Innovation Management

"Successful innovation development needs a system of elements that fit together like pieces of a puzzle."

Create an "Innovation Strategy Framework" that suits your needs

Successful innovation development needs a system of elements that fit together like pieces of a puzzle: a clear innovation strategy that is closely connected to the company's overall business model, the right team that has the culture to put the strategy to work, an organization that can effectively and efficiently steer the necessary innovation processes and an intelligent business case that enables innovations to be turned into tangible profit.

Oliver Wyman calls such a system the "Innovation Strategy Framework" (ISF). It consists of four elements: innovation proposition, business case, organization & culture, and competence focus & collaboration. There is not one ISF that is suited for all situations. Instead, typical success patterns are suited for different kinds of companies. Six innovator archetypes have been identified for OEMs and six for suppliers. Each describes a typical ISF profile in which the different elements fit together to form a coherent system.

Four elements
The Oliver Wyman "Innovation Strategy Framework" consists of four elements: innovation proposition, business case, organization & culture and competence focus & collaboration.

The innovator archetypes for OEMs and suppliers serve as models to understand, check and improve the different aspects of innovation: strategic R&D fit, organization and culture, competence profiles and cooperation needs, organization and leadership, effectiveness and efficiency, value capture by innovations, and strategic barriers against copycats. Many companies follow two or more innovation strategies at the same time – suppliers with different product ranges and OEMs with different brands.

In addition, innovation archetypes are not static role models, but evolve with time. Companies take typical development paths. Gentex, for example, started off as a niche performer with its photochromatic dimming mirrors in 1989. The company added climate controls and hands-free phone features in 2000, generating much higher market potential for its mirror lineup and becoming a functional enricher. The concept aims to integrate more functions to its mirrors in order to stay ahead of the competition and to capture more value with the core product. In 2005, Gentex introduced its SmartBeam headlights controller, a new niche innovation. In 2006, it integrated LED technology into exterior mirrors, further strengthening its position as a functional enricher.

Johnson Controls, as another example, began as a traditional functional enricher, upgrading traditional front seats with high-tech items. The company then moved on to provide complete interiors including cockpits, an archetype called system connector. At the same time, though, Johnson Controls continues its old role model, with such products as the HomeLink garage door opener.

OEM example: "Architectural revolutionizer"

This innovator type primarily focuses on process innovations that enable innovation of the product architecture. Examples of this type are Toyota or Volkswagen. Traditionally, the orientation was on pure mass-market cars. But a consumer-driven shift has occurred, bringing a new emphasis to a broad selection of customer-specific markets (low-cost, luxury, family, sports, etc.). Although architectural revolutionizers are largely cost-oriented, they try to deliver a high-end product that enables them to get a price premium. Limited R&D outsourcing helps them maintain control over the quality of their innovations.

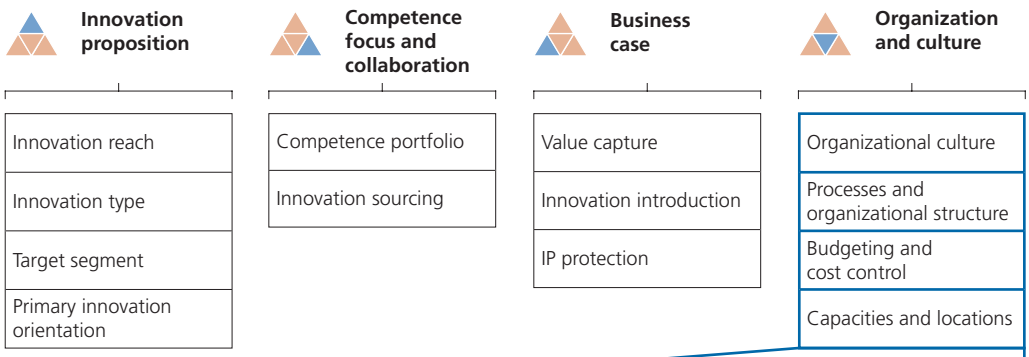
Six OEM innovation archetypes
The archetypes serve as models to understand, check and improve the different aspects of innovation.

Architectural revolutionizers continuously drive the evolution of existing car concepts. Over the years, their focus has been on platforms and car modularization. Today, they produce many models on just a few platforms, and Toyota has even developed a "bookshelf" approach to its modules. The R&D competence portfolio of this archetype is quite specific: Toyota runs one separate R&D center for each of its platforms and its modules. A selected network of suppliers is embedded in the R&D portfolio, facilitating competence gaps in the OEM's organization. R&D tends to be decentralized, with clearly defined processes. The motivation systems are strictly focused on increasing modularization. The future innovation focuses of architectural revolutionizers will be on standardizing car design by using strict "bookshelf" and platform strategies and devising new power trains. This innovator type will also be the most probable source for the next generation of low-cost cars.

OEMs

	Innovation archetype	Innovation proposition	Focus and collaboration	Business case	Company examples
1	Brand builder	Brand-oriented product innovations Mid-size volumes High-end customers	Specialized focus Strong supplier coops and R&D outsourcing	Brand image Premium Strong IP protection	BMW Mercedes-Benz
2	Fast follower	Improves innovations and brings them to the mass-market	Medium focus Selective coops Extensive R&D outsourcing	Low costs Fairly weak IP protection	Daewoo Hyundai
3	Mass-market adapter	Adapts and improves existing product innovations	Broad focus R&D outsourcing of whole systems Limited network	Low costs Weak IP protection Brand image	Ford GM
4	Architectural revolutionizer	Focuses largely on process innovation Shifts from mass- to niche-markets	Network builder Modularization Limited R&D outsourcing	Cost-oriented innovations Fairly strong IP protection	Toyota VW
5	High-end optimizer	Premium product innovations by systems and components enhancement	Specialized focus Very limited R&D outsourcing	Innovations Strong IP protection Brand image	Porsche Hummer
6	Cost and process specialist	Innovations based on new manufacturing processes Customer orientation	Broad focus Medium R&D outsourcing Formal partners	Low-cost product Fairly strong IP protection	Kia Dacia

Best-in-class OEM organizations and culture



Best practices	Performance by OEMs: Brand builder	Mass-market adapter	Fast follower	Cost & process specialist	Architectural revolutionizer	High-end optimizer	Company
Organizational culture • Entrepreneurial, participatory continuous improvement systems • High employee involvement, suggestion systems and rewards • Client orientation	●	◑	◑	◑	◔	●	Porsche BMW
Process and organizational structure • Disciplined outside-in innovation strategy process - Alignment to strategic technology roadmap - Market-oriented implementation and monitoring process • Efficient combination of - Market-driven, regionalized application and adoption engineering (design-to-market) - Technology-driven, deepening of core technological expertise • Integrated engineering approach - Cross-functional teams - Co-engineering of product and process engineering department	●	◑	◔	◑	●	◑	Porsche BMW Toyota Mercedes-Benz
Budgeting and cost control • Stable, long-term oriented R&D budgets • Utilization of cross-subsidizing of »star« by »cash cow« divisions • Strict cost controlling	●	◑	◔	◑	●	◑	BMW Toyota
Capacities and locations • Hub-and-spoke organization in R&D division - Centralized R&D offices at the headquarters - Decentralized R&D in various countries and with networking partners	●	◔	◔	◑	●	◑	BMW Toyota

Relevance for innovator archetype: ○ Low ● High

Supplier example: “System connector”

System connectors integrate several existing components and modules into one functional system with optimized customer benefits. Examples are Hella and Harman/Becker. Their range of possible applications is very broad, as are their necessary skills. The R&D organization of system connectors tends to be decentralized and interdisciplinary. System connectors develop intensive innovation networks that enable them to integrate new systems, and they prefer open interfaces. Hella has repeatedly set industry standards in its fields, including with its joint venture of front-end systems, Hella-Behr-Plastic Omnium.

Network collaboration
Many supplier innovation archetypes draw heavily on the advantages of networking and partnerships.

This innovation archetype is primarily suited for mature technologies, enhancing them with intelligent interconnections. System connectors can deliver premium products as well as cost-sensitive solutions. However, as their work focuses on connecting mature components, they have little protection of their intellectual property. Product differentiation and barriers to competitors lie in the understanding of the end customer and in close cooperation with OEMs. Often, these innovator types also use customer brands to strengthen their position, as did Harman/Becker.

Suppliers

	Innovation archetype	Innovation proposition	Focus and collaboration	Business case	Company examples
1	Radical innovator	Replaces old systems or establishes new ones	Specialized focus Keeps know-how in-house	Price premium Strong IP protection	Siemens VDO
2	Functional enricher	Brings new functions to the market OEM and end customer focus	Functional integration focus Keeps know-how in-house	Price premium Strong IP protection	Gentex
3	System connector	Functional process or product optimization End customer focus	Expansion into new systems via coop networks Open interfaces	Price premium or low-cost Fairly weak IP protection	ZF Friedrichshafen
4	Process champion	Incremental process innovation to serve broader markets Adapts to customers	Process focus Open to coops	Low costs in mature techs Weak IP protection	ElringKlinger
5	Niche performer	Product or process innovator serving niche markets End customer focus	Very specialized know-how Selective coops	Price premium Varying IP protection	Elmos
6	Module shaper	Focus on module design and processes Defines modules anew	Unique know-how combination Coop with OEM / system connector	Value capture from OEM Cost reduction for modules	Brose

Implementation:
Check your "Innovation Strategy Framework"

Organization & culture
Innovation leaders in the automotive industry have a strong culture of creativity, openness and entrepreneurship. A quest to find new solutions through innovative technologies is a shared trait within these organizations.

Average OEMs and suppliers rarely think about changing their innovation strategies. Top performers regularly challenge the direction and means of their innovation management. A review using the "Innovation Strategy Framework" is done systematically.

- Analysis of the current innovation strategy according to ISF dimensions: A thorough analysis of the current innovation approach, the competence focus and existing collaborations, the business case of the innovation portfolio as well as the organization and culture is a crucial step to pinpoint the weaknesses of your company's innovation strategy. This often leads to a complete overhaul of the innovation process and organization.

- Alignment of innovation strategy with business design: A clear understanding of a company's own business design provides the context for the innovation strategy. A car manufacturer in the premium segment must align the innovation strategy to the position of the brand. A low-cost car producer will focus the strategy on cost innovations, not functions.

- Customer focus: A check should be done to determine how much influence the end customer has on your innovation organization. Improve the market research capabilities and create an innovation culture that incorporates the needs of your end customer.

- R&D efficiency and effectiveness: Each project in your innovation portfolio must prove that it adds value to the company. Reduce the number of innovation programs and encourage the organization to accelerate the innovation process. Support innovations that address substantial cost improvements.

- Open innovation and network collaboration: Explore the entire R&D organization and look for new ideas and engineers outside your company and even your industry. Develop alliances and networks with other OEMs and/or suppliers that will produce benefits (costs and intellectual capital) for both sides.

Ten success factors

Innovation proposition

- **Technological vision:** Top performers constantly scan their environment for long-term trends in the market and in technologies. They develop a long-term innovation vision and stick to it, no matter what the short-term trends are.
- **Customer knowledge:** Understanding customer preferences enables companies to better focus their innovation efforts on relevant issues. Customer research needs both a regional and a socio-demographic approach to be of value.
- **Strategy match:** Successful OEMs and suppliers match their R&D strategies at a very early stage, and very closely with the respective target OEM or supplier partner. This is especially true when the car architecture is affected, i.e. with module innovations.

Competence focus & collaboration

- **Competence focus:** The best innovators closely match their R&D competencies with their R&D strategy. OEMs and bigger suppliers with a diversified product range must continuously recalibrate their competencies to their strategic R&D targets.
- **Strategic partners:** With their increasing complexity, R&D networks are becoming a crucial success factor. Currently, it is mostly OEMs that are forming such networks. In the future, supplier-supplier and supplier-institution collaborations will increase.

Business case

- **Investment focus:** R&D funding must be independent of current business needs. In the past, short-term changes in the R&D focus have often led to long-term problems. Catching up with past R&D cuts has often proven to be extremely expensive.
- **Trend focus:** Relying on megatrends contributes significantly to the soundness of R&D investments, as these trends are highly predictable. Interpreting these trends in terms of a company's own business model is a main conceptual challenge for automotive companies.
- **Cost focus:** Leaders in innovation always have a strong cost focus, with respect to R&D efficiency and effectiveness. Regardless whether it is a single component or an entire car, the reduction of unit costs is the center of their innovation efforts.

Organization & culture

- **Outside-in strategy:** Top performers concentrate on innovations that the market needs and end low-value projects early. Processes that strengthen this ability are a common understanding of innovation aims within the company and a standard quality process.
- **People involvement:** Companies that involve people from all levels in their R&D are much more successful innovators. The keys to employee involvement are easy and motivating communications, low hurdles for submission of ideas, and efficient and transparent filters for the incoming ideas.