Using Agile to Create Economic Value for Society

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Abstract

This paper proposes modifications to the decision criteria that are now technically focused onto value creation and services delivery. It argues that the current emphasis on how, why, when and for whom systems are developed and the Agile Manifesto guidance for improving the human side of IT development using a bottom-up philosophy should be modified to address a wider set of benefits and risks while creating the greatest benefit for consumers and society. This paper proposes process modifications and aligning project selection criteria with economic growth. It links these diverse elements, and argues that IT can assist in resolving the enormous economic problems faced today by addressing the shared value needed and using an understanding of the larger, macro IT contexts extending beyond the user and the users’ customer to include the communities and larger society impacted by IT solutions. By incorporating communal and societal criteria and promoting growth IT may contribute a partial solution to resolve many of the problems faced today.

1. Introduction

Much as the individual decisions of people and businesses create microeconomic environments interconnected by macroeconomic industries and economies, the ubiquitous use of micro IT implementations in the form of individual and organizational products and programs has created macro IT trends and forces which have gone largely unaddressed by the strictly implementation focused IT industry.

The IT industry has been maturing in its ability to deliver measurable value. In doing so there has been a tremendous body of work evolving HOW we do things (methodologies, processes, techniques, trade-off studies) and a nearly equal body of work on deciding WHAT specific functions should be built (requirements analysis, system design, Use Cases and user stories, backlog processes and queue management). We even have what could arguably be called a large body of operations work focused on WHEN to build (portfolio management, scheduling dependencies, throughput management, resource constraints, risk management processes).

Additionally the Agile movement has codified a generally accepted set of guidance and principles that begin to address the human side of IT development in the form of the Agile Manifesto. The manifesto seeks to highlight the individuals (team and customer), their interactions, and the importance of creating something with concrete short-term impact (working software) at a time when the IT industry has, as a whole, been transitioning from a deep technical focus to a focus on value creation and services delivery.

To further this transition we believe there is a need to modify and incorporate more robust decision criteria into both the micro and macro IT models to enable individual projects and the industry as a whole to better examine a higher level and wider sets of benefits and risks while creating the greatest benefit for the largest number of consumers. This paper begins the examination by investigating the alignment of project selection criteria with impact on economic growth and its subsequent benefit to IT decision makers and IT consumers.

The position taken in the paper is developed in several stages. In the first section we look at the new IT ecosystem and the need to support growth given the pressures and forces faced by organizations and society. We then briefly discuss the economic theories and forces that promote growth, and the role of Agile information systems and technologies. Finally we address changes (additions or adjustments) to Agile decision processes, how Agile might then contribute to shared value creation, and the steps that would be required to make the changes suggested in this paper.

2. Economic theory and IT

Among the many trends that can be readily observed, the world has recently seen several with wide-spread impact. While those with the greatest impacts are certainly debatable, two of critical importance are: 1) international financial markets now struggling through their sudden (in less than 10 years) changes brought on by deficit spending and stimulated by the introduction of new highly risky and unregulated economic products and subsequent
changes in attitudinal acceptance of debts culminating in economic devastation at multi-national levels; and 2) the rapid “earth flattening” impact of ubiquitous computing and always on connectivity which has created an equally sudden shift in the demonstration and demand of value from IT. Simply said, all IT products must work successfully and immediately. They must produce an ROI in a short or intermediate term. To achieve this we must define tightly drawn scenarios that enable success to be released in an incremental way. We are in a time when projects that used to be measured on longer scales are increasingly complex and struggle with intangible factors.

We argue that IT can assist in resolving the enormous problems faced today, if one begins to consider criteria for selecting and completing projects that not only the short term economic benefits, but also how they contribute to a solution to the economic woes of today in the intermediate and longer terms.

Economist, bankers, politicians, and many others believe that the solution to the economic problems cited above is growth. This mantra is cited in many political and economic circles. Gap covering kick the can down the road – approaches are used to postpone immediate failures and systems collapses, but the ultimate solution hoped for and desired by many is still growth. The EU seeks growth; China’s faltering growth is a limiting factor that undercuts any possible recovery in the developed nations. Even developing counties and the third world view growth as the optimal way out of the general economic mess found in Europe, the U.S., and elsewhere. For example, in his speech, “Global Solutions For The Global Economic Crisis,” Justin Yifu Lin, Chief Economist And Senior Vice President, World Bank Group notes that “underutilization of capacity must be resolved for the sustainable global recovery”, and that this may well support “enhanced growth potential in high-income countries as well as in a developing countries, and a new opportunity for higher growth for the whole world.” [1]

At the same time, much research has begun in the area of Philanthropic-Capitalism. That is, the “growing realization that business does have the capacity to create as well as destroy social value.”[2] Michael Porter, father of the value chain, calls out a similar concept in “…the principle of shared value, which involves creating economic value in a way that also creates value for society by addressing its needs and challenges.” [3]. Essentially macro IT needs to “do well by doing good” [4]. The first step in creating shared value is to intentionally choose which features, stories, applications, and systems to create and thoughtfully sequence their choices from a seemingly ever growing pool of opportunities based on a project’s contribution to growth and shared value.

This paper does not advocate that economic growth is without limits or offer analysis that it is uniformly desirable. Issues of specific needs, history, and sociological and economic intuitions must be considered to make specific conclusions about growth. However, this paper does take on the conditions advanced by Prof Piet Naudé, director of Nelson Mandela Metropolitan’s University’s business school in Port Elizabeth, SA. Naudé ’ (2008) that sets out guidelines for economic growth assessment that is positive when applied to our framing of the problem.

Economic growth is desirable when;

1. It not only increases GDP but leads to a lowering of unemployment. There are many sectors of our economy that can grow without adding a single job to the system….There is clearly a responsibility to ensure growth enables more people to enter the economic system…. 

2. The distributive effect increases the welfare of the poorest section in society in the medium term and creates a more egalitarian society in the longer term. If economic growth only increases the welfare of the middle and upper classes and leaves the poorest people worse off, the social cost in the long run is too high. This is a controversial point. … strong ethical arguments can be made in favor of growth that is measured not in general terms, but by whether the position of the worse-off has improved. …

3. It is sustainable in the holisic sense of the word. If economic growth is only conceptualized as empirical data and not also in terms of its social and ecological effects, we will fail the moral demands of inter-generational justice…. [5]

It seems a given that growth is clearly one of the potential end objectives for societies across our current economic and social frameworks; and in the field of economics appears to be viewed at times as a surrogate or precursor to the common good for its contributions to welfare of a people and society.

Economists tend to believe that it is difficult to select a single or even group of project goals and objectives that maximize benefits for society. The objective of seeking economic growth has been characteristically viewed as a higher ideal state, holistically benefiting society though equitable development to promote betterment. Similarly the Agile community has been somewhat successful showing benefit to the individual practitioner, project, or customer (a higher ideal) but has been limited by its micro IT focus.
Agile promotes localized ideals and delivers a variety of prescriptive practices which, in aggregate, provide a form of process for determining and prioritizing value while sequencing deliverables. For example:

- **Kanban** – provides a means to focus on the sequence of dominant activities through the life cycle of a solution.
- **Lean** – seeks to define activity purpose (goal), process (means), people (owner) to optimize sequencing.
- **Scrum** – uses a “backlog” as a sorted queue to establish the relative order of deliverables to be built.

Although proven to be successful at aligning highly achievable short term delivery to more abstract long term goals they do not provide an explicit decision framework for integrating economic growth or shared value into the underlying decision making activities. We can conceive of such a decision framework by integrating Agiles’ inherent ability to adapt as an opportunity to lead with, instead of lagging change. philanthro-capitalisms’ emphasis on driving business to think about how to be net positive and see the benefits of seeking out nonfinancial value.

### 3. Seeking Growth

Primary theories for growth (from a country’s perspective) seek to explain why and how growth occurs. The two major models are the historic classical model of exogenous growth and the neo-classical or endogenous growth.

The field of economics offers theories that provide assistance in making critical decisions. The neo-classical model argues that the economies of countries that want similar things can basically possess and employ technologies that are similar in order to “…converge to the same level of per capita income.” [6] The classical theories considered value (price) and viewed income as being produced by labor, land, and capital within a free market. Classical theory prices were viewed as being influence by exogenous factors; the level of outputs, technology, and wages.

Neo-classical theory postulates that the growth rate of income per capita is independent of the rate of saving and investment and other internal factors of growth. The essential argument is that the rate of exogenous technological progress determines the rate of growth. GDP will grow at the same per capita rate until the available capital reaches a steady state. The neo-classical prediction is that “…an endogenous, self-sustaining mechanism of cumulative economic growth” can be continued. Doing this requires entrepreneurial initiatives that can be recognized and implemented through innovative decisions. These decisions will utilize the technology and resources and make them serve the users or customers via their contribution to profitability and competition.

Although the various theories of economic development are far more detailed and robust than those summarized here, the trends and thoughts are extensions and elaborations on the original concepts. For example, the internal or endogenous (neo-classical) growth has been elaborated upon as containing some factors that support the production function. Romer [7], Grossman and Helpman [8] linked the appearance of new intermediate products and quality based innovation to the development of knowledge. Improvement in techniques, due to developed experience within the production process, may be viewed as delivering increasing returns to scale with higher investment providing a greater opportunity for learning and resulting in a faster rate of technical progress resulting in higher levels of production. [9]

In contrast to the classical exogenous theory, new economic growth theories seek to address the limitations of the exogenous theories by incorporating technological change as endogenous growth process. Endogenous growth models will frequently include an innovation “production” process that is critical for long-run growth. Innovative activity requires the use of scarce resources, and the incentives for innovation are provided by monopoly profits. These growth theories promote efforts to sustain or increase growth with policies that promote R&D, education, saving rates, as well as policies which that seek to redirect entrepreneurship from some rent-seeking activities to productive ones. Rent seeking (but not necessarily growth policies) may be instituted by environmental or political controls (sometimes under the guise of quality) that restrict access to occupations, increasing certification and licensure requirements via increased lobbying or political activities.

### 4. Agiles’ potential contribution to philanthro-capitalistic goals

The question that remains is what to do to promote growth? Further; the question can be elaborated to: what or how can aid in the decision process of determining what project(s) to select out of the many that can be undertaken to ensure choices are including non-fiscal, growth enabling value. This is where information systems and information technologies begin to become important.
The question is important because the spending on IT is relatively large as a single investment sector and quite large as a total investment category. The 2011 Capital Spending Report: U.S. CAPITAL SPENDING PATTERNS — 2000-2009 shows that in 2009, total spending on new and used structures and equipment (i.e., capital spending) by all U.S. nonfarm businesses was $1,090.1 billion; $284.1 billion below the 2008 level ($1,374.2 billion). Investment spending in the information sector decreased in absolute terms from $160.2 billion to $87.7 billion. The sector’s share of total spending was 8.6 percent. [10].

This does not represent the potential impact – as shown in the New York Federal Reserve Bank article “What Investment Patterns across Equipment and Industries Tell Us about the Recent Investment Boom and Bust,” [11]. It indicates that capital expenditure trends focused on information technology (computers and software) in the 1990s boom and bust apparently drove the Y2K fears and the hype of the Internet drove investment growth in the late 1990s that slowed in 2000. Profit expectations in the communications industries sustained a continuing strong investment surge in 2000 that markedly declined into 2002. This large drop in capital IT investment was a significant contributor to the 2001 recession and the following slowed growth. [11]

In his article ‘Of Profits and Philanthropy’ Matthew Bishop talks about the philanthrocapitalist recent lessons learned. He speaks of capitalism “chasing financial value, if measured exclusively by short-term profits, as bad capitalism.”[12] Bad in that it fails the wholly achievable but often disregarded goal of serving to drive growth. In some ways today’s Agile could be considered ‘bad Agile’ as it too fails the wholly achievable but often disregarded goal of driving growth. This isn’t a condemnation of Agile as much as a questioning of the choices we Agile practitioners (and we are not excluding ourselves here) have made.

In a survey of 1400+ working IT professionals and self-labeled agilest, 63% of respondents used ROI or a similar fiscal description when answering the question; given two equally viable projects, what criteria do you, your project, or your management use to choose between them? This was a bit surprising given that the same group was asked; “Those impacted by a solution should be considered, represented, or included during the selection and development of the solution.” For considered, 83% (a clear majority of responders) either strongly agreed or agreed, with 61% and 22% respectively.

Even more interesting was the shift away from agreement when presented with having direct representation of the users and further still toward disagreement when considering actually including “Those impacted”.

One may certainly ask – is there a place in Agile (given its several varying methods and implementations) for re-consideration of alternatives, and broadening of criteria that could change how a
project impacts both micro and macro IT ideals. Analysis shows that Agile, in all of its permutations, can readily accommodate this broadened focus successfully.

Agile, through its intentional promotion of communication, transparency, and retrospection among people involved with an opportunity, combined with higher level activities for portfolio and operational management, provides a system of milestones, gates, and tasks. (figure 4 below) Each creating an opportunity to evaluate alignment with the businesses intent to achieve shared value.

At the core the project represents the potential for, but not the actual value intended. Instead, projects are the cost required to enable subsequent layers to extract value. This has been the primary domain of Agile methods and practices. Here we are seeking efficiencies in process, risk management and cost reduction.

The next layer, Portfolio, largely remains the domain of traditional formal methodologies. Compared to the tactical emphasis of the projects, portfolios are strategic assets for the business. Far slower to change than the projects, portfolios also fail to generate value directly. Instead they strive to be a practical implementation of governance. Value is measured in increased agility by providing decision makers greater clarity and preemptive standards and measures to leverage as events dictate.

The middle layers consisting of the Business and the User are the traditional sources of value. Return on Investment (ROI) originates from here and quality measures such as performance and operator experience are easily isolated turned into reportable, actionable feedback for management. Operational impact to the businesses and, in cases such as a retailer, transaction times and employee/customer engagement can be tracked to provide less quantitative but more qualitative measures such as customer satisfaction (CSAT).

The customer layer is the transition from micro IT to macro IT. Exposing the micro IT services drives greater engagement between the business and its customers. This can drive increased satisfaction and the improve customer retention. More importantly it is a bidirectional layer providing the first step into macro IT potential. Leveraging the direct inclusion of the customer allows a solution, and by proxy the solution
providing business, to better understand the potential impacts and to commit to improving their customers experience well beyond the transaction of the moment.

The final layers, community and society are truly philanthropic targets. Shared value comes from applying the expertise of the business to the needs of the community and society. This is more than philanthropy for marketing. Instead the business seeks alignment, much as micro IT aligns with business goals, macro IT aligns to social needs. For example a business like FedEx could sponsor a giving campaign providing a dollar to a charity for every package delivered over some period of time. While certainly laudable it is a marketing activity. Instead FedEx could leverage its worldwide logistical network to provide goods to hard to reach populations. On the surface it would cost the company short term profits. But over time it engenders trust in a broader consumer base. It creates an opportunity to team with politicians in remote locations that might have been closed markets before. All in all it would create an otherwise unavailable a long term growth opportunity for the business while providing value to the communities involved.

6. Moving Agile to support shared value creation

Klaus Schwab the founder of the world economic forum is quoted in Philanthrocapitalism as defining 5 types of engagement between a firm and society; corporate governance (which can include ethical rules, such as on corruption); corporate philanthropy (giving money and time); corporate social responsibility (how a firm responds to the concerns of its stakeholders); corporate social entrepreneurship (transforming socially or environmentally responsible ideas into products or services); and global corporate citizenship (engagement at a macro level on issues of importance to the world).[2] Agile, having crossed the chasm from leading edge adopters to main stream, is well positioned to align with and support a corporation’s goals for governance, philanthropy, and social responsibility.

Agile has been at the forefront of including non-technical, non-solution development team persons in traditionally closed processes. But, as we have shown, it can do more to effect positive social change by focusing on growth through intentional support for philanthrocapitalistic activities. We believe this has been excluded from typical Agile efforts because there is little explicit direction or prescriptive guidance and the Agile community is generally hesitant to embrace the more traditional formal use of governance to provide consistent review and decision mechanisms across and within individual solution development efforts.

Resistance however isn’t based on a critical philosophical difference. Instead it is a historical artifact stemming from the bottom up evolution of Agile methodologies. We have identified three categories of change activities that would allow governance in support of growth through shared value generating projects with little impact to the high value agility practices. We have categorized these activities as; Declarative statements of intent, explicit consideration during the decision making process, and proactive communication and transparency.

Declarative statements of intent are paradoxically the lowest cost, simplest to implement, and least likely to occur. Two high impact opportunities are;

- Globally the Agile manifesto could add a single line stating that - We value the creation of socially responsible, broadly beneficial software over software that creates purely fiscal value.
- Within industries and verticals common forms of requirements, epics, scenarios and the related actors (for community and society) could be provided to ensure consideration from the very beginning of a project or program.

All of the methodologies under the Agile umbrella include some form of decision points aligned with go/no/go choices, quality gates, and prioritization within their practices. A core concept across the Agile community is to deliver value early and often. Additionally, Scrum, Lean, Kanban, XP, and Crystal, all propose various forms of decision frameworks when considering inclusion, exclusion, or deferral of work for a project. Lean allows entire portfolios to be constantly reviewed and altered, if necessary, to produce the highest returns based on the situation [13]. Scrum provides for a sorted queue or “backlog” and prioritizes that backlog based on product owner (stakeholder) feedback. Traditionally the product owner uses “business value”, which is frequently determined by estimating ROI, to set priority when the backlog is created, after each sprint, and as new work is identified.

To ensure non-fiscal shared value is considered they need only add three questions (figure 6) to any of the decision trees already in use for a given Agile process.

- The first question is; “what is the social impact?” Specifically does the work intentionally try to minimize harm and fairly distribute value created?
• The second question; “Does the work item require ethical measures?” Does it honor basic rights, comply with applicable codes of conduct, and generally respect all people impacted?

• The third and final question; “Have the necessary control structures been identified or provided to ensure feedback loops are created and monitored, sensors will escalate detail, and reporting is available and accurate?

First, research is required to address the support the (assumed) correlation between long term selection of philanthropic options on both the micro single organization and the macro impact to the target communities. We must provide support for the hypothesis in the form of case studies or well conducted studies, and not rely on the assumed benefit. Secondly, new and more involved collaborative approaches (accepted within the Agile communities) will be required to cut across (or coordinate) the disciplines that are primarily economically driven from a more micro perspective (as Agile is today), and socially driven with macro objectives envisioned and identified by governments and community or social leaders.

8. References


Figure 6. Ethical decision tree

Ideally, failing any of these questions would, at a minimum, escalate the need for the scenario’s referral to a governing body within the business where they could be triaged against the businesses shared value goals as well as the IT mapping to achieve those goals.

7. Next Steps

Extensive research into the area of micro/macro IT and the long term impacts of philanthrocapitalism on the IT community is not available.

Examples in the literature simply do not reach the lower levels of systems and processes changes that document true benefits. However, the argument – that value can be introduced that will simultaneously benefit the individual who performs a task, organization, and society is both alluring and supported by a number of authors. It is derived from Porter’s theory and the understanding that improving the sum of the benefits of innovation and growth is keyed by understanding, defining, and utilizing the concept of shared value.

Two things seem to be required to advance this concept, and impress the Agile community with a need to modify its position and processes.