

The value of design in decision-making processes: a three tiers model
O valor do design no processo de decisão: um modelo de três camadas

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“The challenge is to demonstrate how, and by how much, creative, innovative design works better than indifferent design.”
John Thackara, 1997

Abstract

This article summarises the PHD thesis project in which I am currently working. The subject tackles the value of design strictly from a management point of view (that is, leaving aside the value of design as a sector of activity and other related issues). Its main finding, that still is to be challenged through a field research, is that instead of a single ROI calculation, which until now was thought to be the panacea of design management, we need no less than three different indicators, depending on the specific problem that is being approached, namely:

- *The decision making process concerning whether or not to incorporate design in our management function*
- *The monitoring of the design function alongside the project deployment, or*
- *The performance of design as a management function in general.*

I suggest that the first problem can be solved with a compound index that I call “design multiplier”, while the management issues can be tackled with the help of a “design dashboard”, formed by a set of key performance indicators, and finally, the overall performance can be calculated through the ROI technique, while the combination of ROIs applied to design (called RODIs) can be used to devise the “design multiplier” that was cited earlier, thus closing the model.

I nevertheless challenge the very concept of RODI, on account of the deficiencies of the accounting system itself, on the one hand, and also because I argue that a mere financial vision cannot represent the true value of what design brings along. I therefore suggest that a Value Based Management approach would be far more appropriate in this case. This said, the existence of a design multiplier can encourage small organisations to use design, and the simplicity of the design dashboard could allow them to manage design in a more effective way. The more extended a proper design management practice will be within the economic fabric, the more robust the model would become.

Keywords: *Methodology; Management; creativity*

Resumo

Este artigo resume o projeto de tese de doutorado em que estou trabalhando atualmente. O tema aborda a importância de um projeto estritamente do ponto de vista de gestão (deixa de lado o valor do design como um setor de atividade, bem como outras questões conexas). Sua principal conclusão, que ainda está a ser testada através de uma pesquisa de campo, é que ao invés de um

único cálculo do ROI, que até agora se pensava ser a solução para gestão de projeto, nós precisamos somente de três indicadores diferentes, dependendo de problemas específicos que estejam sendo abordados, a saber:

- O processo de decisão sobre se deve-se ou não incorporar o projeto em nossa função gerencial;
- A monitorização da função do design juntamente com a implantação do projeto;
- O desempenho do projeto como uma função de gestão em geral.

Sugiro que o primeiro problema pode ser resolvido com um índice composto que eu chamo de "design multiplicador", enquanto os problemas de gestão podem ser combatidos com a ajuda de um "painel de design", formado por um conjunto de indicadores-chave de desempenho e, finalmente, o desempenho global pode ser calculado através da técnica de ROI, enquanto a combinação de ROIs aplicada ao design (RODIS) pode ser usado para elaborar um "projeto multiplicador", citado anteriormente, fechando, assim, o modelo.

Entretanto, coloco em cheque o próprio conceito de RODI, por conta das deficiências do próprio sistema de contabilidade; uma visão meramente financeira não pode representar o verdadeiro valor que o design traz. Sugiro, portanto, que uma abordagem "Value Based Management" é muito mais adequado neste caso. Dito isso, a existência de um projeto multiplicador pode incentivar as organizações de pequeno porte a usarem o design, assim como a simplicidade do painel de design permitir-lhes controlar os projetos de uma forma mais eficaz.

Palavras-Chave: Metodologia; Gestão de Projeto; Criatividade

1. Antecedents:

Until now, design was optional and the cost of an error in design was close to nil because there was no design awareness and many products (and most of services) were considered commodities. In a mature market though, design becomes one of the key factors of the production function because not only it triggers customer acceptance but it also helps to develop valuable assets in terms of profits and in terms of intellectual property rights as well.

As Hertenstein et al. stated, the introduction of industrial design in a new product development leads to increasing sales, reducing expenses and building up assets, thus reinforcing a number of financial ratios like: profits/sales, cash flow/ assets, profit growth, stock market returns, among others.

In spite of such encouraging findings (and some others that also deserve being taken into account), there have always been doubts in the business environment regarding the benefits of design, due to the following reasons:

- Traditional management finds it difficult to qualify intangibles in general as business tools and to address them in an orderly manner, due to their peculiar economic characteristics: non scarcity, increasing return and network effects (Lev)

- There is no general agreement on a standard definition of design and it has taken a long time to develop a proper design body of knowledge, one that would both characterise and define it
- Design includes a strong stylistic component, which can be viewed as subjective and consequently uncertain
- Design is a service and, as such, variability is one of its main characteristics: its success holds much of the actual ability of the designer or the design team and of their interaction with the client.

From the point of view of the Design Management discipline, a move of design towards business lexicon and practices was thought to be the key for a change of perception of design and a for a better reception from the business community. Hence, efforts were made so as to using models coming from the management theory, like the value analysis or the balanced scorecard (Borja)

among others, and also to reduce risk in the design decision making process through the adoption of organizational models, just as it was done in other creative industries, where methodologies and processes are introduced as a means for fostering replicability and reducing the variability of the services and the dependence from the founders (Higson et al.). But also, and more interestingly, the more sought after objective seemed to be a synthetic indicator that would encapsulate the economic value of design, as a way to offset scepticism.

2. In search of hard facts

Wren makes a strong case against the simplification of reality through numbers, but it is clear that, until now, uncertainty jeopardises decision making processes in management. This is the reason why the Design Management discipline has always tried to come up with a figure that would help building the case for the acceptance of design among managers and business people. Among the many works that have been published so far, it is fair to mention the early ones of Roy and Potter, which pioneered the subject, as much as the recent contributions concerning the new developments of service design (Live|Work). In spite of the intrinsic quality of most of those works, a single an overall explanation of the benefits of design in economic terms is still lacking. The early papers by Roy and Potter used a sample that could be monitored as a part of a publicly funded programme in favour of design, but it was fairly small and the results not really concluding, since it was not possible to replicate the experiment and to compare the results. Many researchers have experienced similar problems: the projects that were granted with subsidies were the most interesting ones because the investment in design was clear cut, but it was not possible to follow them and obtain results in the medium term; in other cases, the lack of a contrast group would inhibit the comparison of subsidised projects against “normal”; and in other cases, finally, legislation or political changes would abort any follow up at all (Buesa and Molero).

All works done to date with the aim of providing the ultimate performance measurement of design value have proven unsuccessful⁴. The reason for such a failure is that either the method was not adequate or proper research conditions couldn't be met.

One would gladly give up the subject, not only because it looks truly harsh, but also because it is reasonable to think that the complex reality of today is not fit anymore for absolute figures. Hubbard, though, sparks again the intellectual challenge by recalling the story of the Greek Erastosthenes who, 200 bc, was able to calculate the circumference of Earth with only a 3% of

⁴ The recently published “Design Value”, by Peter Zec (...), although being promoted as the ultimate solution to this issue, does not unveil the methodology that has been used and therefore cannot be taken into consideration in this research.

error; “if a thing can be observed in any way at all”, Hubbard says, “it lends itself to some type of measurement method”. OK, then: why not design?

3. The calculation of the ROI (Return On Investment)

Borja suggests that all quantitative and qualitative tools for measuring success in marketing or in advertising can be transposed and used in design. Among them, the Return On Investment (ROI) is one of the most widespread measurements of economic efficiency, which calculates the yield obtained per economic unit dedicated to a specific function. Due to its wide acceptance, Design Management often focuses on ROI as the response to design troubles. Roughly speaking, the return on investment in design would be obtained by comparing the benefits specifically generated by design, with the amount that has been devoted to design, and there are many simple ways to come close to the concept (Lockwood): comparing two different packages of the same product in a supermarket, etc., but, beyond anecdotes, the aim is for a ROI that would substantiate the value of design in all circumstances.

The main difficulties affecting the calculation of the ROI are:

- The accounting concepts themselves, as they can be open to interpretation (according to which criteria are applied, the corresponding legislation, etc.). For instance, the very term doesn't help: design
- Cannot be accounted for as an investment, in pure accounting terms, because its yield is uncertain. Furthermore, the definition of benefits will vary from one country to the other or even between companies, depending on the criteria applied to their book keeping.
- The difficulty in isolating the different factors involved in the accomplishment of a result, that is: when we say that design has had a key role in the increase of sales, it is hard to seize precisely which was the contribution of design because in a production function, things do not happen in a strict linear form. It is difficult to imagine, in real life, a new design that is not launched with some promotion or advertising, a redesign that does not implicate a better quality, etc.

In spite of these difficulties, the calculation of the ROI of intangibles has developed considerable in the last few years, as for example in the fields of training or advertising. The key issue in those cases consists in how to isolate the researched variable out of the cluster of other factors that concur in a given result: i.e., identifying the effects of training out of the variables that account

for an increased turnover. This estimation can be more or less precise, depending on the use of one or more of the following techniques (Phillips):

- Contrast groups
- Analysis of previous experience trends
- Statistical projections
- Expert opinions
- Staff opinions
- User opinions

Such methods do not lead to a 100% exact result, because it partly relies on an assessment that, with all due respect to statistical methods, can be shaky (if we have to recall the opinion of experts, staff or users), or that can be weak (when based on a statistical projection, depending on the size of the sample, etc) .

Now, when the problem is to decide *ex ante* about whether or not it is advisable to invest in a specific variable (training, advertising, design...), then we are talking of the *expected* ROI. In such case, uncertainty is further increased due to the intervention of additional issues such as the

evaluation beforehand of the costs that the project will incur and the evaluation of the future results that will hopefully be obtained. Hence, ROI is a measurement which can no longer be considered as certain and universal because its calculation accumulates the combined risks of three concurrent estimations: costs of the project, expected yields, and the relation between both.

When using the ROI *ex post*, it is necessary that the data corresponding to the expenses incurred and the results obtained by the investment have been recorded in detail (Phillips). Provided both things have been correctly addressed, the resulting ROI calculation is useful in the business decision-making process since it allows the comparison with:

- Other companies in the sector
- The history of similar projects within the same company
- Other related investments

The conclusion then is that ROI is not such a clear-cut gauge as we thought it was, and that we need to tackle a few issues for it to become a proper and useful indicator.

4. The scope of my research:

Concerning motivations: a hypothetic economic contribution on behalf of design has been sometimes regarded as a weapon in favour or against the very discipline. I disregard here the necessity to legitimate design, and I strictly focus on the client's side, considering that any company willing to incorporate a new function would like to ascertain its value, if not prior to bring it in, at least as soon as possible; besides, any company needs to monitor all of its functions, and increasingly so.

Concerning design:

- I work from the holistic perspective of design, that is, I take into consideration all of the elements through which design, in its different disciplines, improves products (goods or services) and/or conveys a given strategic intent through the vectors of visibility of a firm (Viladàs)
- I narrow down the focus to the project cycle, in order to be more specific and to being able to reach some conclusions although, out of consistency, I do acknowledge the project as being part of a company's global design policy.

5. The hypothesis of this research:

I begin by breaking down the design decision making process into three distinct phases:

- *Ex ante*: it has to do with the green light to go ahead or not with design, but it can also apply to the decision of which design discipline to tap into, as well as which designer or design team to work with. These types of questions that require an answer in absolute terms are often formulated by a company or institution that has never before used design -maybe because up to that moment, it was not felt as a market requirement- or by a company that is going through a tough economic period and needs to cut costs at any rate.
- *Alongside the design project*: it has to do with controlling all project related factors, such as time schedules, costs, milestones, teams, etc. Usually, the

design manager is the one interested in these types of questions, in order to ensure the process is coming along according to plan (Borja, Cooper, Lecuona).

- *Ex post*: has to do with the measures taken to improve the design function according to its contribution to the results of the project. Typically, it would be conducted in organizations that consider design as an important function and willing to optimize it (Lockwood, Roy).

Due to the different nature of problems to be addressed in each of the cases, the “one-size fits all” approach does not work (Hubbard) and a set of specific measurements is what is needed instead of a standard solution in RODI (Return on Design Investment) terms.

Regarding the *ex ante* decisions:

- The solution I suggest is to devise a “design multiplier”, i.e. a synthetic indicator that reflects generic information on the expected profitability that design generates. The concept of multiplier comes from the economic science and designates the capacity of some economic functions to trigger a response larger than the initial impact; the example that is best known is the demand multiplier, that analyses how much is generated through the successive transactions of a monetary unit that reaches the market.

During the project:

- Following the methodologies of Phillips, I envision a **design dashboard**, or *tableau de bord*, made with a series of key performance indicators related to the management of design; each dashboard can be elaborated *ad hoc*, depending on the specifications of the project and the company undertaking it. Monitoring such KPIs would allow the collection of the data that are needed to calculate RODI *ex post* in an orderly fashion.
- The main KPIs would be aligned to the principal milestones of a design plan or programme, highlighting the primary concerns of management, would it be time keeping, or cost cutting, or personnel performances, etc. Some audits for design management assessment can be of use in order to cut the design process into smaller parts and to identify the unit in which each of these parts needs to be evaluated (Lecuona, Design Council).
- The design dashboard is more to do with Fayol’s *tableau de bord* than to Kaplan’s “balanced scorecard” in the sense that it does not transcend the design function into the rest of the functional areas (although being linked to the development of Borja’s theories concerning design and scorecard) but it is rather used to enable a prompt reaction to any unexpected situation.

Once the process is completed:

- RODI can be calculated, provided the design dashboard has been put together and enacted; in order to isolate the specific contribution of design to the project results, additional research will need to be developed, of two kinds:

- Trend analysis: the extrapolation of results in previous projects in which design was not included can provide a ground for comparison with the actual results; similarly, trends in industry can be set forth
 - Expert evaluation: in this case, Hubbard recommends that the group of experts is calibrated beforehand, to avoid any bias; the experts need to assert to what extent design is accountable for the success (or failure) of a project; here again, and depending on the type of project, additional groups can be set, like users or members of staff groups.
- A systematic calculation of RODI in different companies, distinct sectors, and over time, can allow the establishment of several benchmarks for companies to measure against their own performances and find out ground for improvement; sometimes a firm would prefer to measure itself against firms of its same industry and sometimes not, sometimes against competition or sometimes against related companies -in the case of a conglomerate, for instance, where best practices can be modelled on and transferred to others within the group.
 - Furthermore, an econometric analysis of RODIs would lead to some overall figures concerning sectors, design disciplines, countries, etc. These global design performance indicators would embody the “**design multiplier**” that feeds back the model.
 - The design multiplier needs to be contrasted against the rough results that have been obtained in national surveys concerning design like the ones conducted in several European countries in recent years (Design Council, DDI)

Summing up: the key issue of this model is that instead of focusing on the search for a solution (ONE measurement for design value, in this case) it starts by analysing the problem. At the end of the day, this is what designers are recommended to do: reassess the problem they are faced to and tackle it from a new perspective. Once the question is split into three different levels (ex ante, during and e post), the conclusions are pretty fast to reach:

- Prior to the design project: the model suggests the use of the **design multiplier** to clear up doubts regarding the go ahead for design as well as the selection of the most appropriate design teams for each case
- During the project: bespoke **design dashboards** are made available with all the necessary indicators for an efficient data collection.
- Upon project completion: **RODI** is estimated using the data gathered with the design dashboard.
- At a larger scale of action, the collection of RODIs feeds back into the calculation of the **design multiplier**

6. Discussion:

It is difficult for a single figure to reflect the complexity of the effects of design. At the same time, there is a strong debate going on today in the world of management concerning accounting because:

- It is but an imperfect information system, subject to norms and conventions, partly outdated, partly variable (from country to country, or according to the type of organization that uses it) (Amat)
- It doesn't have the capacity to represent the complex phenomena of the actual economy

The answer to this controversy appears to be in the Value Based Management (VBM). Among other advantages, VBM is more reliable because it skips any form of “creative accounting” and because it can be applied to all sorts of organisations, even very small ones.

I therefore suggest that the next research scope needs to go in that direction, not only for the reasons mentioned above, but also because design philosophy appears to have much more to do with the concept of value than with that of profitability. What really needs to be found, in line with the recent research in this matter, is the value added by design, not the mere accounting benefit.

7. Conclusions:

Although, in our post modernistic environment, the need for exact data concerning design may be somewhat outdated, it is interesting from a researcher point of view to face a challenge that has so far never been solved in a truly satisfying way. When going deeper in the subject, it becomes clear that there is a flaw in the very phrasing of the request: design is looking for ONE single figure to unriddle a THREEFOLD problem.

Once the logic is untangled, it is clear that three different issues need to be found. The theoretic possibility of a design multiplier would undeniably help out of trouble those who doubt beforehand whether to invest or not in design (as few as they hopefully are); a design dashboard is the instrument that any design manager should build to keep track of his own performance; and finally, with some conditions, RODI could be calculated.

The second major conclusion of this research probably is that RODI is NOT what we are looking for: to start with, it cannot be considered as a universal, 100% robust gauge because it has some inherent flaws; and second, because, focusing only on the financial aspects, it cannot grasp the complexity of design.

The third and final conclusion, thus, is that the issue has to be reoriented to a more forward looking direction, like for instance a type of measurement grounded in the Valued Based Management theories, that would fully grasp the valued that design adds when enacted.

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