a template decreases transfer effectiveness by constraining local adaptation and increasing local resistance to adoption (Jensen and Szulanski, 2007).

Winter et al. (2012) argue the opposite. Replication is most effective when only the value creating facets of templates are replicated. Modification of a successful template increases the risk that they negatively affect performance, even if they are desirable. The more deviation there is from the original template through adaptation, the less the recipient unit can refer to the original template for guidance and to solve problems experienced during the transfer and implementation. Thus, accurately replicating the features of the original template decreases the recipient unit's hazard of failure. It should be noted, however, that although they suggest that a deviation from the template is harmful to performance, they are not suggesting that local adaptation is always detrimental. There must be a balance between precise replication and adequate learning and change to remain aligned in changing host environments (Winter et al., 2012).

2.4 Conceptual Framework

The three streams of literature all put forth arguments that relate to the transfer of a practice or the transfer of knowledge in an MNC. The conceptual framework (see Figure 1) seeks to combine these arguments into a single framework that can simplify the reader's understanding and provide a tool for the analysis.

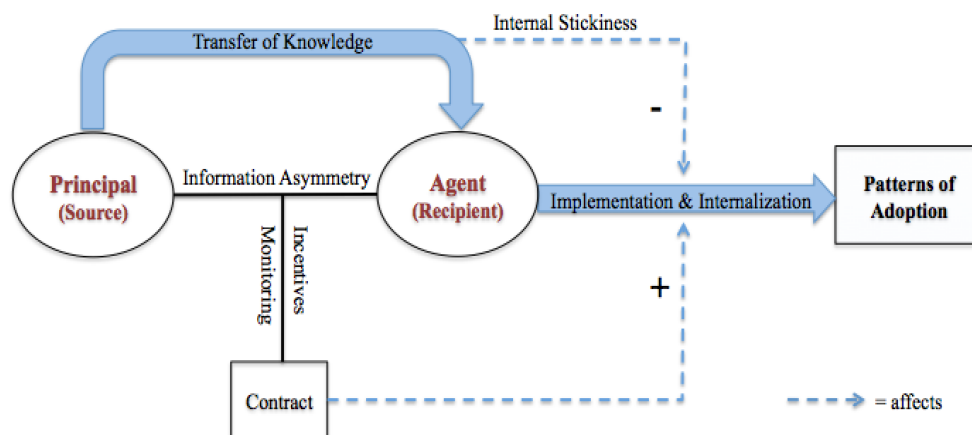


Figure 1 - Conceptual Framework. *Source: Compiled by authors.*

At the heart of the framework are two actors that can be characterized in two ways. One characterization is an outcome of agency theory, where there is a principal and an agent who acts on behalf of the principal. The second characterization is an outcome of knowledge transfer, where there is always a source of knowledge and a recipient of knowledge. The principal is also the source of knowledge and thus the agent is the recipient of knowledge. This principal-agent relationship is characterized by information asymmetry, where the agent is in possession of information that is not readily available to the principal. In order to overcome the information asymmetry, the principal can either monitor the agent or provide incentives to the agent. This leads to a contract between the principal and the agent.

The agent, as the recipient of knowledge, receives the transfer and must put this knowledge into practice. At this stage, the agent must go through the process of implementation and internalization. However, the levels of implementation and internalization are affected by two mechanisms. The first mechanism is internal stickiness, or the perceived difficulty of knowledge transfer. If there are many negative factors that increase internal stickiness during the transfer process, implementation and internalization are likely to be negatively affected as well. The second mechanism is the contract that was established between the principal and the agent. Monitoring and incentives are also likely to affect the agent's willingness to implement and internalize the transferred knowledge. Finally, different levels of implementation and internalization will lead to various patterns of adoption.

3. METHODOLOGY

This chapter addresses in detail the research methods used in this thesis. It describes the research strategy and approach, as well as the different methods used to collect and analyze data. It also addresses the methods used to assess the validity and reliability of the findings.

3.1 Research Approach

Given that the problematization is grounded in a practical situation rather than in a theoretical gap, the thesis leans more towards practice-oriented research, where the objective is to contribute to the knowledge of specific practitioners. A practitioner is an individual or a group of people that are responsible for a real life situation in which they must act. They effectively need knowledge to solve or clarify an issue in an identified practice. However, this is not to say that it neglects theory or does not contribute in any way to the development of theory, since theory is ultimately also useful for practice in general (Dul and Hak, 2008, pp.30-32, 52).

The thesis has been approached through a qualitative research strategy rather than a quantitative one. Yin (2014) has argued that there are three conditions that determine the choice of method within qualitative studies: the type of research question posed, the extent of control a researcher has over actual behavioral events and the degree of focus on contemporary as opposed to entirely historical events. Research questions of the ‘how’ and ‘why’ types are more likely to result in the use of methods like a case study, history or experiment. This is due to the fact the questions deal with operational links needing to be traced over time, rather than mere frequencies or incidence. Also, out of those methods, the case study is preferred when examining contemporary events, but when relevant behaviors cannot be manipulated (Yin, 2014, pp.9-12). The case study approach was selected, given that a ‘how’ type research question was chosen that focuses on a contemporary specific type of practice and company, in which behaviors could not be manipulated, only analyzed.

A case study is a detailed and intensive analysis of a single case that is concerned with its complexity and particular nature. It is a useful method in international business research because data is collected from cross-border and cross-cultural settings, which makes surveys or experiments difficult because of issues related to equivalence and comparability of data collected from different countries (Ghauri, 2004). Another strength of the case study is its ability to deal with many different types of evidence, such as documents, artifacts, interviews and observations (Yin, 2014, p.12), which was useful in answering the research question. Nevertheless, many criticize the use of case studies because, unlike in quantitative research, it is generally agreed upon that they are not able to provide generalizability. However, this is often the point, as a case study's particularization is often the main strength. In other words, the goal is to concentrate on the uniqueness of the case and to understand its complexity, rather than to generalize to other cases (Bryman and Bell, 2015, pp.67-71).

The assumption in international business research is often that case studies are based on inductive reasoning (Andersen and Kragh, 2011, p.146). Nonetheless, an abductive approach was used in the thesis (Dubois and Gadde, 2002). Rather than using a purely inductive or deductive approach, the abductive approach has been regarded as a way to overcome the limitations of the two other approaches (Bryman and Bell, 2015, p.27). This approach involves a continuous iteration between the empirical world and a model world. In other words, the original analytical framework (preconceptions) is successively modified, partly as a result of unanticipated empirical findings, but also as a result of theoretical insights gained during the process (Dubois and Gadde, 2002). This is illustrated in Figure 2. Dubois and Gadde (2002) claim that by constantly going back and forth between the empirical observations and the theory, the researcher is able to expand his or her understanding of both theory and empirical phenomena.

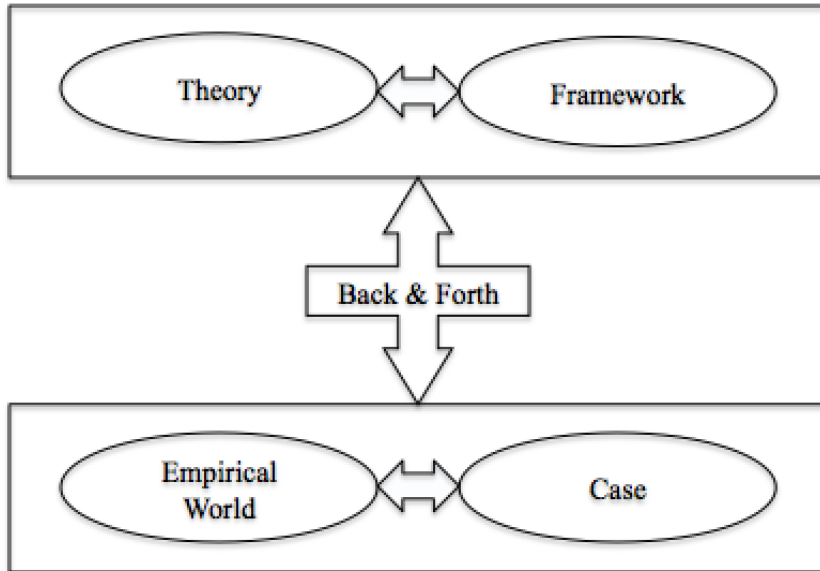


Figure 2 - Abductive Approach. *Source: Compiled by authors based on Dubois and Gadde, 2002.*

In this specific case, the initial research was more focused on IT, given that the system was at the core of the transfer. Thus, literature on technology transfer and technology acceptance was included. There was also more of a focus on the end customer, as the specific after sales department responsible for the system is also involved in customer relationship management. Literature on customer relationship management was also included at this stage. However, after furthering the understanding of the case through discussions with Volkswagen, the theoretical framework was re-evaluated and further tailored to the case. The focus shifted more towards understanding the internal processes, therefore customer relationship management literature was dropped, and the literature on technology transfer was replaced by literature on knowledge transfer. It also became more obvious that relationships between Volkswagen and their representatives in various markets have a rather unique setup, which could be better explained by incorporating agency theory. After the first collection of empirical data at Volkswagen, the theoretical framework was again narrowed by using a more specific set of concepts within the chosen streams of literature, which then guided the collection of further empirical data at the importer. Due to the nature of the abductive approach, it would be unusual if there would be a large mismatch between the empirical data and the theoretical framework as well as the conceptual framework.

3.2 Research Design

A research design is simply a structure that guides the execution of a research method, a technique for collecting data, and the analysis of the subsequent data (Bryman and Bell, 2015, pp.48-49). This section will address the research unit, the data collection method, the interview protocol and process, the data analysis method and the qualitative assessment.

3.2.1 Research Unit

A case study approach usually has two designs: a single case study or a multiple case study. In the thesis, a single case study design is used, which does not always have to be of a holistic nature. Instead, the thesis adopts an embedded single case study design, which involves units of analysis at more than one level i.e. attention to subunits (Yin, 2014, p.53). The overarching unit of analysis is Volkswagen, which was eventually chosen because the company provided the most interesting opportunity to analyze a practical issue. This issue can be analyzed through different theoretical perspectives, which also indicates its relevance for academia. The practical issue defines the need to have at a minimum two different types of units of analysis, Volkswagen's after sales department as the source of the practice and markets (importers and dealerships) as the recipients. Importers are autonomous firms in an alliance with Volkswagen that are each responsible for one market (country). Hereby, the importers also represent the licensed Volkswagen dealerships in the market and are responsible for importing cars and spare parts. There were two importers studied with the role of recipient.

3.2.2 Data Collection Method

Empirical data was collected primarily through semi-structured interviews. This method entails creating an interview guide with questions that are fairly specific to the topic that needs to be covered. However, the benefit of this method is that it provides the researcher with flexibility. Thus, the order of the questions does not have to be kept, and questions that are not in the guide may be asked during the interview, as the interviewer follows up on things stated by the interviewees. The focus is then on what the interviewee believes is

important to explain as well as understanding events, patterns and forms of behaviors (Bryman and Bell, 2015, p.481). Also, some questions in the guide often get answered as part of the discussion on another question, allowing the researcher to skip certain questions. There were two interview guides created, one for interviewees at Volkswagen (see Appendix 2) and one for interviewees at various importers (see Appendix 3). No guide was sent in advance to Volkswagen employees, however a draft of the guide was sent to importers in advance, to convince them of the merit in partaking as well as to provide them with an idea of what topics were likely to be discussed.

Interviewees were selected using purposive sampling as opposed to convenience or random sampling. Purposive sampling is a non-probability form of sampling where participants are deliberately and strategically selected so that they will yield the most relevant and plentiful data on the topic. This method will likely also include participants that have opposing views on the topic to avoid bias (Bryman and Bell, 2015, p.429; Yin, 2011, p.88). By using purposive sampling, it was possible to complete a more detailed case study. Interviewees at Volkswagen were selected because of their direct involvement in the practice or because they were familiar with the practice. Importers were chosen to likely highlight different patterns of adoption, although there was a limited capacity to visit more than two. Due to this, not every pattern of adoption can be represented.

While using a purposive sampling technique, researchers have had mixed opinions regarding the size of the sample that is needed to support convincing conclusions. As is stated in Bryman and Bell (2015, p.436): “In general, sample sizes in qualitative research should not be so small as to make it difficult to achieve data saturation, theoretical saturation, or informational redundancy. At the same time, the sample should not be so large that it is difficult to undertake a deep, case-oriented analysis.” The sample size includes four employees from Volkswagen, and seven employees from two different importers that participated in a total of six semi-structured interviews (see Appendix 1). The interviews with the importers were part of a workshop where a maximum of two other employees from Volkswagen were also present. The decision to interview four people at Volkswagen was taken because the data collected by the end of the fourth

interview was relatively similar to the preceding ones. At this point, it was determined that any further interview would likely not provide enough benefit of new and valuable data.

Moreover, besides interviews, secondary data was also an important source of information. This secondary data is comprised of organizational documents, training manuals and PowerPoint presentations from both Volkswagen and importers. It is important to note that these documents could not be cited directly because they are sensitive and private documents under a non-disclosure or confidentiality agreement. Also, documents that were sent electronically between researchers were compiled by the researchers and were password protected.

It is also relevant to note that Volkswagen employed one of the researchers who worked at their offices on a daily basis and who was able to regularly discuss topics without engaging in formal semi-structured interviews. Moreover, being present at Volkswagen provided the opportunity for the researcher to directly observe the environment. However, direct observations were not used as an intentional data collection method, and therefore no specific notes were taken on these observations.

Collecting data from multiple sources is important for triangulation and serves as an important way to increase the validity of the thesis. The principle of triangulation pertains to the goal of seeking three or more ways of verifying the collected data to increase confidence in reporting it. Often these different ways can include direct observation, verbal reports and documentation (Yin, 2011, p.81). Triangulation was achieved by interviewing both Volkswagen and importer employees, and verifying the data collected with secondary data.

3.2.3 Interview Protocol and Process

The interviewing was agreed upon with the sub-divisional head from Volkswagen. Hereby, it must be noted that he was consulted in regards to all major interview decisions, which led to further informal discussions with him. As stated previously, semi-

structured interviews were used to collect data. All interviews were face-to-face encounters and were conducted in English at each company's headquarter location. The interviews at Volkswagen lasted on average one hour and the interviews with the importers lasted on average two hours and twenty minutes. Requests for interviews were made well in advance to ensure that both researchers could participate.

Each interview was undertaken individually in a closed conference room, except for one that was held in a common area. 'Facesheet' information of a general and specific kind was noted for every interviewee because it is useful in contextualizing people's answers (Bryman and Bell, 2015, p.488). This information included the interviewee's name and position at the company. Prior to beginning the semi-structured interview, informed consent to record the interview was requested to avoid deception. All interviewees granted their permission and each interview was recorded, except for the one in the common area given the level of background noise. The interview guide was used as a reference and leading questions were avoided. At the end of each interview, an open-ended question was asked to determine whether the interviewee believed there might have been any important information left out. Moreover, after completing the interviews, most interviewees were re-contacted in order to obtain their feedback on the researcher's interpretation of their views. This is a strategy referred to as respondent validation that is also used to increase validity by decreasing the misinterpretation of the interviewee's self-reported views (Yin, 2011, p.79). The interview recordings can be made available upon reasonable request. Also, interviewees have remained anonymous in the thesis at their request.

3.2.4 Data Analysis Method

Every interview at Volkswagen was recorded and transcribed, except for the single interview that was not recorded. The interviews with the importers were recorded, but were not transcribed due to time constraints and the complexity of multiple speakers present. Nevertheless, importer recordings were re-listened to several times. Recording the interviews allowed the researchers to keep a clear focus without being distracted by having to write down notes on what was being said (Bryman and Bell, 2015, p.494). The

recorded interviews at Volkswagen were undertaken over two consecutive days and all transcription was completed within a week and a half of the interviews. The transcription took roughly six hours for every hour of recorded interview. As stated by Bryman and Bell (2015, p.493), recording and transcribing interviews also has many other advantages. It helps correct any natural limitations of the researcher's memory and it allows for a more thorough examination of what people said. In addition, it allows the researcher the opportunity to repeatedly examine what people have said. Furthermore, it allows for peer review where the data can be opened up to other researchers who can then evaluate the analysis carried out by the original researchers of the data to counter accusations that the researcher might have influenced the analysis through his or her own values and biases.

The collection and analysis of the Volkswagen interviews was completed prior to the interviews with importers. Two approaches were used for the analysis of the data. One researcher highlighted information he thought was interesting and tried to relate it to key concepts. The other researcher used a qualitative content analysis instead, searching for underlying themes in the material being analyzed (Bryman and Bell, 2015, p.569). These themes from the theoretical framework and conceptual framework were identified and categorized without the use of specific software. In taking these two approaches, it is important to have inter-observer consistency defined as the degree of agreement over the coding of items by two people (Bryman and Bell, 2015, p.400). In order to achieve this, the analysis was completed separately at first by each researcher. When this was completed, identified themes and passages were discussed and a final categorization of themes was agreed upon. Any data that was not interpreted in the same way and agreed upon together was left out.

3.2.5 Qualitative Assessment

There are certain established criteria for the evaluation of business research. The main criteria are reliability, replication and validity. Reliability is concerned with whether the results of a study are repeatable. In order to be repeatable, the measures devised for concepts have to be consistent. Replication is impossible if a researcher does not document in great detail and make available the procedures that were used. Finally,

validity is concerned with the integrity of the conclusions that are generated from the research. One of the main issues is external validity or generalizability, that is, can the conclusions obtained be generalizable to a larger population. It has often been argued by qualitative researchers that these criteria are to be used mainly for quantitative research and that different criteria should be used to judge or evaluate qualitative research (Bryman and Bell, 2015, pp.49-52).

One alternative suggestion to evaluate qualitative research is the criteria of 'trustworthiness', which includes the concepts of credibility, transferability, dependability and confirmability. This study made use of several strategies in order to guarantee trustworthiness. Firstly, to achieve credibility, data was cross-checked through triangulation. Data was triangulated to ensure that multiple sources stated the same thing. This ensured that the researcher has properly understood the social world analyzed (Bryman and Bell, 2015, p. 401). Secondly, to achieve transferability, the researchers have attempted to provide as much detail as possible in a straightforward manner to produce a thick description. Data was compiled from various sources such as interviews, company documents, reports, books, journal articles, etc. This allows others to have enough information to make their own judgments about the possible transferability of findings to other situations (Bryman and Bell, 2015, p.402). Thirdly, to achieve dependability, Bryman and Bell (2015, p.403) argue that researchers should adopt an auditing approach. This has not been entirely possible given certain resource and time constraints, although regular discussion with the researchers' supervisor and monthly seminars with peer researchers has provided an understanding that similar processes have been followed. Moreover, records have been kept on all phases of the research process including notes, drafts, recordings and transcriptions. These are accessible upon reasonable request. Lastly, confirmability is concerned with ensuring the researcher has acted in good faith by not overtly allowing personal values to influence the conduct of the research findings (Bryman and Bell, 2015, p.403). The researchers have always consciously acted in good faith and have regularly questioned the use of methods and processes to achieve confirmability.

4. EMPIRICAL BACKGROUND

In this chapter, an empirical background of the after sales market in the automotive industry is described. Furthermore, the chapter also provides more information relating to the unit of analysis and the IT system being studied. The purpose of this chapter is to present a detailed description of the case in order to provide the context in which the empirical findings and analysis can be understood.

4.1 The After Sales Service Sector in the Automotive Industry

The downstream sector in the automotive industry incorporates all activities that happen after a car leaves the factory, and it is effectively the profit engine of the industry. Unlike many other industries, the automotive industry in developed countries is special because dealerships are the only point of retail sale for new cars, or more specifically that OEMs have a protected and controlled franchised dealership channel for retailing. Customers are able to get information and pricing online from every brand, but are always directed to the franchised dealerships to purchase the car. Moreover, in most European markets, dealerships are exclusive to one brand. This is important for OEMs as they regard them as an essential component of their overall brand position and expression (Maxton and Wormald, 2004, pp.164-168).

In recent years, the contribution to profit and brand image by spare part sales and workshop servicing has outweighed that from vehicles sales, with the proportion having generally increased. This sales-service link is the backbone of the automotive industry, its fundamental structure and operating premise. It is visible in franchised dealerships that are usually a combination of sales and service outlets and it is invisible in the fact that the internal cross-subsidy of sales by service activities allows franchised dealerships to survive financially (Maxton and Wormald, 2004, pp.169-170).

This set up has remained a very national and even local business, and franchised dealerships are facing increasingly focused and scale-driven competition in almost all markets. On a general level though, each national market has a similar aftermarket (after-sales service) sector. At the top are component suppliers, where OEMs only supply

roughly 20 to 25 percent of spare parts and independent suppliers supply the other 75 to 80 percent of spare parts (Maxton and Wormald, 2004, pp.173-174). From this point, there are three channels by which a customer can service their car (see Figure 3). The first is through the original equipment supplier sector that sells spare parts to the parts and service departments of the OEMs, also known as the authorized channel (Frowein, Lang, Schmiege and Sticher, 2014). The OEMs operate large centralized warehouses in which they stock spare parts needed to support the models of their brand that are currently in production, but also to support for up to ten years the older models that are out of production but still in operation. This task is complex and involves multiple sources such as the cataloguing of hundreds of thousands of parts references; providing detailed information to the workshops of their franchised dealerships on fitting the right parts in the right model; organizing the physical distribution of these parts to their dealerships who act as local part stockists (and who then sell the parts to their own workshops); as well as managing the inventory balance between maximizing local availability and minimizing inventory costs. These distribution chains are tightly controlled by the OEMs, especially in regards to margins, to protect the cross-subsidies and the profits generated from spare parts (Maxton and Wormald, 2004, pp.174-175).

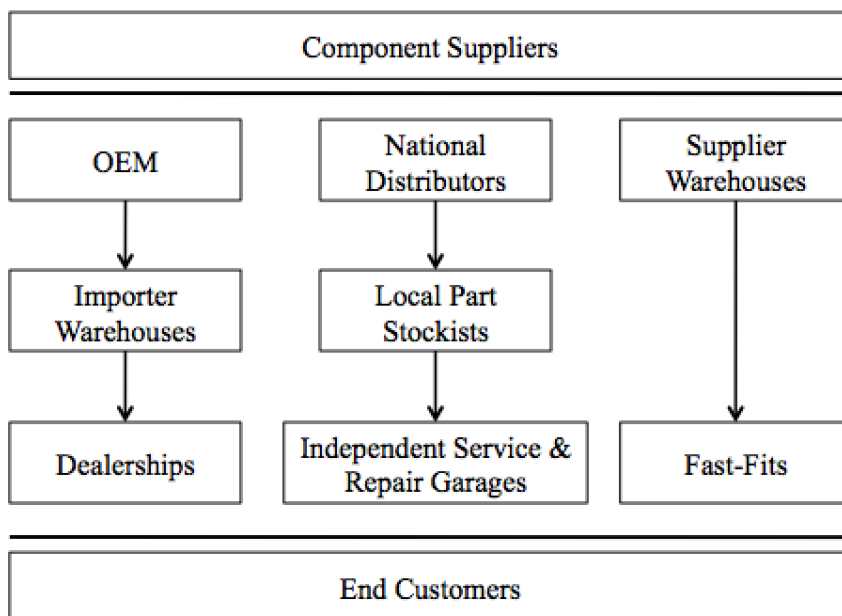


Figure 3 - Three Channels in the After Sales Service Sector. *Source: Compiled by authors based on Maxton and Wormald, 2004.*

The second channel is the traditional independent aftermarket. The main points of contact with customers in this channel are independent service and repair garages that have to service many different makes and models of cars. These independent service and repair garages cannot afford to carry large inventories of spare parts given the huge and constantly growing number of parts required to support a variety of different car brands. Instead, they stock a few standardized items such as engine oil, electric bulbs, and wiper blades. They then rely on a network of parts stockists that have to have very local distribution, as independent service and repair garages expect most parts to be delivered to them within an hour, requiring regular delivery several times a day. These local stockists are quite numerous and often source their parts from regional distributors (Maxton and Wormald, 2004, p.175).

The third and last channel can be labeled ‘new forms’, such as fast-fits, which focus on simple repairs that do not require a trained mechanic. The classic services provided by fast-fits are changing tires and exhausts, the latter made famous by Midas Muffler in the United States. These fast-fits also include service outlets or auto centers, which have bays for fitting tires and changing exhausts. Some of these outlets even act as retail shops, selling parts to the ‘do it yourself’ customer (Maxton and Wormald, 2004, p.176). One example of a fast-fit outlet is ATU in Germany, which now has roughly 600 branches (ATU, 2016). Some of the larger fast-fit and auto centre operators are even vertically integrated backwards into the distribution of parts in order to resupply their workshops. There are two major differences between the ‘new forms’ channel and the authorized channel. First, there are no proprietary or contractual links to individual brands of cars. The ‘new forms’ channel can deal with all makes and models of cars. Second, the ‘new forms’ channel seeks to provide a single focused service, or a very limited number of rationally grouped services. This allows them to lower costs by using labor that is trained specifically in those services and to provide “while-you-wait” service (Maxton and Wormald, 2004, p.176).

The combined aftermarket size of five of Europe’s largest markets (Poland, Spain, the

UK, France and Germany) grew from €115 billion in 2010 to approximately €121 billion in 2012, reaching the equivalent of 2007 levels (Frowein et al., 2014). Within the aftermarket service sector, franchised dealerships face increasing competition from independent service and repair garages, as well as fast-fits and auto centers. This has resulted in a struggle to retain customers, as many car owners and operators often quickly desert the over-priced franchised sector (Maxton and Wormald, 2004, pp.176-77). On average in these five countries, the authorized service and repair market held only a 42 percent market share in 2012, the strongest share reaching 50 percent in both France and Germany where national OEMs remain more influential and where there is a dense network of franchised workshops. On the other extreme, in Poland, the independent aftermarket held a market share of 70 percent in 2012 (Frowein et al., 2014).

There are two factors that mainly influence the choice of service and repair channel: car age and the type of service or repair. In the first two years of a car's lifecycle, franchised dealerships often have high initial penetration rates mainly due to habit, but also because of the perceived threat of invalidation of the OEM's warranties if service has been performed in the independent aftermarket or in fast-fits or auto centers. It is also easier for owners to get their cars serviced at fast-fits when it is relatively easy to self-diagnose problems such as exhausts, tires and windshields, where they do not feel they are running any risks. It is more likely that they will favour franchised dealerships for more difficult and technical repairs such as brake pads that have a strong effect on safety (Maxton and Wormald, 2004, pp.176-178).

In 2012 in the five markets mentioned, authorized service and repair shops held a higher market share for complex repairs than independents did. For mechanical and electronics repairs, the authorized channel held a market share of 51 percent, peaking at 91 percent for cars up to four years old and reaching a low of 43 percent for cars eight years and older. However, for simple operations such as tire changes, the independent channel claimed a market share of 75 percent, peaking at 82 percent for cars eight years and older and reaching a low of 53 percent for cars up to four years old. In general, the authorized channel dominated services for cars under four years old that are covered by warranty or

a comprehensive service plan. Competition has also resulted in the consolidation of authorized or franchised workshops. In the five countries studied, the amount of authorized workshops has decreased by two percent between 2010 and 2012, to 1500 workshops. In contrast, in Germany alone, independent workshops have remained steady at around 20,000 outlets between 2010 and 2012 (Frowein et al., 2014).

Given the complexity of the distribution channels, and especially the authorized channel, it is imperative that OEMs provide their dealerships with support. One of the most efficient ways to support dealerships on a global scale is to make use of IT systems.

4.2 Volkswagen's Package Price System

The PPS program is an IT solution or support tool that provides fast, reliable and coherent information for sales advisors in dealership workshops regarding service and maintenance works. The aim is to provide customers with timely and accurate information when they inquire about a service or maintenance works, in order to increase customer satisfaction, loyalty and subsequently sales.

4.2.1 PPS – A Multi-brand Solution

PPS was initiated in 2013 as a joint project among five brands in the Volkswagen Group: Audi, Seat, Skoda, Volkswagen Light Commercial Vehicles and Volkswagen Passenger Cars. The brands are each represented by an employee in the project's core team that takes care of the daily business. The core team deals with the respective importers in each market (country), who are responsible for the dealership network in their markets.

4.2.2 The PPS Server

The heart of the system lies in the PPS server where approximately 66,000 packages are stored electronically that can be applied to over 100 vehicle models. Volkswagen has the largest amount with 29,200 packages covering 47 models, followed by Audi with 16,700 packages covering 30 models. Volkswagen Light Commercial Vehicles has 8,900 packages covering 14 models, Skoda has 6,800 packages covering 18 models and finally Seat has 4,600 packages covering seven models. Overall, packages cover service and

maintenance works such as dust and pollen filters, windshields, oil changes, break mechanics, inspection services, general services, electrical systems, power plants, exhaust systems, front axles, rear axles, manual gearboxes, automatic transmissions, etc. (see Figure 4).

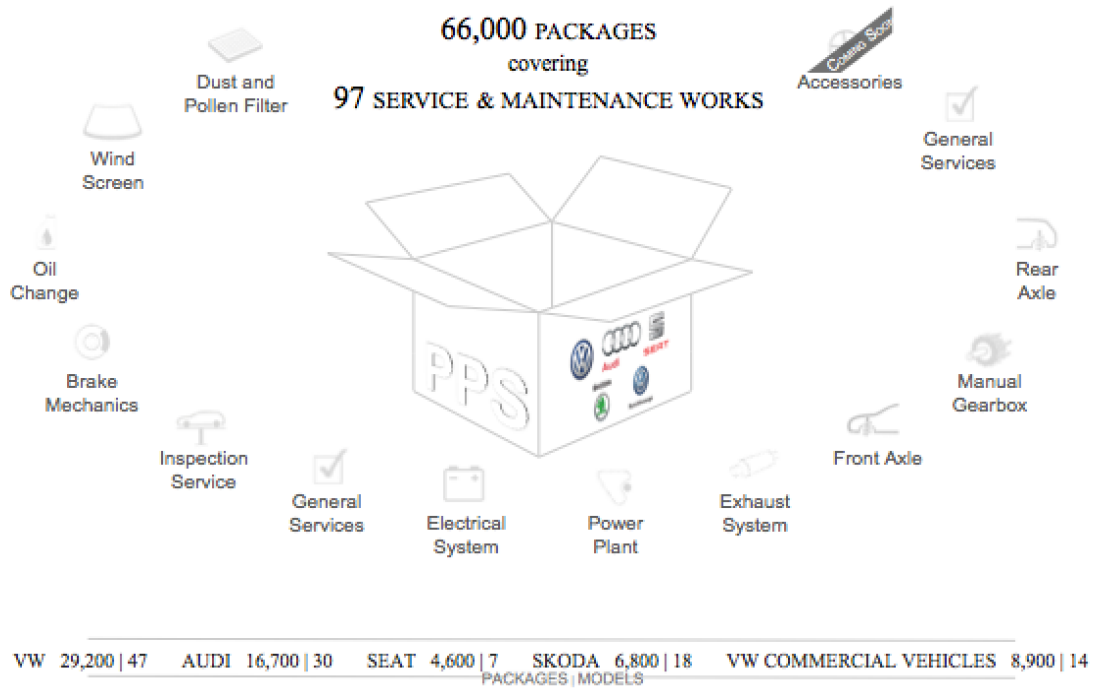


Figure 4 - Overview of PPS Packages. *Source: Volkswagen internal documentation.*

Each package incorporates the following information required to provide an offer for a service, maintenance or repair: the spare part name and number, the quantity of spare parts required, the price of the spare parts, the time unit (amount of time required to complete the activity), the labor rate, and a final package price. The amount of packages is continuously increasing as new packages are developed for new models and new markets or because they were previously missing. The Vehicle Identification Number (VIN) is the link that is required to match the right package data to the right vehicle model. The VIN number is entered into the PPS interface at the dealership.

4.2.3 Value Creation

In general, PPS contributes to an enhanced customer experience for Volkswagen by using

information technology in the after sales service sector. The system's business idea is creating value by improving the quality of service at franchised dealerships, in essence by saving time. There are two different channels that a customer can use to get price information from a dealership regarding a service or repair. They can either deal with a service advisor in house (at the local dealership) or they can call the dealership and speak with the service advisor who can also use the system to provide an offer. Before PPS, in most markets service advisors had to take a significant amount of time (20+ minutes) and use many different systems to find each individual piece of information required to provide an offer. They had to search for the work positions in one system, the spare parts in another system, the prices in the Dealer Management System (DMS), then they had to check with another department if the spare parts were in stock and book a time slot with a mechanic. The combination of all these steps was necessary to ensure that the customer would receive a reliable offer (see Figure 5).

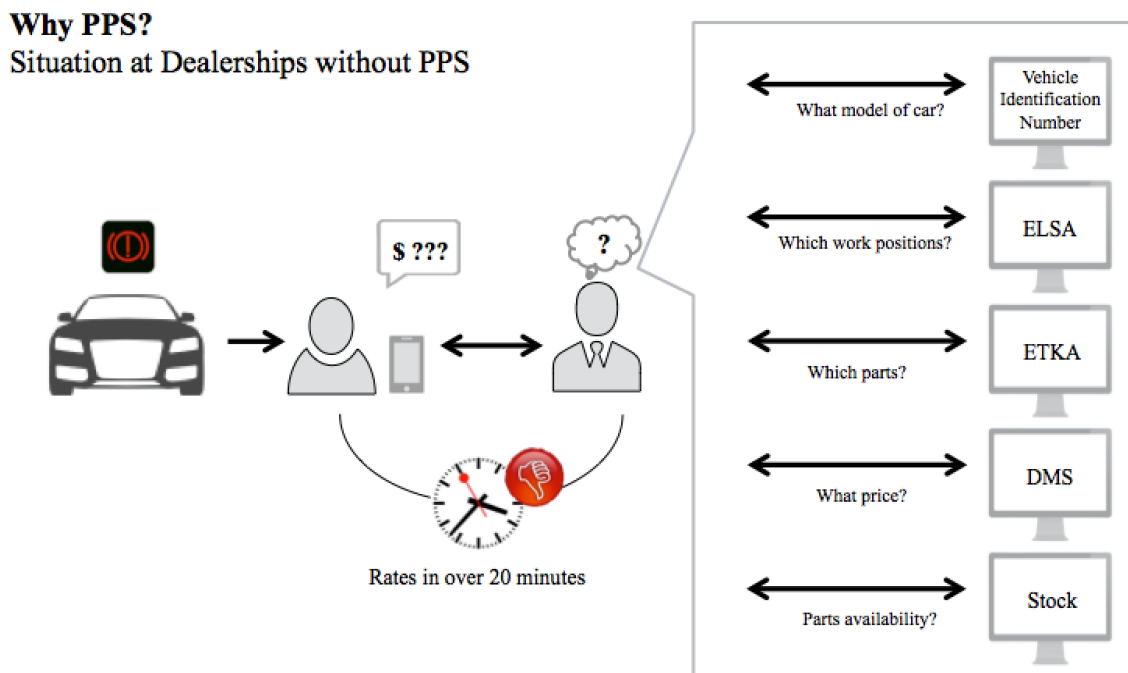


Figure 5 - Work Flow Without PPS. *Source: Volkswagen internal documentation.*

PPS allows the service advisor to find this information in as low as three minutes, since it is now all regrouped into a specific package (see Figure 6). This decreases the waiting time for a customer and ensures that they get fast, reliable, coherent and accurate

information, and also that they receive the same offer within one dealership regardless of the service advisor that makes use of the system. However, there are price variations across dealerships due to variations in labor rates, margins and discount rates. In the long run though, the dealership saves a considerable amount of time as PPS significantly accelerates the preparation process for an offer, which reduces their costs that either creates a bigger margin for the dealership or a decrease in price for the customer as the cost savings can be passed on.

Moreover, it creates the potential for cross selling, since the average customer will receive a better and faster quality of service that might make him or her more patient and willing to listen to a second offer. In the end, an improved quality of service by using PPS can increase the amount of potential customers because of the gains in efficiency, relative to before implementation and relative to competitors. An increase in customers can result in an increase in services, maintenance and repairs, where it is likely that original spare parts are used in these operations, thus increasing the turnover of spare parts for the OEM. This also demonstrates why the OEMs are willing to invest in developing the IT infrastructure, the packages and the business idea.

Why PPS?

Situation with PPS Integration in DMS

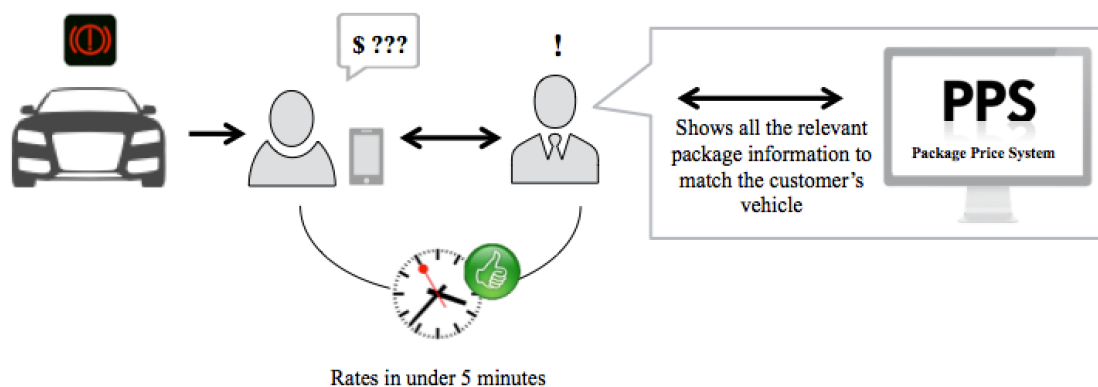


Figure 6 - Work Flow With PPS. *Source: Volkswagen internal documentation.*

Although the system functions well, roughly 40 percent of total workshop throughput is related to service and maintenance work for which packages are applicable. Many types of services are not included for various reasons. For example, major repairs such as engine changes and bodywork because of accidents are not included since each situation is unique. This is a market reality that can neither be changed by the OEM nor by the importer and dealerships. It is thus important to use PPS as much as possible for the appropriate cases, since every package that is not sold can be seen as a missed opportunity.

4.2.4 PPS Compatibility

Even though standardization is at the core of PPS, different PPS solutions are needed due to differences in requirements in various markets. PPS is available in two main forms: as a web browser application or as integration in the DMS. Both options provide quicker price information since they all access the same PPS server, where the package data is stored. The most important IT infrastructure for the PPS is a common server that has to be accessible for dealerships.

The fastest option to get access to PPS is via a web browser solution. The online version can be defined as a beginner version as it is the easiest to use, but at the same time provides the least amount of benefits. The access via standard Internet web browsers requires no additional software. Moreover, dealer specific labor rates can be stored and dealer specific discounts can be entered. It is the cheapest option because no interface development is required, yet it is therefore also the solution with the least benefits.

The second option is the integration of PPS into the DMS. One of the advantages of such integration is that no system change is required, because the dealership is already using the specific DMS. However, this is a more costly option than the web browser application because the integration between the DMS and the PPS server has to be developed. Most of the costs relate to IT infrastructure and are covered by the importer. Also, costs will rise for the importer with each additional DMS that requires integration. Additionally, the PPS program has to be integrated into the user face of the DMS. The benefit of DMS

integration is that all customer data as well as individual dealer prices and discounts are stored and are readily available in the DMS, so that a work order creation is possible in three minutes. It creates the most synergy because of the integration. Furthermore, the PPS system is operable via a tablet solution, which allows a service advisor the mobility to create offers while walking around the car with a customer.

4.2.5 Implementation of PPS

The organizational setup is comprised of three different units that are involved with the PPS system: the OEMs, the market importers and the market dealerships. The OEMs developed the concept and the IT system and are trying to implement it across markets. To do so, OEMs must contact their respective importers. Most markets (countries) have a single official importer who represents all of the franchised dealerships in that country. In essence, the importer acts as a middleman between OEMs and franchised dealerships, a practical solution for the OEMs as they only have one point of contact. The importer acts in the interest of their respective franchised dealership networks. The PPS program though is used at the franchised dealership level.

There is generally no rule or single approach to the first contact with importers for the implementation of PPS. On some occasions, the OEMs have attempted to push the system into different markets, while in other instances importers have approached the OEMs to obtain access to the system. Furthermore, regardless of which OEM is first contacted, every request is discussed in the core team since it is a group solution. The core team meets every other week and decides which OEM handles which specific market rollout.

The rollout begins once it has been decided which OEM representative will be the point of contact for a specific importer. It is important to be aware of the fact that the two different PPS options differ in their implementation. The importer decides which solution is the most suitable for its respective market, although the OEM also provides adequate consultancy in this process. Thus, the importer is responsible for integrating the chosen solution to its own market.

The first step in the rollout is the “Kick-Off Meeting” with one OEM representative and the technical rollout coordinator from Skoda IT, the IT division responsible for the whole project. Following this, the rollout is supported by the technical rollout coordinator and overseen by the OEM representative. The second step in the process is the “Key User Training” where the importer’s employees involved in the project will learn how to use the program so that they can also train the service advisors in their dealerships. Once this step is completed, the OEM remains only passively involved in the process. The importer is responsible for supporting their dealerships, although they can also contact the OEM if they have any problems or need to request new packages.

4.2.6 Global Impact

The PPS program has been rolled out since 2014, although not every brand is present in every market. Since then, it has been rolled out in many European countries such as Switzerland, Luxemburg, Spain, Italy, Greece, Cyprus, Denmark, Sweden, Finland, Iceland, Poland, Czech Republic, Bulgaria, Serbia, Slovenia, Croatia, Hungary, Romania and Russia. It has also been rolled out in many countries in the Middle East including the United Arab Emirates, Bahrain, Kuwait, Qatar, Oman, Lebanon and Jordan. In 2016, the rollout is continuing in a few European countries such as Belgium, Austria and parts of Germany. It is also planned to expand globally to reach countries such as Canada, South Africa, Japan, Taiwan, Hong Kong, Singapore, Malaysia, the Philippines, India, New Zealand and Australia.

5. EMPIRICAL FINDINGS

The following chapter sets the foundation for the analysis and will be divided into two sections: findings from interviews with Volkswagen and findings from interviews with importers. Three of the interviewees at Volkswagen have a good understanding of PPS by working with it indirectly (while the fourth is project manager of PPS). They primarily work on a system referred to as Project A, which has the same structure as PPS, but was implemented a few years earlier, and hence can be used a reference point for the near future operation of PPS. All data in this first section is drawn from respondents R1 to R4 (see Appendix 1). The second section presents findings from two international market visits. The two market visits are described in separate cases in a chronological order. All data in the second section is drawn from respondents R5 to R11 (see Appendix 1).

5.1 Background

The importers can be considered to be Volkswagen's direct customers in this project, yet the final customer at the dealership level remains essential. Customers often perceive Volkswagen as more costly than other brands, with less transparent price information, since Volkswagen's after sales online presence is relatively underdeveloped. Because of this, customers must call or visit a dealership to get the necessary price information (R2). Thus, it is of strategic value to Volkswagen to be able to provide quick price information to customers through the use of their technological systems (R1). One manager stated: *"The longer you are actually dealing with your systems and not with your customer, the customer service automatically goes down or the way the customer perceives it [the service]"* (R1). Thus, the efficient use of information systems is crucial to speeding up the process and saving the customer time.

5.2 Neoinstitutional Theory

The IR framework highlights the tension between global integration and local responsiveness, leading to various levels of transfer success along the two following variables: implementation and internalization.

5.2.1 Global Integration and Local Responsiveness

Volkswagen has attempted to achieve global integration through the standardization of the PPS system. Although the aim was a standardized system, countries differed in the ease of implementation. In some countries there were regulatory or legal issues that made the implementation difficult, although this was not an issue that was significantly elaborated on as it is handled by Volkswagen's legal department (R1 and R3). More importantly, they recognized that every market has a different culture meaning that there is no guarantee that what works in one market will work in another market. One manager stated: *"We need to be aware of [the fact] that the German mentality is not necessarily the same in the market, even if we are a German company"* (R2). Thus, although the interviewees at Volkswagen all described a standardized approach, flexibility was frequently needed (R2), demonstrating the need for local responsiveness. It became evident that the standardization of PPS was difficult with many technical issues. For example, almost every market has a different DMS, and there are even multiple DMSs within a market (R3). Instead, Volkswagen is trying to standardize the processes or the steps relating to the use of the PPS system (R3) by implementing best practices for example (R1). Respondent three stated: *"The approach [to standardize] is there, but in reality it looks different. You cannot standardize everything."* This effectively highlights the tension between global integration and local responsiveness.

5.2.2 Implementation

When asked about the implementation of PPS, all Volkswagen interviewees described implementation as the rollout of the IT system. The rollout is when Volkswagen and an importer agree on bringing the system to the market through an integration of their IT systems (R1). The rollout and integration had originally been carried out by the IT personnel from an external service provider and focused on technical aspects (R1 and R3). When the integration was completed and the IT systems worked, the piloting phase was initiated where dealerships were selected to make sure it was properly completed from the beginning (R1). From this point, it could take five to six weeks to go live, although the entire process could easily take a few months to half a year (R2). For Project A, only in the last year has Volkswagen contacted markets to review the implementation

and use of the system (R1). One manager explained: “[...] then we got into contact with the importer and realized that it was way more than just an IT problem. They didn’t understand the entire concept” (R3). They needed someone to explain the long-term value of the business concept behind it. At the time, there was a clear gap between the intended use after the rollout and the actual use in practice (R3). Originally, there was a failed attempt to implement the business idea, so actually when Volkswagen reviewed the progress in markets, one manager perceived it as a re-implementation of the business idea (R1). One interviewee summarized the focus of the implementation of Project A across markets: “In the past we were pretty much focused on delivering an IT tool without delivering the business story or the business vision behind, and that is why in many markets [...] we failed” (R2). In regards to the implementation of PPS he commented: “My fear is that it is the same mistake as with Project A”, given that the focus was again only on the technical implementation without initiating a change in the business mindset (R2).

5.2.3 Internalization

The full adoption of a practice requires not only a proper implementation, but also the internalization by the adopters of the practice. Internalization happens in each market and is a determinant of local adoption. As previously stated, the focus was predominantly on the technical implementation of IT systems and not on changing the mindset of the users (R2), which demonstrates that little attention was given to internalization. Markets may have internalized the business concept independently since Volkswagen had not prioritized until recently the success of internalization. For example, a market visit to a Southern European market for Project A showed that the market had fully internalized the business concept, effectively becoming a benchmark country, without any support from Volkswagen HQ (R2).

The internalization of practices is influenced by multiple factors, and Volkswagen interviewees constantly pointed out the effects of culture. They noticed that the Volkswagen culture is different in every country (R2) and that national culture makes internalization even more complex because the situation is almost unique in every

country (R3). When the managers of Project A reviewed markets, it was important to discuss the cultural difference with the importers in order to better support each market (R1).

5.2.4 Transfer Coalition

To achieve the best possible levels of implementation and internalization of Volkswagen's IT systems there was often a transfer coalition that formed at the importer that included after sales management, the service manager, representatives from the field force and an IT technician (R3). The workshops with Volkswagen where the transfer coalition was involved usually included approximately five to seven people (R2). It was the role of the Volkswagen representatives to convince the importer on the merit of the concept and the role of the transfer coalition to do the same with their dealership network. A successful adoption is possible when the dealerships are sold on the concept and use the system. However, this proved to be difficult because it did not always fit into existing processes and markets were reluctant to change due to little internalization of the business concept (R1).

5.3 Agency Theory

The principal-agent relationship is the interplay between two parties based on formal or informal contracts. There is a principal-agent relationship between Volkswagen (the OEM) and the importer, but also between the importer and the dealerships. Six key concepts from the theoretical framework were present in the findings from the interviews. These concepts include autonomy, goal congruence, risk aversion, information asymmetry, monitoring and incentives.

5.3.1 Autonomy

Importers have a great deal of autonomy. One manager stated: *"If they don't want to work with us, it's fine with us. We cannot force them. We make recommendations. We give them some ideas how it could work"* (R3). Another manager explained that he tries to show the importers that Project A can increase their business, but ultimately said: *"[...] if I cannot deliver some benefits it is definitely for me not the scope to convince*

someone for something that does not make sense” (R2). This shows that importers are not forced to adopt new systems or processes developed at Volkswagen.

5.3.2 Goal Congruence

One of the concepts highlighted in the principal-agent relationship is goal congruency. One interest or goal for Volkswagen is customer loyalty, i.e. to foster a relationship with the customer so that the customer remains satisfied and returns to the dealership. This requires a lot of time and effort on the part of the dealership, especially when customers often go to other workshops when their warranty runs out (R1 and R2). Project A and PPS can increase customer satisfaction and loyalty which directly influences the ultimate common interest between all three parties (Volkswagen, importer and dealerships) of selling more spare parts, as they all make a margin (R1). Although they all have a strong common financial interest, dealerships have different perceptions of the effort needed to reach high levels of customer satisfaction and importers do not always prioritize PPS as a means to support selling more spare parts. This demonstrates that there are limitations in goal congruence, or that there is some goal incongruence (R4).

5.3.3 Risk Aversion

Both Volkswagen and the importers assume some level of risk. For Volkswagen as an OEM, there is a large upfront investment into developing new systems with very little guarantee that importers will be willing to even implement them or actually use them (R3). On the importer side, the risk comes from the costs of integration. Completing the system integration is costly and the importer must see the long-term benefit of the integration (R1). They are often cautious in investing in the full DMS integration (R2). The web-application of PPS comes at almost no cost, which can be seen as a low-risk option for the importer. However, this option does not produce the same outcomes as a DMS integration (R1).

5.3.4 Information Asymmetry

Information asymmetry occurs in varying degrees. Most importers know their markets very well. For Project A, there was training material that was created by Volkswagen and

given to the importers, and it was assumed that this material was being used. Yet, there were many occasions when Volkswagen discovered during meetings that the importers were using their own materials when training their dealerships. In addition, the IT system for Project A requires that the service advisor actively goes back into the system and manually changes the status of the package to show that it was sold. But in reality, the service advisor has so much to do, that they do not have time to go back and change the status. Therefore, Volkswagen gets unreliable data regarding the number of packages sold, leading to information asymmetry between Volkswagen and importers (R3). In regards to PPS, at the moment Volkswagen is only barely able to determine the usage of the system. When a VIN is entered at the dealership, they can only see if a request was made from the system to view packages. There is currently no way of determining which exact packages were requested or even if they were sold (R4).

5.3.5 Monitoring

One tactic that can be used to partly overcome the agency problem as well as information asymmetry is monitoring. Monitoring usually occurs at the regional management level, where Volkswagen aligns targets on what each importer needs to achieve during a year. This is more or less a general alignment in terms of money figures or workshop throughput, not down to sales forecasts of specific spare parts. For Project A though, Volkswagen used to conduct ‘good-feel operations’ based on many reflective questions and not on KPIs that were measured and analyzed (R2). In the past year, the Project A team has developed their own strategy for ‘success monitoring’ where it is important to carefully report valid numbers, because without accurate data it is difficult to make an accurate analysis of the situation. Volkswagen’s perspective now seems to be that the success of a project should be analyzed by KPIs in order to have a common understanding of performance. They have set measurable project specific targets with importers, that when are not achieved could lead to support or retraining. Not every importer complies though, as others have their own ways of monitoring the success of Project A. These importers are asked by Volkswagen to voluntarily send them their management reports on a monthly basis. This helps Volkswagen determine what spare parts are selling well or not, so that they can support importers in improving sales (R3).

Nowadays, Volkswagen analyzes the data and then reaches out to their markets at least once a month to go over the compiled reports with the importer, since many importers often do not have much time to analyze the data themselves (R1). All of these actions by Volkswagen can be perceived by the importers as monitoring, but from Volkswagen's perspective it is more of a way of supporting importers because they are neither required to implement the system in the first place, nor to share this information with them.

5.3.6 Incentives

The second tactic that can be used to partly overcome the agency problem is incentives. Incentives can be a part of two relationships: Volkswagen-Importer and Importer-Dealership. There are no incentives from Volkswagen to the importer that encourage the adoption or the usage of the system. However, some importers have used incentives with their dealerships to encourage the proper use of the system in Project A. There are financial incentives in place, through a bonus scheme, which has been recognized as a best practice as well (R1). One market has implemented a 'Bonus League', where the importer creates competition among its dealerships. In this bonus program, the top ten dealerships based on sales turnover of spare parts receive a bonus and every month the classification gets updated. Others markets have bonuses based on the number of packages sold and the type of packages sold, in a tier system. For example, the service advisor gets a larger bonus for selling a tooth belt rather than a pawn filter because it is harder to sell. So the service advisor gets a bonus of six Euros for a tooth belt because it is the most difficult part to sell, a bonus of four Euros for brake pads in the middle and a bonus of two Euros for pawn filters because they are cheaper (R1). As one manager stated: *"I see the chance where if you have a bonus to motivate your dealers then they are using it [the system] right"* (R3). Having a tier system also makes the dealerships focus on selling higher turnover parts (R1).

Incentives are limited by the ability to measure the outcome. One manager at Volkswagen stated: *"Operations is all based on being able to measure an outcome. If you can't measure, you can't determine if you are doing well or not"* (R1). Moreover, it is difficult to pay out bonuses when the outcome (quantity of parts sold for example) is

not measurable. The importers that were able to measure outcomes were able to implement financial incentives, reducing the importer-dealership agency problem, and indirectly benefiting Volkswagen as well.

5.4 Knowledge Transfer

All Volkswagen interviewees pointed out that importers do have contact with each other from time to time and they meet a couple of times a year at conferences where they exchange information and possibly even best practices (R1 and R2), which is considered to be horizontal knowledge transfer (R1). The horizontal transfer of knowledge is not at the core of this analysis, but it must be recognized. Rather, the analysis will focus on vertical knowledge transfer between Volkswagen and the importers, and also to a lesser extent between importers and dealerships. The findings below will be grouped according to the following concepts related to knowledge transfer: training, relationships and trust, best practices and benchmarks as well as templates.

5.4.1 Training

“Training is always an important part of implementing a system” said one manager at Volkswagen (R3). Training, which involves significant communication, is an important means through which explicit and tacit knowledge can be transferred. There is explicit documented information such as comprehensive manuals, PowerPoint presentations structured into chapters and step-by-step videos that cover the implementation steps and processes. This is information that can easily be re-read or reverted to when necessary. However, one manager noted: *“Even if they have those materials, it does not mean that they understand it”* (R3), suggesting that there is some degree of tacit knowledge that needs to be transferred as well. To overcome this, it is necessary for Volkswagen employees to go into the markets and train the importers on site (R3). Nowadays, Volkswagen employees conduct two to four day workshops at the importer, where they analyze the uniqueness of the market and train the importer’s employees (R3). In less complex situations teleconferences or net view sessions can be held instead (R1 and R2).

Explicit training materials are important in situations where employee turnover is high at either importers or dealerships, as retraining is costly and time consuming. Having online

documentation can speed up the transfer process, as well as having one fully trained employee who is able to train new employees on the job (R2). It is equally important that knowledge gets transferred from the importer to the dealerships through training (R1).

5.4.2 Relationships and Trust

Relationships form a context in which the transfer of knowledge can occur more smoothly. At one extreme, there are strained (arduous) relationships between Volkswagen and importers where certain importers resist the recommendations and support from Volkswagen (R3). For example in Project A, a Central European market did not seem interested in the transfer of new knowledge since the importer believed adequate performance was reached, despite the fact that only 40 percent of dealerships utilized the system (R1). On the other extreme, there are also positive and strong relationships between Volkswagen and importers. In regards to Project A, most feedback by the markets was positive. During onsite workshops, the importers shared their knowledge and way of working with Volkswagen, and Volkswagen shared best practices accumulated from different markets. These relationships with markets in operation indicates that both Volkswagen and the importers are on the right track towards increasing Project A's outcome as well as the participation of dealerships (R3).

One important attribute in strong relationships is reliability and trust, or perceived trustworthiness. Volkswagen is sometimes perceived by the importers as having time to deliver rather theoretical concepts that are sometimes viewed as not pragmatic or applicable for business (R2). To overcome this, Volkswagen must attempt to increase benevolence and competence based trust. One way to demonstrate benevolence based trust is to remain flexible. One manager claimed that it was wiser to listen to the importer's concerns, than to firmly stick to his agenda, to create a more welcoming environment for dialogue (R2). Competence based trust was equally if not more important. One manager explained: *"A personal relationship helps, but you also have to be perceived, at least perceived, as the expert. You have to be able to show them how to improve any type of process. If you can do that, then you have their trust"* (R1). If not, another manager stated: *"[...] then you're welcome but only as a matter of politeness [...]"*

then you're perceived as a waste of time” (R2). Personal visits are one important way to create trust and to foster a willingness to work with the system (R1). Being able to transfer knowledge in the form of best practices is also a beneficial way to increase competence based trust (R2).

5.4.3 Best Practices and Benchmark Countries

Best practices can be seen as the opposite of unprovenness, since it is easier to convince people to apply and integrate knowledge that has proven to be useful in the past. Importers are interested in what happened in reality, and if there are some proven figures relating to valid processes that can be established throughout the whole organization. One manager gave an example by explaining that in the past they calculated business cases on pure assumptions, without having any concrete actions that would yield the hypothesized results (R2). Best practices are based on what has been experienced in markets and these real world scenarios are far more convincing for importers because they are already well-established examples. Measuring and reporting numbers can especially be very convincing (R3).

For Project A, best practices were collected and developed by Volkswagen after they asked themselves why certain markets perform better than others (R2). For Volkswagen as an OEM, when collecting best practices, they stated that it was important to visit both a couple of high performing (benchmark) markets, as well as a few markets that are not performing well, to compare and contrast (R1). Once these best practices have been formulated, it is very important to conduct face-to-face workshops with markets (R2) in order to discuss the formulated best practices and to compare the market's practices with the best practices (R1). Also, according to one manager: *“Even though one market was fairly advanced, they still like to see best practices from other markets”* (R1), demonstrating that there is still a willingness to continuously improve. Some markets even promote the sharing of best practices between their own dealerships. For example, in the Southern European benchmark market the importer has created a website where dealerships can communicate with each other to share best practices (R1). Yet, one manager explained that it is still unrealistic to believe that the transfer of best practices

can work in all markets because they are different not only culturally, but also among a variety of other factors (R1).

5.4.4 Templates

Volkswagen interviewees described a template as something with a given format that has to be complemented with information (R1) or more specifically as something that is ready to be handed and used by someone else without having to start from scratch (R2). Templates are incorporated in daily routines such as status reports as well as success monitoring and they are established on the basis of best practices (R3). As one manager stated: *“The presentation used for market visits is in a way a form of template, which is based on best practices from other markets to be used by the Project A operations team”* (R2). This PowerPoint presentation is taken to markets for a continuous process of implementing best practices and transferring knowledge (R2).

5.5 Southern European Market

The interview with the importer in the Southern European market was the first market visit. The head of the subdivision at Volkswagen After Sales recommended the market because it has a very proactive approach to PPS. All data is drawn from respondents R5 to R9 (see Appendix 1).

5.5.1 Implementation Phase

The Southern European Market has 51 dealerships. The importer discovered PPS for the first time at an after sales conference in Germany. The market subsequently decided that this system would be a necessity, and the technical rollout began in the middle of 2015, once the PPS core team and the importer had agreed on terms and conditions. The dealerships in the market are only using two different DMSs, which is perceived as beneficial by the importer because it makes the situation less complex. It was therefore decided that DMS integration was a better solution than the web browser version, as a reasonable long-term investment, despite the higher costs of integration. It is important to note that the market was already familiar with the concept and use of package prices,

which were originally created by the importer's after sales department and distributed to the dealerships in Excel format.

The implementation (integration) of PPS was established as a common project between the after sales and IT departments. There were two employees, one from each department, that were responsible for PPS from the beginning onwards and that worked full time on the implementation of PPS. The project was given high priority as it is a basic tool that is required to complete nearly half of their daily tasks, and it took roughly two months for the IT implementation. Both employees still support the project with approximately 40 percent of their working time, and they are now also being supported by a third person.

Prior to the actual rollout and implementation, PPS was firstly presented to workshop managers and service advisors by the importers, where the benefits and functionality were demonstrated, and where they collected feedback. This was based on a workshop with short introduction video tutorials for service advisors on the steps of choosing the right package with the right part numbers and labor rates. The benefits of the system were then presented again to dealerships at the end of the year during the annual after sales conference, where strategy and policy is communicated. Actually, these two presentations created a demand for PPS, as it went viral. Service advisors from the dealership network responded positively to the project and asked for its implementation. As one interviewee stated: *"It is not Germany, [...] it is a small country where all service advisors talk to each other"*. Everybody knew that PPS was the direction the market wanted to follow. The IT department completed the implementation on the dealership level and supported the training program in a phase that can be referred to as the pilot phase. The IT department actually visited the dealerships during the piloting phase and afterwards the training intensive workshops occurred.

The market believes that training workshops with the service advisors is the most efficient way to transfer knowledge of the system, and these training sessions are mandatory. Service advisors travel to the capital city where the importer's training center

is located to participate in workshops on different aspects, but at least one hour per session is spent on PPS. Video manuals are popular training tools, and these are often distributed via email. Other important updates are sometimes transferred personally via telephone. All service advisors are trained on the use of PPS and are also continuously updated with regards to new packages. The area managers, also known as the field force, are responsible for personal training sessions with service advisors at their dealerships, and recent training sessions have focused on other aspects such as cross selling.

5.5.2 Usage Phase

The usage of PPS in the Southern European market partly deviates from what has been implemented with the help of Volkswagen. The importer is still creating market specific packages, based on the information provided by PPS, that are distributed via Excel files to the dealerships, but that are also integrated in their two DMSs. Most of the time, one market specific package combines two PPS packages with a certain discount. This creates extra work for the importer, which is not intended by Volkswagen, but the importer is convinced that the self-created packages will result in higher sales. Nonetheless, the dealerships can also find and sell the original PPS packages in their DMS.

The importer is also able to collect a lot of data on the usage of PPS, and is thus able to monitor the dealership network. Much of this information is collected from invoices, as they are able to determine how many VIN numbers were invoiced with packages, which packages were sold (based on the package ID) and at what dealerships. The reporting tools are also able to report the bestselling packages and the least sold packages.

The importer monitors the dealership network on a monthly basis. The most important KPI measured is the ratio between the number of cars (VINs) in the dealership's workshop (throughput) and the number of packages sold. This KPI is further broken down as the cars are grouped by age into three different segments that have different selling potentials for different packages. The importer's service policy also includes a specific threshold for package usage. They require a package usage rate of 75 percent for segment one comprised of cars aged zero to four years. It is possible to monitor such

goals when data collection is feasible. They reported that the current usage rate is near 81 percent, up from an initial rate of 35 percent in the beginning, showing a clear progression of results.

The importer also focuses on another measurement, the ratio between sold packages and the total car park (the numbers of vehicles and the model type exported to the market) in the country. This ratio allows them to determine the success of another use of PPS relating to local marketing campaigns based on package information. The importer makes use of the OEM package data for marketing purposes, by setting specific discount prices on packages, but also by creating market specific packages that are then communicated to the final customer. This marketing function is not necessarily a feature promoted through PPS in all markets, but those markets that need this price structure can highly benefit from this practice. Price discounts are essential in this market because of the poor economic situation, which is leading customers to cheaper alternatives provided by their competition. Even though their prices are still more expensive on average, it is seen as an important incentive for those customers who still seek high quality brand service while saving money. On a strategic level, the importer compares itself to its competitors in regards to price, but not in regards to the system they use.

This monitoring and outcome measurability also influences incentives, especially in the form of bonus schemes. For instance, dealerships are awarded a yearly bonus in regards to parts sold. However, if they do not meet the 75 percent threshold of package usage in segment one for example, they lose ten percent of the annual parts bonus, which is quite a high amount. But as they explained, in order to be able to provide such incentives or to reduce them, they must be able to collect the data behind it to prove to the dealerships that they are not meeting the targets. Another incentive undertaken through the bonus scheme is to draw the attention of the service advisor to sell more complex and expensive packages that are more difficult to sell, but that create higher profits for the dealerships, importers and OEMs. The importer has created three categories of selling difficulty. Targets are set for all three categories based on the car park, the retention level and last

year's sales, and dealerships must meet the targets in all three categories to receive the bonus.

The field force plays the most important role in the operation phase because they also support and guide the service advisors in order to increase the usage of PPS. Twice a month the importer has a meeting with the field force where they discuss the progress in the usage of packages and PPS. During these meetings, the field force is provided with a report on the VIN numbers that were not associated to packages and status reports on KPIs. They then visit their service advisors with this information and attempt to understand why PPS was not used on those occasions, as it could be related to the service advisor or the system. These visits are also necessary to validate performance as the field force ensures the reporting is accurate since the outcome influences the importer's ability to monitor as well as the dealerships' bonus. By consistently following up, they are able to slowly improve the usage of PPS, by providing and collecting accurate information that supports monitoring and incentives. The importer also organizes at least three dealership conferences per year to review their progress and to inform them about the following quarter's focus. PPS is an important topic in all of these conferences.

PPS operations have yielded positive results in the Southern European market. Although the amount of time saved by using PPS was never calculated, the importer estimated that their service advisors save on average at least ten minutes per customer. They also believe that the system has yielded increases in customer satisfaction and loyalty. Prior to implementing the system, the importer was dealing with at least three cases a day where the service advisor would call and make them aware that a package was not found. With the implementation of PPS, there has been one such issue in total. In addition, because dealerships are able to save so much time, the potential for cross selling has also increased. The potential for cross selling can be calculated for segments two and three, and the importer now trains their service advisors to sell one euro worth of other services or parts for every euro that is sold through a package. This demonstrates that there are common benefits when the system is properly used and that a successful operation ensures the long-term usage of PPS.

5.5.3 Current Status

Understanding operations in markets is seen as vital for Volkswagen, so that it can determine what support to provide to importers. The Southern European importer is interested in receiving knowledge from experiences in other markets. There are no specific fields of interest, but in general they are interested in ideas and best practices that they can adapt in their market. The importer was willing to share all of the templates they used for monitoring purposes. Currently, PPS is running rather smoothly considering that they create and use market specific packages, and thus the importer requested no additional support from Volkswagen.

5.6 Northern European Market

The interview with the importer in a Northern European market was the second market visit. The Northern European market was selected because it has the most experience with PPS and because the importer is generally known for being a very advanced adopter of IT based solutions. All data is drawn from respondents R10 and R11 (see Appendix 1).

5.6.1 Implementation Phase

The Northern European Market has 81 dealerships. It was the first market to receive the DMS integration of PPS, in mid-2014. The importer was proactively trying to get a package system the year before and may have also been partly responsible for fostering PPS as a multi-brand project because they are an importer of many brands in the Volkswagen Group.

The importer decided on DMS integration because the web browser solution, which is not an integrated version, was not perceived as useful enough increasing the risk that their service advisors would not use it. The importer also emphasized how important it is that they only have one DMS in the market, which was developed in-house, and this makes the DMS integration more efficient in comparison to markets with multiple DMSs.

The importer's strategy was to create a more efficient service process and better customer service by ensuring that the service advisor has more time for the customer since one of the biggest challenges for the dealerships in the market was that their service advisors rarely had enough time for customers. For the market, PPS was only used as an internal benchmark, to improve in comparison to the status quo and not in comparison with their competitors' performance, especially since the importer considers itself to be a first mover in the market, gaining an advantage. Also, PPS became a strategic project because it was expected that it would be used on a large scale throughout the market.

PPS became a high priority project with direct involvement from the CEO and board of directors who organized PPS as a typical project within the company that was controlled by a steering committee that met once a month. The committee consists of the importer's vice president (head of steering), managing director of IT, head of development, two project managers (one from the after sales department and one from the sales department) and two representatives from the dealership council. They meet once a month and set priorities for the two project managers. Since the first steps of the implementation process, the importer has invested a large amount of money on the project.

During the first six months, the project was not IT focused. Instead, it was more about analyzing and measuring the time each step of the core service process took and also mapping all the roles involved in the service process, including primarily the service advisors, but also other influential people such as the spare parts department, the mechanics and subsequently the customers. The core questions focused on whom and on what the service advisor is dependent on. The importer took the approach to map the entire work process and to eliminate unproductive processes that added no value in order to cut operational costs. Part of this process was completed by organizing several two-day workshops, one for 16 service advisors, one for 16 mechanics and one for 16 employees of the spare parts department, in order to fully understand the steps and processes behind the workflow where PPS would be used as a support tool. Normally, in a dealership it is common that the service advisor would use more than 25 different systems or resources. For example, contacting the spare parts department was time consuming and this process

would be automatically integrated into PPS, reducing wasted time. Prior to PPS, the service process in the market took between 25 to 60 minutes, depending on the type of customer. With the implementation of PPS, the process now takes roughly five minutes and the service advisor is less dependent on others since all information can be accessed through PPS. The importer's philosophy was that user input is valuable to improve the process and to ensure that the users would be more likely to accept the changes.

Considering that PPS was a high priority strategic project, the project managers were involved full time during the implementation phase. Now that it has reached the phase of daily operation, the project requires only three employees (the project manager from after sales, the project manager from IT and a group service representative) who spend about 20 percent of their time on it to ensure the smooth operation of the system.

5.6.2 Usage Phase

The operation of PPS was not a part of the communication between the importer and Volkswagen. Therefore, the importer has developed its own operational standards and training methods to ensure that all dealerships and their service advisors know how to use PPS. The importer noted that it is easier to train a service advisor today because of the familiarity of and usage of IT in the work place. Technology has also enabled the importer to provide online training through its platform called the 'cockpit' where service advisors can access short video tutorials and screenshots on specific steps of the process whenever they need for example. Furthermore, this is not the only training channel used. The importer also organizes one-day classes with the IT department at their offices to teach service advisors about PPS. It is also possible for the dealership to request a training consultant or the PPS project manager who will personally visit the location. These methods are not compulsory, yet service advisors are required to participate in regular education sessions. These are organized at the importer's facilities with one of the two training consultants from the importer's IT department.

Regardless of education and information provided, the importer stated that IT systems in general, including PPS, show a tendency to be adopted at different rates. One third of the

dealerships used it immediately when it was implemented, the next third had to be convinced a bit more to eventually use it, and the final third will only start to use it when they are forced to by closing down the old system, as it is challenging to change the mentality of employees who have been using the older system for so long. The importer was also of the opinion that it was easier to convince the dealerships and the service advisors to use PPS based on an achievable outcome such as a healthy workshop throughput and not necessarily on the system itself.

Interestingly, the importer monitors certain KPIs in regards to the success or healthiness of a dealership on a macro level to determine certain aspects in regards to the usage of PPS. One KPI is the dealership's utilization rate, which indicates how many mechanic hours are actually being used in the workshop in relation to the total mechanic hours available. This helps the importer understand how much productivity the dealership receives out of their mechanics. This monitoring showed that the average utilization rate of all dealerships in November 2015 was 67 percent, while the latest status report in February 2016 showed an average utilization rate of 80 percent. The importer is convinced that this is due to the increasing use of PPS in dealerships. In order to calculate the utilization rate, it is important that every dealership is aware of the total number of customers their service advisors can process per day, because many dealerships tend to have several open orders that are not entered into the system. Every time an order is not entered into the system and a mechanic was free, the dealership's overall utilization rate is negatively affected. The dealership's management team has to be aware that the service advisor throughput rate is a possible bottleneck that can lead to underutilized mechanics.

There is another KPI that is monitored by the importer that calculates the variation between the mechanic hours booked by the service advisor for a maintenance or repair and the actual time used by the mechanic. The goal is to achieve a rate of 100 percent. This information is available in the importer's business intelligence system and measures deviations in both directions. For instance, if the service advisor miscalculated too much time for a maintenance or repair, the mechanic will have free time and will not be used effectively. Prior to PPS, the service advisor booked mechanics by estimating the amount

of time required based on experience, often resulting in inaccuracies. With PPS, the accuracy of the booking time is much more precise since the service advisor is provided with that information when selecting the package, thus increasing the mechanic booking precision rate and the dealership utilization rate. Oppositely, if the service advisor books too little time, the mechanic's schedule is inaccurate and the costs in the work order (for labor) are also inaccurate. Both scenarios are less than optimal and as such by monitoring this KPI, the importer assumes that a dealership with a high mechanic booking precision rate is properly using PPS.

Another observation made by the importer was that operating PPS actually increased the hourly labor rate average at dealerships because it gives the correct labor positions with the correct degree of complexity. A higher degree of work difficulty is supposed to be charged to the customer with a higher labor rate. Before the use of PPS, service advisors frequently used the lower labor rates when they were unsure about the degree of difficulty. Even though this is beneficial for the customer, the dealership has to consider that a more qualified mechanic also earns a higher wage, so they should ensure that the labor positions are correctly billed. Therefore, the accuracy of the billed labor rate can also be considered as a monitored KPI.

All dealerships are also aware of how they stand in relation to these KPIs because they are visited and informed by the field force. The field force is provided with the reports on KPIs in regular discussions with the importer or when they approach the PPS team at the importer when they have a specific dealership visit scheduled. They also get informed about and trained on every new update regarding PPS, and the system is always a part of the agenda for dealership visits. Furthermore, bi-annual meetings are held with importers and dealerships, where the importer presents updates on PPS as well as performance updates where it shows examples of high performing dealerships.

This monitoring is taking place on a dealership level and not on the PPS level. In regards to monitoring and creating KPIs for exact package usage, the importer noted that a service advisor is able to delete the package number in order to change packages

manually. Therefore, the importer is unable to track package usage anymore. This effectively means that the importer can only monitor as much as Volkswagen in regards to package usage i.e. only if a request was made to use PPS. Furthermore, the importer is actually not interested in monitoring sold packages, as they are confident that the use of PPS in itself positively influences the above-mentioned KPIs. This makes the KPIs more relevant to the market and is hence sufficient for them. In reality, if the dealership is performing poorly in regards to the developed KPIs, than the importer can act as a consultant and can visit the dealership and analyze its operations. One frequent conclusion by the importer is that poorly performing dealerships are not making effective usage of PPS.

In relation to incentives for the operation of the system, it was clarified that there is no bonus structure in place in the market for PPS because it is unclear as to who would pay out the bonus and also because it is not possible to measure and monitor the exact usage of PPS (by identifying which packages are sold and in what quantity). However, the PPS project manager noted that he is aware of the suggested incentive structure that was communicated to him by the Volkswagen managers responsible for Project A. This is perceived as an interesting approach, but it is to some extent a political matter that cannot easily be resolved.

5.6.3 Current Status

Currently, the importer has developed its own solution to access PPS via an add-on, which is built upon the DMS, because this option is more suitable for them. This solution is a new alternative in comparison with the original DMS integration. In the near future, the importer expects to cease the original DMS integration of PPS, and to only allow service advisors to work within the add-on that will provide even better long-term performance of dealerships. Another usage option that was developed by the importer allows the service advisor to open up PPS in the work order, which is not an option provided by Volkswagen. Furthermore, PPS is sometimes used to find spare parts or other pieces of information because a knowledgeable service advisor can make use of it

in different ways. In some of the dealerships, the mechanics even operate PPS by themselves and most mechanics can access the DMS in the workshops.

Since the beginning of the project, there has been a lot of communication and development regarding PPS between importers and dealerships and today every service advisor in the market is aware that they can contact the PPS project manager at the importer via email for any wishes. Then, the importer updates a 'wish list' of the most frequently requested new packages, etc. In general, it has been noticed that service advisors would like more packages in PPS and would even like to create their own. A category of packages that include accessories would be interesting for cross selling purposes, because the market does not necessarily see cross selling as one of the value propositions of PPS.

6. ANALYSIS

The analysis of the case is at the core of this thesis and it draws upon all previous sections in order to answer the research questions. It also draws a connection between the empirical findings and links these findings to the theory. Every reference is a connection to theoretical concepts from the theoretical framework in order to facilitate the reader's understanding. The analysis is structured according to research questions, as each sub research question is representative of one of the three literature streams chosen. The main research question is approached at the end of the analysis.

6.1 Differences across Markets

This section seeks to analyze *how the adoption and usage of the IT system differs across markets*. The case demonstrated the size and scope of a project like PPS. Companies like Volkswagen Passenger Cars, and even more so the Volkswagen Group, shows that an OEM in the automotive is truly a complex MNC. It is evident that it is difficult to implement an IT system like PPS in a standardized manner given the multitude of countries and users involved across all five OEMs. It even proved to be a challenge within Volkswagen Passenger Cars, the OEM in focus, that itself already has a large number of importers and several hundred dealerships. Considering that every country is different, it is relevant to analyze the case through neoinstitutional theory.

6.1.1 Standardization vs. Local Adaptation

In Volkswagen's original point of view, PPS was a standardized support tool that would function the same way and that would require the same processes across markets. By providing this IT system to multiple markets, they were trying to take the approach of global standardization. This is especially evident with the Web Browser Application, the simplest and least costly alternative for markets, which means that smaller markets are more likely to choose this alternative given their resources. Theoretically speaking, the DMS integration was also a standardized alternative, but in practice this varied significantly across markets. Volkswagen's approach to the implementation of PPS was also nearly identical across markets. That is, the technical implementation of PPS was rather similar across markets. The company was clearly trying to derive a competitive

advantage from transferring and using a standardized system worldwide. Nevertheless, Kostova and Roth (2002) argue that MNCs face pressures from their local environments resulting in the adoption of local practices. What was surprising was that, until recently, Volkswagen assumed that the usage of PPS was identical in all markets that had adopted and implemented the system. The empirical findings from the importers interviewed in the Southern and Northern European markets provide good examples of the contrary. There are differences in both markets because there has been a degree of local adaptation in each market, affecting things like the usage of the system and its intended benefits. This indicates the tension between the need for global integration and local responsiveness, as claimed by Kostova and Roth (2002).

6.1.2 Similarities in Adoption

Both the Southern European and Northern European markets seemed to have gone through similar PPS adoption stages. Firstly, both markets were in a way familiar with the concept prior to adopting the system, which likely had a positive effect on the internalization of PPS. The Southern European market was using a similar, but less integrated system prior to adoption, while the Northern European market was proactively seeking such a system. Before making the decision to adopt the system, they also both managed to create a demand for it, by demonstrating the benefits of PPS to their dealerships or by involving them in the design of the workflow processes related to PPS. When the decision was made to adopt and implement the system, it was made a high priority project, where significant resources (time and money) were invested to ensure that it was properly implemented in the dealership network. Finally, the implementation was made easier since the Northern European market had only a single DMS and the Southern European market had two different DMSs that were being used. Hence, there were clear trends in both markets that ensured the adoption of PPS.

6.1.3 Differences in Usage

Clear differences were identified in the usage of the system, again demonstrating a degree of local adaptation. Although both monitored the usage of the system through similar means, they did so through very different measures. The Southern European market

monitored the usage on a system level. That is, they set KPIs in regards to the packages delivered from the system. They were interested in collecting data in order to determine the type and quantity of packages sold. This also allowed them to create incentives for their dealerships, through bonuses for example. It was easier to design appropriate bonus schemes because they were able to measure direct outcomes. This is in line with O'Donnell (2000) who argues that incentives are effective when the outcomes can be measured. In contrast, the Northern European market set more general KPIs that indirectly measured the usage of PPS, since they were unable to and even uninterested in measuring it on a system level. They were more concerned with KPIs such as utilization rates at their dealerships as well as certain service advisor and mechanic efficiency rates. There were also no incentives used to reach target levels, because there was no direct outcome measurability.

6.1.4 Patterns of Adoption

Kostova and Roth (2002) and Edwards and Molz (2014) have developed patterns of adoption for the transfer of practices (see Figure 7). Before categorizing the two markets that were analyzed, it would be useful to define each of their patterns in relation to PPS. As such, non-adoption occurs when the importer, who has significant autonomy and power, does not consider PPS as useful, or simply decides not to adopt it. Oppositely, active adoption seems difficult and unlikely to be achieved regularly because of the need for local adaptation in markets, highlighting different institutional environments. Minimal adoption occurs when there is little fit between the system and the market's processes or when there is little relationship between Volkswagen and the importer. Assent adoption occurs when the importer is convinced of the system's benefit, but where the implementation is not perfectly suited to the market or where the market lacks the resources or capabilities to properly implement it. Ceremonial adoption occurs when the importer implements PPS, but is not convinced of its benefit. This is an unlikely alternative because the importer is not pressured into implementing PPS if they do not see the value in it from the beginning. It is assumed then that there are relatively weak isomorphic pressures, a concept introduced by Kostova and Roth (2002), for the importer to conform and maintain legitimacy with Volkswagen.

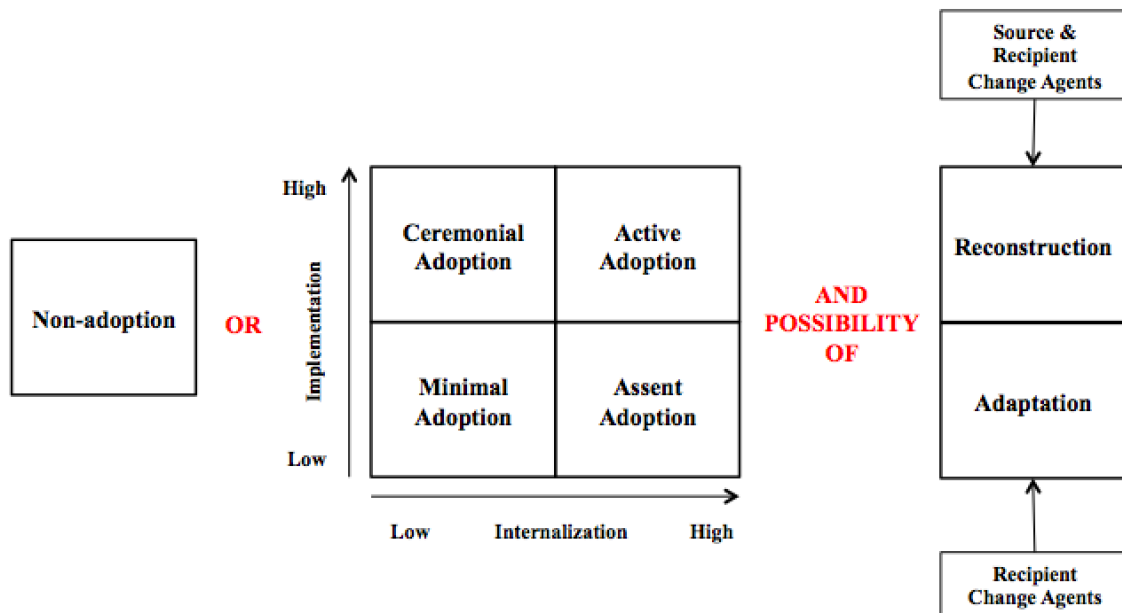


Figure 7 - Patterns of Adoption. *Source: Compiled by authors based on Kostova and Roth, 2002 and Edwards and Molz, 2014.*

The concept of change agents developed by Edwards and Molz (2014) is also relevant. Employees from the original transfer coalition (when adopting PPS), which serves as a link between the parent and the recipient (Kostova, 1999), take on the roles of change agents when adaptation of the system is needed. From the importer's side, they would be responsible for the adaptation of PPS to better suit the market's needs, a process that would be entirely driven by the importer with no involvement from Volkswagen. This scenario is quite likely considering that Volkswagen is not actively involved in the post-implementation. If Volkswagen begins to follow up on the usage of PPS, it is likely that Volkswagen employees will take on the role of change agents as well, and if they are successful changes agents it can lead to reconstruction. For Volkswagen, the goal is to understand the market's needs together with the importer in order to develop a better solution in partnership.

Categorizing markets in terms of patterns of adoption is more a matter of perception and judgment and from the empirical findings it is possible to determine that the Southern European market has internalized the business concept behind PPS to a fairly high

degree. However, the implementation of the system was successful from Volkswagen's perspective, but not entirely from the importer's point of view given the slight misalignment between PPS and the market specific processes required for its proper usage. Thus, this market can be categorized as assent adoption, given the combination of high internalization, but misaligned implementation as originally defined by Kostova and Roth (2002). Since the market needed to change the system to optimize its usage, and since Volkswagen provided little input after the technical implementation of PPS, the importer began a process of adaptation, a pattern of adoption based on Edwards and Molz (2014). Based on the efforts of change agents at the importer, it was possible to adapt parts of the standardized PPS solution to the market's requirements. For example, the importer made use of the package data from PPS, but continued to copy this data into Excel files, rather than solely use it within the integrated DMS system. Thus, the Southern European market has developed a market specific approach of using PPS. Volkswagen implemented PPS in its standardized way without being aware or trying to understand the market specific contradictions and misaligned interests from different institutional environments that affect the usage of the system. Therefore, PPS is not exactly used in a way that was intended by Volkswagen, but through the process of adaptation, the adoption and usage of the system has remained beneficial for the market, and indirectly for Volkswagen as well.

From the empirical findings, it was possible to determine that the Northern European market has completely internalized the business concept behind PPS, and has successfully implemented the system according to both the importer and Volkswagen. Because of this, Volkswagen considers it to be a benchmark that is often referred to in their internal documentation. Thus, this market can be categorized as active adoption, as originally defined by Kostova and Roth (2002). The integration with the market's DMS is working very well and their service advisors make use of the system as intended. Even though the market cannot accurately prove the exact use of PPS, the importer believes that their KPIs and parameters are an accurate measure of its usage, although this can be questioned. This year, the importer has even begun to further develop PPS in its market. There are new features, accessed through the add-on, that were not transferred by

Volkswagen along with the original basic PPS system. Therefore, there are also change agents at the importer that have begun a process of adaptation, given that these changes are even more beneficial for the market.

6.2 The Principal-Agent Relationship

This section seeks to analyze *how the adoption and usage of the IT system is influenced by the independent organizational setup of the automotive industry*. Most theory on the transfer of knowledge and/or practices assumes that it occurs between HQs and subsidiaries within an MNC. However, this is an inaccurate depiction since the automotive industry is much more complex, where foreign markets are controlled by an independent importer who supplies all of the OEM's franchised dealerships. It is useful to analyze these relationships with the help of agency theory.

6.2.1 Goal Incongruence and Risk Aversion

There are two principal-agent relationships that make this case different from a standard headquarter-subsidiary relationship. There is first of all an OEM-importer relationship, in this case between Volkswagen and each market importer. There is also a second relationship between the importer and its dealership network (see Figure 8). At the core of the principal-agent relationship it is assumed that the agent, a utility maximizer, will not always act in the principal's best interest, resulting in goal conflict (Jensen and Meckling, 1976; Roth and O'Donnell, 1996). All three units in the case display some self-interest and each has their own opinion of what is best for their 'business'. Although they all have a common goal of selling more spare parts, they each have a different understanding of the means of reaching that goal, which likely results in that PPS has a different priority in each market. Moreover, Eisenheart (1989) claims that different actions may be taken because of different risk preferences. The difference in Volkswagen's and the importer's willingness to take risk is an important reality of the relationship and is closely linked to resources. Volkswagen carries a significant (mainly financial) risk because they must ensure an adoption and usage of PPS to justify their investment. Again, it is surprising given this high level of risk that Volkswagen has rarely followed up on the usage of the system in markets. Until recently, their involvement

ended after the technical implementation of the system. More importantly perhaps is the reality that not every importer has the time, staff and money to adopt PPS. Thus, there is a large possibility that there are not enough resources to guarantee PPS's long-term usage following its adoption and implementation in the market.

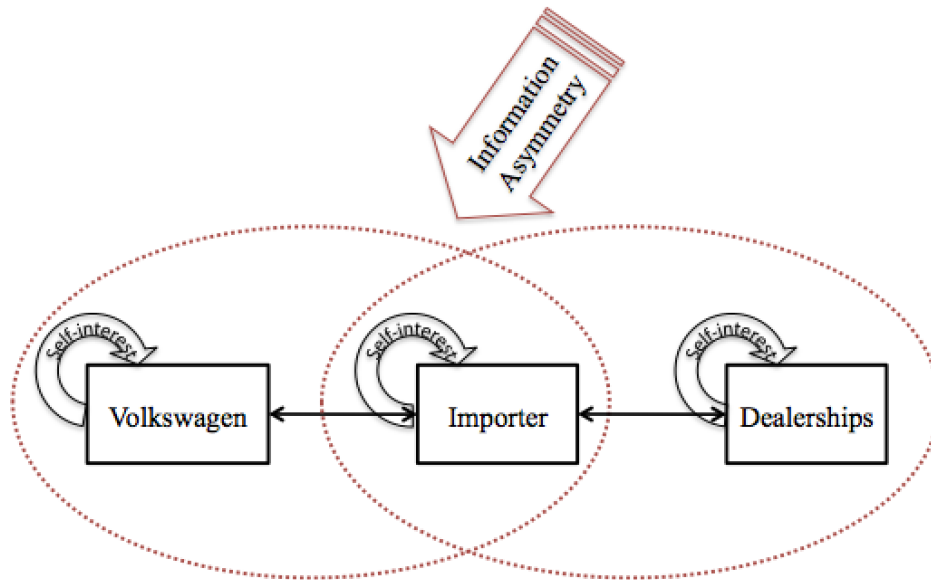


Figure 8 - Principal-Agent Relationships. *Source: Compiled by authors.*

6.2.2 Monitoring and Incentives

To counter the divergences, the principal can limit the agent's self-interested behavior through monitoring or can align the goal through the use of incentives (Jensen and Meckling, 1976; O'Donnell, 2000). The agent's autonomy is one of the characteristics that make monitoring difficult (O'Donnell, 2000). It is clear that the importer, as an agent, is highly autonomous and can take its own strategic decisions. Volkswagen is unable to force the adoption of PPS on its importers. Also, there were moments where it seemed that Volkswagen employees were hesitant to even contact the importers to ask questions about the usage of the system in the markets, such was the strength of their autonomy. This leads to another characteristic, namely information asymmetry, which also makes monitoring difficult as argued by Roth and O'Donnell (1996). Volkswagen has very little information and understanding of what takes place in each market after they have implemented the IT system. That is, they have almost no direct contact with

customers and service advisors at the dealerships. All information must come through the importer, which again strengthens the agent's (importer) power.

Volkswagen does not have much ability by itself to monitor its importers, since direct monitoring is not feasible without the importer's consent and since PPS provides very little and somewhat inaccurate data on its usage. Volkswagen is only able to quantify each request that was made to the server to view packages. This is an insufficient and weak form of monitoring, since it cannot record sales of packages and since data on PPS usage becomes inaccurate when markets such as Southern Europe for example build their own solutions (adaptation), which unintentionally circumvent Volkswagen's monitoring ability. Thus, neither direct monitoring nor monitoring through bureaucratic mechanisms, as defined by O'Donnell (2000), is effective. The other option is to offer importers incentives to use PPS, but this is not currently being undertaken or even explored. At the moment, there is no real success monitoring option available for Volkswagen since the organizational setup of the industry restricts the information that can be gathered by the OEM. Thus, from Volkswagen's standpoint, the successful adoption and usage of PPS is limited to its capacity to convince importers of its usefulness and to trust that it is being used appropriately.

In the second principal-agent relationship, between importer and dealerships, it is evident that importers have succeeded in using both monitoring and incentives to ensure the proper adoption and usage of PPS. There is a lot less information asymmetry since the importer is in communication with its dealerships regularly through the field force and less directly at scheduled quarterly or annual meetings. The field force visits are in a sense direct supervision, as conceptualized by O'Donnell (2000), since they are on site to observe, record and discuss actions that are being taken. Importers also use more bureaucratic mechanisms as argued by O'Donnell (2000) like measuring different KPIs, which allow them to indirectly measure the adoption rates and the usage rates. Dealerships, the agents in the second principal-agent relationship, also seem to be less autonomous. For example, the Northern European market will shut down the old system and force its dealership network to use the new integration of PPS. Incentives are also

used in some markets, like the Southern European market, to align their goals. O'Donnell (2000) argues that incentives are more effective if outcomes are measurable. Unlike the Northern European market, the Southern European market uses incentives because it is able to measure the packages that are being sold at each dealership. Monitoring and incentives are common practice within markets to ensure the proper adoption and usage of PPS, but they differ in the content and the use of these two methods. Thus, the independent organizational setup of the automotive industry seems to make the OEM-importer relationship more difficult to manage in comparison with the importer-dealership relationship.

6.3 Knowledge Transfer

This section seeks to analyze *how knowledge relating to the IT system is transferred from OEM to the markets*. The case will be analyzed in relation to the difficulties of knowledge transfer outlined in the literature.

6.3.1 Knowledge Transfer from Volkswagen to Importer

Volkswagen approached the adoption of PPS as a relatively straightforward transfer of IT knowledge. In other words, the transfer of knowledge was completed when Volkswagen's IT department had integrated the system in the market and when they transferred the required knowledge to the importer on how to operate the system. Successful IT system integration required significant knowledge transfer between the IT department at Skoda (as Skoda IT is responsible for the whole of PPS at the Volkswagen Group), the IT department at the importer and an external IT consultant when required. Although this process was not really analyzed, it is assumed that this transfer of knowledge relating to the technical implementation was relatively straightforward since they managed to implement PPS in many markets, taking only a few months at a time (see Figure 9).

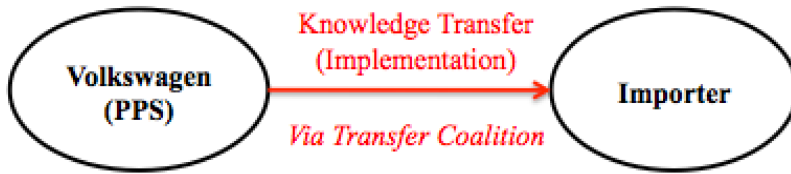


Figure 9 - Knowledge Transfer from Volkswagen to Importer. *Source: Compiled by authors.*

This means that the transfer coalition that formed between Volkswagen and the importer was able to overcome some level of internal stickiness, defined by Szulanski (1996) as the difficulty in transferring knowledge within the organization. Some of the most prominent factors that affect internal stickiness include a lack of motivation, an arduous relationship, a lack of absorptive capacity and a poor perception of the reliability and trustworthiness of the source (Szulanski, 1996). Successful transfers of knowledge had an underlying positive motivation on the part of the transfer coalition, which likely comes from an organizational culture at the importer that is supportive of learning and change. There were also favorable relationships between the employees in the transfer coalition where respect and trust were formed from past experiences. In addition, although difficult to determine per se, it can be argued that in successful transfers, the importers overcame a lack of absorptive capacity by taking the time and putting in the effort to study it in enough detail to make it useful as stated by O'Dell and Grayson Jr. (1998). When this foundation was in place, what really facilitated the transfer though was the perceived reliability and trustworthiness of employees from Volkswagen. They displayed benevolence based trust, a concept identified by Levin and Cross (2004), by developing and sharing PPS, a useful system, with the markets. They also displayed competence based trust, another concept from Levin and Cross (2004), by demonstrating that they were experts on the system and that they could deliver results.

In practice, knowledge was transferred during training workshops, which employees stated were the most effective and developed tool to teach importers how to use the actual system. Face-to-face training sessions allowed for a transfer of both explicit and tacit knowledge. Volkswagen was able to transfer explicit knowledge through documentation such as training manuals, videos, pictures, etc., which was useful to have when the

importer had a simple question that needed to be answered. There was also a tacit component that was transferred by teaching the importer's employees on how to use PPS in person. In a sense, Volkswagen created a template on how to transfer knowledge to their importers, a way that has proven to be useful every time, thus overcoming the unprovenness of the knowledge, a characteristic of the knowledge identified by Szulanski (1996).

6.3.2 Knowledge Transfer from Importer to the Dealership Network

Transferring knowledge about the system from Volkswagen to the importers is not enough to ensure a successful adoption and usage of PPS, since the importers are not the end users of the system. Thus, it was important that the importer found a way to transfer the knowledge gained from Volkswagen to their dealership network. The main channel used by importers was the field force, a set of people that visit dealerships to communicate information on the system. Again, it was observed that a significant part of this process was a transfer of tacit knowledge, as face-to-face interactions were the best way of transferring knowledge. The field force sourced its knowledge from the importer and then regularly visited dealerships to communicate new information, for example if the importer adapted a process. Mandatory training workshops with service advisors were also held at the importer's HQ together with the field force. The importer also transferred explicit knowledge in the same way through documentation such as user manuals, short videos, etc. The field force also has another important role as the key link in collecting feedback or requests from dealerships and transferring this knowledge back to the importers. In any good relationship, there should always be a two-way transfer of knowledge (see Figure 10). However, Volkswagen cannot take for granted that the field force is always the means through which knowledge flows regarding PPS.

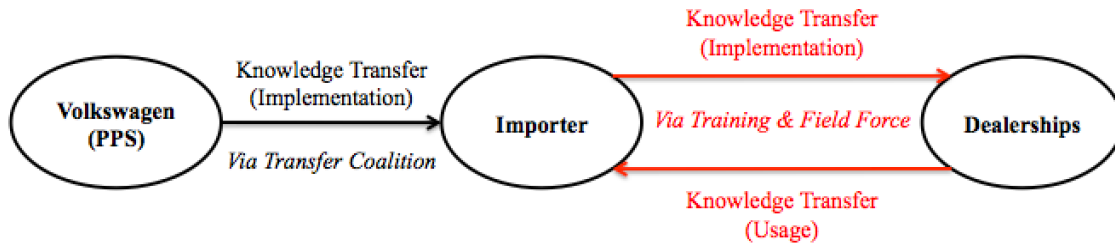


Figure 10 - Knowledge Transfer between Importer & Dealerships. *Source: Compiled by authors.*

6.4 Ensuring Adoption and Usage in the Long-run

This section seeks to analyze *how an OEM in the automotive industry can ensure the adoption and long-term usage of an IT system across markets.*

Volkswagen, an OEM, must understand and accept that in the automotive industry they are part of a principal-agent relationship, where importers have high levels of autonomy. This effectively means that there is information asymmetry regarding the end users of the IT system that they must seek to overcome. Traditional mechanisms such as monitoring the usage are ineffective and incentives are not provided given the inability to measure outcomes, which makes the matter more difficult. Volkswagen must find a way to gather more information on the system from the importer, given that it has no access to dealerships. Instead of seeking to gather this information, Volkswagen to a certain degree surprisingly assumed that when the system was implemented and adopted by the importer, it was automatically being used in their anticipated way and that it created the benefits that it was supposed to. Part of the reasoning behind these assumptions was that Volkswagen believed that PPS was more of a transfer of technology and technological knowledge rather than a transfer of a practice, which Kostova (1999) defines as more complex and broad in scope and more ‘people’ rather than ‘technology’ focused. Although technology is at the core of the implementation of an IT system, it should not be overlooked that people use the system and they are the ones that have to internalize it in order to incorporate it into their daily work processes. Low levels of internalization can occur with even a small deviation between what the service advisor perceives as useful and what the system delivers technically. It is also important to make sure that employees at the importer have first internalized the business concept behind PPS, otherwise there

are relatively low chances that it will be transferred, adopted and used in a satisfactory manner at the dealerships. Therefore, to ensure the adoption and usage of the IT system, Volkswagen should have approached PPS as more of an organizational practice, rather than just an IT solution. If they had understood the importance of the human aspect, they might have been more inclined to seek more information on how service advisors in the markets use the system.

Moreover, assuming that PPS is being used as it was designed is very risky given that they have very little concrete evidence of its usage in all markets where it has been implemented and considering the significant amount Volkswagen has invested into the system. Even though it is difficult to overcome information asymmetry, Volkswagen must attempt to understand more proactively how each market makes use of PPS. One important way is to continue to foster a relationship with the importers after the adoption of the system in order to continue developing commitment to, identity with and trust in one another as well as to keep communication channels open. As such, the transfer coalition plays an important role, and it should not be dissolved once implementation has been completed. From the empirical findings, it became clear that importers have a very good understanding and knowledge of their markets. The field force ensures that knowledge flows from importer to dealerships and back to importer. Moreover, importers often have monitoring mechanisms and incentives that help them collect information and achieve set usage targets. Through a strong and sustained relationship between key members of the transfer coalition, Volkswagen can potentially get the importer to share this information with them. It is only by getting access to this information that Volkswagen will understand that the usage of the system differs in every market, a reality they have previously underestimated. Although the system in itself is helpful in reaching a more standardized global approach, every market has a different DMS integration and different issues related to its usage.

Volkswagen rushed into implementing PPS in many markets without following up on the markets that adopted the system to understand the operation of PPS in the long-term. By gaining access to information from the importer on the usage of the system, Volkswagen

can begin to support markets and can continue to play an important role in the long-term. Collecting this information from many markets will allow them to compare the usage in markets, potentially allowing them to identify certain best practices (see Figure 11). Szulanski (1996) defines best practices as practices that are performed in a superior way somewhere within the firm and that are superior to other practices within the firm and outside the firm, related to their adoption and usage. For example, the use of certain KPIs and incentive structures seem to be common practice in two well performing markets that shared this information.

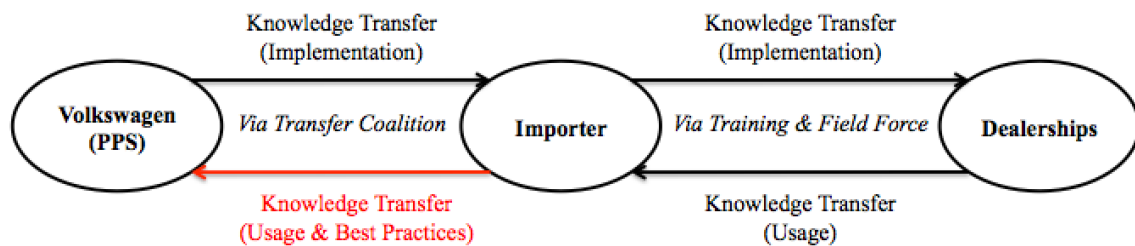


Figure 11 - Ideal Knowledge Transfer Flow Between Volkswagen and Markets. *Source: Compiled by authors.*

These best practices are likely to be helpful in other markets as well, which will also allow them to be able to decrease the gap in usage levels between markets in an attempt to have a high usage level across all markets (see Figure 12). Markets have stated that they are open to sharing best practices if they receive knowledge on best practices in other markets as they are constantly trying to improve the usage of PPS. Volkswagen can play the intermediary role and transfer best practices.

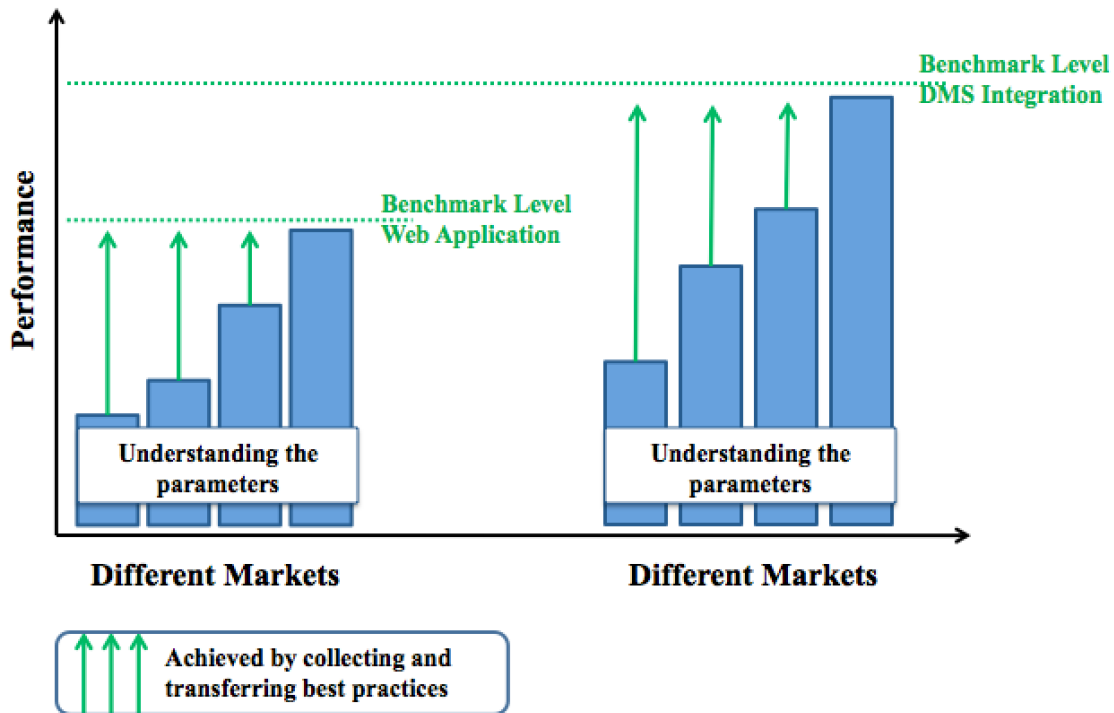


Figure 12 - Increasing Performance Across Markets. *Source: Volkswagen internal documentation.*

Furthermore, collecting this information and knowledge from markets will also help Volkswagen implement PPS more effectively in new markets and ensure its long-term usage in those markets as well. Jensen and Szulanski (2007) have argued that creating a template can increase the effectiveness of the transfer of knowledge, in terms of both the adoption and performance at the recipient unit. Other authors (Kostova, 1999; Kostova and Roth, 2002) claim that following a template decreases transfer effectiveness by constraining local adaptation, as the local adaptation of practices fit the characteristics of the host market and will maximize effectiveness and assure a fit between the host unit and its environment. Although it is possible to replicate routines, the empirical findings have shown that markets are likely to differ too much for the use of one general template. For example, markets can choose between the Web Browser or DMS integration and each market has a different number of DMSs, complicating the standardized approach. It was also evident that markets adapt PPS to their needs. Thus, if Volkswagen is unable to use a template for the transfer and replication of knowledge, they should again seek to support markets through a process of reconstruction. Reconstruction would occur when

change agents from both Volkswagen and the importer (part of the continued existence of the transfer coalition) reconstruct the practice to resolve any inefficiencies and contradictions by borrowing elements from both institutional environments, following the argument from Edwards and Molz (2014). Ensuring the long-term adoption and usage PPS requires a process of reconstruction where they are jointly involved in identifying the appropriate solution so that they are both satisfied with the outcome. Fostering a good relationship with the importer is essential for reconstruction, so that change agents can be identified in both units. Reconstruction also ensures that knowledge is not being created simultaneously in two units, therefore wasting resources. Reconstruction is a process of common learning, and Volkswagen might even be able to transfer reconstructed practices to other markets.

6.5 The Conceptual Framework Revisited

In response to the empirical findings, the conceptual framework has been revisited (see Figure 13 in comparison with Figure 1). The original conceptual framework was to a large extent accurate and helpful in understanding and explaining the case of Volkswagen's PPS. However, the findings and analysis imply that the transfer of knowledge is not adequate in order to ensure the adoption and long-term usage of the IT system across markets. The transfer of knowledge in the second principal-agent relationship between importer and dealerships set an example on how bilateral transfer of knowledge can work. However, if this knowledge flow stops at the importer, the OEM cannot ensure the adoption and long-term usage of the IT system. Therefore, a bilateral transfer of knowledge should also characterize the first principal-agent relationship. This finding has been incorporated into the revisited conceptual framework and has been highlighted in red.

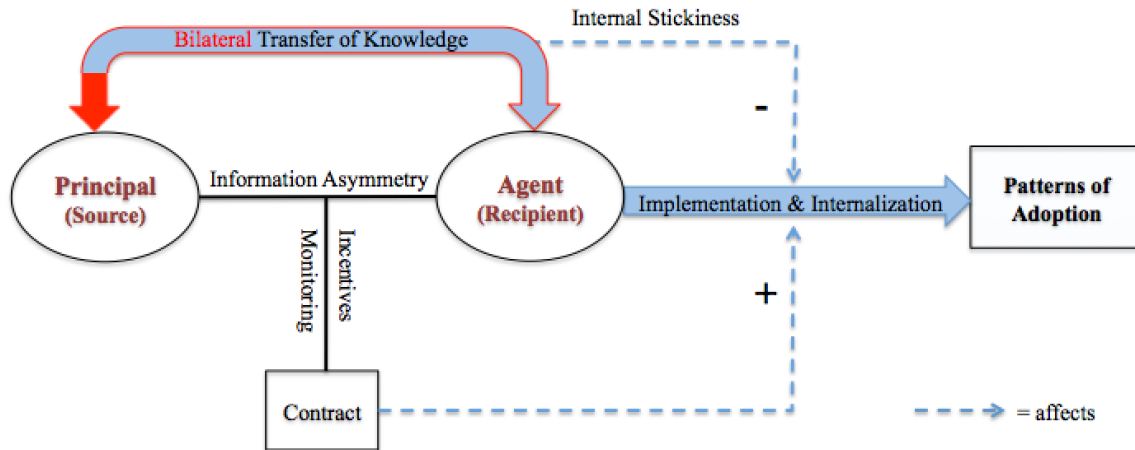


Figure 13 - The Conceptual Framework Revisited. *Source: Compiled by authors.*

6.6 Limitations

Every study has its limitations and for this thesis there were three main limitations. Firstly, the theories that were chosen were not originally applied to a similar case. That is, they were developed in different settings, which means that they were not a perfect fit for this context. The theoretical framework was written in a way that attempted to encompass as much as possible of the underlying theory as a whole, yet only certain aspects of each theory were applicable for the analysis of the case.

Secondly, the thesis was written in partnership with Volkswagen, which means that there were certain constraints imposed by the company. Although the company provided the freedom to access and collect the data that was needed, the researchers were still partly constrained by the company's budget and time as well as certain small logistical issues.

Lastly, only two importers (markets) were analyzed directly as part of the research. This is in part due to the fact that the researchers were dependent on Volkswagen's relationships with importers in order to conduct interviews. This means that there were limitations to the sample size, as decisions on markets to interview needed to be approved by Volkswagen.

7. CONCLUSION

This last chapter explicitly revisits the main research question and provides a conclusion based on our empirical findings and analysis. The sub-research questions are indirectly answered within the conclusion as they provide the fundamental background needed to answer the main research question. Furthermore, managerial implications are outlined before finally presenting suggestions for further research on the topic.

7.1 Findings and Theoretical Contributions

This thesis has sought to answer the following research question: ***How can an original equipment manufacturer in the automotive industry ensure the adoption and long-term usage of an IT system across markets?*** The main conclusion is that the department responsible for the IT system at the OEM must consider the long-term usage of the IT system in their initial strategy by putting in place an operational concept following the implementation of the IT system to further support the markets. This can only be successful if those involved at the OEM continue to further develop relationships with their importers. This will require more regular communication and face-to-face meetings with those involved in the adoption and usage of the system.

Further conclusions that area connected to the sub-research questions are outlined below.

Firstly, an OEM faces a principal-agent relationship with its importers in each market to a large extent a result of the independent organizational setup in the automotive industry. One of the distinguishing features of this relationship is information asymmetry, which means that the OEM has very limited information on the use of the IT system in their dealerships. Overcoming this information asymmetry is difficult, especially when there is insufficient data created from the IT system.

Secondly, given this reality, an OEM should not assume anything about the adoption and usage of the system. Having an operational concept is one way the OEM can overcome information asymmetry to better understand the adoption and usage of the system and is in some way a form of monitoring. Also, OEMs must realize that their relationships with

importers do not end after the implementation of the system. Fostering long-term relationships is one way to ensure a continued transfer of knowledge and information back from the markets.

Thirdly, by receiving further information on the adoption and usage of the IT system, OEMs will be able to understand that markets differ to a large extent in their usage and in their measures of its performance, and that a standardized system cannot function as intended in all markets. Furthermore, by understanding these differences, OEM can potentially identify best practices that might be useful to many markets and continue to support markets to increase the overall performance of the IT system.

Finally, given the differences in markets, there is likely no template that can be used to transfer knowledge related to the IT system across markets to ensure its adoption and usage. Thus, by fostering relationships and providing continued support, OEMs and importers can engage in a process of reconstruction whereby they jointly adapt the IT system to ensure its optimal long-term usage.

On a theoretical level, this thesis has contributed to the study of after sales services, particularly in the automotive industry, a field where little research has been undertaken. It has also demonstrated that a combination of theories can often best explain a complex reality. Each theory that was included explains parts of the case relatively well, and there is often overlap between these theories. In other words, no theory by itself can perfectly explain the case, therefore combining theories can help explain significantly larger amounts of the case.

Lastly, the automotive industry is comprised of many MNCs, yet they do not fit the traditional HQ-subsidary relationship that is often so implicit in international business research. Agency theory is an important theory that should be used in this industry for further research, as it captures many of the core relationships between actors.

7.2 Managerial Implications

Even though this thesis did not seek to understand in detail the entire design and programming behind PPS, it is clear that the system could provide more (accurate) data on its usage, which would allow managers at Volkswagen and the other OEMs to make more informed decisions. The current data being received only measures how many times the packages connected to a VIN are being requested from the server. Being able to collect more data on the specifics of the packages that are being selected and perhaps sold would already be a step in the right direction towards ensuring the use of the system. Accurate data increases the ability to monitor and it is also easier to provide incentives when outcomes can be measured. Although this might be the optimal solution from an OEM perspective, it would have to be further analyzed together with the IT department to determine if it is feasible.

Given the importance of collecting information from markets and analyzing it to possibly formulate best practices, it makes sense to make this a priority for Volkswagen and to devote the necessary resources. It would be important to involve a Volkswagen employee in charge of this as early as possible in the rollout to not only ensure the adoption, but also the usage. This person would be able to make sure that the importers properly understand the business concept underlying the long-term usage of the system. It is easier to begin these operations as soon as the implementation is complete than to change work process in the future, as people tend to be resistant to change.

There are already clear differences between European markets that make it difficult to ensure the adoption and usage of PPS across markets. With the expansion into markets outside of Europe and the upcoming focus on an even more global rollout, it might be more important instead for Volkswagen to further their understanding of markets where PPS is currently being used before attempting to increase the scope of the rollout.

7.3 Future Research

Firstly, it is generally argued that a case study design does not provide conclusions that can be generalized to a larger population. Thus, it is nearly impossible to say with any

confidence that these conclusions can be applied to other OEMs actively involved in the automotive after sales market. However, to some extent it is reasonable to believe that the results can be applicable to the other OEMs in the Volkswagen Group, given that PPS was a joint project and that the head of the project is aware of the research. Many of these five OEMs in the Volkswagen Group even share the same importers and dealerships in markets. Nevertheless, further research can be undertaken to analyze this topic from the perspective of other OEMs.

This master thesis research was undertaken within a specific time frame, which meant that time and resources were limited. The research only covered two markets and more interviews are required in order to draw more robust conclusions. With new information from other additional markets, it is likely that some of the conclusions can be expanded upon or on the contrary might even change. It is thus important to conduct further research on markets that have fully implemented the system.

Finally, this research has combined multiple theories in an attempt to analyze the results. Although this has its advantages, it also means that theories were understood on a more general or broad level and less on the specifics of each theory. Further research that focuses on one specific theory might provide more insight into certain aspects that were covered in less detail in the thesis.

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APPENDIX

1. List of Respondents and Interviews

Company	Respondent	Area of Responsibility	Interview Method	Location	Date	Duration
Volkswagen AG	R1	Manager - Project A	Face-to-face English Recorder Used	Wolfsburg, Germany	March 17, 2016	95 min
Volkswagen AG	R2	Manager - Project A	Face-to-face English Recorder Used	Wolfsburg, Germany	March 17, 2016	50 min
Volkswagen AG	R3	Coordinator - Project A	Face-to-face English Recorder Used	Wolfsburg, Germany	March 18, 2016	50 min
Volkswagen AG	R4	Manager - PPS	Face-to-face English Written Notes	Wolfsburg, Germany	March 18, 2016	30 min
Importer 1	R5	Project Manager - After Sales	Face-to-face English Recorder Used	Southern Europe	April 20, 2016	155 min
	R6	Project Manager - IT				
	R7	Manager - Volkswagen After Sales				
	R8	Manager - OEM After Sales				
	R9	Head of Group After Sales				
Importer 2	R10	Project Manager - After Sales	Face-to-face English Recorder Used	Northern Europe	May 4, 2016	125 min
	R11	Project Manager - IT				

2. Interview Guide for Volkswagen AG

Industry Background

1. Why are after sales services important in the automotive industry?
2. What is Volkswagen's core competence in the aftermarket?
3. Where do you see the challenges of the automotive industry, especially regarding after sales services?

The PPS

1. What is your relation to PPS or any other IT system?
2. How long have you known about and/or worked with PPS or any other IT system?

IR Framework

1. Do you think that PPS is a system that encourages standardization? If so, why? If not, why do you think it may be important to have local content in PPS?
2. How do markets and countries differ?
3. How did you perceive the importers' reactions toward the implementation of PPS?

Principal-Agent Relationship

1. How was the rollout of PPS undertaken in different markets?
2. How was your relationship with the importers regarding PPS prior to and after implementation?
3. How do you perceive the OEM - importer relationship in general?

Knowledge Transfer

1. How does information flow between the OEM and importer?
2. How well can you understand the results of actions taken during implementation?
3. Have a set of best practices developed in any markets?
4. How do you work with best practices?
5. What do you associate with the word template?
6. Do you use KPIs to monitor or evaluate the use of PPS?

3. Interview Guide for Importers

PPS Strategy

1. Based on which business needs was PPS implemented?
2. Do you compare the PPS system to what competitors are able to deliver in terms of quick price info?

Organization

1. Who is responsible for PPS activities within the after sales department?
2. How was the project initiated after the technical rollout?
3. How is PPS incorporated into your daily business? How much effort do you invest on a daily basis?
4. Who else is now involved in PPS activities?
5. Are you aligning with your dealerships/dealer council? If so, how frequently do you meet and how much planning time do you need?
6. What were your challenges concerning the PPS technical rollout?
7. What were your main challenges concerning the usage of PPS?
8. Do you have a regular information exchange between PPS project members?
9. What would be the ideal organizational setup from your perspective to ensure the long-term sustainability of PPS?
10. What kind of OEM support would be helpful from your perspective?
11. Are you willing to share your knowledge with other markets?
12. Are you interested in learning from other markets?

Processes and systems

1. Is PPS connected to your DMS? If not, are you planning to connect it?
2. How are the packages used? DMS integration or Web application?
3. Is the usage of PPS highlighted throughout the entire service process?
4. How did the translation for the PPS web application work for your market?

Package management

1. Are you able to track package usage?
2. What are your top performing packages?
3. What are your lowest performing packages?
4. Do you discuss packages with the users?
5. Do dealerships or service advisors approach you with their issues?
6. What kind of new packages could be useful to have?
7. Do you use PPS data for any marketing activities?

Training

1. Who is responsible for conducting the training?
2. Did you conduct any specific mindset trainings for the service advisors or other users?
3. Who is being trained?
4. How many usually participate in the training?
5. How much time does a training session usually take?
6. Do you use standard learning material? If yes, how does it look like?
7. Please share with us some insights on your sales technique training (cross-selling)?
8. How frequently do you train and re-train PPS processes in the dealerships?

Field Force Focus

1. How do you use the field force for PPS support?
2. Is PPS discussed with the field force on demand or part of regular meetings?
3. Do you share your success reports (if in place) with the field force?

Measurement of PPS

1. Do you have a PPS success system in place?
2. Who is responsible for the PPS success monitoring?
3. Do you have pre-defined actions in place in case deviations occur?
4. Do you set specific PPS targets per dealership? If yes, please elaborate.
5. In which format are you distributing your reports? If so, how often are they

distributed and who are the recipients?

6. Which data sources do you use in order to measure turnover?
7. How do you incorporate feedback from the dealerships?
8. Do you have established meetings for the after sales process?
9. Have you established additional concepts and methods such as best practices?
10. Do you use structured documentation or templates for the after sales concept?
11. Can you provide the OEM with your reporting tools on a regular basis?

Performance Bonus System

1. Do u have a bonus system in place or have you considered one yet?
2. How does the bonus system work and is it likely to create a higher long term usage rate?

KPI Considerations

1. What KPIs do you currently have in place?
2. What other KPIs would you consider?
3. Do you have other KPI suggestions that would support the PPS strategy?