



DESIGN MANAGEMENT IN LUXURY AUTOMOTIVE ORGANIZATIONS: PROCESS, GOVERNANCE, BRAND COHERENCE, AND CAPABILITY

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ABSTRACT Design management in luxury automotive firms has little empirical study from the practitioner side. This paper reports a limited qualitative analysis of written answers from two senior design practitioners at Ferrari to 30 open-ended questions sent by email. It asks four questions. How are design stages and decision gates structured? How does design work with other functions? How is brand coherence kept while the design of each model changes? How is design capability built and assessed? The responses were analysed with thematic analysis (Braun & Clarke, 2006), which produced eight themes: structured flexibility in the process; progressive feasibility; hierarchical but consultative governance; design as the integrating function; heritage as a living language; talent and continuity; technology that serves the design intent; and success judged over time. Both respondents describe staged approvals that leave room for creative work, and both link brand coherence to the logic of each car. One respondent describes showing proposals at about 80% feasibility and reaching 99% before final approval. The paper reports two responses from a larger doctoral study, so the findings are preliminary. They are offered as propositions for later testing.

KEYWORDS : Design Management; Luxury Automotive; Qualitative Research; Brand Coherence; Cross-Functional Integration; Structured Flexibility; Thematic Analysis

1. INTRODUCTION

In luxury car firms, design is expected to carry brand identity and to produce customer emotion (Kapferer & Bastien, 2012; Karjalainen, 2007). The people who manage design in these firms must keep creative work moving, meet engineering and production deadlines, and protect a brand that customers recognise by its look. How they do this day to day is the subject of this paper.

Design management has a solid theoretical base (Cooper & Press, 1995; Borja de Mozota, 2003; Wheelwright & Clark, 1992; Verganti, 2009). Studies of car product development (Clark & Fujimoto, 1991; Tovey, 2016) and of luxury brands (Vigneron & Johnson, 2004; Wiedmann et al., 2009) add to it. Few studies, however, describe how design is organised and governed inside luxury car firms, as told by the people who do the work. The literature search that supports this statement is described in Section 2.1.

This paper asks four research questions.

- RQ1. How do luxury automotive design organisations structure the stages and decision gates of the design process, and who holds authority at each gate?
- RQ2. How does design work with engineering, manufacturing, marketing and aerodynamics, and how are conflicts resolved?
- RQ3. How do practitioners keep brand coherence while the design of each model changes?
- RQ4. How do these organisations build and assess design capability through talent, technology and success measures?

The paper reports two completed questionnaires from a larger doctoral study. The reason for choosing these two respondents is given in Section 3.2. The study offers a first, practitioner-level account of design management in this sector, and it states its findings as propositions that later work can test.

Section 2 reviews the literature for each research question. Section 3 describes the research design and methods. Section 4 presents eight themes, each linked to a research question. Section 5 discusses the themes against the literature and lists the limitations. Section 6 concludes.

2. Literature Review

2.1 Process and Governance

Cooper's (1990) Stage-Gate model divides product development into phases separated by decision gates. Nobelius and Trygg (2002) questioned whether the early phases of development can be managed as a fixed process, and Cooper (2008) later described a more flexible and adaptive version of Stage-Gate. Khurana and Rosenthal (1998) described the front end of product development as a stage that needs its own holistic management, since early choices shape everything that follows. Perks et al. (2005) classified the roles that design plays in new product development. Popular accounts of design thinking (Brown, 2009) and the academic work reviewed by Johansson-Sköldberg et al. (2013) add a second view of how creative work should be organised.

Two ideas help to read the tension between structure and creative freedom. Adler and Borys (1996) separate formal rules that help people do their work from rules that control them. March (1991) describes exploration and exploitation as two activities that compete for the same resources. Hambrick and Mason (1984) argue that the choices of top managers shape what organisations do, which matters for any process in which senior executives approve designs.

These sources are general. They do not show how a luxury car firm combines gates, executive approval and creative exploration in one design process.

2.2 Cross-functional Integration

Brown and Eisenhardt (1995) reviewed the product development literature and gave weight to team composition, communication and leadership. Wheelwright and Clark (1992) and Clark and Fujimoto (1991) tie strong performance to coordination between functions. Clark and Fujimoto describe product integrity as the fit between a car's function and its character. Dougherty (1992) found that departments interpret the same product in different ways because they hold different views of it, so they need effort to understand each other. Star and Griesemer (1989) describe boundary objects, which are shared artefacts that several groups use while each reads them its own way. Borja de Mozota (2003) describes four roles for design in a firm: differentiator, integrator, transformer and good business.

What is missing is a close description of how design staff and other functions settle disagreements in a luxury car programme.

2.3 Brand Coherence

Kapferer and Bastien (2012) treat design as a main way in which a luxury brand shows its identity. Karjalainen (2007) examines how a car's visual design can be made to carry a brand, and Ranscombe et al. (2012) study how the visual features of vehicles affect how consumers see the brand. Urde et al. (2007) and Balmer (2013) write about heritage brands, which must stay faithful to their history while renewing themselves. Beverland (2005) studied luxury wine makers and found that they build authenticity from tradition. Verganti (2009) argues that design-driven innovation offers customers new meanings and does not start from their stated needs.

These works leave open how practitioners themselves explain the way a brand stays recognisable while each model looks new.

2.4 Capability: Talent, Technology and Assessment

In this paper, organisational capability means the skills and routines a firm uses to deliver design again and again (compare Teece et al., 1997). Nonaka (1994) describes tacit knowledge, which people hold but cannot fully write down, and how it passes between people. Amabile et al. (1996) identify features of a work environment, including freedom in how work is done and encouragement from the organisation, that relate to creativity. Thomke (2003) argues that new technologies change how cheaply firms can run experiments.

Utterback et al. (2006) discuss design-inspired innovation. Hertenstein et al. (2005) link the quality of industrial design to financial results.

Few of these studies address how design managers judge success when results appear only after a car has been on sale for some time.

2.5 Digital Tools and AI in Car Design

Recent work looks at how digital tools change the way cars are designed and reviewed. de Clerk et al. (2019) tested interaction techniques for virtual reality design reviews of cars, and found that a touch-based and a gesture-based technique scored highest. Ranscombe et al. (2025) followed ten automotive concept projects over ten months. They found that VR sketching improved spatial, environmental and operational fidelity and cut the time needed to iterate 2D sketches, with limits in stroke control and data transfer.

Studies of generative AI follow a similar line. Wang et al. (2024) worked with experienced car designers to build a diffusion-based system for concept design, and reported problems such as style bias, difficulty with nuanced meaning and poor fit with team workflows. Lee et al. (2025) tested a workflow that combines 3D sketching with generative 2D rendering. One veteran car designer used it and estimated that a 2D-only workflow would take four to five times longer. Chen et al. (2025), in a study of general conceptual design with novice designers, found that generative AI helped mainly with problem definition and idea generation, while selection and evaluation stayed largely with people. In the engineering design team of a European automotive manufacturer, Luke et al. (2026) found that staff adoption of generative AI was limited by concerns about intellectual property, data security, originality and loss of skill. They concluded that integration needs training tied to workflows and clear data governance.

These studies concern tools and tasks. In the studies reviewed here, none examines how design managers decide to adopt such tools, or how adoption fits with approval gates and brand control. Theme 7 in Section 4 addresses that question from two practitioners' view.

3. Research Design and Methods

3.1 Research Philosophy

The study follows an interpretivist position (Denzin & Lincoln, 2018). It treats the respondents' accounts as their own understanding of how design is managed in their organisations. It does not treat them as measurements of that practice. A qualitative design suits this aim, since the questions concern practices and the reasons practitioners give for them. The analysis is mainly inductive: codes were taken from the responses. The literature in Section 2 was used afterwards to interpret the themes.

3.2 Sample and Sampling Strategy

Respondents were chosen by judgemental sampling (Palinkas et al., 2015), since the study needed senior people who manage design in luxury automotive firms. Snowballing (Biernacki & Waldorf, 1981) was used to reach them. The inclusion criteria were designers of automobile interiors, exteriors or both, with at least 10 years of experience, at a company in the luxury automobile sector anywhere in the world. The larger study has six respondents. This paper reports two of them. They were chosen because, between them, they cover different types of automobile design. R1 leads the design of sports cars, and R2 leads interior and exterior design. The paper reports this selection openly, in line with guidance on transparent reporting of participants and their selection (Tracy, 2010; Tong et al., 2007).

Both respondents hold senior roles at Ferrari and have worked elsewhere. R1 is Head of Sports Cars at Ferrari and previously worked at Fiat and Lancia. R2 heads the interior and exterior design team at Ferrari and previously worked at Zagato. Because both work at the same firm, the findings describe one firm's practice (see Section 5.6).

The study does not claim data saturation. Guest et al. (2006) found that themes began to repeat after about twelve interviews in a fairly uniform sample, and two respondents are far below that. The sample is instead judged by what each respondent adds. Malterud et al. (2016) call this information power: a sample can be small when the aim is narrow, the respondents are highly relevant, and their accounts are rich. Section 5.6 returns to this point.

Table 1. Respondent Profiles

Item	Respondent 1 (R1)	Respondent 2 (R2)
Name	Andrea Militello	Angelo Nivola

Organisation	Ferrari (previously Fiat and Lancia)	Ferrari (previously Zagato)
Role	Head of Sports Cars	Head of the interior and exterior design team
Design work handled	Sports cars	Interior and exterior design
Mode	Email questionnaire, answered in own time	Email questionnaire, answered in own time
Dates	Sent in early July 2025; returned in late August 2025	Sent in early July 2025; returned in late August 2025
Language	English	English
Questions answered	25 of 30 (Q19 to Q22 and Q30 unanswered)	29 of 30 (Q17 unanswered)

3.3 Data Collection

The questionnaire has 30 open-ended questions in ten groups: design process organisation; cross-functional collaboration; decision-making and approval gates; market integration and brand management; design leadership and team management; technology and innovation management; style development and concept management; quality and validation; resource management and planning; and continuous improvement and learning (Appendix A). It was developed from a literature review.

The questions were sent to each respondent by email. The respondents answered in their own time and returned the answers by email. The questions were sent in early July 2025, and the answers came back in late August 2025. No pilot test was run. Both respondents received the same questions. The questions are listed in Appendix A as they were sent.

This mode gave respondents time to think and to revise their answers. It allowed no follow-up or probing questions, so the answers are only as detailed as the respondents chose to make them. Some questions were left unanswered (Table 1), and one was answered with the words "Standard process". These were treated as missing data and were not interpreted. Minor spelling errors in quotations were corrected, and wording was left unchanged.

The returned answers were analysed with the six phases of thematic analysis described by Braun and Clarke (2006): becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and writing up. Braun and Clarke point out that themes do not emerge from data by themselves, since the analyst constructs them. This paper therefore speaks of themes that were identified and constructed. Coding was done by hand, without software, by the author.

The answers were first coded question by question. Codes with the same meaning were grouped, and the groups were reviewed against the full answers and against the four research questions. This produced eight themes. A cross-respondent comparison (Miles et al., 2020) then recorded, for each theme, whether the two accounts were Consistent (the same point), Complementary (different parts of one topic), or Only one respondent (the other gave no evidence). Table 2 shows how the question groups link to the themes and research questions. Two question groups, design development and resource management, feed several themes, and every group is used in at least one theme.

Table 2. Question Groups, Themes and Research Questions

Question group (questions)	Themes using it	Research question
Design process organisation (Q1 to Q3)	1, 2	RQ1
Decision-making and approval gates (Q7 to Q9)	1, 3	RQ1
Style development and concept management (Q19 to Q21)	1, 2	RQ1
Cross-functional collaboration (Q4 to Q6)	4	RQ2
Market integration and brand management (Q10 to Q12)	5	RQ3
Design leadership and team management (Q13 to Q15)	6	RQ4
Technology and innovation management (Q16 to Q18)	7	RQ4
Quality and validation (Q22 to Q24)	7, 8	RQ4

Resource management and planning (Q25 to Q27)	2, 6, 8	RQ1, RQ4
Continuous improvement and learning (Q28 to Q30)	8	RQ4

3.5 Rigour and Trustworthiness

Lincoln and Guba (1985) name four criteria for trustworthy qualitative work. For credibility, both respondents reviewed the text of the paper. For transferability, Section 3.2 and Table 1 describe the respondents and their contexts, so that readers can judge where the findings might apply. For dependability and confirmability, every theme in Section 4 is supported by quotations that carry the question number, for example (R1, Q8). The author's position is stated for transparency. The author came to the responses after completing an integrative review of design management literature in luxury automotive organisations. That review set up expectations, for example that approval gates, brand heritage and cross-functional work would matter. To limit their effect, codes were first taken from the respondents' own words, and the literature was used after the themes were set. The respondents were reached by referral, which may have shaped who took part and how openly they answered. Where the paper offers its own reading of the data, it says so.

3.6 Ethical Considerations

Informed consent was recorded on a short consent form. Both respondents consented to be named in the paper, and to the naming of Ferrari. They answered personally, as automobile designers working in the luxury automobile sector, and not on behalf of Ferrari. Both respondents reviewed the text of the paper.

4. Findings

The analysis produced eight themes. They are grouped under the research question each one answers. Quotations carry the respondent and question number. Table 3 at the end of the section summarises how the two accounts relate for each theme.

Some terms come from the respondents' own working language. A-class surfaces are the final, production-quality digital surfaces of the car body, and the data from them is used to make tooling. Design freeze is the point at which the design is fixed. The reference model is a physical model milled by machine from the final A-class data. The Chief Design Officer is the head of the design function.

4.1 RQ1. Stages, Gates and Authority

Theme 1: Structured Flexibility in the Process

Both respondents describe a process with defined phases and approval points, and both say that creative work has room inside it. R2 names four phases: "concept exploration, feasibility, refinement, and final approval" (R2, Q1). R2 sums up the idea in one line: "Creativity flows within structured checkpoints" (R2, Q1). On the balance between freedom and structure, R2 answers: "By defining clear boundaries but leaving space inside them" (R2, Q3).

R1 describes the same balance through timing and experience. Creative freedom is built into the early part of the schedule, but it must also be available when needed:

The timeframe for creative freedom is scheduled in the early stages of the project, but the capability to be creative "on demand" is key to the automotive business. (R1, Q3)

R1 adds that experience helps a designer judge early whether an idea can be industrialised (R1, Q3). Both respondents also describe how a design that fails a gate is handled. R1 says this "rarely happens, because we always keep alternative proposals in back-up", and a task force then answers the feedback quickly (R1, Q9). R2 says "A design is never rejected" and that it is refined and reviewed again (R2, Q9).

The two accounts do not use the same phase names. R1 describes stages by who sees the work and how feasible it is, and R2 names the phases. The accounts agree that approvals come in steps and that a failed gate leads to revision. The detail of the steps comes mostly from R1.

Theme 2: Progressive Feasibility

R1 describes a practice in which a proposal grows in feasibility as it moves up the approval chain. Early proposals go to the Chief Design Officer to find those "that show most potential", and finalised proposals go to board members. At about 80% feasibility the proposal goes to the president, vice president and CEO for approval:

Eventual comments and requests are introduced through the next evolution where every detail gets refined and the project is brought to 99% of feasibility before representing the definitive status for final approval. The last 1% before final A-class release is obtained during the final stage of development of the project with engineers. (R1, Q1)

R1 does not say what the percentages measure. They are best read as R1's own working estimates and not as a measured scale. R1 also says that engineering and manufacturing influence the work early, yet bold ideas still reach the board: "No unrealistic proposal is presented to the board. The courage to show challenging proposals and redefining the limit of possible is key to be innovative" (R1, Q6).

R1 links time and cost to quality with a simple curve. More time gives better quality, but the gain slows down:

The improvement curve isn't linear though, but peaks at the beginning and flattens to reach an asymptote. The timeline needs to be built so that the design research and development reaches design freeze stage right before this asymptote. (R1, Q27)

Cost, R1 adds, "has a linear curve, where time equals cost" (R1, Q27). Past the flat part of the curve, extra time adds cost and little visible quality. R1 also explains how the schedule is set: it counts back from the start of production to the date when final surface data must be released for tooling (R1, Q26).

R2 gives a related but less specific account. Reviews raise the level of detail step by step, from sketches through digital models and clay to a prototype, and the milestones are "Concept selection, design freeze, and prototype validation" (R2, Q19). R2 gives no figures. The numbers in this theme come from R1 alone.

Theme 3: Hierarchical But Consultative Governance

In both accounts, final approval sits with senior executives, and other functions have a say before that point. R1 describes authority that rises along the process, from the Chief Design Officer at early reviews to the board and then to the president, vice president and CEO (R1, Q1). R1 names four formal gates: design choice, design confirmation, design freeze, and reference model. At the last gate, "The final A-class surfaces are milled and evaluated to sign off the definitive design" (R1, Q7). The gates and the approvers are described in separate answers, so the match between each gate and each approver is the author's reading and was not stated by R1.

R1 says decisions rest on "Mainly intuition and experience" because the products are "related purely on emotions that the client is supposed to feel" (R1, Q8). The design is judged on "aesthetic excellence", which covers shape, surface quality and proportions, and it is checked against technical limits such as aerodynamics and ergonomics (R1, Q8). R2 describes a wider group of participants in reviews, namely "Design directors, project leaders, and representatives from product development, marketing, and manufacturing" (R2, Q7). R2 says "Decisions are collective, based on emotional impact, brand consistency, technical feasibility, and long-term vision" (R2, Q8).

The two respondents therefore describe the same pattern from two sides. R1 stresses who approves, and R2 stresses what criteria are used and who takes part. Neither describes how a vote or a disagreement is settled.

4.2 RQ2. Working with Other Functions

Theme 4: Design as the Integrating Function

Both respondents say that other functions join the work early. R2: "Collaboration starts from day one", with weekly design reviews, cross-functional alignment meetings and joint prototype validations (R2, Q4). Manufacturing and engineering take part "from the first feasibility phase" (R2, Q6). R1 says the contact is "constant and close" and describes design as the point where the demands of other functions meet:

The design department is the funnel of the project, where, through the shape and character, the project reflects all the aspects of the product. (R1, Q4)

R1 lists the inputs: product marketing sets the features the market needs, engineering turns shapes into products that can be built at sensible cost, and aerodynamics matters because "the shape is directly linked to the performance that the car has to deliver" (R1, Q4).

Conflicts with engineering or manufacturing happen "on daily bases"

(R1, Q5). R1 describes two steps. First, the team looks for the closest solution that keeps the design at the edge of what is acceptable. Second, the compromise goes to the managers of each side to judge its effect on the final product. R1 names the key factor as “mutual respect for the other department's competence and a deep understanding of the product overall” (R1, Q5). Looking at the product from a distance helps to judge the size of a problem, and R1 gives a test: whether the client will see it. R2 describes a similar spirit: “We solve them through dialogue and shared purpose, always protecting the design intent without compromising performance” (R2, Q5).

The respondents agree on early involvement and on respect and shared purpose as the basis of conflict handling. Only R1 describes a step-by-step way of settling a conflict.

4.3 RQ3. Brand Coherence

Theme 5: Heritage as a Living Language, with Vision in the Lead

Both respondents say that brand heritage does not fix the way new cars look. R1 ties heritage to the honesty of the design idea:

The brand heritage is and should be linked to the authenticity of the design intention. ... the aesthetics should be a consequence of the performance and technology used. This is why the aesthetics of the cars can change so dramatically from one generation to the other without compromising the brand legacy. (R1, Q11)

R2 gives the same idea in a different image. Heritage is treated “as a living language”, and “Innovation becomes the continuation of our legacy” (R2, Q11).

Both respondents also describe design as led by the design function's own vision and not by customer requests. R1 says clients “don't have the capacity to predict what they are going to like in future, which is the designer's task” (R1, Q10). R2 says research “inform[s] context and opportunity, but design remains led by vision, not by data” (R2, Q10). On competitors, R1 says “We rarely confront our design the competition” (R1, Q12), and R2 says the company “leads through identity” (R2, Q12). R1 adds that client feedback still reaches the company directly, since sales volumes are low and clients are close to top managers (R1, Q10).

R1 gives a reason that coherence can survive large changes in style: the look follows from performance and technology. R2 gives an image of a language that can say new things and remain itself. The two are different explanations of the same practice.

4.4 RQ4. Capability: Talent, Technology and Assessment

Theme 6: Talent and Continuity

Both respondents describe design talent as something managed on purpose. R1 values a mix of ages: “young talents and senior figures” together give creative force and professional judgment (R1, Q13). Project managers protect the schedule, and managers can move designers between projects or form task forces when time is short (R1, Q13, Q25). R1 says a designer should stay with a project from the first sketch to production and even the communication after launch:

The designer's presence on the project is a warranty to ensure that the soul and spirit of the product gets respected and well communicated. (R1, Q15)

R2 names the management methods as “clarity of intent, shared purpose, and respectful discipline” (R2, Q13). Leadership “acts as a bridge” between creative vision and feasible results (R2, Q14), and consistency across people comes from “a strong, shared vision and continuous alignment” (R2, Q15). R1 describes structure and staffing, and R2 describes culture and direction.

Theme 7: Technology that Serves the Design Intent

Both respondents welcome new tools and set one test for them. R1 lists polygonal modelling, augmented reality, 3D printing and AI-generated images as constant influences (R1, Q16), and says:

No technology is forced into the system, but it needs to blend in naturally and represent an evolution of the design process which translates into better quality, shorter time or better user experience. (R1, Q17)

R2 mentions VR modelling and AI-assisted ideation and adds that “Adoption follows purpose” and that people make the final choice (R2, Q16). R2's summary is “Innovation must feel human” (R2, Q18). R2 gave short answers on this topic and gave no answer to Q17.

On prototypes, both say digital and physical models do different jobs.

R2: “Both are essential: digital speeds up validation, physical confirms emotion” (R2, Q24). R1 gives the reasons in detail. Virtual tools and augmented reality raise confidence and shorten the list of corrections, “Yet the physical model still gives information that can't be replaced by virtual visualisation”, because size, presence, touch and natural light on the surface matter (R1, Q24). The final milled reference model then becomes “a master model” for all the departments” (R1, Q23).

Theme 8: Success Judged Over Time

Both respondents say that design quality is hard to reduce to numbers. R1 states that good design can be judged on a large scale only after at least 12 months on the market, so “a classic KPI monitoring process is non productive”, and “The aspect we can measure is the timing” (R1, Q2). Approvals at presentations are the only approximate guide to design level during development (R1, Q2). Feedback from clients and opinion leaders helps, but “design needs to sink in with time and only then the feedbacks can be useful” (R1, Q28). R1 also names long debriefings, risk management and best practices as ways to improve the process (R1, Q29).

R2 judges quality “By its purity, emotional strength, and precision of execution” and not only by metrics (R2, Q22). Success is “coherence between design intent, product emotion, and long-term brand resonance” (R2, Q30). R2 also describes post-launch reflections, led by the marketing department, that record lessons across teams (R2, Q28). R1 gave no answer to Q30, so R1's view of success rests on Q2 and Q28.

Table 3. How the Two Accounts Relate, by Theme

Theme	R1 evidence	R2 evidence	Relationship
1. Structured flexibility	Stages by audience and feasibility; creative time scheduled early; back-up proposals	Four named phases; boundaries with space inside; failed designs refined	Consistent on the idea; R2 names phases, R1 gives detail
2. Progressive feasibility	80%, 99% and 100% steps; time and cost curve; schedule counted back from production start	Growing fidelity from sketch to prototype; three milestones	Complementary; figures from R1 only
3. Governance	Rising authority; four gates; intuition and experience as basis	Wider review group; collective decisions on four criteria	Complementary
4. Integration	Design as funnel; two-step conflict handling; mutual respect	Day-one collaboration; dialogue and shared purpose	Consistent on early involvement and respect; conflict steps from R1 only
5. Brand coherence	Look follows performance and technology; clients inform but do not lead	Heritage as living language; vision leads, research supports	Consistent on the idea; different explanations
6. Talent	Mixed ages; designer follows project; task forces	Clarity, shared purpose; leadership as a bridge	Complementary
7. Technology	Adopt if quality, time or experience improves; physical models still needed	Adoption follows purpose; digital speeds, physical confirms emotion	Consistent on the test; R1 gives more detail
8. Success	Timing is measurable; real judgment after 12 months	Coherence of intent, emotion and brand resonance	Consistent that numbers are not enough; different measures

5. DISCUSSION

This section reads the themes against the literature, one research question at a time. It then sets out preliminary propositions and the limits of the study.

5.1 Stages, Gates and Authority (RQ1)

The respondents describe staged approvals with room for creative work. This fits the more flexible version of Stage-Gate described by Cooper (2008). It also fits the idea in Adler and Borys (1996) that formal rules can help people work. R2's phrase about clear boundaries with space inside them reads like that idea. The study cannot show whether designers on the floor see the gates in the same way, since both respondents speak from a management view. R1's remark that creative time is scheduled early, and that convergence comes later, matches March's (1991) point that exploration and exploitation need different conditions. Approval by the CEO and other senior executives is consistent with Hambrick and Mason's (1984) view of top managers, but this study has no data on the effect of those executives on the result.

R1's 80%, 99% and 100% steps are the most specific practice in the data. Khurana and Rosenthal (1998) show why the front end of development matters, and R1's steps describe one way a firm may manage it. The literature reviewed here does not offer a comparable figure. The figure is, however, one practitioner's estimate from one firm, and R1 does not say what feasibility measures. R1's time and cost curve is a form of diminishing returns. Its practical value is a rule for timing: freeze the design before the curve flattens, since cost keeps rising in a straight line. Both points are best treated as practitioner rules of thumb that later work could define and test.

5.2 Working with Other Functions (RQ2)

R1's "funnel" matches the integrator role that Borja de Mozota (2003) gives to design. The response adds operational detail: marketing sets the features, engineering makes the shape buildable, aerodynamics links shape to performance, and conflicts go through a two-step compromise. Clark and Fujimoto's (1991) product integrity, the fit between a car's function and its character, is a close relative of the funnel idea. Early involvement of other functions, described by both respondents, agrees with the emphasis on team composition and communication in Brown and Eisenhardt (1995). Dougherty (1992) found that departments read a product differently. R1's call for mutual respect and a view from a distance, and R2's call for shared purpose, are ways of dealing with that gap in practice.

The milled reference model, which R1 calls a master model for all departments, looks like a boundary object in the sense of Star and Griesemer (1989), since every function uses it and reads it in its own way. This is the author's reading, and the respondents did not use the term.

5.3 Brand Coherence (RQ3)

Both respondents treat heritage as a source of direction and not as a fixed list of features. This agrees with the dynamic view of heritage brands in Urde et al. (2007) and Balmer (2013). Beverland (2005) found a similar use of tradition in luxury wine, though that is a different industry. Both respondents say that vision leads and customer research informs. This is close to Verganti's (2009) argument that design-driven firms offer new meanings and do not follow stated needs.

R1 supplies an explanation: coherence comes from the link between a car's look and its performance and technology, so the look can change a great deal between generations. R2 supplies an image: heritage as a language that can say new things. Both are the respondents' own explanations. Ranscombe et al. (2012) studied how visual features of vehicles affect brand perception among consumers, so a later study could test whether consumers do see coherence across generations when design follows performance. Karjalainen (2007) offers a related line of work on visual brand recognition. R1's statement that Ferrari cars change greatly from one generation to the next was not checked against outside sources.

5.4 Capability (RQ4)

R1's rule that a designer follows a project from sketch to launch, and the mix of young and senior designers in a team, look like ways of keeping tacit knowledge in the firm (Nonaka, 1994). R2's clear direction combined with room to create agrees with the features of a creative work environment in Amabile et al. (1996). Both respondents accept new tools when the tools serve the design. Thomke (2003) argues that new technologies cheapen experiments. Recent studies point the same way. Adoption of generative AI in an automotive engineering team depended on fit with workflow and on concerns about originality and data (Luke et al., 2026), and people kept control of selection and evaluation while AI supported early idea work (Chen et al., 2025). R1's account of augmented reality raising confidence before a model is milled is close to findings on VR design reviews (de Clerk et al., 2019) and on VR sketching in concept design (Ranscombe

et al., 2025). R2's remark that people make the final choice about technology can be read alongside this pattern. The respondents gave little detail on how AI tools are used day to day, so these comparisons are limited, and the studies of AI in concept design (Wang et al., 2024; Lee et al., 2025) describe tools that the respondents did not discuss. The respondents add that physical models still give information that digital ones do not, which is a claim about practice that later work could test. On assessment, both respondents say that quality is hard to turn into numbers. R1 names timing as the measurable item and says real judgment comes after at least 12 months on the market. Hertenstein et al. (2005) link design quality to financial results, and the time lag R1 describes would affect any such study.

5.5 Preliminary Propositions

Table 4 states what the data suggest in a form that later studies can test. The table is not a validated model. It lists, for each proposition, the evidence behind it and the sources in the literature that relate to it.

Table 4. Preliminary Propositions

No.	Question
1	How is the design development process structured at your organization? Can you walk me through the key phases from initial concept to final design approval?
2	What formal frameworks or methodologies does your design team follow? How do these compare to industry-standard product development processes?
3	How do you balance creative freedom with structured process requirements in luxury automotive design?
4	How does the design team collaborate with engineering, manufacturing, and marketing throughout the development process? What are the key touchpoints?
5	Can you describe a situation where design requirements conflicted with engineering or manufacturing constraints? How was this managed?
6	How early in the process do manufacturing and engineering considerations influence design decisions?
7	What are the key decision points or "gates" in your design process? Who participates in these design reviews?
8	How are major design decisions made? What criteria are used to evaluate and approve design concepts?
9	Can you describe the approval process for moving from concept sketches to full-scale models? What happens if a design doesn't pass a gate?
10	How do market research and customer insights influence the design process in luxury automotive development?
11	How do you balance staying true to brand heritage while incorporating innovation and responding to market trends?
12	How is competitive analysis integrated into the design development process?
13	How do you manage creative talent while ensuring project timelines and objectives are met?
14	What role does design leadership play in resolving conflicts between creative vision and technical/business constraints?
15	How do you maintain design consistency across different team members and project phases?
16	How do emerging technologies influence the design process? How are decisions made about incorporating new technologies?
17	Can you describe how virtual prototyping and CAD systems have changed design management practices?
18	How do you balance cutting-edge innovation with proven design principles in luxury automotive design?
19	How is the transition managed from initial style concepts to detailed design development? What are the key milestones?
20	How do you manage multiple design concepts simultaneously? What processes determine which concepts move forward?
21	How do design iterations and refinements get managed throughout the development cycle?
22	What quality control measures are built into the design process? How is design quality assessed?
23	How do you validate design decisions - both aesthetically and functionally - before moving to production?
24	What role do physical and virtual prototypes play in design validation and management?
25	How do you allocate design resources across different projects and development phases?

26	How are design timelines established and managed, particularly when changes are required?
27	What challenges do you face in managing design projects within budget and timeline constraints?
28	How does your organization capture and apply lessons learned from completed design projects?
29	What mechanisms exist for continuous improvement in design management processes?
30	How do you measure the success of design management practices?

5.6 Limitations

The paper reports two questionnaires from a larger study. The full set may qualify or change these themes, and the paper therefore does not claim that agreement between R1 and R2 strengthens the findings. The sample is far below the size at which themes begin to repeat in Guest et al. (2006), and the study does not claim saturation. It relies on information power (Malterud et al., 2016), which is limited here by the small number of respondents and by uneven answers: R1 gave fuller answers on process and left five questions unanswered, and R2 gave shorter answers across all topics. R1's percentages are estimates with no stated definition. Both respondents work at Ferrari, so the findings describe the practice of one firm. Both have worked elsewhere, R1 at Fiat and Lancia and R2 at Zagato, but their answers mostly describe present practice at Ferrari. Agreement between them may also reflect a shared company culture and vocabulary, and the findings cannot speak for luxury automotive firms in general. Reaching respondents by snowballing may have added to this, since referral chains tend to link people who know each other (Biernacki & Waldorf, 1981).

Both respondents are senior and speak from the management side, so the views of junior designers, engineers and other functions are missing. The data are self-reports of past practice, which can be shaped by memory and by the wish to present the organisation well (Golden, 1992). Both respondents were asked the same questions, so some shared wording across answers may come from the questions. The questionnaire was sent by email, so no follow-up questions were possible, and respondents had time to revise their answers. Several links in the findings, such as the match between gates and approvers and the boundary object reading, are the author's interpretation and are marked as such.

5.7 Future Research

The full set of questionnaires, to be analysed in the future, can test these propositions across more respondents and firms. Later studies could include non-European luxury makers, observe design reviews directly, and gather views from junior designers and other functions. A study could follow how approval gates and executive review change as AI tools enter concept work. A study could also define feasibility in a way that can be measured and then check whether R1's staged practice improves results. Another could test whether consumers see brand coherence across generations when a design follows performance.

6. CONCLUSION

This paper reports a limited, practitioner-level view of design management in luxury automotive firms, drawn from two senior respondents at one European firm, Ferrari. Four findings answer the research questions. On process and governance (RQ1), approvals come in steps with room for creative work, and senior executives give the final approval. R1 describes a practice of showing proposals at about 80% feasibility and reaching 99% before final approval. On integration (RQ2), design acts as the point where the demands of other functions meet, and respect and shared purpose settle conflicts. On brand coherence (RQ3), both respondents treat heritage as a living language and link coherence to the logic of each car. On capability (RQ4), designer continuity, mixed-experience teams, technology that serves the design, and judgment over time are the main points.

The paper adds a set of five propositions, a clear account of one firm's staged feasibility practice, and a map from the questions to themes that the thesis can build on. Practitioners may find three points useful for their own review: whether creative time is protected early, whether proposals are shown before they are fully feasible, and whether success measures allow for the time a design needs to be understood. The limits in Section 5.6 apply to all of these statements. The remaining responses in the larger study will show how far they hold.

Appendix A. Questionnaire

Appendix A. Questions Sent to Both Respondents

REFERENCES

- Adler, P. S., & Borys, B. (1996). Two types of bureaucracy: Enabling and coercive. *Administrative Science Quarterly*, 41(1), 61-89.
- Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 39(5), 1154-1184.
- Balmer, J. M. T. (2013). Corporate heritage, corporate heritage marketing, and total corporate heritage communications: What are they? What of them? *Corporate Communications: An International Journal*, 18(3), 290-326.
- Beverland, M. B. (2005). Crafting brand authenticity: The case of luxury wines. *Journal of Management Studies*, 42(5), 1003-1029.
- Biernacki, P., & Waldorf, D. (1981). Snowball sampling: Problems and techniques of chain referral sampling. *Sociological Methods & Research*, 10(2), 141-163.
- Borja de Mozota, B. (2003). *Design management: Using design to build brand value and corporate innovation*. New York: Allworth Press.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Brown, S. L., & Eisenhardt, K. M. (1995). Product development: Past research, present findings, and future directions. *Academy of Management Review*, 20(2), 343-378.
- Brown, T. (2009). *Change by design: How design thinking transforms organizations and inspires innovation*. New York: HarperBusiness.
- Chen, L., Song, Y., Guo, J., Sun, L., Childs, P., & Yin, Y. (2025). How generative AI supports human in conceptual design. *Design Science*, 11, e9. <https://doi.org/10.1017/dsj.2025.2>
- Clark, K. B., & Fujimoto, T. (1991). *Product development performance: Strategy, organization, and management in the world auto industry*. Boston: Harvard Business School Press.
- Cooper, R. G. (1990). Stage-gate systems: A new tool for managing new products. *Business Horizons*, 33(3), 44-54.
- Cooper, R. G. (2008). Perspective: The Stage-Gate idea-to-launch process: Update, what's new, and NexGen systems. *Journal of Product Innovation Management*, 25(3), 213-232.
- Cooper, R., & Press, M. (1995). *The design agenda: A guide to successful design management*. Chichester: John Wiley & Sons.
- de Clerck, M., Dangelmaier, M., Schmieder, G., & Spath, D. (2019). User centered design of interaction techniques for VR-based automotive design reviews. *Frontiers in Robotics and AI*, 6, Article 13. <https://doi.org/10.3389/frobt.2019.00013>
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (2018). *The SAGE handbook of qualitative research* (5th ed.). Thousand Oaks, CA: SAGE.
- Dougherty, D. (1992). Interpretive barriers to successful product innovation in large firms. *Organization Science*, 3(2), 179-202.
- Golden, B. R. (1992). The past is the past, or is it? The use of retrospective accounts as indicators of past strategy. *Academy of Management Journal*, 35(4), 848-860.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, 18(1), 59-82.
- Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9(2), 193-206.
- Hertenstein, J. H., Platt, M. B., & Verzyer, R. W. (2005). The impact of industrial design effectiveness on corporate financial performance. *Journal of Product Innovation Management*, 22(1), 3-21.
- Johansson-Sköldberg, U., Woodilla, J., & Cetinkaya, M. (2013). Design thinking: Past, present and possible futures. *Creativity and Innovation Management*, 22(2), 121-146.
- Kapferer, J. N., & Bastien, V. (2012). *The luxury strategy: Break the rules of marketing to build luxury brands* (2nd ed.). London: Kogan Page.
- Karjalainen, T. M. (2007). It looks like a Toyota: Educational approaches to designing for visual brand recognition. *International Journal of Design*, 1(1), 67-81.
- Khurana, A., & Rosenthal, S. R. (1998). Towards holistic "front ends" in new product development. *Journal of Product Innovation Management*, 15(1), 57-74.
- Lee, S.-J., Lee, J. H., & Bae, S.-H. (2025). Introducing 3D sketching to overcome challenges of view-consistency and progressive development in 2D generative AI-based car exterior design. In *CHI EA '25: Extended abstracts of the CHI Conference on Human Factors in Computing Systems*. New York: ACM. <https://doi.org/10.1145/3706599.3719731>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: SAGE.
- Luke, T., Mesa, D., Tan, L., Kuys, J., & Kocsis, A. (2026). How are professional practices adopting generative AI? The case of an engineering design and product development team. *Proceedings of the Design Society*, 6, 2423-2432. <https://doi.org/10.1017/pds.2026.10600>
- Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample size in qualitative interview studies: Guided by information power. *Qualitative Health Research*, 26(13), 1753-1760.
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71-87.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative data analysis: A methods sourcebook* (4th ed.). Thousand Oaks, CA: SAGE.
- Nobelius, D., & Trygg, L. (2002). Stop chasing the front end process: Management of the early phases in product development projects. *International Journal of Project Management*, 20(5), 331-340.
- Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5(1), 14-37.
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533-544.
- Perks, H., Cooper, R., & Jones, C. (2005). Characterizing the role of design in new product development: An empirically derived taxonomy. *Journal of Product Innovation Management*, 22(2), 111-127.
- Ranscombe, C., Hicks, B., Mullineux, G., & Singh, B. (2012). Visually decomposing vehicle images: Exploring the influence of different aesthetic features on consumer perception of brand. *Design Studies*, 33(4), 319-341.
- Ranscombe, C., Lee, K., & Kuys, J. (2025). Investigating VR sketching in automotive concept design: Advancing spatial, environmental and operational fidelity. *Design Science*, 11, e34. <https://doi.org/10.1017/dsj.2025.10023>
- Star, S. L., & Griesemer, J. R. (1989). Institutional ecology, "translations" and boundary objects. *Social Studies of Science*, 19(3), 387-420.
- Teecce, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.
- Thomke, S. H. (2003). *Experimentation matters: Unlocking the potential of new technologies for innovation*. Boston: Harvard Business School Press.
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19(6), 349-357.
- Tovey, M. (2016). *Design for transport: A user-centred approach to vehicle design and travel*. London: Routledge.
- Tracy, S. J. (2010). Qualitative quality: Eight "big-tent" criteria for excellent qualitative research. *Qualitative Inquiry*, 16(10), 837-851.

44. Urde, M., Greyser, S. A., & Balmer, J. M. T. (2007). Corporate brands with a heritage. *Journal of Brand Management*, 15(1), 4-19.
45. Utterback, J., Vedin, B.-A., Alvarez, E., Ekman, S., Sanderson, S. W., Tether, B., & Verganti, R. (2006). *Design-inspired innovation*. Singapore: World Scientific.
46. Verganti, R. (2009). *Design-driven innovation: Changing the rules of competition by radically innovating what things mean*. Boston: Harvard Business Press.
47. Vigneron, F., & Johnson, L. W. (2004). Measuring perceptions of brand luxury. *Journal of Brand Management*, 11(6), 484-506.
48. Wang, Y., Damen, N. B., Gale, T., Seo, V., & Shayani, H. (2024). Inspired by AI? A novel generative AI system to assist conceptual automotive design. Paper presented at IDETC 2024. arXiv:2407.11991. <https://doi.org/10.48550/arXiv.2407.11991>
49. Wheelwright, S. C., & Clark, K. B. (1992). *Revolutionizing product development*. New York: Free Press.
50. Wiedmann, K.-P., Hennigs, N., & Siebels, A. (2009). Value-based segmentation of luxury consumption behaviour. *Psychology & Marketing*, 26(7), 625-651.