A Hybrid Framework for Social and Financial Investment Decisions

By

Carlos Henrique Dias Carneiro

B.S. Computer Engineering
Pontifícia Universidade Católica de Campinas, 2007

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Signature redacted

Signature of Author: _____
MIT Sloan School of Management
May 12, 2017

Signature redacted

Certified by: _____
Xavier Giroud
Ford International Career Development Professor of Finance
Associate Professor of Finance
Faculty Research Fellow, NBER
Research Affiliate, CEPR
Thesis Supervisor

Signature redacted

Accepted by: _____
Johanna Hising DiFabio
Director, MIT Sloan Fellows Program
MIT Sloan School of Management

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Abstract

Corporate managers need to constantly weight the interests of the firm's stakeholders (financers, employees, consumers) when making investment decisions. In recent years there have been growing preference from such stakeholders to address, with personal resources, the various market failures that lead to the unsustainable depletion of natural resources and degradation of social outcomes. To accommodate for these preferences, this study proposes a theoretical framework to be used by such managers to inform their investment decision making. It incorporates discussion on the motivations for managers to embrace such change in mindset. As well as it proposes a framework, to compare investment decisions quantitatively. The framework discusses incorporates discussion on how to generate financial value from initiatives that directly improve environmental sustainability and social outcomes. As well as it incorporates discussion on how to incorporate, into those financial investment decisions, measures of environmental and social externalities created by individual investments.

Thesis Supervisor: Xavier Giroud

Title: Ford International Career Development Professor of Finance
Associate Professor of Finance
Faculty Research Fellow, NBER
Research Affiliate, CEPR

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Table of Contents

Note

This paper looks at the relationship between social improvement and financial investments. It takes social improvement as being anything that improves the condition of society. For example, if society perceives that the breakdown of environmental or social systems is harmful, than the search for sustainability can be seen as a search for social improvement. Likewise, if governance mechanisms matter when enforcing that firms support social or environmental improvement, than again the attainment of better corporate governance indirectly supports the improvement in social or environmental outcomes. Therefore, social improvement, or sustainability can be used to some extent interchangeably here to refer to the desirable systems consequences (or externalities) of financial investments. Likewise, the term "responsibility" associated with "environmental" or "social" have been used sometimes to refer to some specific metrics of those aspects. However, in this paper those terms will be used to refer to the actual accountability, and reliability achieved by the firm's behavior towards social or environmental improvement. Regardless of how well the measurement of those are implemented[1].

[1] Existing measurements of governance or social responsibility may not necessarily measure the actual sustainability or net improvement of social outcomes. This conflict is illustrated in (Bansal & DesJardine, 2015). Discussion of the options for measurement of better social outcomes is presented briefly in later chaprters, but is not the focus of the study; it assumes that managers will benefit from the developement of such metrics over time.

Introduction

The audience of this paper shall be professional managers allocating capital that is not theirs. How can these managers weight the interests of the firm's stakeholders when making investment decisions?

The background to this study is well summarized in the Preface of the latest WCF Risk Report ("World Economic Forum Global Risk Report 2017.," 2017) "First, continued slow growth combined with high debt and demographic change creates an environment that favours financial crises and growing inequality. At the same time, pervasive corruption, short-termism and unequal distribution of the benefits of growth suggest that the capitalist economic model may not be delivering for people. The transition towards a more multipolar world order is putting global cooperation under strain. At the same time, the Fourth Industrial Revolution is fundamentally transforming societies, economies, and ways of doing business. Last but not least, as people seek to reassert identities that have been blurred by globalization, decision-making is increasingly influenced by emotions." Whether or not these views are driven from the degradation of the environment, widening of wealth inequality, or increase in social unrest, one can acknowledge that there is a growing feeling in society that the private initiative should consider more when making investments than it has historically.

Ethically one must consider individual choices and the impact of collective choices, for example, does it make a difference for the environment if one person buys an electric car? "Network effects", "infection", or "viral" are words to describe exponential consequences of actions that together are stronger than when in isolation. While science of Systems Dynamics (Sterman, 2000), can describe mathematically the importance of the cumulative effects of apparently small individual actions, individuals may resist, or not be aware of these truths. Therefore, activists of sustainability and improvement of social outcomes will be challenged to find ways to raise the awareness of individuals to unsustainable behaviors and motivate them to change these behaviors. In analogous ethical terms here, sustainability activism becomes a job of everyone; from changing personal consumption patterns, through making relatively small changes to broad investment-consumption decision-making, like will be proposed in this paper, to publicly confronting incumbent unsustainable ideas from the top.

Beyond the ethics of investment-consumption however, professional capital allocators have to be on constant alert that their investment choices are constrained by their environment, they cannot make isolated decisions or risk losing their control over capital allocation (Jensen, 1988). What we see is a balancing force between achieving long-term change and short-term risks to liquidity and survival. That is, companies that are not able to adapt to market fluctuations in the short term, end up going out of

business and do not live to implement their long-term strategies. In other words, investors have to balance long-term sustainability risks with short-term financial risks (liquidity, credit, financing, etc...). See for example the recent case of proposed takeover of Unilever by Kraft-Heinz (Alexander, 2017; "What Unilever Is Doing to Keep Shareholders Happy After Turning Down Kraft.," 2017) where the Unilever CEO has been criticized by shareholders for sacrificing too much of short term performance to focus on long term business goals. This highlights how managers have to ask themselves constantly whether their decisions are good in the eyes of their financers; survival shall be a cornerstone of driving social change. This paper will not argue either way in terms of the timeframe of the focus of the investment's returns. What it will argue instead is that managers may improve social outcomes and achieve long-term growth if they factor in the social impact in their financial decisions, even if they do that at no additional cost to short-term profits.

In order to create positive impact in the ethics of consumption/investment[2] itself, this paper will argue first based on well-established investment decision heuristics of maximizing financial returns. Furthermore it will also consider the possibility to factor into investment decisions, strategic and potentially altruistic, idealistic or even emotional preferences to subsidize social improvement goals.

In the model proposed, Financial and Social impacts of different investments choices will be quantified and added together to allow for decisions on the combined impact of these two factors. For example, energy production with coal and with natural gas may have different environmental impact, but they may be in themselves financially more or less efficient in producing energy. The financial efficiency may be related to the intrinsic performance of the technological, operational, or regulatory efficiencies of coal or gas. The environmental impact of externalities, in turn, can be larger than what is captured in the financial analysis. Let us assume that the financial cost of energy production through coal was lower than through natural gas, whereas the environmental externality of coal was greater than that of gas. If the regulation changed so that natural gas production gets a special tax benefit, the financial costs and returns would have changed, regardless whether the regulation change was environmentally motivated or not. At the same time, if there is an improvement in the technology of coal-based energy production that significantly reduced its environmental externalities but did not affect its cost of production. Then there would be differences in externalities but not in financial costs[3].

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[2] Inter-temporal investment decision can be seen as a form of inter-temporal consumption decision.

[3] The attentive sustainability reader may consider that, the risk of future negative regulation around power production entailing higher relative C02 emissions (as is the case of Coal versus Gas) is actually included in financial

Beyond preventing potential system breakdown, there can even be an argument that the current investment models have growth limitations and that innovations that create social value can unlock untapped growth potential.

Before asking "What social outcomes drive financial results?" We may ask if those investments that create something that is desired by the collective are considered good? In this sense, if the collective desires to improve social outcomes is not that reason enough for managers to decide and pursue it?

Some might interpret this as creating value for the owners of the capital that is being allocated.

In general, when making investment decisions, some relatively small changes can be made to traditional investment decision models that are not restraining or prescriptive and that can be adopted at large scale by managers. On the objectives of using this framework, while managers could create competitive advantage through increased social responsibility in investment decisions, the widespread of even small increases in social impact awareness of investments have the potential to create large-scale impact on the systems affected through the potential network effects of positive outcomes. In this sense, this paper's framework would fall into the category of general education instead of necessarily creating intrinsic competitive advantage. Competitive advantage will be achieved by managers based on how strategically invest and execute on the investments.

Strategic Concessionary Returns

Financial investors may ask, "What is the impact-for-return trade-off?". However, these may be false choices, as the financial results may not be necessarily antagonistic to the attainment of social impact or, in addition, there may be reasons to give away financial returns in order to achieve other strategic goals. For example, the impact investing fund create by Pierre Omidyar founder of EBay – Omidyar Network, has given the topic substantial thought (Bannick, Goldman, Kubzansky, & Saltuk, 2017) and have proposed a framework for making investment decisions that proposes a returns continuum. The figure below incorporates some of the concepts of the framework:

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models when making investment decisions for energy production. However, for simplicity in this example let us assume that the environmental externalities of different energy productions technologies are public goods that cannot be captured in the financial returns to the power generation investor.

Type of Organization	Financial Return Expectation		Social Impact Expectation		Investor Type
For Profit	Risk-adjusted commercial returns		Comply to ethical, legal, and regulatory standards		Tradditional/ Profit-seeking
			Minimize negative social impact		Tradditional/ Socially-responsible
	Subsidies	Positive Absolute Returns	Mission Driven	Maximize positive impact	Impact
				Market Creation	
		Capital Preservation			
Non Profit		80-100% cost coverage		Market creation/ Wealth redistribution	N/A (philantropy)
		20-80% cost coverage			
		0-20% cost coverage			

EXPECTED FINANCIAL RETURN

EXPECTED SOCIAL IMPACT

Figure 1 – Returns Continuum

The framework starts-off by acknowledging the importance of competitive markets in driving productivity increase, innovation, and optimal capital allocation. It goes on to recognize that the expectation of sub-commercial rates of return are in fact forms of subsidies, which in turn can have very harmful distorting effects in competitive markets like growing inefficiencies and killing innovation. Going against markets efficiency and controlling for these unwanted effects can be very difficult and thus probably why most investors focus on demanding commercial rates of return, to leverage on the intrinsic efficiencies of the market system.

However, when it comes to sustainability or social outcomes, markets have shown to fail in many instances, and historic effort from governments, as well as private grants to non-profit foundations have had limited success in combating those failures. In a system where taxes can actually limit economic growth and wealth gets more and more concentrated in private entities, what are the limits of action of governments and foundations? How efficient are those entities in employing capital?

This is why the measurement of the achievement of the strategic goals that cannot be evaluated through the market system (like market creation and social improvement) is so important when investments expect rates of return below commercial levels. This approach displays how subsidies have to be done carefully to avoid the creation of inefficiencies, and always with the intention of ultimately fostering the creation and development of competitive markets where firms will then seek profits. Therefore, ideally, all forms of subsidies would be temporary and all firms would be expected to move up the financial returns scale as they evolve.

Again back to, Omidyar's example, in some cases, subsidies may be desirable for as long as they are used to create markets that did not exist before. For example, if you wanted to make a profitable business in solar energy and there were no affordable solar energy product available, you might need to subsidize the development of the technology for some time.

The discussion is valid and this paper does not intend to have the ultimate answer on the subject but this exposition can help one see the matter through a novel lens. The idea is, if stakeholders have more than financial returns as their strategic intent, then conceding on returns in some instances might serve a higher order purpose.

Furthermore, as this paper will propose, existing firms can chose to increase the social impact expectations of their investments without sacrificing, and potentially even increasing the rates of return of their investments. For example, the expansion for the firm stakeholder (consumers, investors, employees) preference to improve social outcomes, enable for-profit firms to capture value by increasing their appeal to such stakeholders. In this sense, the question to be asked may be "Can the firm create and capture financial value while creating social value?" That is, as companies look for new ways to innovate and create value, they can look at how to unlock competitive advantage through social outcome improvement.

On the role of governments

When evaluating the impact investments to improve social outcomes one can borrow from the methodologies developed by the public sector over the years. As seen in (Stiglitz, 2013), market prices may not reflect social evaluations and the distortions in consumption or wealth distribution cannot be fully compensated by government action. There is the fundamental question of whether it is the responsibility of firms as opposed to governments to drive the sustainability agenda, but the fact to consider is that companies have been concentrating financial power and keeping them out of the

discussion may be impractical from the possible outcomes point of view. Consider that different decision makers may have different objective functions, there may be little coordination between them and the relationships between their objectives, and the preferences of the populace may be very weak. From a game theoretic point of view, the sustainability challenge is that of the prisoner's dilemma (or the trust game) in which firms are not willing to consume less or make investments that will ultimately benefit their competitors as much as themselves or more. In this situation, should the project manager use the project financing to pursue his own social goals even if there are agencies of the government that are better suited to pursue those goals but do not? If the manager has the choice to invest and the supposedly appropriate entity does not, it can be that there is some unknown factor that makes the supposedly more appropriate option unavailable. For example, it can be that there is no social consensus concerning the social goal in question which prevents direct public policy to evolve at the needed pace. Alternatively, it could be that the ones in control of the public policy have different judgements concerning social objectives. In any case, it can be assumed that it is economically efficient for private managers to invest in producing public goods (social outcomes) even if there are no direct financial benefits that can be derived from doing that.

Finally, one can consider that taxes displace private investments, and the public investments may not have the same level of efficiency of private investments due to the weaker market pressures that are intrinsic in public spending. In this sense, we can consider that private social investing could not only be more efficient, it could also potentially displace taxes in the future. In a sense, if financial decisions were strictly selfish and if financial power led to political power than to whom is left the role of investing in the public good?

Inter-generational negative bequest

Economically the issue of sustainability can be seen as that of inter-generational wealth distribution, the theory of negative bequest in which the present generation might like to increase its consumption at the expense of future generations. This is exemplified in terms of social security funding in (Ferrara, 1980) where Martin Feldstein argues that because of growing technical progress and economic growth children will tend to be wealthier than their parents were. Parents are therefore likely to feel that it is worth more to them to increase their consumption now than to forgo that consumption and save for bequests so that their children can increase their already greater consumption later. In economic terms, the marginal utility to the parent of additional consumption now is likely to be greater than the indirect

marginal utility to the parent of additional consumption in later years by the child precisely because in those later years the child is likely to be richer than the parent is now.

This economic logic that the future would always be more prosperous, may have worked in the last decades of the previous century, but in a world with finite resources and with rapidly growing population, the depletion of natural resources and the accumulation of waste challenges this thinking. As clearly illustrated in the case of the depletion of fisheries, sustainability is ultimately about foregoing consumption now to allow for consumption in the future, which characterizes positive bequest behavior.

So in a sense, impact investing can be seen as a form of both intratemporal and intertemporal wealth redistribution. Where private investors transfer wealth to future generations through investments in producing public goods, and by foregoing consumption of resources now.

Is out of the scope of this paper to speculate about what the future potential consequences may be of the widespread adoption of value-creating social responsibility. Or whether or not future regulatory framework will harden to mandate more strict control over investment choices, with mechanisms similar or not to the ones proposed by this paper.

Stakeholder Economic Models

When modelling the firm stakeholders' utility one can consider the growing sustainability concerns of shareholders, managers, consumers, and employees in general. In this case, beyond just financial returns and risk, the utility of social improvement can be taken into account when making investment decisions:

$$Shareholder\ payoff = F(k) + \propto S(k) \qquad \textit{Equation 1}$$

Where *k* is the capital investment, *F(k)* is the present value of financial returns of the investment including not only cash flows, but the cost of capital and the risk premium. The choice of measure of financial returns and risk can be any of the preference of the manager but one example is the Net Present Value model that calculates the present value of future expected cash flows discounted to account for risk and cost of financing.

S(k) is the present value of the social impact created regardless of financial returns and α is the altruistic preference for social impact. While commonly used financial return quantification frameworks aim at

achieving absolute (or cardinal) references, no such assumption can still be made about social impact evaluation, therefore this model shall allow investors to make relative (or ordinal) comparisons between the financial and social payouts combined. It is important though to assume that the scale of the ordinal difference in the social outcome measurement is proportional to the actual real-world outcomes. That is, it is important to know if a social outcome is two times better then another as opposed to only knowing which one is higher. A series of public sources of financial value and assessment methodologies will be listed in further sections but one can probably assume that the means for such measurements will become more common going forward.

Regarding the strategic preference for social impact, alpha, it should be set according to firm-wide strategic rules. As examples, it may be dependent on the average or target profitability target of the firm, or whether the project creates intangible value to the firm.

Here note that the potential double counting of social impacts that create quantifiable financial value to the firm are welcome, as precisely these will be the projects with the greatest value to the stakeholder.

Assuming that managers will look over the interests of the shareholders, this will have to be their payoff function as well.

Furthermore, when the investment influences the production of consumption goods it is useful to look at the consumer's payoff as well. In this case, economic model considers that there is more at stake than the direct costs and benefits of the consumed good.

$$Consumers\ payoff = D(g) + \beta\, S(g) - C(g) \qquad \textit{Equation 2}$$

Where *g* is the good acquired, *D(g)* is the direct benefit of the good acquired, *S(s)* is the perception of the social outcome associated with the consumption of *g*, Beta is the consumer social impact preference, and *C(g)* is the direct cost of the good.

In this case, if the consumer desires to affect social outcomes through consumption, she will be willing to pay more for a good that she perceives as creating social impact than another one that generates the same direct benefit but is not associated with a positive social impact perception. Likewise, when two goods have the same direct costs and benefits, one that creates a higher perception of social improvement will be preferred. Therefore, as long as the consumer derives emotional gains from social impact (Beta is positive), the association of positive social impact with a good's consumption adds value

to the product (an in effect becomes a consumption good itself), and could be objectively evaluated by corporate product managers similarly to any other product features.

Finally, after considering the shareholder and the consumer's utility one can consider the employee utility of the improvement of social outcomes. Below is a generic model of the association of value to the corporate culture, it relates organizational culture and employee retention.

$$Employees' \ payoff = W(e) + \gamma \, S(e) - c(e) \qquad \textit{Equation 3}$$

Where *W(e)* is the direct financial benefit associated with the effort, gamma is the preference for social improvement, *S(e)* is the perception of the social outcome improvement associated with the work effort, and *C(e)* is the personal cost of effort. Therefore, if the employee has personal preference for improving social outcomes through work (gamma is positive), she should be either more motivated for the same wages require a lower compensation than if no association with social improvement existed.

The NPV Framework:

The investment decision framework assumes that the audience uses some model for financial evaluation of projects. A brief description of a traditional NPV model is given below purely to aid the explanation of the model. Decision makers are encouraged to switch to any preferred model for as long as it allows comparing projects from a financial outcome point of view.

Net Present Value: (or Discounted Cashflows) is the model in which the investor considers the expected cash flows of the project over time and discounts them to present value. For simplicity, I will assume that any potential intrinsic effects of financing choices (like debt vs equity) are incorporated through the discount rate.

In fact, one key aspect of this model is choosing the discount rates, which means determining what the expected return on the employed capital is, that derives from the notion that if the capital was not employed in the investment at hand it would have been employed somewhere else. At the very basic level the choice is between using the return-on-assets, the return-on-debt, or the weighted average cost of capital (WACC) depending on how the investment is being financed. The return-on-assets assumes that the project is being financed through equity, the return on debt assumes debt, and the wacc averages the appropriate mix of both. Here investors choose what combination makes sense to use depending on how the financing is obtained. Considerations as for whether specific capital is employed to specific investments or whether financing is pooled and distributed across different investments is

important because many times the cost of specific capital may be associated with constraints about where or how it is going to be employed. This concept of attribution found in the NPV framework will be leveraged in the model of this study as well. It will turn out to be one of the key aspects of socially responsible (or sustainable) investment as the sources of financing might have responsibility preferences that will affect the cost of capital for specific projects.

Another important aspect of the cost of capital is the taxing. While corporate tax rates in the US are very significant in the order of ~40% certain corporate behaviors or investment choices may have special tax treatment and thus investors will consider the tax implications in the evaluation of their investment choices.

Here again the tax implications of social investing can exist, and investors should research into these since they are often new and not necessarily encountered very ubiquitously in traditional financial literature.

Calculating financial returns – common Levers of Sustainable investments

When making sustainable investments managers could consider intrinsic direct or indirect benefits of such investments to the firm. There are two main categories namely: enhancing cash flow (increasing revenues or decreasing costs), and reducing the cost of capital (normally a side effect of reducing risk). As argued by (Kotler, Hessekiel, & Lee, 2012) there is a trend of "migration from giving as an obligation to giving as a strategy." Evidence of the proliferation of this strategy can be seen in the number of frameworks that have been articulated by firms to identify how sustainability investments can create positive financial value. The Sustainability Advantage Dashboard (Bob Willard, n.d.) Provides a comprehensive synthesis of 20 prominent frameworks (See Appendix A for a list of figures relating to each framework).

Likewise, companies have increased reporting sustainability investment as environment, social and governance (ESG) data and investors have committed to integrating such reporting data in their investment decisions. However, historically there has been little evidence of correlation between ESG data and financial results. To address this the Sustainability Accounting Standards Board (SASB) adopts a shareholder point of view and has classified ESG data into 'material' and 'immaterial'. Where material issues are determined in a similar way as that used by the Securities Exchange Commission (SEC) for materiality of financial information. That is, material sustainability issues are those with evidence of

wide interest from a variety of user groups and evidence of financial impact. (Khan, Serafeim, & Yoon, 2016) presents evidence on the value implications of sustainability investments.

Follows a summarized account of common levers for positively driving financial results through investments that improve social or environmental outcomes, it builds on (Willard, 2012).

Increasing Market Reach

Firstly, future cash flows can be enhanced through increased revenues resulting from increased market reach. As consumer markets become more concerned with social and environmental matters, firms can research to find out what those preferences are and evaluate how current investments may affect customers perceptions. Once those effects are estimated, managers should account in their investment decisions for the additional value that improvements in environmental and social outcomes will bring to the firm in terms of the marketability of its products.

The increase in product appeal can be reached either through firm-wide initiatives that change the perception of the firm's brand as a whole, as well as through the creation of additional products or the increment of additional features to additional products that appeal to this market.

This potential value can be created not only towards end consumers but also it often cascades across supply chains where environmental and social responsibility features and products can be added to supply agreements and supplier firms can increase the marketability of their products to other companies in the supply chain. Among those new potential products there can even been the selling of expertise about innovative production processes and business models themselves.

While being socially responsible can create additional costs for companies, which would compress margins, there are two counter effects. First, it is possible that through innovative production and business models, products that contribute to improved social and environmental outcomes reach cost parity with non-sustainability friendly products, and in such cases, the added feature becomes a competitive advantage if compared with products that do not create such value. Second, socially or environmentally products may reach a different customer segments as the products without those characteristics. For example, "green" features may be required for products selling to premium segments.

Increasing Employee Engagement

As seen in the economic models previously, motivated employees are more productive, and initiatives, that drive employee engagement up will therefore have a positive economic impact in the firm through increased productivity. One study that explores how companies employ Corporate Social Responsibility to increase employee engagement (Flammer & Luo, 2016), and suggests "*that companies increase their CSR in order to (1) improve employees' productivity, (2) differentiate themselves from their competitors, and (3) decrease employees' dissatisfaction associated with firms' stigmatized image.*"

Even if financial incentives could be used to drive motivation up, we should expect that such incentives have diminishing returns, and tapping into other emotional aspects of employee engagement yield more efficient return on capital invested on employee engagement. The example study goes on to list "*the various pitfalls of monetary incentives and the need to go beyond them.*" In addition, it proposes where competitive advantage can be created and "*how employee friendly practices improve the financial performance of firms*". Furthermore, it relates to how CSR can help attract and retain employees, and the relative importance of sorting as a mechanism to drive employee productivity up. In particular, it lists reference studies of how "*employees may be willing to accept lower wages in order to work for socially responsible firms.*" or how CSR "*can positively influence employees' decision to stay with the company despite experiencing a tragic event or a pay cut.*"

Here again, when evaluating the value created by projects that increase the perception of social responsibility of the firm among current and future employees, managers should consider not only the direct financial benefits of the project but also the collateral Human Resources cost savings and productivity improvements.

Renewal

Another factor about investments that improve environmental or social outcomes has to do with reducing the costs and risks associated with the inputs for production. If for example at a manufacturing plant relies on the input of electrical power in order to function there is more risk and more costs if that power is drawn solely from external grid supply as opposed to the case in which part of its power needs are generated locally, from renewable energy sources. The less the dependence on external power the lower the supply risk of the operation. Another example can be the reduction or re-use of waste where resources are used more efficiently and the returns on investment can be higher.

In general, this applies to the expenses with any raw materials that the firm combines into sellable products, where production inefficiencies result in waste. Opportunities to improve the firm's business case go from reducing the costs of inputs from reducing the amount of wasted input materials in production, onto realizing revenues from selling sorted waste streams or selling new products created from previously discarded waste. On understanding the benefits of reducing waste there is beneficial discussion around how companies calculate the cost of waste, to consider not only the cost of disposal but also the cost of buying the wasted materials in the first place, merely changing the accounting of waste costs may help significantly in articulating the benefits of reducing waste. Finally, business model changes may have significant impact in the incentives for minimizing waste, for example companies have been looking at leasing products as opposed to selling them, this way they get the benefits of constant revenue streams, but products are taken back after the lease expires when they can be recycled. This initiative works against the wasting mentality as there is incentive to design products that last the longest, and have the best re-usage ratio at the end of life.

As articulated by (Willard, 2012) "Even if a company does not really care about the environment per se, there are substantial savings to be derived by using less energy, water, and materials in the manufacturing process." "They drive fast and significant expense reductions, are eligible for government incentives, and enhance public image." Though it may be counter-intuitive to some, it is obvious that there are already several sustainability concerned innovations in production that actually reduce the total costs of production.

Once again, while initiatives that increase the usage efficiency of inputs to production they can also generate collateral benefits in brand perception, employee engagement, and tax and regulatory cost. These collateral benefits should be accounted for when evaluating the returns on specific investments.

Reducing Cost of Capital

Acknowledging that reduction of Business risk can cause the cost of capital to go down; Sustainability mindset can reduce the exposure to idiosyncratic and systematic risk, either directly or indirectly.

On the idiosyncratic side, the general intuition is that sustainability awareness requires longer-term perspective on investments, which in turn leads to decisions that better account for longer term-risk factors. Furthermore, from a systematic risk point of view the significance of sustainability related issues could not be undermined. The WEF in its latest risk report ("World Economic Forum Global Risk Report 2017.," 2017) calculates that over a third of the risks that are likely to threaten large economies (i.e.

countries and corporations) within the next ten years are classified as environmental and social risks arising from the damage done by humanity to our environmental and social systems.

In this sense, long-term social and environmentally responsible thinking can have distinctive effects in hedging businesses strategic, operational, compliance, and financial risks. The effects of these in the cost of capital will be suggested here.

One example of environmental compliance risk aspect that affects the cost of capital is seen when making investments in energy generation. According to the U.S. EIA (Administration, 2016) "Because regulators and the investment community have continued to push energy companies to invest in technologies that are less greenhouse gas-intensive, there is considerable financial risk associated with major investments in long-lived power plants with a relatively higher rate of carbon dioxide emissions. The trend is captured"... "Through a 3-percentage-point increase in the cost of capital when evaluating investments in new coal-fired power plants, new coal-to-liquids (CTL) plants without carbon capture and storage (CCS), and pollution control retrofits." In general, when cost of capital advantages can be obtained for specific initiatives but not on the company level, managers may seek to structure the financing on the project level, in order to take advantage of those benefits.

When it comes to **debt capital**, moneylenders will naturally tradeoff risk and expected returns, that is the higher the risk the higher the expected returns. Therefore, less risky projects tend to get lower interest rates than risky projects do. In this sense, a sustainability project that reduces the risks of the company can potentially reduce the cost of its debt as well. At the same time, on an individual basis a sustainability project may be perceived as relatively less risky by lenders, and therefore may be able to raise cheaper debt capital (Bauer & Hann, 2010; Cheng, Ioannou, & Serafeim, 2014; El Ghoul, Guedhami, Kwok, & Mishra, 2011).

Finally, when evaluating the potential changes in the cost of **equity capital,** two different effects can be expected, one related to risk premium and one related to non-financial payouts to individual investors.

From a risk-premium perspective, an argument similar to the debt case can be made in the case of equity capital, as investors will demand lower returns from less risky enterprises.

Furthermore as seen in the stockholder economic model, the investor (as a consumer) may have a personal preference for investing with purpose in companies that embrace social and environmental causes of their choice. This desire to satisfy non-financial payouts may increase the demand for

companies' stocks or even the acceptance of relatively lower returns. In this last case, the capital to sustainable companies would be cheaper than that of non-sustainable ones (Cheng et al., 2014).

Perception Aspects

Many of the benefits listed above have to do with people's (consumers, investors, managers, employees) perceptions of the levels of sustainable investments employed by the firms. Therefore, in order to be able to maximize the accrual of the benefits described above it is important that companies play close attention to making the appropriate stakeholders aware of the sustainable investments being made and their impact to what matters to those stakeholders. This includes understanding who those stakeholders are as well as what is more sensitive to them.

For example, financial markets will need to rely by and large on reported information and if measures of sustainable thinking may be interpreted as proxies for more responsible corporate values and behavior, such firms should enjoy not only the efficiency benefits of more stable results but also get side-benefits from lowering the cost of their capital.

Weight of Social Outcomes

Once all the potential financial benefits that are accruable to the investor are accounted for in the financial NPV, one turns to the quantification of the social and environmental externalities created by projects. While there have been advancements in the standardization of the reporting of the environmental and social impact of companies and projects, there is still significant fragmentation and evolving (sometimes competing) standards, in terms of academic research there is substantial work done towards public policy development that addresses the issues of calculating social externalities from investment projects. In any case, what is important here is that the firm should be able to find means for such quantification that yield dollar (currency) proxies to the present value of such externalities that can be added up with the financial present value and yield a final score for comparing different investment projects. In this sense, it is important that such measurement methodology is independent from specific project cases so that it can produce fair comparison among different projects.

Companies may choose to develop their own methods for assessing project externalities, or tap into emerging networks for such information. In the latter case, as much as crowdsourcing of social value may be valuable in the absence of other references, firms are encouraged to measuring outcomes themselves systematically to develop their own perception of the social efficiency of their investments.

Accounting for Social responsibility like CSR, ESG, or SASB measure commitment to sustainability, and more recently the efficiency of those investments. Nevertheless, they do not measure directly the concrete social outcomes created by such investments. Furthermore, there are also initiatives for ranking companies in terms of social impact the like Global Impact Investing Rating System (GIIRS) and the Impact Reporting and Investment Standards (IRIS). However, they do not allow the evaluation of the social impact of individual projects.

Existing social outcome measurement frameworks include the Social Return on investment (SROI) promoted by ("Social Value International," n.d.), the ones put forth by the Global Impact Investing Network, or the economic frameworks proposed by (Harberger, 1996; Jenkins, 2008). Additional resources for social outcome data include companies that maintain a network of social impact like The Social Value International ("Social Value International," n.d.) that provides Global Value Exchange which is "a database of financial proxies specifically designed for informing SNPV analyses, which relies on contributions from real practitioners to measure economic, social and environmental impact. The objective of the database is to adopt a consistent approach to obtain indicators and financial valuations for social and environmental outcomes" (Serrano-Cinca, Gutiérrez-Nieto, & Reyes, 2016). It also lists a number of external databases for social outcome measurement and forecasting.

Social Outcome Discount Factor

In this case, since the social and environmental externalities of the investment project actually accrue to society in this generation and in future generations, the discount rates used in financial markets shall not capture those long lasting benefits. Because financial markets experience significant relative fluctuation it tends to mandate discount factors in the orders that will significantly compress the relevance of consequences in longer timeframes. However, it can be argued that social outcomes have much longer cycles and thus smaller discount rates should be used when evaluating the impact of better social outcomes. Significant academic discussion has happened around the calculation of social discount ratings when developing public policies.

Strategic preference for altruism

Assuming that most or all of the quantifiable financial benefits of social responsibility have already been captured in the financial returns calculation, the weight of the total social value that result from consumption will be dependent on the preference for strategic subsidy of the investor. That is, how much does the investor choose to subsidize the development of new markets, either directly or indirectly, without the expectation of reciprocity or financial compensation?

One straightforward finding is the direct correlation between financial status and altruistic behavior. The intuition can be understood with a simple example by first considering a fictitious mother that has enough wealth to easily feed and fully provide to all of the needs of her children, when she chooses what brand of milk to buy for her children at a supermarket, the price (or the direct financial return of her investment) may not be her first decision factor, she might instead chose to please other utility functions with her consumption like achieving the highest health efficiency, being socially responsible, or making a statement about her social status.

Conclusion

Social Impact and Financial returns do not have to be antagonistic, especially in a world where the firm stakeholders are more and more willing to subsidize the development of sustainable or socially positive value creation. On the one hand, activities that improve social outcomes can create direct value by increasing the productivity of firms where creative new solutions can unlock sustainable competitive advantage to yield market rates of return. On the other hand, strategic new initiatives with market making potential will require subsided financing.

Project managers seeking to unlock value from social impact or simply increase the social value of projects have a much better chance of mobilizing capital for socially responsible investments if they are able to describe clearly, and in a standardized way, the financial and non-financial benefits of such projects.

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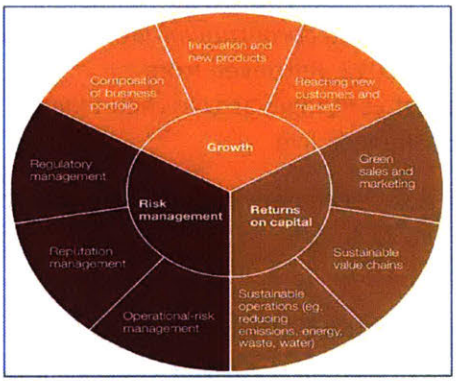
Appendix A

Figures of Business Case Framework examples as in the New Sustainability Advantage Worksheets (a.k.a. "Ultbook Lite") (Bob Willard, n.d.).

1

SUSTAINABILITY COMPASS



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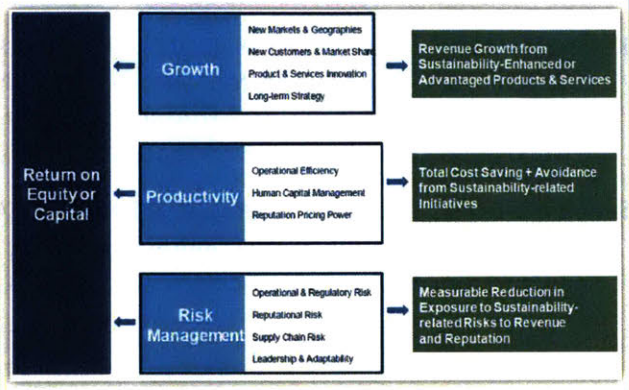
2

VALUE DRIVER MODEL



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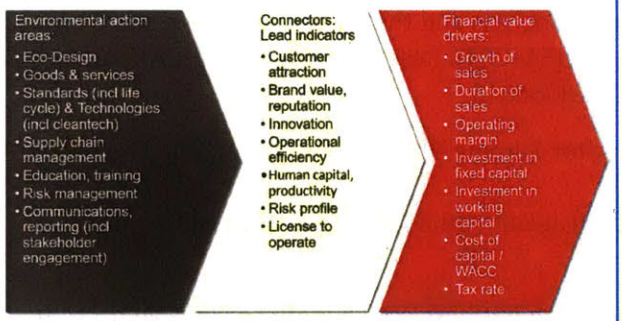
3

GREEN BUSINESS CASE MODEL



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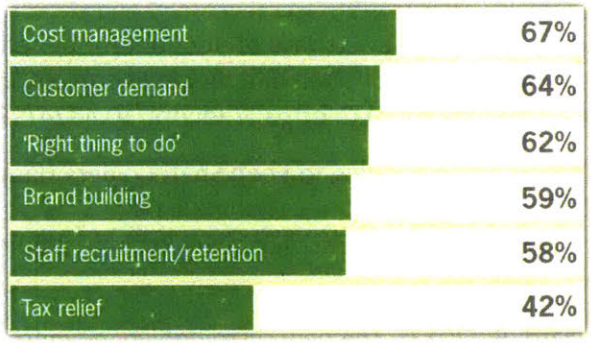
DRIVERS OF SUSTAINABILITY 2014



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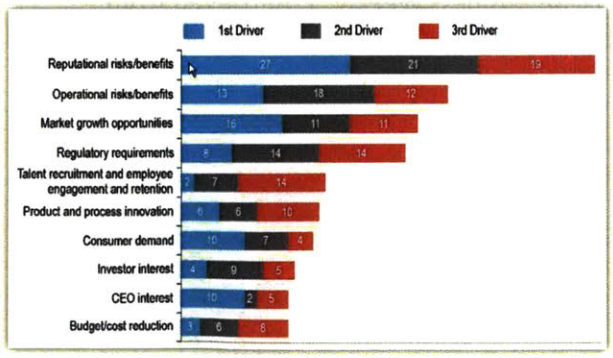
5

DRIVERS OF SUSTAINABILITY 2015



"The State of Sustainable Business 2015, BSR and GlobeScan, 2015. Based on feedback from 440 sustainability professionals from 196 of BSR's US-based multinational companies.

6

BUSINESS CASE BENEFITS

"Advancing on the Path to Product Sustainability," Pure Strategies, February 2016. Based on interviews with sustainability officers at 152 large companies.

7

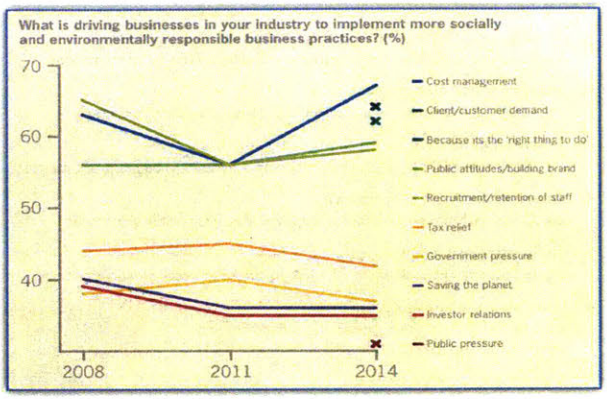
REASONS CFOs CARE

1. **Reducing costs and improving efficiencies**
   e.g. Dow Chemical invested $1 billion in capital to improve energy efficiency and realized $5 billion in economic benefits 1995-2005
2. **Mitigating risks**
   e.g. Expanded financial regulatory and reporting requirements; natural resource scarcities; climate change; security of supply
3. **Fostering innovation and growth**
   e.g. GE, Philips, Procter & Gamble, IBM
4. **Enhancing brands**
   e.g. Disney and Ecolab social license to operate and reputation
5. **Recruiting and retaining talent**
   e.g. Company values and purpose are differentiators

Terry F. Yosie and P.J. Simmons, "5 ways to boost sustainability's value proposition for CFOs," GreenBiz, April 2015. Based on "Sustainability and the CFO: Challenges, Opportunities and Next Practices," April 2015, Corporate EcoForum and World Environment Center.

8

SUSTAINABILITY DRIVERS



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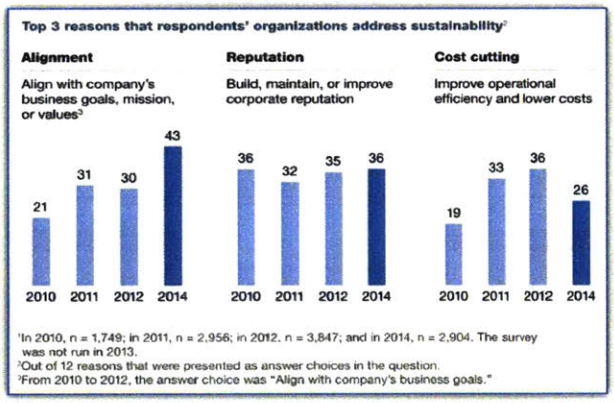
9

WHY SUSTAINABILITY



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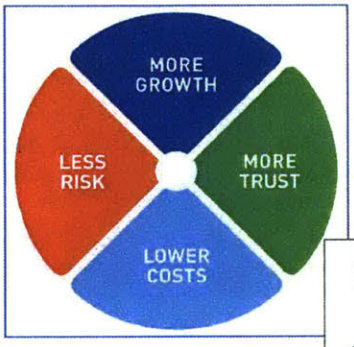
UNILEVER FOUR-POINT FRAMEWORK

10

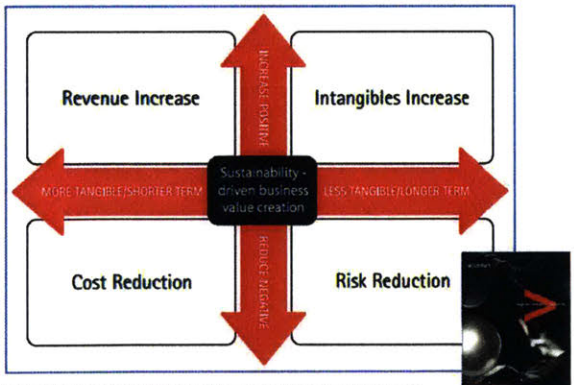


Unilever

"Embedding sustainability" page, Unilever.com Sustainable Living section.

11

SUSTAINABILITY-DRIVEN VALUE



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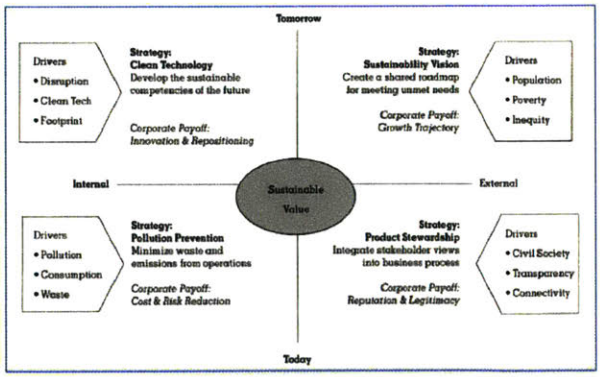
12

SUSTAINABLE VALUE MODEL



Stuart L. Hart and Mark B. Milstein. "Creating sustainable value," Academy of Management Executive, Vol. 17, No. 2, , 2003.

13

COMPREHENSIVE BUSINESS CASE

1. **Driving competitive advantage from stakeholder engagement**
   e.g. Stakeholder relations can help land permitting, taxation, and regulations
2. **Improving risk management**
   e.g. Climate change risks impact operations, revenue, and expenditures.
3. **Fostering innovation**
   e.g. Nike's new $1B Flyknit line cuts waste by 80% and has bigger profit margins.
4. **Improved financial performance**
   e.g. Cut costs, lower cost of capital, improve IRR, less volatile share value
5. **Build customer loyalty**
   e.g. Revenue can increase up to 20% due to corporate responsibility practices.
6. **Attracting and engaging employees**
   e.g. Higher loyalty, morale, retention, productivity, and attraction of top talent

Tensie Whelan and Carly Fink, "The Comprehensive Business Case for Sustainability," Harvard Business Review, October 2016.

14

PROJECT ROI

1. **Share price and market value**
   e.g. Increase share price by as much as 6%
2. **Sales and revenue**
   e.g. Increase revenues by as much as 20%
3. **Grow and protect CR brand and reputation value**
   e.g. Nurture as much as 11% of the firm's value
4. **Commitment and engagement of employees**
   e.g. Reduce turnover by as much as 50%.
5. **Reduce risks and protect license to operate**
   e.g. Protect as much as 10% of the firm's value

Steve Rochlin, Richard Bliss, Stephen Jordan, Cheryl Yaffe Kiser, "Project ROI: Defining the Competitive and Financial Advantages of Corporate Responsibility and Sustainability," IO Sustainability and Babson College, July 2015.

15

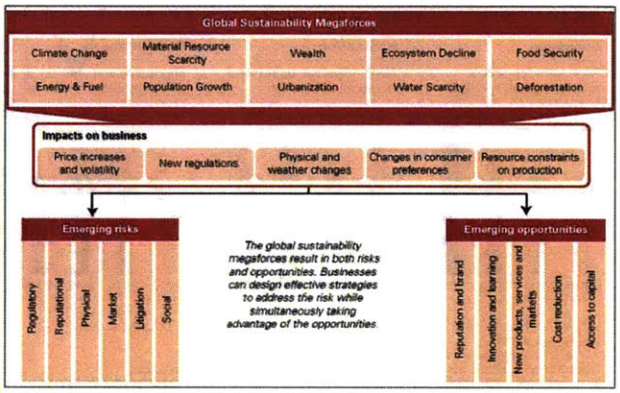
BUSINESS CASE FOR BEING A RESPONSIBLE BUSINESS

1. Brand value and reputation
2. Employees and future workforce
3. Operational effectiveness
4. Risk reduction and management
5. Direct financial impact
6. Organisational growth
7. Business opportunity

David Grayson and Stephen Howard, "The business case for being a responsible business," Business in the Community and Doughty Centre for Corporate Responsibility, March 2011.

16

KPMG MODEL



"Expect the Unexpected: Building business value in a changing world," KPMG, 2012

17

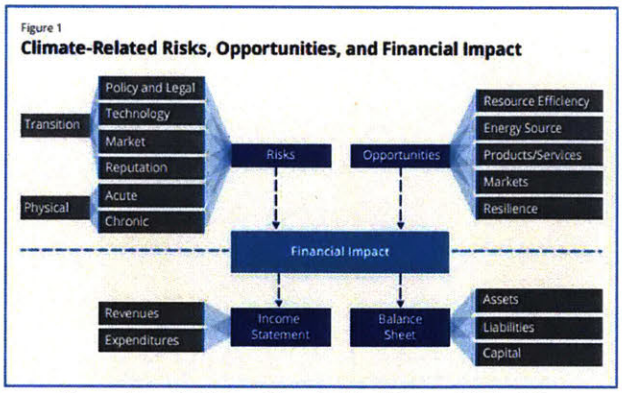
EcoSTEPS MODEL

Sustainability Impact Analysis Model		
Known/Certain	COSTS	REVENUES
Unknown/Uncertain	RISKS	OPPORTUNITIES
EcoSTEPS Sustainability Partner	Minimise/Reduce	Maximise/Increase

"Sustainability Business Case," EcoSteps website, ecosteps.com.au/content.asp?id=61

18

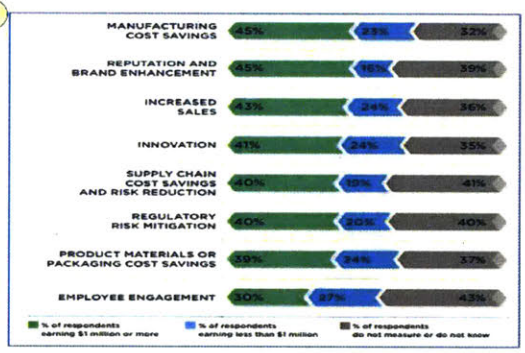
TFCD MODEL



"Recommendations of the Task Force on Climate-related Financial Disclosures," TCFD, Dec. 2016.

PURE STRATEGIES BENEFITS MODEL

19



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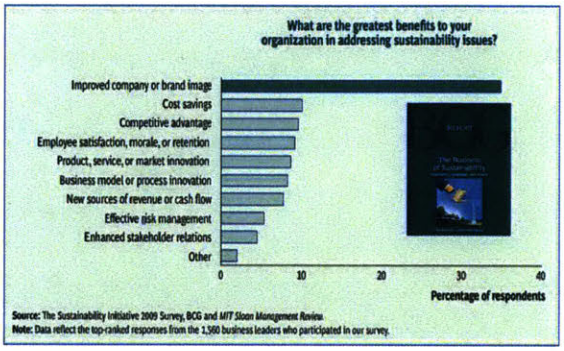
20

BCG/MIT BENEFITS MODEL



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