Analytic Enhancements to Strategic Decision-Making: From the Designer's Toolbox

by Ravi Chhatpar

In today's fast-paced consumer market, strategic decision-making has changed in fundamental ways. Ravi Chhatpar argues that the iterative, user-centric methodologies of design can supplement the rigor of traditional analytical approaches to allow for more-accurate and flexible evaluation of strategic options.

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The role of the designer has traditionally been viewed as distinct from the corporate strategy process. The designer's methods, largely qualitative approaches that seek to generate the market and user insights that spark creativity in execution, have long been considered incongruent with the highly analytical and quantitative approaches required in strategic planning.

The view of conventional strategists essentially boils down to this: First, make the key business decisions; then, codify them into business strategy; finally, bring in designers (among other parties) to make that strategy a reality.

There has been some change in this perception recently. The high-profile success of well-designed products and the emergence of design as a serious competitive differentiator have made executives look at designers in a new light. As a result, design has expanded beyond its product-level execution category. The growing and currently trendy field of innovation strategy, which seeks to systematize creative thinking in a corporate environment using methods that draw from the design world, is just one example of this expanded role.

But strategic planning is still viewed as the turf of corporate strategy groups and management consultants. Opportunity portfolios, business cases, and roadmaps are core elements of business strategy, and all are most successful when supported by deep, analytical methodologies, which are not yet characteristic of the designer's toolbox.

ing into new product lines, or adding a new feature. Any uncertainty around the decision can be managed through a variety of other formal approaches, including game theory, decision trees, opportunity portfolios, real options, scenarios, simulations, and numerous variations.

A host of approaches also exist when less rigor is required, such as when filtering options to the most attractive ones, which will then be evaluated with a business case. These approaches include rapid analysis frameworks (such as SWOT), scorecards and weighting systems, and evaluation processes (such as Stage-Gate).

All these approaches are supported by a large body of both rigorous mathematical theory and less rigorous, but equally vigorous, discussions of topics such as decision styles, roles, and emotions.

These fast-moving consumer companies, being leaders (or former leaders) in their fields, clearly have employed many of these approaches over their years of corporate existence, making good and bad decisions along the way. They have access to the same body of decision-making intellectual capital that any company has. They take strategic decision-making very seriously, as any major company does.

So why does it seem as if so many poor decisions are being made in today's market—poor decisions that lead to failure?

One obvious answer is that poor decisions are being made now for the same reason poor decisions have always been made: incorrect assumptions of risk and uncertainty. Business case inputs may be wrong due to improper forecasting. Decision tree probabilities may be off due to misconceptions of what choices are available. Scorecard options may be ranked incorrectly because intangibles such as strategic fit and degree of asset leverage are too subjective.

While this may often be true, we believe in many cases there is a deeper issue at play. The answer to our previous question—"Are we simply asking companies to make the right strategic decisions?"—is yes, we are, but to do so requires a different approach because the nature of decision-making has fundamentally changed.

The real issue

There is a common thread running through the prior examples of strategic missteps. In each example, businesses were unable to respond with agility to change in the market. Based on frog design's extensive work with companies in the consumer technology space, we see two primary reasons why companies experience this inertia:

1. The traditional approach to decision-making, from strategy formulation through product development, is too rigid in its requirements for buy-in.

2. The traditional approach to decision-making does not position companies for successful execution, because it fixes execution plans based on old assumptions.

The first of these reasons is rooted in historical product development processes. Product development is often a lock-step process, building alignment through consensus around key decision points, such as the set of initial strategic options, the business plan, product design attributes, and development constraints, among others. In effect, product development becomes a narrowing of options to a final solution, which is then driven into production. The Stage-Gate process for product innovation is one example of such a process used by many businesses.

The first issue with this process is that the product development timeframe becomes extended, as time required for acquiring buy-in must be built into the development plan. Furthermore, each decision is based on the decisions made previously, meaning the product is often representative of assumptions made several months (if not more) before. In the rapidly changing consumer technology market, in several months much can change.

It's useful to assess the second of these reasons from a platform strategy lens. A platform has always been considered the Holy Grail of product strategy. A platform allows businesses to lock consumers into their product offerings for extended durations. For classic platform strategy case examples such as Intel, this duration can be several years, due primarily to proprietary technology.

Nowadays, however, the elements that constitute a platform have changed. Proprietary technology may be part of it, but less-proprietary technology and services also constitute platforms. For example, Amazon's one-click ordering, co-branded login system (such as that used by Amazon and Target), recommendation

engines, and user experience based on stores (the tabs in their navigation) all are elements of the Amazon platform. And many of these platform elements (patent issues aside) can be easily replicated by competitors.

What this means is that anyone can have a platform strategy. In the rapidly changing consumer technology market, competing at a platform level means competing with products, services, experiences, and technologies in an agile way that is responsive to new market developments. An execution plan locked in and based on old assumptions becomes ineffective in this context.

To succeed in today's market, businesses must instead adopt a new view of decision-making. It is not consensus and buy-in around fixed decision points rooted in old assumptions. It is a coordination of roles across an organization to support broad, less-bounded strategic approaches that permit action in a more responsive way.

A new approach

To support this new view of strategic decision-making, we have developed a set of approaches, some formal and some less so, to enable organizations to make more successful decisions. The common theme in these approaches is the juxtaposition of design methodologies, which tend to be qualitative methods that uncover market and user insights, with traditional decision-making approaches (or adaptations thereof), which tend to be more rigorous and analytical.

In this paper, I focus on two approaches we believe are particularly effective in helping organizations make successful decisions.

1. The first enhances the business case. In this approach, a business case is developed iteratively, incorporating data from prototypes and associated design research methods, to improve underlying assumptions around user adoption and behavior.

2. The second focuses on evaluation of multiple strategic options in the context of a platform. The core of this approach is a formal analytical framework that evaluates experience with the same rigor as business impact and feasibility. This framework in turn directly enables the traditional strategic planning and roadmapping process to be more responsive to new market developments.

An enhanced business case

Ask any consultant and you'll hear the same line: "Business case development is part science, part art." Business case templates exist for virtually every type of business problem conceivable, and are easily adaptable to any unforeseen problem. The key challenge is always in the assumptions—the variables that drive the business case output. The way to ensure a business case is accurate is to ensure that the assumptions are accurate. To do this, you research, model, forecast, and test. If certain assumptions can't be determined, you break them down into their component parts, you restructure parts of the business case into a new logical model, or you guess. Then you run sensitivity analyses to make sure you've put enough effort into ensuring the most important assumptions are accurate. Repeat until satisfied. Then make your decision and plan around the output.

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The conventional approach says that at this point, you plan for execution. Designers come in to design products (physical products, applications, websites, services, environments, and so forth), which are then passed into development. In parallel, branding, marketing, and distribution strategies are refined.

Most designers prototype as an interim step. Prototyping, at low or high degrees of fidelity, has numerous benefits—key being that it may serve as a tool for user validation, which in turn often helps achieve buy-in within an organization and among other stakeholders. Findings from the prototyping process also help refine the design, ensuring that the product is the best it can be when it moves into development.

When the business then fails, it's hard to place blame. The business case convinced the financial decision-makers. The prototypes were validated by users and convinced everyone else. Clearly one or both were off target, but everyone bought in.

Let's start at the source, and consider the business case in more detail. Many a sensitivity analysis reveals that the key assumptions in any business case are related to user adoption—take rates, purchasing patterns, behavior over time. Not surprisingly then, there is a wide body of theory that seeks to describe user adoption in a more refined way. Bass diffusion and other diffusion of innovation models, technology adoption curves, variations on standard statistical distributions, and many others are all theoretical approaches that seek to quantify user adoption so that the key business case assumptions are more accurate.

The unfortunate truth of these approaches however, is that they are indeed theoretical, designed to describe macro trends and behaviors. A real-world understanding of user adoption and behaviors could greatly improve the accuracy of a theoretical model. We have found that the prototype, in conjunction with a range of other methods from the designer's toolbox, can provide this real-world understanding.

A real-world understanding of user adoption and behaviors could greatly improve the accuracy of a theoretical model

A first set of insights comes from the prototype itself. Product prototypes can be used in usability studies and conjoint analyses to evaluate feature usage and comparative preference. Website and application prototypes can be used in similar fashion to evaluate user paths, behaviors, drop-off points, and conversions.

A second set of insights comes from contextualization of the prototype. Many design research techniques seek to understand a user's behavior in context. Participatory design brings users into the design process and examines usage in the context of the user's product ecosystem. This allows a website prototype, for example, to be understood in the context of the user's broader online experience with competitive and unrelated sites. Similarly, it would allow product prototypes to be seen in the context of the usage of other devices throughout a daily routine.

The results from these efforts help to refine the prototype for successive, more-detailed evaluation, and to directly feed the business case assumptions of user adoption and behaviors. Indeed, this approach can be used at an earlier stage to inform the ingredients of an opportunity portfolio—test multiple prototypes to determine the most compelling concepts. In turn, the refined business case improves definition of constraints as the product moves into development.

In the end, this interdisciplinary approach results in a more accurate business case and a more validated product, allowing for a better strategic decision to be made. The combination of approaches is synergistic. The best way is not to hand off from business case to design, but instead to conduct both efforts in a parallel and interweaving way. The diagram opposite (Figure 1) illustrates this process.

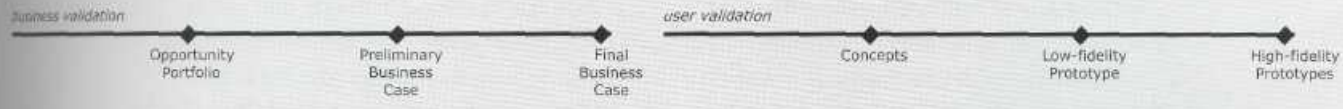
Evaluating the platform experience

While the business case is the core decision-making tool for evaluation of a single strategic option, a related need is evaluation of multiple strategic options. This step often occurs in a blue-sky situation, when many options are under consideration, or when market or competitive activity has changed the business climate in a significant enough way that multiple counter-options to a previously selected path need to be evaluated.

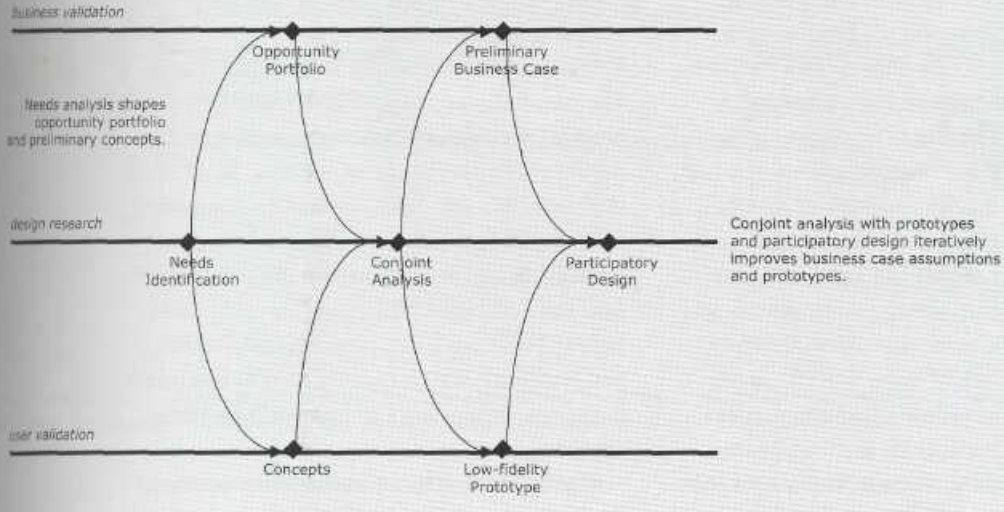
The ideal solution would be to create a business case for every option. But few businesses have the time and money to take this approach. Fortunately, many options can be eliminated from consideration on the basis of other criteria: Is there a strategic fit? Is the option consistent with the brand? Is it organizationally feasible? Is it bold enough?

The tools used to make these types of decisions fit under the category of evaluation frameworks, many of which look like scorecards with weighted criteria. These frameworks often include in a less rigorous way standard business case elements, such as financial impact and cost. They also tend to include other elements important to the business, such as fit, feasibility, and degree of asset leverage. In addition, they may have elements unique to the specific decision at hand, such as opportunity for brand extension or degree of Wow factor. Many of these frameworks have also been codified into processes, such as the Stage-Gate process for product inno-

Traditional approach: Independent, sequential business validation track leading to a business case, and user validation track leading to prototypes.



New approach: Parallel business and user validation tracks in which design research activities bridge the tracks and improve the output of both (first two cycles depicted).



New approach: Parallel business and user validation tracks in which design research activities bridge the tracks and improve the output of both, directly feeding strategic planning and pilot activities.

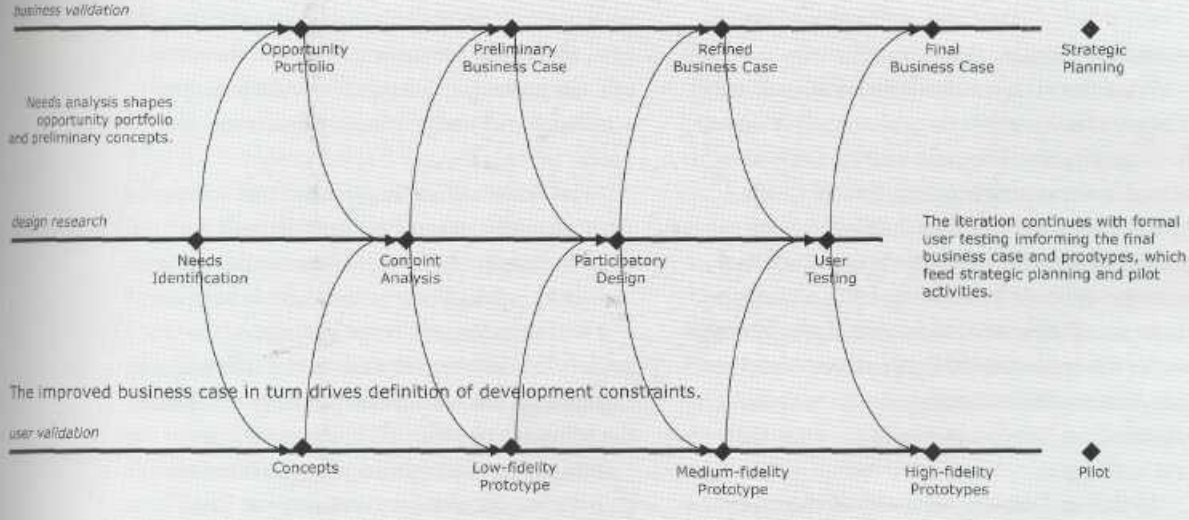


Figure 1: Comparison of independent, sequential business case and prototype tracks, and parallel tracks joined by design research methods.

vation, which uses a series of evaluation scorecards that become increasingly rigorous as products pass through stages and gates of evaluation.

We have found that for businesses to make successful decisions in today's environment, the classic dimensions on which these frameworks are based are often insufficient. Understanding such attributes as strategic fit, business impact, ROI, cost, and feasibility are not enough.

A few real-world examples highlight a key issue with these frameworks. Consider product feature decisions. Most well-thought-out features rate highly on all scorecard dimensions, resulting in feature overload. We've seen examples everywhere—mobile phones with high-resolution cameras, Bluetooth add-ins, MP3 players, and more that still offer only a low-quality speaker and microphone for completing its core function. As another example, consider the many portals and e-commerce sites exhibiting a lack of focus in their vision, crowded with content, user networking features, promotions, video, and multiple navigation schemes.

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These examples support the point that competing in today's environment requires competing at the platform strategy level, meaning competing not only with products but also with services, experiences, and technologies in an agile way.

What does this mean for decision-making? The gut answer is that there's some filter related to simplicity, usability, and a clean, well-thought-out experience that dictates which options are right. But how do these general tenets translate into specific decisions around strategic options? What is needed is a method to understand these tenets in a formal way, one that allows for evaluation of the platform experience alongside traditional evaluation framework attributes, such as business impact, feasibility, and cost.

To that end, we use what we call the experience architecture, a set of criteria related to experience that can be scored and evaluated in terms of clearly defined interrelationships.

Let's break this concept down. The first component is that there are criteria that can be scored. These criteria are derived in the same way in which other scorecard criteria are derived—from key business drivers. Just like the financial driver of "be profitable" translates into "ROI impact" as a scorecard criterion, the experience driver of "clean experience" may translate to "low number of clicks" for a website, or the driver of "engaged experience" may translate to "extent of cross-product interaction" for a mobile phone.

The second component is the architecture. The use of this term is deliberate, and gets at the crux of how an evaluation framework based on the experience architecture operates. Most attributes in a traditional evaluation framework are independent and can be scored as such—strategic fit can be high, net benefit can be medium, and feasibility can be low. There does not have to be a correlation between cost, benefit, and feasibility. Weightings are used to determine the relative importance of one attribute versus another.

But experience is not a standalone construct. Products compete for mindshare and use with other products in the user's ecosystem. Product features compete with others on the same product. This competition varies by situation, timeframe, and context. The term *architecture* gets at the fact that there is a relationship among criteria—scoring higher on one criterion may have an impact on another, depending on the situation, timeframe, or context. In short, the attributes are no longer independent. Attributes that score high may cause other attributes to score lower.

How do we define this architecture? We use a number of design research tools. Experience models describe a user experience in the context of a user's product ecosystem. User archetypes and customer journey maps describe a customer's experience over time or through stages of engagement. Each of these tools helps describe the components of the platform experience.

From these descriptions of experience we then derive the evaluation framework. The framework often resembles some of the more

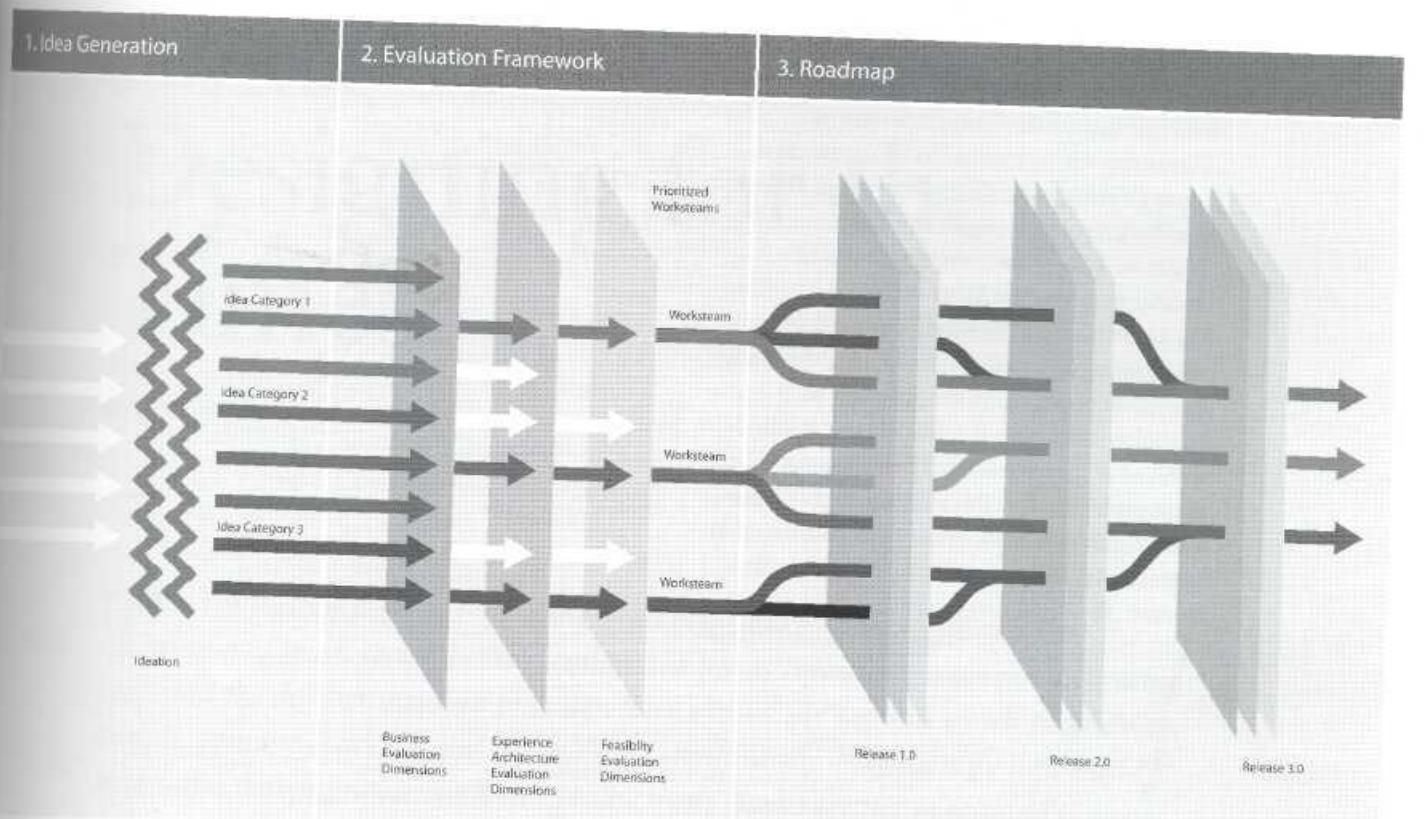

Figure 2: An evaluation process consisting of an experience architecture in conjunction with business impact and feasibility impact dimensions, and its relationship to the strategic planning process. The evaluation step is depicted once here, but may be iterated with higher degrees of rigor if a larger screen is required.

sophisticated evaluation systems, such as hierarchical systems in which criteria are organized so that changes to one criterion affect others at the same hierarchical level, nodal systems in which changes to one criterion affect others in proximity (which can be defined in various ways), or process models, in which changes to criteria affect successive criteria in a defined process. Often the framework is a hybrid of these, in conjunction with a simple, weighted scorecard.

frog design's work with ETS (Educational Testing Service) provides a relevant case study. ETS, the company behind the SAT, TOEFL, and other standardized tests, recognized that today's learning environment is changing in fundamental ways. Education is extending beyond institutional boundaries and competing for share of mind and usage across rapidly evolving technologies. The key insight in our work with ETS was the recognition that educational products are used in the context of a school year, with summer and semester breaks and passage to the next grade as core aspects of the educational experience. We created a time-based experience architecture that structured key aspects of the product experience—such as parental involvement, community engagement, and relationship with nonacademic activities—in the context of the school year and semester milestones. New product ideas were evaluated against this architecture and an adapted Stage-Gate process that measured benefit, cost, and feasibility.

A key benefit of this approach is that it provides a framework to make ongoing decisions about the platform experience. As a result, changes in the market, development efforts, or consumer behavior can be understood in a holistic way, enabling execution planning to be more fluid. For ETS, we used this approach to understand how some parts of the product experience, such as parental involvement, could be achieved quickly, while others, such as learner engagement in a community, would require many steps, given the inherent challenges in growing communities. Figure 2 illustrates this relationship between the experience architecture and the strategic planning process.

In closing

The examples of the enhanced business case and the experience architecture represent two approaches we have found to be successful in helping clients make the right strategic decisions in today's frenetic business climate.

But we believe these are symptoms of a broader trend. As the focus of decision-making has fundamentally changed from fixed consensus-building to coordination of roles, there is a significant opportunity for designers to hybridize their more-flexible, organic methods with conventional methods that focus on solving point problems. It is this combination of traditional rigor with fluid, dynamic application that is needed to achieve business results in today's market. 11

Reprint#07181CHH28

Fonte: Desing Managemente Review, v. 18, n. 1, p. 28-36, Winter. 2007.