

Understanding the Automotive IT Landscape

A new Capgemini study provides a holistic view of the automotive IT application landscape, which can help manufacturers make more informed strategic decisions regarding their IT investments.

The automotive industry has been an early adopter of information technology due in large part to the complex, competitive and global environment in which automotive companies operate. Over the past 30 to 40 years, IT within the industry has witnessed a rapid and somewhat unstructured growth, leading to a complex and fragmented landscape, varying significantly across process areas, geographies and Original Equipment Manufacturers (OEMs).

Which solutions are used most extensively by OEMs? Which application providers are active in a particular process area? How does your company compare with your competitors in its use of bespoke and package applications? To better understand the automotive IT landscape, Capgemini conducted a study designed to establish a single-view representation of the IT solutions used across OEMs. The study seeks to identify which applications are most commonly deployed by vehicle manufacturers and examine how the IT landscape has evolved over time.

The research focused on two key segments of the automotive value chain: supply chain management (SCM) and sales, marketing and service. These segments were studied across the top 10 OEMs (based on consolidated annual group revenues): BMW, Daimler¹, Fiat, Ford, General Motors, Honda, PSA, Renault, Toyota and Volkswagen.

Key Findings

The research points to a number of key findings:

- **There is still a very wide diversity of applications across OEMs:** Despite the presence of all the application “giants” like SAP and Oracle, and the plethora of bespoke applications, there are still more than 45 application vendors present in this space, reflecting the complexities and lack of uniformity across the industry. Clearly, some applications work well in a particular OEM or country, and this advantage has allowed vendors to continue in a niche market without enabling expansion outside this niche.
- **The overall OEM IT landscape is still heavily dominated by bespoke applications:** While other less complex industries have moved more rapidly to package implementations, in-house developed applications are still widely used by OEMs, most likely due to the age and complexity of the automotive industry. Despite the best attempts by IT vendors to develop appropriate package solutions, OEMs struggle to find a solution that fits all their needs, leading to their preference for bespoke applications.
- **Some specific process areas are dominated by package applications, while others have proved largely impregnable and remain almost totally dependent on bespoke applications:** Despite the overall dominance of bespoke

¹ DaimlerChrysler AG, as the research was conducted prior to the divestiture of its U.S. Chrysler division.

solutions, OEMs have deployed package applications more extensively in certain process areas than in others. In particular, OEMs use package applications for aftersales areas such as service parts logistics, parts order management and warranty management.

Other areas such as supply chain management are still the domain of bespoke applications at almost all OEMs, reflecting the business-critical and complex function of SCM within the automotive industry.

▪ **There are large differences among OEMs in their adoption of package-based solutions:** There is a significant range in the level of adoption of package applications among OEMs, and also among geographies. Some OEMs have up to 42% of their applications landscape² based on packages, whereas other OEMs are still at 12%. The IT

footprint of the American and Asian OEMs is more inclined towards the use of bespoke and other niche applications while among the European players, package applications are more common in certain areas.

Research Drills Into OEMs, Business Processes and Application Vendors

The study framework comprises three levels:

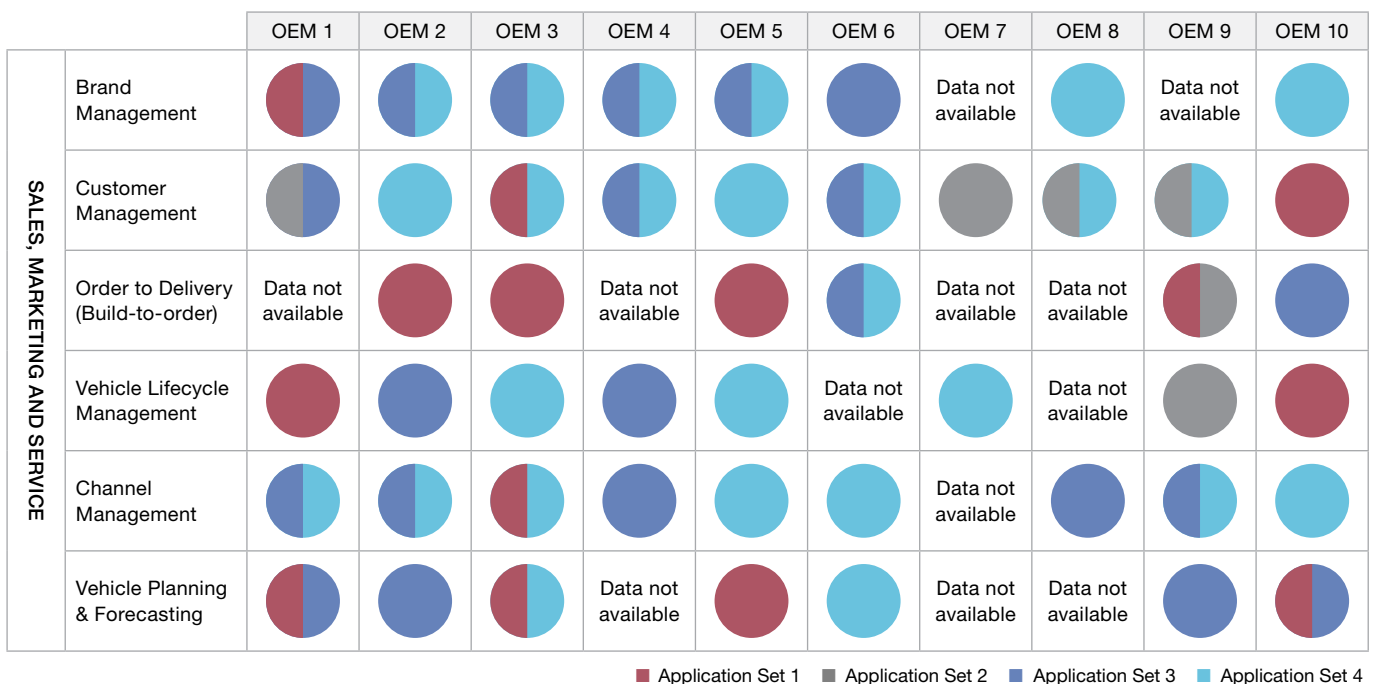
1. Headline process area such as supply chain management
2. Sub-process areas like planning and forecasting, order management, materials management
3. Detailed application process areas; for example, under planning and forecasting, study areas include vehicle order forecasting, demand sensing, volume planning and model/option forecasting

For Levels 1 and 2, information was collated around the IT deployments at the manufacturers, while Level 3 focused on the number of IT vendors offering these solutions. The study includes both primary and secondary research, but is primarily derived from information in the public domain.

The data was analyzed based on three aspects – manufacturers, business processes and application vendors:

- For **manufacturers**, insights were sought as to the preferences for solutions in the supply chain management and the sales, marketing and service segments.
- From the **business process** perspective, the IT vendor predispositions of the top 10 manufacturers were studied.
- From the **application vendor** perspective, vendor presence across various business areas was identified.

Figure 1 Automotive IT Landscaping – Sales, Marketing and Service



Source: Capgemini

Note: The above diagram represents only the presence of various application vendors in different solution categories, and not their solution footprint.

Bespoke solutions and SAP appear as the most preferred application choices for sales, marketing and service. In the case of supply chain management, bespoke solutions and other niche application providers are preferred.

² Measured by the number of applications used by OEMs within a particular process area.

Manufacturers' vendor preferences were gauged based on their IT deployments. The IT deployments at Level 2 were studied and then clustered by vendor. Based on the resulting number of vendors per business process, charts were developed and standardized color coding was used to indicate each application vendor family (see Figure 1 as an example). The research focused on SAP (mySAP CRM, SAP SCM, SAP R/3, etc.), Oracle (Siebel, PeopleSoft, E-Business Suite, etc.), other package applications and bespoke solutions.

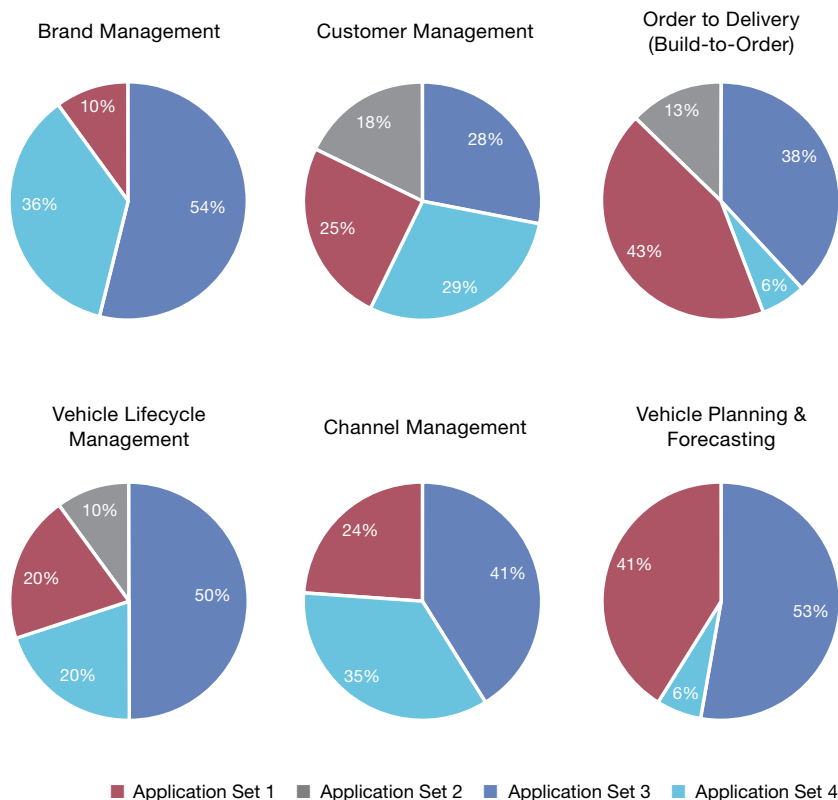
The installed base of application vendors was used to identify preferences among the automotive manufacturers across business processes (see Figure 2 as an example). In this case, information was gathered under Level 2 of the framework. The information was further grouped based on the number of deployments.

In terms of application vendors, each vendor's presence at Level 3 was studied and rated on the basis of the degree of preference (see Figure 3 as an example), which is directly related to the number of players with which the vendor competes.

Providing a Holistic View of the IT Landscape

Realizing the full benefits that can be derived from IT solutions requires that companies take a close-up look at the entire technology landscape across the automotive industry. This industry-wide picture can help OEMs better understand their IT footprint vis-à-vis the industry, conduct gap analyses and identify areas on which they should focus. The study also reveals some interesting trends regarding vendor and software preferences among the automotive OEMs, which could prove valuable when making IT investment decisions.

Figure 2 Preferences Across Business Processes – Sales, Marketing and Service



Source: Capgemini
 Note: The above charts represent installed base of each vendor across the top 10 automotive OEMs.

The sales, marketing and service area represent a fairly even playing field for all application vendors, with an inclination towards SAP.

With this information, automotive executives can:

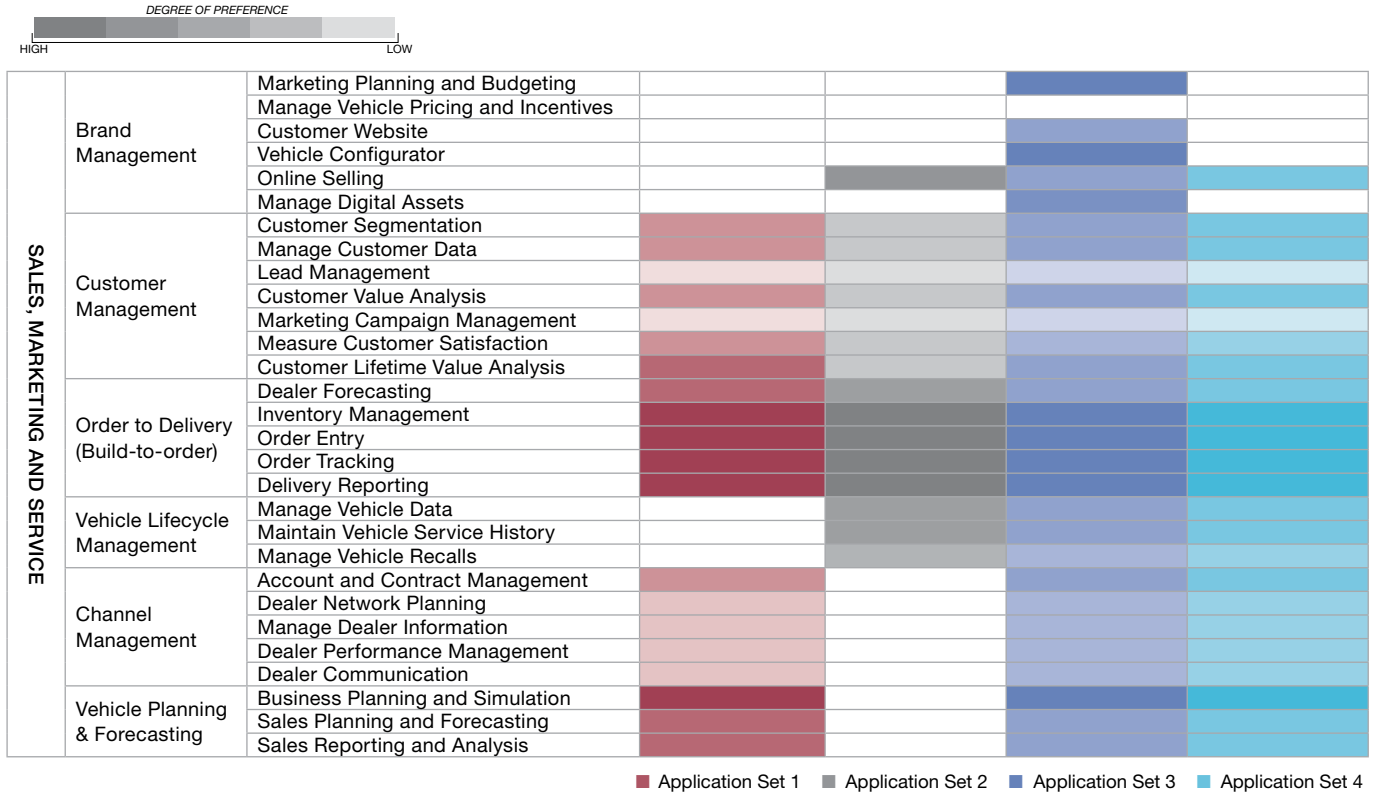
- Use the model to create an in-depth bill of IT, which can be used to track changes and help them create a consolidated view of their own IT systems.
- Conduct a constructive gap analysis and identify areas of innovation and improvement.
- Make more informed strategic decisions regarding their IT investments by understanding “who is doing what.”

Capgemini's automotive IT landscaping model offers a benchmark to help vehicle manufacturers examine the full IT landscape and understand where

they fit in. These insights can be used to help determine which strategic or capital investment decisions will yield the most significant return.

As one of the world's leading providers of consulting, technology and outsourcing services, Capgemini has over 30 years of hands-on industry and service experience. Capgemini is a leading systems integrator across the entire automotive value chain, generating value for companies through automotive-specific service offerings and global delivery capabilities. Our automotive practice serves 14 of the world's 15 largest vehicle manufacturers and 13 of the 17 largest automotive suppliers.

Figure 3 Vendor Preferences – Sales, Marketing and Service



Source: Capgemini

In the area of sales, marketing and service, SAP and bespoke solutions have a large installed base, while in the case of supply chain management, niche applications and bespoke solutions dominate.

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