

WHITE PAPER

Envisioning Automotive Retail and its Impact on Retail/Dealer Management Systems



Preface

This document is intended for the stakeholders and the decision makers in the vertical automotive distribution channel, OEM – NSC/Importer – Retail, who have interest in understanding how modern Dealer Management Systems can, and must, actively support both daily operations as well as strategic decision making in the current rapidly evolving and partly disruptive automotive retail environment.

Based on a high-level analysis of the current Legal-, Innovation- and Technology-, Customer- and Business Environment, we address subjects like:

- Seamless integration of a best-in-class Sales & Aftersales DMS.
- Suitable for all structural levels in the vertical distribution channel.
- Fixing the traditional lack of alignment between Business and IT.
- Operational DMS for daily business. Strategic real-time BI capabilities.
- Value adding operational analytics & KPIs.
- Value adding strategic reporting for all stakeholders in the distribution channel.
- Scalable, flexible, and capable to handle evolving business models, technologies etc.
- Mirrors and drives best practise work processes, bandwidth, and depth.
- Pre-requisite: Intuitive user interface.
- IT technology and architecture used to enable such features.

We believe this document is particularly relevant information for:

- Senior Management, who plan and steer the strategic direction of their markets.
- Line Management, who plan, steer, lead and drive the operational excellence.
- Operations, who plan, steer, and drive the performance in the daily business.
- IT, who plan, steer, implement and maintain IT.

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Executive Summary

Looking back in time from the mid-1990s until now, we see a continuous evolution and adaptation of business models in the automotive retailing, e.g., from single brand to multi brand locations, from bundled to unbundled sales and aftersales, and the creation of service partners, from sales territories and prohibition of active sales outside the territory to internet and cross-border sales, from large retail networks to consolidation and economy of scale etc.

From our perspective, this has been an evolution in a continuous development process which to a large extent has been foreseeable. Fact of the matter is that the business models have always had to be compliant with the competition and cartel regulations in any market. Hence, keeping a close eye on the development of regulations helps us to understand the direction of the journey.

Consequently, we asked ourselves «how have the Dealer Management Systems changed over the same time to proactively support the retailer to be on top of his business in a changing environment?»

We arrived at the conclusion that too many retailers and retail groups are still working with old-fashioned Dealer Management Systems, henceforth DMS, that are possibly good at collecting data in the daily sales and aftersales processes, but are not end-to-end, do not adapt to workflows and require workarounds when market and/or product changes occur. Many DMS are reaching the limit of what is possible, and any further tuning runs the risk of engine failure. Others install a layer above the old DMS, a so-called Business Intelligence, henceforth BI, tool, which extracts the existing data, but are the data correct? Only some of them give the collected data back to the retailer in the sense of providing business analytics that help the retailer to master the continuous and accelerating changes in the market.

We wanted to change that and use our long automotive industry IT experience to build a truly best-in-class Sales & Aftersales DMS, both on operational daily business level as well as regarding analytics & KPIs, performance planning, steering, and driving the business at all levels in the distribution channel.

We call our retail solution «proaxia VSS» which stands for proaxia Vehicle Sales and Service.

On the following pages we describe the development in the market and how that to a certain extent was foreseeable based on the legal framework issued in approx. 10-year cycles by the EU competition authorities. We do this to encourage non-EU markets to keep a close eye on the regulatory developments in their individual markets and proactively adjust their retail business accordingly. proaxia VSS would support you with the analyses.

We also look at our high-level analysis of the current drivers of market change and how these impact the retail operations. We then conclude with the objectives we set ourselves for proaxia VSS, some of the features and the IT technology which makes the solution possible.

We are aware that some world markets are still in a phase of organic growth and highly profitable retail business and may not see the need for extensive analytics. Experience shows, however, that this is the best time to make sure the own retail operation belongs to the fittest. In the more «mature» markets the curve has flattened and margin erosion is part of daily life. «Survival of the fittest» retail operation is no longer a buzz sentence, but daily reality.

We believe proaxia VSS plays an important role in helping a retailer to optimise the operations, both from an efficiency and effectiveness perspective.

We wish you good reading.

Please also visit <https://www.proaxia-group.com/en/automotive-retail-proaxia/> for more information and contact details.

1. Automotive retail – a rapidly evolving business environment

As mentioned above, we see a continuous evolution and adaptation of business models over the last three decades. What has changed, however, is that competition authorities in many countries have intervened with OEMs' exercised control over «their» retail networks, not only in the EU but also in many other markets where an increased awareness of antitrust is taking place, e.g., in MENA (Middle East and North Africa) the competition authorities officially launched the Arab Competition Network (ACN) in March 2022. «The creation of the network follows a significant growth in antitrust cases in the Middle East and Africa¹».

Whilst the EU competition regulations may currently belong to the toughest, we believe that in a global economy many non-EU markets will be fast followers.

Around the turn of the millennium the European Commission (EC) concluded that «Car manufacturers had often not respected the terms of Regulation 1475 in 1995, obliging the Commission to adopt four decisions imposing substantial fines²». The introduction of the Automotive Block Exemption Regulation (BER) 1400 in 2002 hence also aimed at reinforcing the retail networks' independence.

The global internet removed the notion of exclusive sales territories, not only within a member state but also between member states which ultimately led to a car price harmonisation in the EU. In addition, OEMs could now sell directly to leasing companies and other fleet buyers. I.e., the first step toward a competition between the OEM and its own retail networks.

An unbundling of Sales and Aftersales took place which meant that an authorised retailer that sold new cars was no longer obliged to offer service and repairs. This was also driven by the restructuring of networks that took place. From in the past having had a car dealership «in every village with a church tower, a post office and a grocery store», OEMs and importers consolidated their networks and reduced the number of retailers dramatically to enable a so-called economy of scale.

The European Commission saw this as a threat as it also meant a reduction of the authorised repair shops. Studies showed that «consumers did not like to travel far to have their car repaired; the travel time of a car owner to a repair shop was ideally less than 15 minutes, but in no case more than 30 minutes³». Hence, as from BER 1400/2002 stand-alone authorised service partners became part of the system.

Further easing applied to the definition of «spare parts» leading to increased competition between parts manufacturers. Access to technical information by independent repairers was still a hot potato that the OEMs kept close to their chest.

¹ Middle East and Africa Competition Authorities launch the Arab Competition Network. <https://www.allenoverly.com/en-gb/global/news-and-insights/publications/middle-east-and-africa-competition-authorities-launch-the-arab-competition-network>

² 28 January 1998: Volkswagen was fined EUR 102 million for impeding parallel trade in Italy. 20 September 2000: the Opel Nederland fined EUR 43 million for restricting parallel trade in the Netherlands. 30 May 2001: Volkswagen fined EUR 30.96 million a second time for price fixing in Germany. 10 October 2001: DaimlerChrysler fined EUR 71.825 million for impeding parallel trade in Germany, restricting sales to leasing companies and engaging in price fixing in Belgium. The latter decision was subsequently annulled by the Court of First Instance, except for the part relating to price-fixing on the Belgian market. https://competition-policy.ec.europa.eu/sectors/motor-vehicles/cases_de

³ Customer Preferences for existing and potential Sales and Servicing Alternatives in Automotive Distribution, by Dr. Lademann & Partner December 2001 p. 46, section 4.3.2.1. https://competition-policy.ec.europa.eu/sectors/motor-vehicles/documents_en

As from 1 June 2010 separate BERs for Sales 330/2010 and Aftersales 461/2010 entered into force, which continued the transformation process.

The latest and current BER 2022/720 entered into force 1 June 2022 and will accompany the automotive business until 31 May 2034. The Aftersales 461/2010 will be replaced by 1 June 2023.

Conclusion

We can therefore conclude that where we are today is not a revolution, but an evolution in a continuous development process. If we, however, just look at the last 5 years, which is what different media and opinion makers like to emphasise, it looks more like a revolution. What we observe, however, is that the pace of change is accelerating, and that the automotive business is not as simple as it was when Henry Ford placed cars at the petrol stations because they obviously had car customers.

The retail business is in urgent need of intelligent business system to efficiently handle the increased complexity at the operational basis and, where required, have more time to build stable prospect- and customer satisfaction which in turn leads to increased customer loyalty and sufficient profitability.

2. «Survival of the fittest» retailers

Building on the development described in Chapter 1 above we not only see an increasing complexity to be managed and mastered at all levels in the distribution channel, from the OEM via importers to retailers, but also a margin erosion eating into OEMs’ and retailers’ ability to invest into customer satisfaction, ideally leading to loyalty.

At the same time, the challenges mentioned in the title above must be addressed at all levels in the distribution channel. The responsibility lies with each individual level in the vertical distribution, i.e.:

- Senior Management, which is responsible for planning and steering the strategic direction of the business level they are responsible for.
- Line Management, which plans, steers, leads, and drives the operational excellence.
- Operations, which plans, steers, and drives the performance in the daily business.
- IT, which plans, steers, implements, and maintains the IT at the corresponding level.

We henceforth refer to these as «the Stakeholders».

In addition to the mentioned complexity and margin erosion, we also see further challenges in our high-level observations and analyses of the market. We have split these into four categories as follows: (1) Legal Environment, (2) Innovation and Technology Environment, (3) Customer Environment and (4) Business Environment.

Stakeholders	Legal Environment	Innovation Environment	Customer Environment	Business Environment
<p>Senior Management Planning & Steering the Strategic Direction</p> <p>Line Management Planning, Steering, Leading and Driving the Operational Excellence.</p> <p>Operations Planning, Steering and Driving the Performance in the Daily Business.</p> <p>IT Planning, Steering, Implementing and Maintaining IT.</p>	<ul style="list-style-type: none"> • New Block Exemption Regulation BER • Environment Regulations • Other Regulations <p>Impact</p> <ul style="list-style-type: none"> • Business / Distribution Models • Agency / Dealer / Hybrid Business Models • Digitalization • New Market Players <p>Consequences</p> <p>Business Systems must be able to mirror the increased complexity and business models.</p> <p>No longer vice versa.</p>	<ul style="list-style-type: none"> • Continued development of drive trains • Connected Car and Connected Customer • Self-driving Vehicles etc. <p>Impact</p> <ul style="list-style-type: none"> • Ongoing journey, destination not clear • Politics vs. reaction of key players (OEMs, Parts Manufacturers, Suppliers etc.) <p>Consequences</p> <p>Business Systems must be open to easily add new technologies in combination with new business models.</p> <p>Increased complexity must be supported with intelligent systems.</p>	<ul style="list-style-type: none"> • End-user satisfaction and loyalty constantly under pressure • But: increased sales of new and used cars plus parts labour required <p>Impact</p> <ul style="list-style-type: none"> • The challenge is not primarily to offer existing end-users bells & whistles, but to ensure the competence and tools are in place to secure the business. <p>Consequences</p> <ul style="list-style-type: none"> • Survival of the fittest, professionalize own business and become preferred choice. • Attract the best talents <p>Business Systems not just be a collector of data.</p>	<ul style="list-style-type: none"> • New roles and players • OEM vs. Retail in competition • Aftersales under pressure although increasing relevance • Sales of new cars in new channels, role of used cars in an agency structure • Mobility offers, rentals, car sharing, business networks, platforms, charging stations etc. <p>Impact</p> <ul style="list-style-type: none"> • The traditional business model is fading out. <p>Consequences</p> <p>Managers need the tools to work at their business, not only in their business – it is no longer an option, but a must.</p>

Figure 1 - Increasing complexity and speed – «Survival of the fittest».

The four categories do not exist in isolation but are part of one distribution system. In short, «the Stakeholders» have the task to manage «the Challenges».

In this context, we also asked ourselves how we as a DMS supplier can support the Stakeholders and how we can contribute to better retailer results.

2.1 Legal Environment

Above we have described the Block Exemption Regulation as one of the corner stones in the industry. There are also other legislations, e.g., environment, safety etc. that must be complied with, even if the recent years have shown that some players wanted to take short cuts.

Nevertheless, the opportunities arising under the new BER will lead to new business- and distribution models, e.g., increased focus on agency models, sometimes in combination with a traditional dealer model. New market players wanting a slice of the cake are already present and likely to increase. Whether or not their business model is sustainable, e.g., car subscription, time will tell. Latest when the cars come back from subscription and should be sold as used cars or otherwise disposed of. The calculated residual value vs. actual used car value will tell whether the business model was successful.

Whilst the European Commission has published the new BER, we are - at the time of writing this white paper - of the opinion that there are still issues that are unclear, e.g., recent retailer investments into brand dedicated «bricks and mortar» to meet OEM standards under a dealer agreement that are no longer required under an agency agreement. Several OEMs have announced they will go the agency route, but with what type of business model is not yet clear and contract drafts etc. are not yet available.

Consequences for DMS

Business systems must be able to mirror the increased complexity as well as the present and future business models, no longer vice versa which has been the case for too many years. From a single traditional exclusive authorised retailer of one brand, to a multi-brand dealer, maybe with a multi-business model (dealer for certain models and agent for certain models with one brand, dealer for certain brands and agent for other brands, etc.), multi-legal entity model setup as a part of a retail group, i.e., unlimited possibilities to mirror the current and future business model and unlimited possibilities to adjust workflows and processes. One-dimensional traditional DMS systems will not sufficiently support the retailer, only a multi-dimensional DMS will.

2.2 Innovation and Technology Environment

The development of drivetrains continues – we are on an ongoing journey and have not reached the destination. We do not even know if and where the destination is. The same goes for «connected cars», «connected customers» and if the self-driving vehicles will really drive to the workshop unattended for new brake pads. Possibly the service partner even sends a self-driving service-loan vehicle back to the customer.

What we have seen in the development of the electric vehicles is how quick some OEMs were able to add electric drivetrains to the combustion engine programme when the politics increased the pressure.

Consequences for DMS

Business systems must not only be capable of the increased structural complexity but also to quickly handle new contents in the new structures, e.g., new technologies, new/adapted processes. Efficiency and effectiveness in the processes can only be achieved if the business systems permit a logical clustering.

In short, an increased business complexity must be supported with intelligent IT systems.

2.3 Customer Environment

The end-user satisfaction and hence brand and/or retailer loyalty is constantly under pressure and at the same time, all OEMs want to sell more cars and parts. On the one hand, the Stakeholders feel pressured to go the route of digitalisation to cut costs. On the other hand, they should be wary of cutting the «good» costs.

A recently published German study⁴ concluded that the costs for a retailer to sell a car commences at EUR 1'200-1'400 for less consulting intensive and rather digitally orientated customers and range up to EUR 4'900-5'600 for more consulting intensive «engaged customers» who prefer an analogue purchase process. The frequency of personal contacts and the number of conducted test drives were reported to be the main driver of costs. The average purchase process was reported to have 55 days' duration.

We consider it being important to understand that whilst it may be practical and efficient to automate parts of the sales and service processes, this may have a detrimental impact on customer loyalty, in particular with analogue customers as the emotional attachment to the brand/retailer is not built. A brand or retailer will quickly be perceived as an «exchangeable generic supplier» if the retailer does not use the time won through increased efficiency of modern business systems to build better relationships and what the customers perceive to be added value.

If all service customers are «encouraged» to make the service appointment online and the phone number for service bookings is connected to an outsourced call-centre that gets paid on each booked appointment, and in addition the customer is encouraged to use the key-safe and to drop off the car outside of business hours, to pick-up of the car outside of business hours with the keys in the key-safe, followed by an electronic invoice and an online customer satisfaction survey, the customer satisfaction and hence the customer loyalty is likely to suffer. The old saying «people make the brand come alive» is now probably more relevant than ever.

Some hotel guests would accept a generic digital hotel without staff, i.e., digital booking, check-in, and check-out. This can be the case where a night in a hotel is a purely functional off-the-shelf-product. But as soon as a positive emotional experience becomes part and parcel of a loyalty building «customer experience», humans interact with humans that can be supported but not be replaced by systems/robots. Will there ever be a 3-star Guide Michelin restaurant with a digital reception, tablet menus and order taking, robots serving the food and a cashier built into the wall like in the parking stations?

What percentage of Harley-Davidson or Ferrari owners would be keen on an all-digital service? What we often hear is that there is a correlation between «vehicle paid with own money» and increased contact requirements. Buying a car belongs to the single largest costs of a household. Hence, most customers are keen to ensure the car is looked after and the trade-in value against the next car is as high as possible. A German study⁵ from January reported that 19% of the car owners had even given their cars a pet name.

Treating each customer according to their preference requires flexibility and adaptability with staff and business systems. The ability to offer seamless analogue and digital contacts and processes and consequently offering added value for the customer in all steps is fundamental. This requires

⁴ The German «Institut für Automobilwirtschaft (IfA)» as a part of «Hochschule für Wirtschaft und Umwelt Nürtingen-Geislingen (HfWU)» in cooperation with ICDP (International Car Distribution Programme) recently published research regarding costs in the . The study was commissioned by «Zentralverband Deutsches Kraftfahrzeuggewerbe (ZDK)».

⁵ Source: DAT, Stand: January 2022, <https://report.dat.de/>

professional staff and intuitive user interfaces which create added value for sales and service consultants in their functions, business contents and processes.

Consequences for DMS

One could conceptually see that real fleet customers could largely be digital customers, the user-chooser segment could be a mix between digital and analogue, and typical retail customers predominantly analogue. A driver of a fleet vehicle who has a second privately owned vehicle at home may be a digital customer for the fleet vehicle and an analogue customer for the private vehicle. So, this is not just about ticking a box and placing the customer in a «drawer».

We are therefore of the opinion that it is important for both the IT supplier and the above-mentioned Stakeholders to understand the «Rubik's cube» 3d matrix of customer mix, product mix and payment mix and being able to mirror this in the business systems. We also believe it becomes increasingly difficult, if not impossible, to attract the best staff to a poor systems environment.

2.4 Business Environment

It is already obvious that new players with new roles have entered the automotive market and want a slice of the already strained profitability cake in areas like mobility offer, rental, car sharing, business networks, web platforms, charging stations etc. In many cases the retailers see themselves forced to integrate some of the products into their existing business. Making the necessary investment into the required knowledge, skills and resources is a challenge.

OEMs enter the retail business directly through «direct sales» and dealers become agents. The list and sales price of the new car is determined by the OEM. In many cases, however, the trade-in of a used car becomes part and parcel of the transaction, which means that the differentiator may be the price the agent can offer for the trade-in, unless the customer sees added value with one agent which he is prepared to «pay» for.

Aftersales is increasingly under pressure as the service intervals get longer, the workshop labour hours per vehicle get shorter, the share of OEM service packages is increasing, which may be good for the customer and the OEM, but not necessarily for the authorised service partner, as it gets reimbursed by the OEM at a lower labour rate. Often, the authorised service partners get the same hourly rate reimbursement for service contracts as they do for warranty repairs.

Have the share/numbers of service contracts increased during the last 10 years? Will that trend continue? We suggest «yes» on both counts. Should the share of service contracts and the number of warranty repairs double, authorised service partners may be in trouble.

Consequences for DMS

The traditional automotive retail business model is fading out, and new and adapted business models are fading in. How many of the new business models will be sustainable remains to be seen. But the fact is that they are disruptive for the time being.

Increasing complexity and speed, disruptive changes in the current distribution model, ongoing structural changes and «survival of the fittest» is reality.

The dealer management systems are the single most important source of data in any automotive retail operation, if managed correctly. One of the key drivers, therefore, is the necessity of an intuitive user

interface which creates added value for sales and service consultants in their functions, business contents and processes. Only a correctly fed DMS can deliver correct information.

The information in the DMS is key information for any level of the Stakeholders to do their job in the present and future tough environment based on facts and figures. The automotive retail business model may at first glance appear relatively simple, but when one drills down to understand what is required to be a successful retailer in today’s business environment, one realises how complex the business is and how important it is for a retailer to have a systems environment which offers active support:

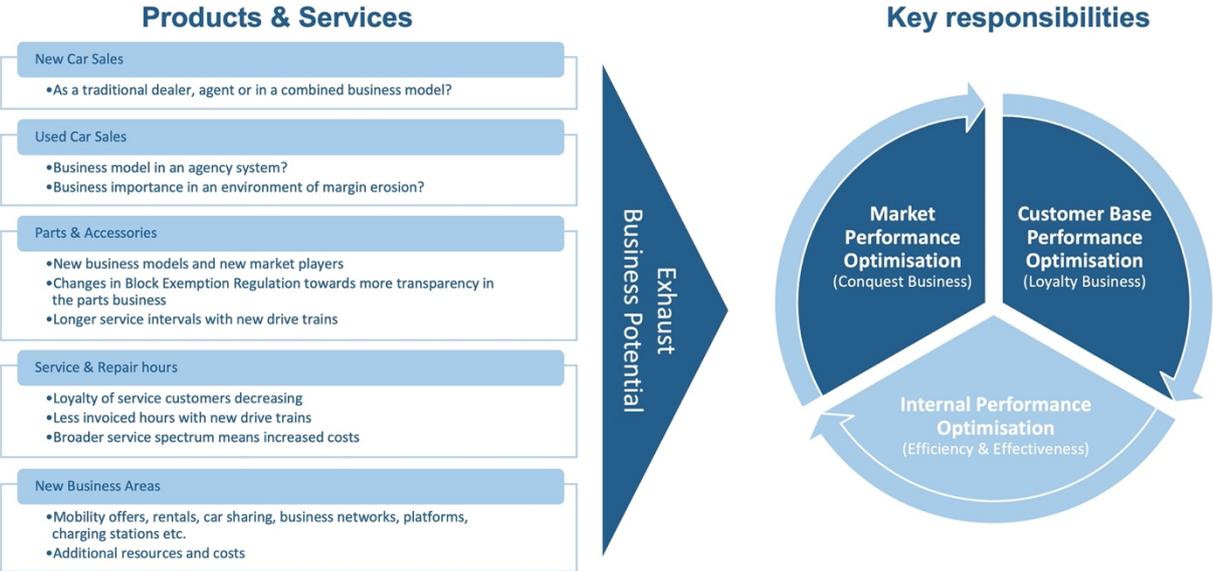


Figure 2 - High level, automotive retail business model.

We saw our role to use our long automotive industry IT experience to build a truly best-in-class Sales & Aftersales DMS, both on operational daily business level as well as on a strategic level regarding analytics & KPIs, performance planning, steering, and driving the business at all levels in the distribution channel and support automotive retailers.

We believe we have built a state-of-the-art new generation Dealer Management System.

We call it «proxia VSS», proxia Vehicle Sales and Service.

3. Our response – proaxia Vehicle Sales and Service (VSS)

When we set out to build our best-in-class system, we defined 10 objectives that address the described challenges above and ensures the solution becomes an enabler of «survival of the fittest».

3.1 Seamless integration of a best-in-class Sales & Aftersales DMS.

It should be one end-to-end system, where the customer and vehicle details were entered once only and it should enable innovative benefits of an end-to-end solution and remove the functional silos within a retail operation, e.g., alert the sales consultant that one of his/her customers are bringing their car to service. Or alert the service department that the customer delivery of a new vehicle to a new customer takes place on date/time and «book» a service receptionist to come and introduce himself to the customer, etc. It should mirror or lead effective and efficient workflows and processes and enable staff to enhance customer satisfaction and customer loyalty.

3.2 Suitable for all structural levels in the vertical distribution channel.

One of the challenges and reasons for incompatibility in today's automotive business is that the different levels in the distribution channel have different definitions of the same terminology. For example, if an OEM sales department is asked how many cars they have sold, they will often answer the question with a question: «do you mean retail orders, or wholesale orders, or retail sales, or retail deliveries/registrations?». The same applies for the next level, NSC/Importers and even retail groups. proaxia VSS supports with aligning the definitions and measurements throughout the vertical distribution channel, i.e., OEM – NSC/Importer – Retail & New Business Models.

3.3 Fix the traditional lack of alignment between Business and IT.

We believe it is important that as a supplier of IT solutions to the automotive industry, we must, and want to, understand the clients' business and how we can contribute to the client achieving its objectives. Theodore Levitt said, «People don't want to buy a quarter inch drill, they want a quarter inch hole».

3.4 Operational DMS for daily business. Strategic real-time BI capabilities.

Rather than a DMS being a black box of stored data, it should from the onset have both an operational and a strategic function. All Stakeholders should see their respective benefits of the DMS for tracking current and planning mid- and longer-term business.

3.5 Value adding operational analytics & KPIs.

Having a good understanding of where the business is coming from is a pre-requisite to plan future performance. Steering and driving the business enablers and performance at all levels in the distribution channel becomes fundamental. For instance, if a service partner wants to plan workshop capacity requirements it must know how big the customer base is, the frequency of customer visits, workshop productivity, workshop efficiency etc.

Likewise, if a retailer wants to sell 15% more vehicles next year, it is difficult to plan unless one knows «how much of what» was required to sell this year's volume.

The DMS should also provide the key elements and templates for best practise Business Intelligence in Sales and Aftersales.

3.6 Value adding strategic reporting for all stakeholders in the distribution channel.

KPIs and detailed information for the specific area of responsibility, all measured the same way. E.g., an NSC/Importer sales manager would want sales and process information for the next level

regional managers, a NSC or Retail Group regional manager would want the same for his retailers, and the retailers for their sales consultants etc.

3.7 Scalable, flexible, and capable to handle evolving business models, technologies etc.

We have probably covered this aspect sufficiently in the chapters above.

3.8 Mirrors and drives best practise work processes, bandwidth, and depth.

E.g., sales process, service process, capacity planning, new processes, process improvements etc. One fully integrated customer lifecycle process end-to-end, i.e., a red thread from lead to delivery and from workshop appointment to invoice that in all steps can serve any degree of analogue and digital customers.

We have probably also covered this aspect sufficiently in the chapters above.

3.9 Pre-requisite: Intuitive user interface.

This is a very important point. The operational staff must have systems they like to work with and where they see added value in working with the systems. As mentioned above, we believe it becomes increasingly difficult to attract the best staff to a poor system and tool environment. Professional staff should preferably spend their time productively and be supported in their role by professional systems. Sales consultants generating their own excel tables and service managers trying to extract figures out of an old-fashioned DMS is not congruent with the professional requirements in today's market environment.

3.10 Last but not least: Form an integral part of the SAP® Environment.

SAP ERP, SAP Analytics and SAP Industry Cloud for Automotive.

To support business in the challenging markets, IT systems must provide strong business functionalities combined with automotive specific contents, processes, and functions, providing the business intelligence to manage the current and plan, control and steer the future business. The SAP environment ensures that retailers benefit from future developments and innovations.

4. IT and Technology

The architecture of proaxia VSS is addressing the current and future market needs and reflecting the proaxia VSS objectives above. It is providing an all-in-one solution, combining the power of an ERP solution with automotive retail specific processes and user interfaces with seamless integrated business intelligence. The result is the ultimate DMS to manage and operate any scale automotive dealerships.

4.1 Application Architecture



Figure 3 - Application architecture.

- SAP S/4HANA®, the worldwide leading ERP, is the fundament of proaxia VSS. proaxia VSS is running as add-on on SAP S/4HANA and is seamlessly integrated with the line of business functionalities of SAP S/4HANA. proaxia VSS is utilizing the SAP S/4HANA business process capabilities as well as the technical infrastructure.
- All processes and functionalities of the ERP Solution SAP S/4HANA can be used in the operational daily business of the retailer. Furthermore, proaxia VSS is an integrated part of SAP Industry Cloud for Automotive, where SAP provides ongoing innovations, utilizing newest technologies. This innovation track is following a roadmap, aligned by SAP and proaxia.

On this solid fundament proaxia VSS supports the operational daily business with automotive retail specific DMS processes and functionalities, which are customer as well as vehicle centric. The best-in-class processes are presented to the user in an intuitive and user orientated way, covering the specific requirements of roles at a retail operation.

On top of the business excellence, powered by the ERP-based DMS processes, proaxia VSS provides the business intelligence for planning, steering, and driving the business by senior and operational retailer management. From the standardised processes, relevant information is collected and

aggregated to automotive specific KPIs and presented in modern dashboards, following the approach «reduce to the max»

4.2 Features



Figure 4 - The unique solution, proaxia VSS on SAP S/4 HANA.

The proaxia VSS application architecture, based on SAP S/4HANA with state-of-the-art technology, provides a unique solution for automotive dealer and retail space with following key differentiators:

Attract the right talents

- The best employees in the market expect professional processes and solutions at their employer. Modern ergonomic user interface proaxia VSS based on SAP Fiori® and mobile technologies are attractive to the right talents.
- SAP business application knowledge is widely spread in the market. Many talents already learned to work with SAP applications during their education or at other employers. Also on IT level, SAP technology is a common knowhow in the market, which makes it easier for dealers to build up the IT knowhow internally.
- The fact that multiple IT service providers have SAP knowledge and are providing SAP consultancy, gives the retailer the flexibility and independence to choose the best fitting IT service provider.

Covers any complexity of the dealer business

- The power of SAP S/4HANA and the design of proaxia VSS can cover any kind of complexity in the dealer business.
- Starting from best-in-class processes, these can be tuned to the specific requirements of single brands in a multi-brand environment.
- International set-ups in multi-countries with multi-languages running multi-legal entities can be covered.

Ready for any scale of dealerships

- The SAP S/4HANA software is designed to support business, scaling from small and midsize companies to large international groups operating globally.
- Based on this proaxia VSS can handle business volumes from thousands to millions number of units per year.
- proaxia VSS can handle and manage hundred to multiple thousands of users, assuring authorisations and defined data access.
- Within proaxia VSS any number of companies with any kind of company structure can be operated and the figures consolidated across the companies.

Flexible and robust through open architecture

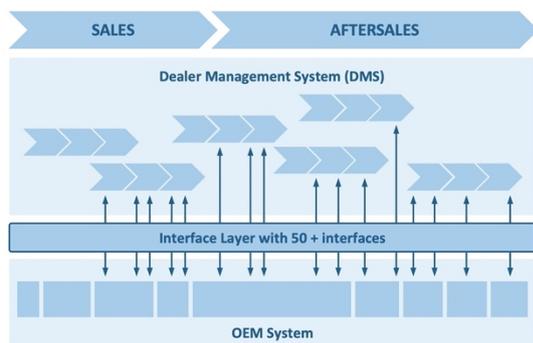
- The SAP technology combined with proaxia VSS software architecture ensures an open architecture, flexible to cover today's and tomorrow's processes and integration requirements of the automotive retail, wholesale, and OEM environment.
- The architecture enables the retailer to react on OEMs' IT initiatives, triggered by market changes. Today's and future innovations and OEM requirements regarding processes, solutions and integrations can be covered.
- Innovations driven by the customer, legal and business environment can be covered.

4.3 Open architecture und technology platform

Flexibility through open architecture is given by the proaxia VSS software and the latest SAP technology and platforms.

Traditional Integration Architecture

Retail processes are running in the DMS System. The processes are integrating to the OEM using a broad range of interfaces, exchanging master data and business documents.



New Integration Architecture

Part of the retail processes or even small process steps are running on centralized OEM systems and integrate deeply to the DMS system. The integration is based on micro-service architectures using the latest IT technologies and standards.

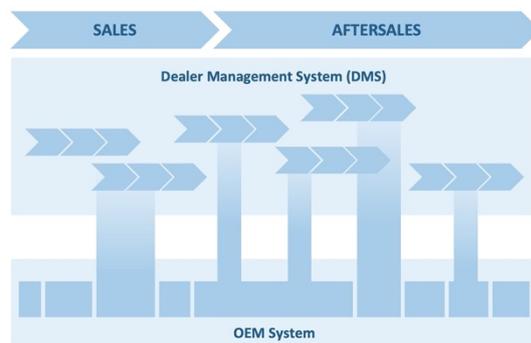


Figure 5 - proaxia VSS software architecture.

Contrary to traditional DMS, proaxia VSS is not a capsulated solution with fixed processes, exchanging master data and business documents via interfaces with OEMs. In today's environment there is a trend of OEMs rolling-out OEM-hosted solutions which cover single processes or single process steps at retail

level. The DMS on the retailer side must therefore be able to integrate these solutions and by doing so, provide an end-to-end business support, covering all processes in an integrated way. This includes but is not limited to stock management, value flow and providing consolidated key figures to plan, steer and drive the business.

Therefore, every single process step in proaxia VSS can be configured brand specifically based on the proaxia VSS order engine. This gives the flexibility to define whether a process step runs in DMS or OEM systems. Scenarios like the following in aftersales become possible. The service advisor starts creating a service order by selecting the vehicle and customer in proaxia VSS. Then the service advisor navigates seamlessly to the OEM service solution to check recalls, select packages, materials, labour codes. The data is transferred back to proaxia VSS automatically. In proaxia VSS the service order is further processed. The parts are picked, time clocking is done and finally the service order is billed, and the vehicle is handed over to customer.

4.4 Latest SAP technology and platforms in the cloud

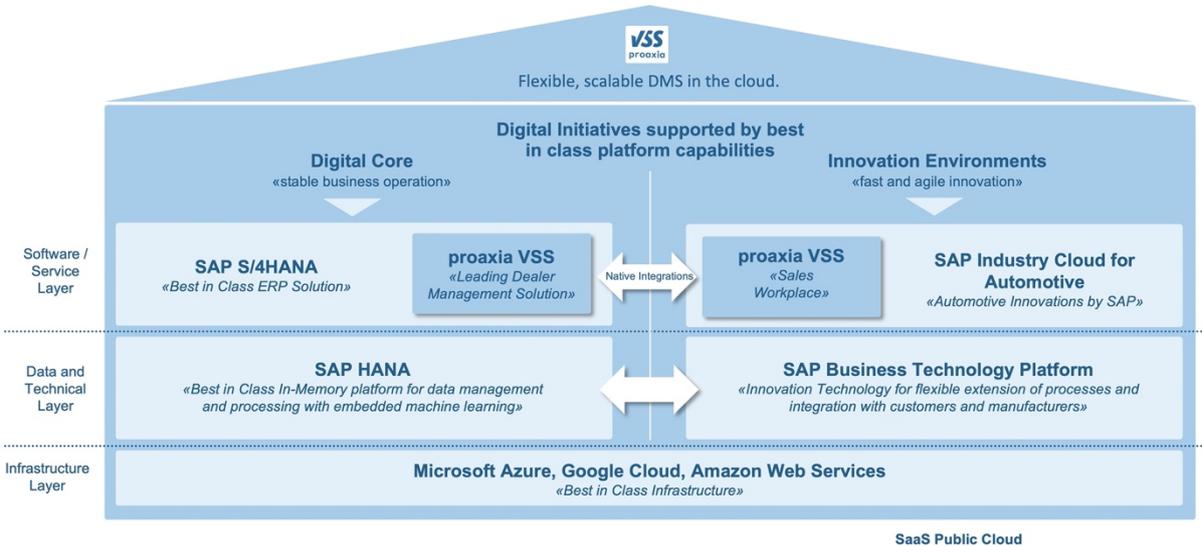


Figure 6 - Flexible and scalable DMS in the cloud.

Latest SAP technology and platforms guarantee stable business operations in the Digital Core running on a private cloud as well as fast and agile innovation in the supporting innovation environments in public cloud.

Both areas run on best-in-class infrastructure and services of Hyperscalers like Microsoft Azure, Google Cloud, Amazon Web Services, or others.

SAP S/4HANA’s so-called Digital Core is running on the data- and technology layer with the best-in-class in-memory platform SAP HANA® for data management and processing with embedded machine learning. The business functionalities are provided by the leading retail management solution proaxia VSS embedded in the ERP Solution SAP S/4HANA. This assures stable operations in a scalable performant environment.

Parallel to the digital core, SAP offers an innovation environment, the so-called SAP Business Technology Platform (BTP), providing innovation technology for flexible extension of processes and integration with customers and manufacturers. SAP BTP is a toolbox, which provides tools and services

to develop fast and agile apps and applications, with latest technologies, integrated with the data and business logic of the SAP S/4HANA. This covers services for application development, cloud services for data management and integration to whatever systems, services for analytics and intelligent technologies, e.g., IoT and machine learning. SAP BTP is used by SAP to provide new business innovations like solutions for management of automotive charging stations or the digital twin of vehicle in the cloud. Also, partners and customers can use the innovation environment. The proaxia VSS Sales Workplace is running on BTP.

4.5 Application landscape: Core retail processes, end-to-end in one solution

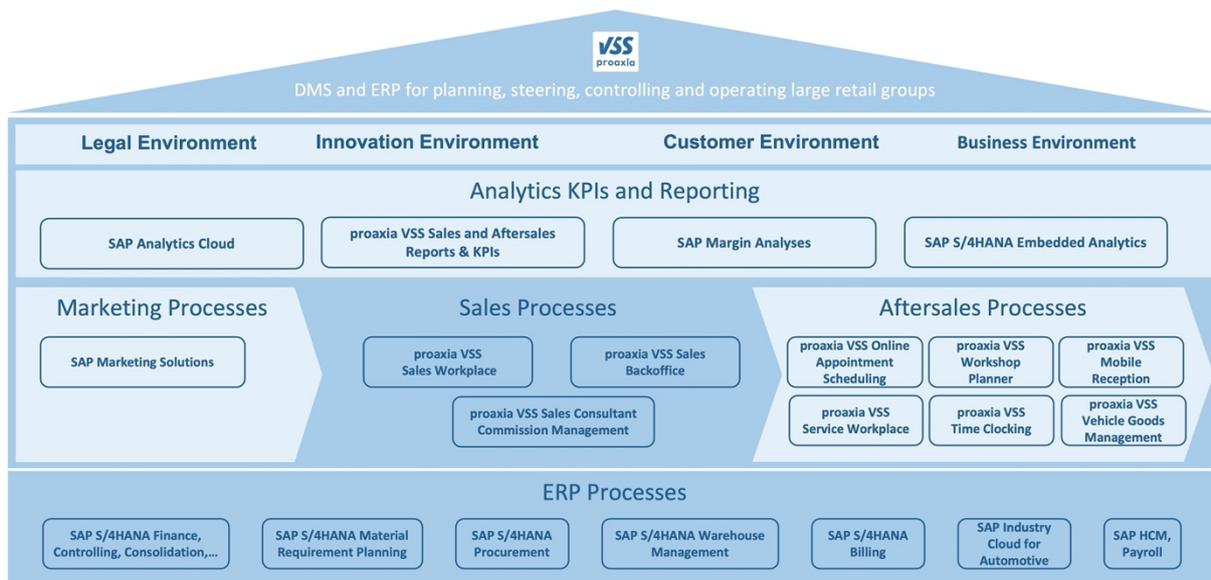


Figure 7 - Application landscape.

proaxia VSS covers all core retail processes – end-to-end in one solution, on the level of classical ERP processes, retail processes as well as on the level of business intelligence based on the data automatically generated by the processes.

With proaxia VSS the retailers can fully leverage the ERP capabilities of the SAP S/4HANA. E.g.,

- Based on the logistic processes, the financial and controlling documents are automatically generated.
- Outstanding bookkeeping and controlling functionalities are available.
- All data can be consolidated across the legal entities to get full transparency from financial and controlling perspective on each organizational level within the dealer group.
- SAP S/4HANA Material Requirement Planning optimises the parts stock by calculating the future demand using various algorithms and triggers the procurement. The procurement can be set-up centralized to achieve scale effects at the vendors.
- For organizations which operate larger parts logistics with regional warehouses, SAP S/4HANA's extended warehouse management optimises the material flow inbound and outbound, managing the locations and integrating logistic sub-systems.
- SAP S/4HANA billing is used to generate vehicle sales- as well as service-related invoicing to customers.

- The retailer employees can be setup in the SAP Human Capital Management which also includes payroll processing.
- The SAP Industry Cloud for Automotive is integrated. Vehicle and service data are exchanged and become transparent in the SAP Digital Vehicle Hub as a digital twin of the vehicle. The data is used in apps running on SAP BTP or by SAP partners like insurances in the business network of automotive retail.
- SAP Industry Cloud for Automotive can also be used for the management of charging stations at retailers. Further innovations will follow to address specific needs of the industry.

The specific retail processes are covered in Marketing, Sales and Aftersales. Based on customer and vehicle data coming from proaxia VSS processes, social media, customer apps and other sources, the SAP Marketing Cloud is the 360-degree customer and vehicle data pool, which is used to identify target customers for dedicated products and to run campaigns to generate leads.

The new and used vehicle leads are processed in proaxia VSS Sales Workplace. Workflow driven and self-documenting, the sales consultant is actively supported in the process to convert a lead to a contract, thereby always focusing on the customer interaction.

The sales consultant's sales commissions can be calculated in the system and transferred to SAP HCM payroll.

The proaxia VSS back office manages the procurement of vehicles, handles all related transport and insurance costs, and manages the stock as well as the internal fleet of the retailer, e.g., demonstrators, company vehicles, service loan vehicles.

The sales process transfers the customer to the aftersales department, which is preparing the vehicle for handover. The contact to service advisor is established. If so required, proaxia VSS online appointment scheduling enables the customer to select the required services and book a service appointment at a dealership, based on the available capacities.

The service orders are assigned to teams and resources automatically by the proaxia VSS service resource scheduling. The workshop controlling can assist the workshop planning by using the graphical planning board.

The service advisor can add value through a dialogue reception with the customers using the tablet solution proaxia VSS Mobile Service Advisor. The parts department is processing the required parts for the workshop in the proaxia VSS order and triggers procurement if required.

The technicians use the proaxia VSS time-clocking solution to record the working hours, the productive and non-productive hours.

The storing of goods owned by customers at the retailer site, e.g., tires or roof tops, can be managed by proaxia VSS vehicle goods manager.

To ensure the quality of the service, the service advisor checks the executed work with the proaxia VSS Mobile Service Advisor and triggers the retailer customer satisfaction survey through a questionnaire.

The complete process is supported by the workflow engine and communication framework in proaxia VSS. Activities like the washing of a car can be triggered automatically, or exception handlings like order extensions or delays can be handled with automated communication between the technician, service advisor, parts clerk and especially also integrating the customers.

To enable the management to work both "on" as well as "in" their business, all data generated by the processes can be used for business intelligence. In SAP Analytics Cloud proaxia VSS provides the data

pool and a dedicated set of automotive retail specific dash boards to plan steer and drive the business on a strategic as well as on an operational level.

SAP margin analyses makes the revenues and costs by business line, organisational unit, product group, customer, regions, and many other criteria transparent. The retailers can easily generate their own analyses for specific challenges either using the SAP embedded analytics of SAP S/4HANA or the SAP Analytics Cloud.

5. Summary and Conclusions

The increasing complexity and speed, the disruptive changes in the current distribution models and the ongoing structural changes lead to further pressure on the Stakeholders in the distribution channel.

The more complex the business environment gets, the more intelligent the business systems must be. The business systems must always maximise the possible support to the Stakeholders at all levels for them to manage the current operational business, and to plan, steer and drive tomorrow’s business.

The retailers’ business responsibilities are to exhaust the business potential in the existing customer base through focus on adding value to the existing customers, which in turn leads to customer satisfaction and customer loyalty. This can only be done efficiently if the systems permit analyses of the customer base as input for value adding activity plans.

Secondly, retailers should exhaust the business potential in the area of new/conquest customers - the minimum being the difference between the respective sales target (new cars, used cars, parts and accessories, finance, insurance packages etc.) minus what can be sold to the existing customer base.

To ensure that the above two responsibilities are met, the retailers need the tools to optimise the internal operations, to increase the efficiency and effectiveness based on objective facts.

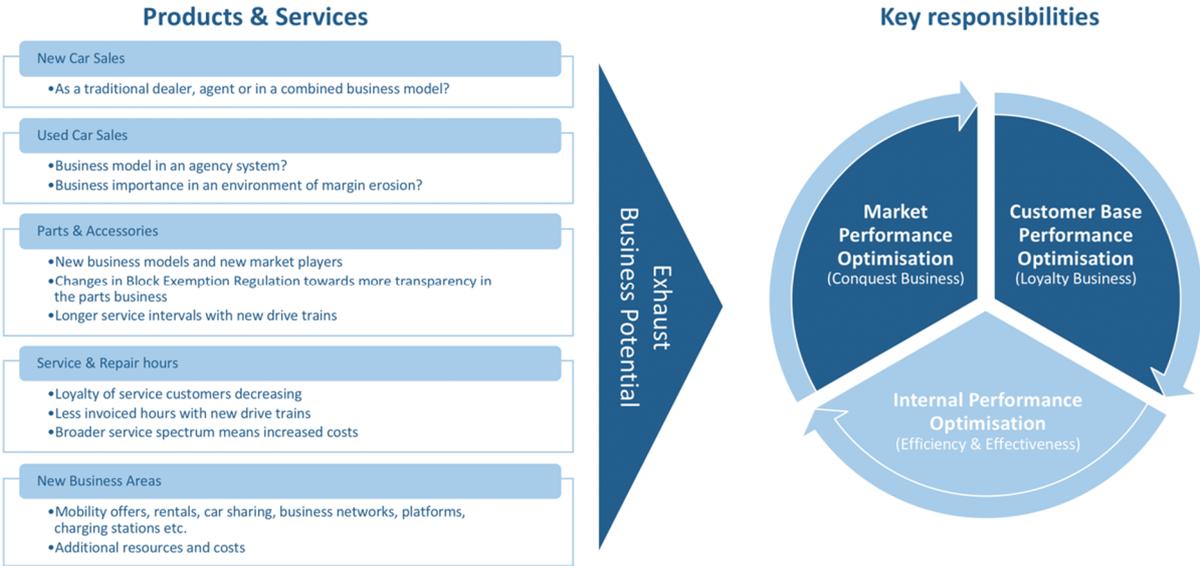


Figure 8 - High level, automotive retail business model.

Easy to do is easy to say. This can only be achieved if we understand that the business data is delivered bottom-up - which accentuates the requirements to have the right data – correctly structured and reported. Only then, the Stakeholders have the information required to define correct top-down objectives supported by robust, transparent, and measurable strategies and retail processes, which in turn are verified bottom-up.

We believe these are requirements for «survival of the fittest» operations and motivated our ambitious proaxia VSS Objectives as described earlier in this document.

6. Authors

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Robert is an automotive distribution channel specialist with 30 years of broad automotive industry experience. Both senior line responsibilities in Sales positions with several hundred million turnover responsibility as well as executive Retail Network Development positions at OEM central operations and National Sales Companies, with placements in different countries.

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7. Published by

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The proxia automotive solutions ag is an international corporate consultancy with roots in Switzerland and branches in Europe, MENA, Asia, and USA.

proxia is your partner for the digitalisation of sales and service in the automotive and heavy equipment sectors – partner for the design of end-to-end processes, IT architectures as well as for the implementation and support.

As an SAP Gold Partner, we work closely with SAP to develop and market our solution proxia Vehicle Sales and Service (proxia VSS), which is co-innovated with SAP and is part of SAP's industry cloud portfolio for the automotive industry. proxia VSS is the new generation Dealer Management System based on SAP S/4HANA, supporting intelligent sales, intelligent service, and all traditional processes in automotive and heavy equipment dealerships.

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