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Reassessing project practices, research, and theory in a post-Covid reality

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Viewpoint

Abstract:

The world is slowly emerging from a series of healthcare, financial, and economic disruptions caused by the Covid19 pandemic. While it is still too early to come to a definitive reckoning of the myriad ways in which our world has been forced to make adjustments in how it operates pre-and-post Covid, it is worth considering at least one aspect of the post-Covid reality: its effects on project management practices and theory development. This paper offers my perspective on some implications for current and future practice in project management, as well as the ways in which Covid responses have created the potential for a “new normal” in theory and formulating research questions for project studies. Drawing on the Project Management Institute’s “Global Megatrends 2022” report, I will examine these six trends and their implications for future practice in project-based work, proposing three topics for future research.

Keywords:

projects; project management; trend analysis; Covid response; post-Covid; research.

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1. Introduction

By the summer of 2022, in fits and starts, the world's populations started to emerge from a two-year nightmare of Covid, with its societal, economic, and psychological aftermaths still to be considered. While it is still, sadly, too early to make anything like a full accounting of the ways in which Covid has permanently altered our society's thinking on numerous issues, this slow restarting offers us some opportunities to look "through a glass darkly" at the manner in which numerous upheavals are likely to play a role in positing a new normal for project research and practice. It is important to point out that I am addressing "projects" in a general sense with this analysis, based on some preliminary observations. I believe it is far too early to attempt to parse Covid-effects on a discipline-by-discipline, or class-by-project class, basis. Nevertheless, some recent data sampling by professional project organizations, such as the Project Management Institute, is starting to offer a good jumping off point for understanding our post-Covid world and its implications for projects (and grounded theory and research).

Before developing my theme in detail, it would be useful to set some other limiting criteria, so we understand the degree to which I can or cannot offer firm conclusions. First, as I noted above, it is always dangerous to make too definitive a set of conclusions based on early feedback, as so many aspects of civil, political, and economic society are still coming to terms with the manner in which Covid will affect us. Second, demographics matter; that is, while some societies continue to run at near full employment, others are experiencing higher unemployment, some economies have been shattered by Covid, while others are still relatively robust. Third, while I will be taking a macro-level look at projects in general, we do well to remember that "projects" is a misleading noun, as it subsumes entire, very different classes of activity. We know that the methods and procedures underlying construction projects can be very different from Information Technology (IT) projects. While they certainly share similarities, as our bodies of knowledge attest, they also face serious, disciplines-specific challenges that must be acknowledged. Therefore, generalities need to be taken with a commensurate grain of salt. So, please evaluate my arguments with an eye toward recognizing the provisos that are bound to arise when we think too generally and then apply too specifically.

Finally, we know from research and common observation that all organizations are at different stages in their own project sophistication. As Andersen and Jessen [4] noted some years ago, organizations vary widely in terms of their project maturity, defined by three dimensions: knowledge, attitudes, and actions. Just as we can err by defining projects too broadly, so that in the specific case, they fail the test of authenticity, we can make a similar mistake with project organizations if we assume a relatively similar collection of knowledge and practices. To illustrate this latter point, consider Figure 1, which offers a simple construction in applying Everett Roger's [38] "Diffusion of Innovations" model to some sample project innovations. While it is not intended to offer a precise determination of the relative maturity of each of these project management practices, it illustrates that the practices themselves run the gamut from the basic, ad hoc (what I refer to as "run and gun") that are idiosyncratic to individuals or organizations, all the way to the most cutting-edge practices, currently only be adopted by the "innovator" firms.

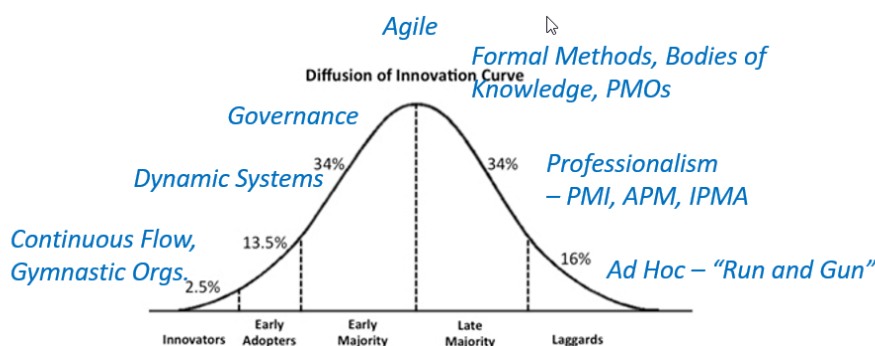


Figure 1. Roger's Diffusion of Innovations and Project Management Applications.

As the Figure illustrates, lumping all project practices (or firms, for that matter) into broad, general categories makes the mistake of assuming some broad level of accepted project management practices are commonly practiced.

With these provisos in mind, I would like us to consider the current state of what has been referred to as “Global Megatrends” [36] with a specific eye toward how these trends are likely to affect and be affected by project behaviours. While speculative, this exercise seems to me a critical opportunity to recalibrate project practices that may seem either inconsequential or outmoded, while reaffirming and exploring the implications of emerging patterns of behaviour post-Covid.

2. Global megatrends

In 2022, the Project Management Institute published a study based on research that they have self-described as the product of consulting “the latest intelligence from industry leaders and conduct[ing] primary and secondary quantitative and qualitative research” as well as interviewing experts and thought leaders on the trends and changes that have created a “new normal” in several global arenas. Their findings comprise six broad categories – from technological implications to societal trends, from environmental concerns to demographic and workforce shifts. Table 1 illustrates each of these identified trends and I would like to use this list as a jumping off point for my own reflections on what these trends suggest for project management practices in our modern, disrupted world.

Table 1: PMI’s Global Megatrends

Trend One: Covid and the Impact of Digital Disruption
Trend Two: Climate Crises – Net Zero and Sustainability
Trend Three: Demographic Shifts – Alleviating Worker Shortages and Talent Gaps
Trend Four: Economic Shifts – Supply Chain Disruptions
Trend Five: Labour Shortages and the Changing Workforce
Trend Six: Civil, Civic, and Equality Movements

2.1 *Trend one: Covid and the impact of digital disruption*

From PMI’s [36] report, “a vast majority of innovators, which are defined as high-performing organizations that have a mature digital transformation strategy, indicate the adoption of disruptive technologies has supported significant improvement in meeting or exceeding business objectives.” While digital and technological breakthroughs have driven many of the most innovative and game-changing changes in product and process improvements, it was the enforced geographical dispersion of workers that pushed our connectivity innovations to extreme levels. It is true that the trend toward remote work, geographically-dispersed teams, and virtual meetings had been gaining steam in recent years; however, Covid protocols positively demanded that all workers, rather than a select few, embrace and use these disruptive technologies on a regular basis. In effect, what had started as a niche within some firms (virtual teams) became the new normal in very short order.

From a project management perspective, it is interesting to speculate on what digital disruption has led or is leading to. Other than the obvious movement toward virtuality and remote work, larger issues are also visible. For example, does virtual work indicate a flattening of hierarchies, as workers operate under less the standard organizational pyramid structure that restricted information flows and communication patterns in more or less “north/south” directions, than a more communitarian model that emphasizes speed of response and electronic immediacy in place of the traditional model? In short, does the physical disconnect of project team members have implications for the manner in which work is organized and workers controlled? With digital information and connectivity freely available and easy to disseminate,

project managers will need to find ways to encourage communication without snarling these channels or permitting conflicting messaging, gossip, or misunderstandings.

A second fascinating implication of digital disruption lies in the nature of information itself. Bushuyev and colleagues [7] have recently proposed of model that identifies our epidemic era as one that is equally prone to the dangers of “infodemics;” that is, in their words, “[an] Infodemic, ahead of the pandemic, is filled with rumours, conjectures and speculation at the first stage, creating an atmosphere of fear and panic” (page 1). Infodemia has been defined by the World Health Organization as an excessive amount of information about a problem that complicates its solution. Those of us living through the Covid pandemic can readily recall business and societal/health settings in which rumours and misinformation were often immediately accepted as fact, multiple, hard to verify rumours crisscrossed in front of us, and decisions (sometimes momentous) were adopted due to the assumption of veracity, rather than objective confirmation. To put this another way, in a world where information is cheap, easily acquired, and just as easily falsified, it bears considering the manner in which significant project decisions, ranging from the strategic (Which projects should we pursue?), to the tactical, “Which approaches will work best?”, to the palliative (“How can we get the project back on track?”) are affected by rumours, misuse or selective application of information. In fact, it seems likely that infodemics are in their infancy and without proper administrative vetting, project team members and other key stakeholders may be prone to receiving and passing along non-verified rumours or inaccurate information.

2.2 Trend two: Climate crises – net zero and sustainability

One of the most important initiatives in the modern developing and developed economies is the push toward the “net zero” consumption of resources. Sustainable project management has been suggested to operate on two levels: sustainable methods applied to the development of projects and projects designed to attain societal goals of sustainability [9]. Thus, an interesting development in project management in recent years has been the introduction of lean principles, originally developed as a means to eliminate waste in operations. Similar goals of eliminating waste are driving a lean project management mentality.

Project management seems to me uniquely positioned to address goals of sustainability, as the purpose of our discipline is to introduce positive change to our world. Whether those changes are monumental and massive, incremental and modest, or purely exploratory in nature, projects remain our most effective vehicle for positive disruptions [44]. As a result, its fit with a sustainable mindset is a logical one. With this idea in mind, current calls are that project managers need to expand their target goals for project outcomes to integrate sustainable metrics (emissions, material usage, reduction of waste/scrap, etc.) into project success assessments. A similar argument has recently been raised by Ika and Pinto [22], in their “re-meaning of project success” arguments. They note that in addition to “project plan” and “business case” success, a comprehensive model of project success must include “green efficacy” as a tripartite element toward which project teams need to work (and be rewarded by their organizations). Modern determinations of project success have moved far from the earliest, “triple constraint” standards by which projects are evaluated.

2.3 Trend three: Demographic shifts – alleviating worker shortages and talent gaps

One unique aspect of our emergence from two years of confusion and redesigned jobs has been labelled the “Great Resignation,” to reflect a massive drop-off in employment by senior organizational members. Sociologists and economists will continue to argue about the reasons behind the Great Resignation for years to come, but for our purposes, the practical upshot of a loss of critical institutional memory and tacit knowledge in project organizations has been to force a rethinking of the manner in which projects are staffed, accommodations are made for both remote and co-located team members, knowledge is captured and routinized, and so forth. At a time when human resources continue in a state of upheaval at multiple project organizations, a term has been coined to reflect the recalibration of work rules and employee expectations: “The New Professionalism.” Researchers in multiple disciplines, including construction, agriculture, architecture, education, software engineering, and public administration point to this phenomenon, already recognized in the latter part of the past decade and accelerating as a result of Covid [e.g., 14, 34].

The New Professionalism has been defined in various ways, but the underlying characteristics saw professionalism as an occupational value. Traditionally, professionalism was imposed from above; that is, the organizational hierarchy and rules and operating procedures mandated the ways in which project professionals were expected to behave. Increasingly, with the proliferation of external professional project organizations, such as APM, PMI, and IPMA, project professionals have adopted standards of ethics, workplace behaviour, and critical priorities from outside the traditional workplace setting. The consequences of such professionalism include changes in the work itself (i.e., the manner in which projects are conceptualized, scoped, and executed), in practitioner–employer and practitioner–client relations (i.e., the range of stakeholder effects), and in the control of work priorities and processes (e.g., the flourishing of professional certifications like PMP have led to externally-driven standard operating procedures for project management).

Additional to externally-centred project management standards, the New Professionalism is affecting organizations through their willingness to consider greater flexibility in work rules, no-longer-mandatory office attendance, job crafting, hiring, learning, mentoring, and greater workplace sensitivity. Combined with a large, mixed-generational cohort of project team members (Baby Boomers, Gen X, Gen Y, Millennials, and Gen Z), as well as international employees and contractors, the modern workplace is highly heterogeneous and increasingly complicated from a managerial perspective. To address these concerns, Project Management Institute's [36] report identifies five activities firms must embrace to narrow the talent gap they are facing: 1) embrace technologies such as AI and automation to take some of the burden off project managers, 2) use creative methods to find and retain talent, 3) look for talent abroad, 4) harness the power of all changemakers, and 5) preserve the knowledge from departing workers. Recognizing the New Professionalism and making proactive administrative policies for finding and retaining project management talent and embedded, institutional knowledge will be critical initiatives in the coming years.

2.4 Trend four: Economic shifts – supply chain disruptions

One of the most critical after-effects of the Covid pandemic has been its disruption of critical supply chains worldwide, with 75% of companies studied in a recent Accenture survey indicating that these disruptions have had a negative or strongly negative effect on their business operations [2]. While it is clear that in many ways, the full ramifications of Covid disruptions to project supply chains are still being realized, there is little question that shortages or all kinds are impacting project delivery schedules, cost estimates, and even quality specifications, as project organizations scramble to find suitable substitutes for critical materials. A key term in supply chain research these days is “resilient,” suggesting that effective firms are those that may not have anticipated the full magnification of effects from shortages, but have at least been able to respond with a degree of agility where their rivals remained locked into more traditional operating procedures. Remko [37] noted that future research on resilient supply chains needs to avoid overfocusing on costs only, and consider the value of flexibility, short response times and multiple sources as well as expanding their supplier networks to include evaluating alternatives that seek to offer more options that a simple reductive focus on savings and payment terms only.

From a project management perspective, the key to effectively managing supply chains to minimize the impact of future disruptions is to develop plans that anticipate such interruptions. Nikolopoulos et al. [33], for example, cite the opportunities that artificial intelligence (AI) as well as machine learning offers us in constructing forecasting models. Butt [8] studied four countries that are major manufacturing centres to determine how they are adjusting their operations post-Covid. His results suggested that supply chain partners are acting differentially, depending on where they operate within long-legged chains. For example, while manufacturers continue to refine their production schedules to meet these challenges, distributors are working with secondary suppliers to minimize “bullwhip effects” and smooth inventory shortages. Finally, supplying firms continue to evaluate the impact of demand from various project organizations, are focused on short-term demand strategies, including shifting supply channels, communicating with key customers, and trying to prioritize shipments among competing project firms, all seeking to secure predictable supplies (which allow them to support their completion schedules and budgets). The past 18 months has demonstrated some salient truths, including: 1) no matter how much we assume that we can rationalize and secure project supply chains, the nature of “Black Swan” events [39] demonstrates that we continue to operate within statistical probabilities, rather than certainties; and 2) project organizations need to find the optimal balance between locking in suppliers on a

strict low-cost basis and building deeper relationships that allow for flexibility and agile adjustments. In short, simply applying cost as the key criteria for supply chain partnerships is no substitute for long-term relationships, particularly during time of upheaval.

2.5 Trend five: Labour shortages and the changing workforce

Writing on the impact of economic trends of any sort is a dangerous undertaking simply due to the transitory nature of such observations; that is, time makes a habit of fooling all of us and mocking our prognostications. Just as we observe one phenomenon, events conspire to immediately reduce the value of such prescriptions, at best, and at worst, render them immediately moot. Thus, it is important to couch any observations about pressures on the current labour force with a rather large grain of salt. Having stated this point, and in conjunction with Trend Three (discussed above), it is useful to observe a host of human resource (HR) challenges that are affecting project organizations. First, however, let us establish the proximate cause for concern about labour shortages and generational and cultural shifts within the workforce: demand for trained professionals continues to grow at very high rates. The Project Management Institute [36] recently reported that the global economy will need 25 million *new* project professionals by 2030. That is, these are not replacement positions, but new careers in anticipation of the continued growth of project-based work worldwide. Thus, as countries are emerging from Covid restrictions and economic slowdowns, there are significant backlogs of pent-up demands for projects in industrial settings of all types.

With this backdrop, the critical issue of supply becomes apparent; specifically, the steady supply of project management professionals. The HR challenge in the coming decade will be enormous: finding, recruiting, training, and rewarding talent has always been a critical need for successful firms. Set against the backdrop of increasingly diverse workforces, globalization, and university educational priorities, harnessing useful and loyal talent quickly becomes a *sine qua non* for competitive firms. Some important work on this topic has appeared in recent years and offers a timely look at the current state of education and the training up of a new generation of project management professionals. For example, Greer and Carden [19] have examined the challenges of finding, retaining and rewarding talent when these skills sets are in high demand and short supply. An intriguing line of work has been developed by Borg and Scott-Young [5] who are looking at project management training and the perceptions of employers, trying to determine what specific skill sets are needed. They also address the sometimes-awkward question of asking whether or not university education is providing new project management staff with the skill sets required in their positions. This research is highly valuable as a sounding board for both educators and employers alike, as we work to align our education programs with pressing needs in the commercial environment.

A final implication of the changing workforce must be to consider the manner in which project leadership skills are best applied; that is, where they can attain the greatest leverage in managing, influencing, controlling, and championing new projects. The question currently being asked regarding this potentially “new” project manager relates to the most effective role they can take on. For example, recent work has begun to explore new perspective on project leadership, including examining it from an agency perspective [3, 24], stewardship theory [11, 12], and so forth. What exactly will describe the role of future project managers, especially under the flattened hierarchies we noted above, remains to be seen but it seems clear that leadership itself will undergo significant reconsideration. So, while it is beyond the purview of this essay to delve too deeply into the richness of project leadership, it bears considering the manner in which the changing workforce trend is likely to have a significant effect on leadership styles and modes of project team management.

2.6 Trend six: Civil, civic, and equality movements

The final trend identified in the PMI study relates to the movement toward diversity, equity and inclusion in the workplace. The “movement-oriented” workplace requires organizations to expand their thinking outside of normal, business-as-usual mindsets to recognize the value in a diverse workforce, as well as encouraging a more embracing corporate culture. As the PMI [36] report notes, “a culture that embraces different perspectives will enable creative thinking and adaptability and result in improved business outcomes.” Thus, the goal of the civil, civic, and equality

movement is to find ways to make the workplace mirror more closely the broader societal state in which organizations find themselves operating.

Moreover, we can expand the notion of making the organization as inclusive as possible in the interest of ethical treatment of employees to examining how these same ethical patterns can benefit project management as a professional discipline. That is, it is helpful to take beneficial, internal movements and reflect on how they can be expanded to the wider commercial and social milieu. When we think, for example, of ethics in project management, we can employ PMI's Code of Ethical Conduct, which argues that ethics, "is about making the best possible decisions concerning people, resources and the environment. Ethical choices diminish risk, advance positive results, increase trust, determine long term success and build reputations." In practical terms, project ethics implies the idea of "right" projects done "right;" that is, projects that are ethically sourced, ethically developed, and ethically funded.

A focus on ethics offers some important windows into current challenges for project development worldwide. For example, if we examine the current state of development projects in Africa, not only can we view them through a utilitarian viewpoint (do they work as intended, in the long term?) [31], but ethics plays a role in establishing the implications of various project funding models and their longer-term implications. Two competing models that are currently under the public policy microscope are World Bank vs. Chinese "Belt and Road" financing alternatives. Gil, et al. [18] have examined several cases of "debt traps" due to public mega-projects in sub-Saharan Africa in which leaders of countries have opted for one funding source or the other, and the societal disruptions that poor choices can lead to, none more immediately obvious than Sri Lanka's loss of a key port and 15,000 acres of land, deeded on a 99-year lease to Chinese companies due to default on loan interest payments [1]. Without faulting one side or the other in this controversy, it is fair to observe that ethical decision-making is not simply the province of project managers within their projects, but also key stakeholders in initiating such projects in the first place. The failure of Sri Lanka's government to adequately evaluate the riskiness of this venture has led to a diminishing of their countrymen's overall standard of living.

Cases of mega-project ethical malfeasance have given rise to interest in a relatively new idea: megaproject social responsibility (MSR) [27, 29]. The keys to MSR include four important ideas:

1. Public participation in project planning. One way to prevent "shadow deals" from occurring is to encourage transparency in all aspects of project planning.
2. Anticorruption in project bidding. Committees or teams of evaluators should be designated to openly disclose and discuss project bids to ensure that they are clearly identified and linked to bidding organizations.
3. Environmental protection during construction. Projects should be completed in a manner that follows local laws regarding environmental protection, as well as adhering to international inspection bodies.
4. Occupational health and safety during field work. Worker protection from accidents and abusive governance is absolutely essential for ethical megaprojects. With numerous cases of "guest worker" abuse and poor safety protocols for major construction projects, it is highly important to provide and enforce guarantees of worker wellbeing.

In summary, today's projects are subject to a new set of management expectations: both internal to the organization (equality and diversity movements) and externally, as projects are expected to be developed in an ethics-driven manner. Adherence to these various movements represents the sixth megatrend in current project professionalism.

3. Project challenges in the new world order

After briefly reflecting on these megatrends, as identified by the Project Management Institute, it seems useful to at least offer some thoughts on current or potentially looming challenges that shadow our professional field. Please note that this is a personal list; it is not intended to be a distillation of our wide and diverse literature, nor is it comprehensive to cover all possible threat vectors. Readers may reasonably react to these ideas with the thought: "Fine, but what about ...?" and I would most likely agree with them. It could also be reasonably argued that some of these themes were already coming into focus prior to the pandemic; in other words, it would be wrong to argue their importance arose as a

result of Covid. Nevertheless, with our emergence from the Covid experience, I propose these challenges merely as a jumping off point, for researchers and practitioners alike, in considering how current megatrends can influence and shape our research initiatives. With these anchors firmly in place, let us examine what I consider to be some of the current challenges for which we need to devote more attention.

3.1 *Project pathologies.*

By “pathologies,” I am referring to the potential for abusive or predatory practices in how we run our projects. These behaviours may either be the result of inappropriate actions taken on a project, or in some cases, the development of a project itself for the sole purpose of pursuing illegal or unethical ends (a well-known car manufacturer’s development of a “cheat” system for defeating diesel emissions tests comes to mind!). Of course, the potential for some misbehaviours have always been present, as compelling research on strategic misrepresentation or planning fallacy demonstrates [15, 16]. However, as we recognize the prevalence of project-based work and the lack of universal standards for its organization and development, there are still a number of pathologies that are becoming apparent. To list just two that are increasingly evident from our studies: the lingering problems with corruption, usually within construction projects, and normalization of deviance behaviours. Corruption has been defined as “the abuse of entrusted power for private gain” [40] and involves personal enrichment at the expense of larger, corporate goals. While not a “natural” response to the huge increase in project-based work, corruption occurs as a result of the failure of oversight, inadequate governance, the huge sums that are being funnelled to a variety of massive projects, and a diverse set of management levers that create an opaque accounting environment. The work of Lehtinen et al. [26] on corruption in project practices is highly illuminating of the manner in which corruption occurs, how it is recognized, and the mitigation actions that can most effectively frustrate these behaviours. While a good start, the authors note that the actual work on corruption in projects is still in its infancy and needs both deeper and broader analysis to understand the challenges.

The practices underlying Normalization of Deviance (NoD) have been variously defined in the literature, but I am going to adopt an amalgam of definitions that suggest it is best understood as a corruption of project governance [12, 35] through a gradual weakening of control systems, a willingness to look the other way in the face of poor practices, and the creation of perverse reward systems that implicitly encourage misbehaviour [20]. These mindsets become institutionalized over time to the point where members of the organization are aware that they occur, realize they are not optimal, but have become inured to their potential dangers and continue practicing them. Normalization of Deviance starts out as erroneous or poor/dangerous actions that, because they do not show immediate negative consequences, are gradually accepted as normal operating behaviour. As Pinto [35] suggested, “The unexpected becomes the expected, which becomes the accepted.” Among the common NoD behaviours are the willingness to ignore workplace safety guidelines or standard project bidding because “everybody does it.” More importantly, research suggests that these practices continue to proliferate in projects and when the inevitable negative effects finally occur, the results are often tragic, life-threatening, or result in punitive damages that can destroy the project organization [c.f., 20, 41].

3.2 *Success/Benefits realization*

Some 50 years after the original representations of project success, it is ironic that our field continues to grapple with clear and inclusive definitions of what exactly “success” consists. This conceptual confusion is partly natural; as we learn more about the distinct properties of various classes of project, we have managed to modify our expected goals to accommodate more accurate success determinants. So, the earliest metrics (time, cost, and quality; aka, the “iron triangle”) have given way to broader and more descriptively accurate assessments that consider both “project success” and “project management success.” In other words, we seek to realize project success both as an external, “effectiveness” measure that addresses the business case for the project, as well as internal, “efficiency” metrics that focus on getting the project done correctly, from cost and schedule perspectives.

The challenge of identifying success is further complicated by the classes of project themselves. For example, the determinants of success of IS/IT projects are very different than those that help us assess construction or R&D projects [c.f., 13, 23]. What *is* our dependent variable? Does our research make sufficient justification for the factors it selects? These issues are fundamental because, as I and colleagues have noted elsewhere, a number of problems arise from

sending out false or ambiguous signals as to what the organization is rewarding in terms of project success. Poor communication can lead to putting emphases on metrics that are less important (e.g., rewarding schedule performance rather than client acceptance and use of an IT system), while also affecting our reward systems for project managers. Thus, getting “success” right; that is, making sure that all relevant internal and external project stakeholders are on the same page for evaluating success, is a critical precondition for subsequent management of our projects.

Project benefits management is a new move within the field to put forth the goal of assessing projects first in terms of the benefits they seek versus those they actually deliver. Project benefits, as opposed to project success, are “the flows of value that arise from a project” [45: p.11]. “Value” means the sum of economic and wider social benefits to be accrued minus the costs incurred and point to an important consideration with value management and benefits realization: it forces project organizations to remain externally-focused and concentrate on what is considered “valuable” or “beneficial” by the end user and the larger environment, rather than settling for iron triangle concerns of efficiency. Benefits management is a recent idea with big implications that will continue to shape the future of projects by relating directly to larger, societal goals.

3.3 *Mega-Project Underperformance*

We currently live in a pivotal time when it comes to projects and project management. Arguably, at no point in economic history have we seen the growth and proliferation of project-based work, to address a myriad of needs – social infrastructure, continental development, information technology, environmental concerns, sustainability, ..., the list goes on and on. With examples commonplace, an awkward corollary to our investment of trillions USD in large projects world-wide has been the undeniable history of poor (or, at least, “under”) performance. Thus, while interest in projects is at an all-time high, their actual beneficial outcomes (both in terms of project management success *and* project success) remains questionable. Mega-projects (generally accepted to have budgets in excess of \$1 billion USD) have a chequered history, with many examples of success stories leading to improved societal well-being, while others are notorious as white elephants. This observation is not intended as an indictment of our field or the value it has contributed to society as a whole, so much as it raises the awkward questions of value: are we getting the greatest possible value for the investments that governments, corporations, and private organizations continue to make in projects and in not, what are the reasons for this under-performance?

Another potential source for uncovering some of the dynamics of mega-project underperformance is to consider the broader topic of system integration challenges, as proposed by Davies and colleagues [10, 32]. Davies’ work has addressed the challenge in complex projects of not simply completing the wide set of sub-projects and programs necessary to support the mega-project, but the need to integrate these various elements. For example, Simon Wright was replaced in 2018 as head of London’s Crossrail metro system development, as the project had been falling increasingly behind schedule and required a large, supplemental cash injection from the British government. His successor, Mark Wild, noted that his most important duty upon taking over the project was not to complete any of the individual elements that constituted work outstanding; in fact, the actual work had been (or was nearly) done. The problem was an inability to link (integrate) these sub-components together in order to create a working system of the whole mega-project [6]. If, in fact, research suggests that our biggest challenges with mega-projects are due to complex systems integration, it should cause us to rethink and broaden our perspectives on the causes of recent multiple cases of serious under-performance.

Research on the topic of causes and remedies of underperformance continues to be produced at a gratifyingly rapid pace (see, for example, 16, 17, 28). Interestingly, behavioural economics tends to be a favoured lens through which to examine many causes of under-performance, as the work of Flyvbjerg and colleagues has promoted the prospect theory work of Kahneman and Tversky [25]. So, concepts such as “strategic misrepresentation” and “planning fallacy” have entered our lexicon as potential causes of under-performance, where key project stakeholders essentially set up their projects to fail, by promoting them excessively or lying about their potential benefits while minimizing their challenges. Counter-perspectives, championed by scholars such as Peter Love and Gerd Gigerenzer, have challenged the behavioural economist perspective, leading to a continued failure of consensus around the causes of mega-project underperformance (perhaps, “failed consensus” is the wrong choice of words, and a better descriptor would suggest that

their causes are more diverse, complicated, and more complex than can be concluded from focusing on only a few key causes).

Implications of project under-performance resonate across the developing world, as well, as a number of poor countries in Latin America, Asia, and Africa are currently experiencing the hangover effect of these “debt traps,” discussed earlier in this essay. For example, the central governments of Sri Lanka and Zambia took on large loans from Chinese banks under their “Belt-and-Road” development initiative, only to be saddled with unpayable debt loads when expected revenues did not materialize and/or corruption doomed these projects to expensive failure. The Chinese government, embarrassed by the international backlash this situation has generated, has been seriously reconsidering the easy terms once offered in favour of more rigorous evaluations. For example, nearly 60% of China’s overseas loans are now held by countries considered to be in financial distress, compared with 5% in 2010 [42]. While it is not my purpose to identify the culpable parties – either the funding organizations or their clients – it is clear that lofty goals for many of these projects often fail to live up to their original promise. Thus, the more we can understand about the causes of mega-project under-performance, the greater the promise of genuine societal development.

3.4 Anticipating more “grand challenges”

We live in a time of big opportunities coupled with daunting challenges. Societal advancement, environmental remediation and sustainability, health and human development, economic growth initiatives, ..., the list goes on. These “grand challenges,” require a new way of thinking about project-based work to address opportunities that are “...wicked, complex and messy, and require more trial and error, and agility or flexibility” [21; p. 602]. The ambiguity and changing goals that often define grand challenges are particularly interesting for project management because most of us have been taught over the years the importance of “processes” and standardized approaches to project development. By their sheer “murkiness,” many grand challenges require a different mindset: one that combines flexibility with vision, or creativity with disciplined methods. We have seen (and continue to see) the variety of grand challenges for which project management is critical, including climate change and its implications [30], virology and epidemiology [43], emergencies and natural catastrophes of all types, and so forth. The question we must ask ourselves, both as a scholarly discipline and as a professional calling, is how we are preparing future generations of project managers to undertake grand challenges. Does our knowledge base provide sufficient training? Do we encourage creative problem-solving, resiliency, and flexibility? In short, does our discipline remain competent to undertake the complexity of grand challenges in the years ahead?

4. Conclusions

Projects remain uniquely positioned to address the challenges we face in all aspects of our existence: economic, societal, and environmental. Put another way, as a force for change, projects are equally a force for good. We, in the project scholarly community, need to be willing to take the time to pause on occasion, to ask the important questions regarding our own productivity and the value we add to the practice of project management. While our efforts are, of necessity, on-going and continuous, when historical events offer an opportunity to turn a corner, or conclude a chapter, reflecting on what we just witnessed and where the new chapter is likely to take us, it is incumbent on each of us to seize these opportunities. This essay has been my attempt at briefly reflecting on (looking backwards) an epochal event in the midst of turbulent times – economically, socially, politically, and environmentally. My thoughts and suggestions are merely for us to generally consider and if they spark insights or prompt deeper reflection and investigation by any in our community, my efforts will have been well-rewarded.

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