



What could work for future workplaces, beyond working?

Article

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What could work for future workplaces, beyond working?¹

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Abstract

Workplace is changing. It is no longer just about working; it is about living. Bold initiatives by visionary business leaders have shown us the power of transformation that the workplace has over otherwise staid businesses drifting along with the status quo. At the same time, their competitors act to overtake them. The fact that over 40% of the Fortune 100 companies from fifteen years ago no longer exist is testament to this adapt or die reality. In this paper, we analyse the changing dynamics and identify drivers, needs, challenges and indicate approaches towards solutions. Our collective goal is to kickstart fresh thinking within organizations as to how their workplace programs can offer high value to the businesses they serve.

We raise a call for a new generation of thought leaders: one who are able to identify new roads to success through integration of a creative mix of new and expanded disciplines, far beyond the current scope normally associated with physical workplace solutions. To do this successfully businesses need a laser-like focus on their challenges to be solved, and new leaders need to break traditional barriers to reach the most valuable solutions. In a sense the nature of change to which we aspire moves this work well beyond a Workplace context..... but to ignore the obvious catalytic qualities of the workplace to engender creativity, create a common sense of purpose and develop specific deliverables through a project-derived momentum would be to miss a great opportunity. We are therefore enthusiastic about continuing our search for a new generation of business improvement hosted under a workplace banner.

1. INTRODUCTION

One cannot but be excited by the way that humans are taking on today's challenges and addressing problems large and small. We are increasingly able to solve very complex problems by stepping back from them and bringing in design-thinking skills that embrace a wide tapestry of ideas and inputs from seemingly unrelated disciplines. We go into space to learn more about solutions on earth; we go under the seas to address issues on land; and, we use computing capability to improve the yield of someone working in the fields. This article is intended to spur enthusiasm for involvement and engagement as we take these same bold approaches and apply them to our buildings. We shape our buildings: thereafter they shape us" as Winston Churchill famously declared in a speech to the House of Commons on October 28th 1944. We live in buildings; and, buildings do impact the lives and outcomes of the people within them, and in the commercial world we are increasingly able to recognize good and bad solutions in our search for improved and sustainable human and business performance.

The challenge however is not the idea of improvement or unlocking the value deep multi-disciplinary workplace

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solutions can bring to organizations but how to do it. Most real estate, IT and HR departments have tried to address improvement and solve problems within their own silos and rarely feel comfortable wading into other disciplines in the search for answers. This needs to change. Of course, new generations of workplace leaders cannot become ‘master of all disciplines’ but an appreciation of different inputs and ability to take decisions based on multidisciplinary inputs are crucial for future workplace – a new paradigm that all stakeholders should embrace.

The Big Idea

We are advocating for new levels of transdisciplinary thinking, problem solving and a broadening of the training needs that allow people to do this. Thinking way out of the box not only has the potential to build better solutions but it also creates exciting new careers, accelerates innovation and drives the workplace infrastructure conversation towards the C-suite, somewhere they have always wanted to be, but didn't know how to get there!

In looking at high performance situations such as the development and running of a Formula One racing car or an America's Cup yacht, the teams responsible have typically thrown the net very wide in the search for a competitive difference. The driving of interdisciplinary and trans-disciplinary innovation processes has generated high-value improvements from what were previously very loosely, even obliquely, connected disciplines: material science, clothing technology, fitness improvement, nutrition, cognitive science, teamwork coaches, data analytics, meteorology and many more.

In the same way, we foresee that the inclusion of a much broader set of science, practice and experience will find its way into the next generation of workplace design and can only surmise that the reason that it has not happened already is that it is difficult to do. The ability to orchestrate transformational solutions by successfully integrating multiple disciplines opens up further interesting opportunities:

The creation of fascinating careers in which the primary skill is not necessarily a deep dive into one particular subject, but the ability to bring together very varied contributions in new and creative ways. The possibility of highly prized contributions from experts in other fields creates new possibilities for applied research and collaboration.

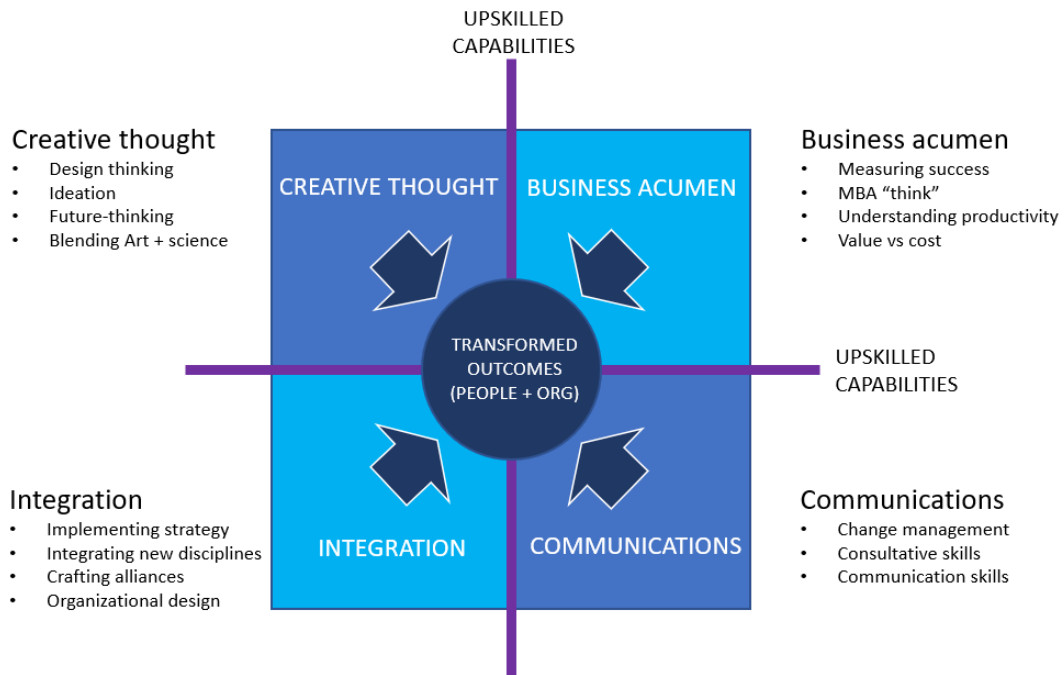
The moving of such solutions up the organization value-chain. Building workplace solutions outside the strict confines of the facilities/IT and from a HR perspective, box can lead to more systemic solutions, focused more acutely on the twin organizational challenges of business performance and the sustainable management and support of the people who actually perform the work.

It is important to recognise that the key to the excellence achieved by Formula 1 racing is the ability to dissect the whole process into fine-cut areas and sub-areas, which can enable focused solution development for specific segments. A review of the McLaren website:

<https://careers.mclaren.com/content/our-people/> provides an immediate demonstration of the importance of diverse input, applied in practice to their performance-based culture. This can only be accomplished through granular and deep understanding of the relevant areas, a thorough data capture process across those areas and rigorous adoption of powerful analytics as a core constituent in devising the road ahead.

To the best of our knowledge, the teaching of a Trans-disciplinary approach to workplace issues is non-existent. The discussion in this article identifies the gaps and leads to a set of first principles of a framework of training needs for future workplace leaders who will be equipped to bring about the transformational change we are advancing.

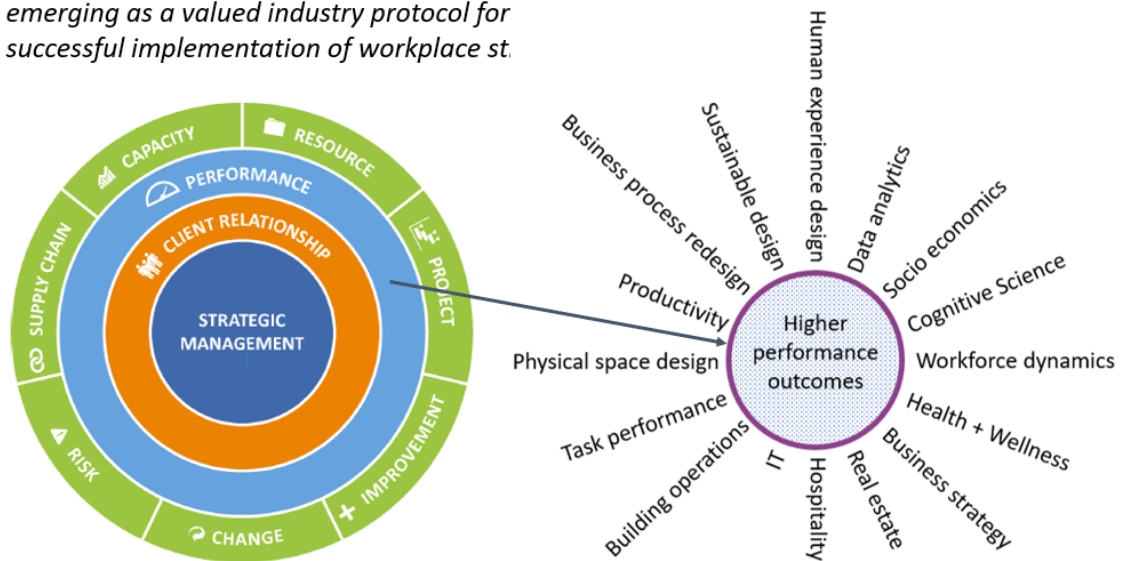
Figure 1



So as not to appear arbitrary with respect to the positioning of this work we feel it important to connect the higher aspirations for outcome to the base processes for workplace implementation. With this in mind, we recognize the evolving importance of the Workplace Management Framework (WMF). A broad set of industry thinkers led by Andrew Mawson and Graham Jervis developed the framework as a quality standard for the rigorous implementation of effective and efficient workplaces. Since its introduction, it has been the subject of increasing interests by industry groups such as the International Facility Management Association (IFMA) and RICS (Royal Institute of Chartered Surveyors. IFMA, for one, plans to adopt the WMF as a training standard for its own certification processes and to seek representation on a board of advisors to progress and evolve the frameworks onward development as a result of experience and feedback from the aforementioned professional bodies. Importantly in this context, the improvements in workplace strategic value we advocate relate to the performance section of the framework.

Figure 2

The Workplace Management Framework is emerging as a valued industry protocol for successful implementation of workplace st.



Transformational performance improvement will be achieved by the consideration of a broader and better-integrated solution set involving a wider array of disciplines, creatively conceived, tightly aligned with the business strategy, and well-communicated across the organization

2. UNDERLYING DRIVERS

Transformation does not happen by incremental thinking or by miracles. It happens by embracing broad perspectives and bringing in new, fresh ideas. It happens through an underlying, unobserved process that few can recognize and visualize.

As we look at the challenges that today's businesses are facing, we see some very common examples:

- Difficulty in attracting and retaining talent
- Increasing personal and team productivity
- Improving teamwork
- Optimizing cost structure
- Improving cross business interactions and knowledge-sharing and transfer
- Embracing agility, the ability to shrink and grow as business conditions dictate

There are several clear drivers that should prompt transformation. These are not new drivers but these are manifesting in a much faster, more intense manner due to rapid technological progress and accentuated digitalisation over the last 7-8 years:

- a. Changes in lifestyle
- b. Changes in priorities at different stages of lifecycle
- c. Changes in work preferences
- d. Rising competitive intensity
- e. More informed economic agents (providers, customers, investors and all other stakeholders)

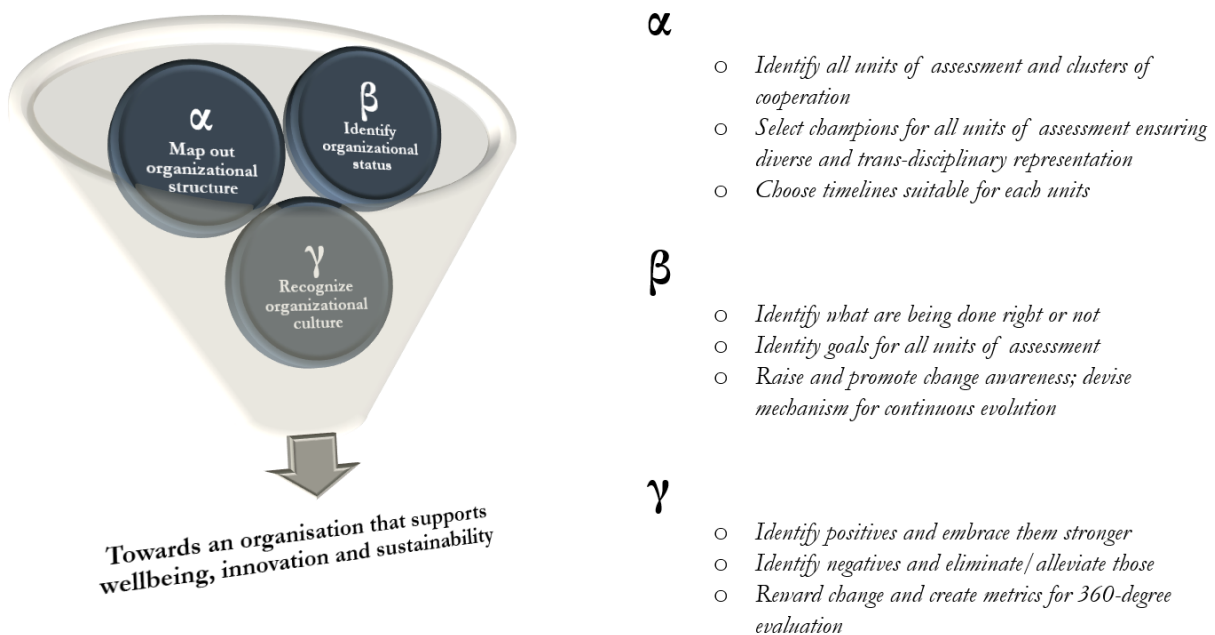
There are no magic bullets to address these, but we have come to appreciate that the answers lie in broadening the range and array of disciplines and skillsets that can be called upon from which conceive the overall solution. Diversity is key.

The difficulty in working with organizations to identify their latest challenges, the drivers of change, is typically one of focus. So many leaders are focused on short term results that they lack the time, discipline and impetus to sit back and contemplate the larger picture as they should. On top of this they are often ill-equipped to look forward and imagine what lies ahead. Even if it exists in the C-suite, experience suggests that it is very rare that visionary and expansive thinking about a company’s future would be common in successive management layers. It is important therefore that the approach to exacting useful information about today’s and tomorrow’s challenges is well considered. Making sure that strategic solutions are focused on solving the right problems is critical.

Assuming that there is a clear understanding of direction, a prioritization of activities and an organizational structure suitably resourced to manage, review and react to the recommendations, the strategic transformation process has a mandate to begin work.

While it might be premature and possibly somewhat counter-productive to start putting together a process map, a debatable start could be understanding key ingredients in that transformation mix. Following diagram proposes such ingredients (*alpha, beta and gamma*) with a scope for further and deeper exploration on each proposed component. The order can also be modified depending on the organisational status.

**Figure 3
Strategic Transformation Mix**



In the above mix, the champions and leaders need to view this in totality and break the stereo-types and disciplinary silos that can hinder the transformation and risk reaching the most valuable solutions. Employees also need to keep this in their perspectives towards their individual careers.

3. MULTIDISCIPLINARY APPROACH - WHAT DISCIPLINES ARE RELEVANT?

Much thought has been given to the subject of defining various forms of cross-functional teamwork and collaboration. Choi and Pak (2006) offer a thoughtful analysis of the definitions of Cross-disciplinary, multi-disciplinary and Transdisciplinary approaches and offer the following chart to describe a view of the differences.

Table 1: Comparing multidisciplinary, interdisciplinary, transdisciplinary

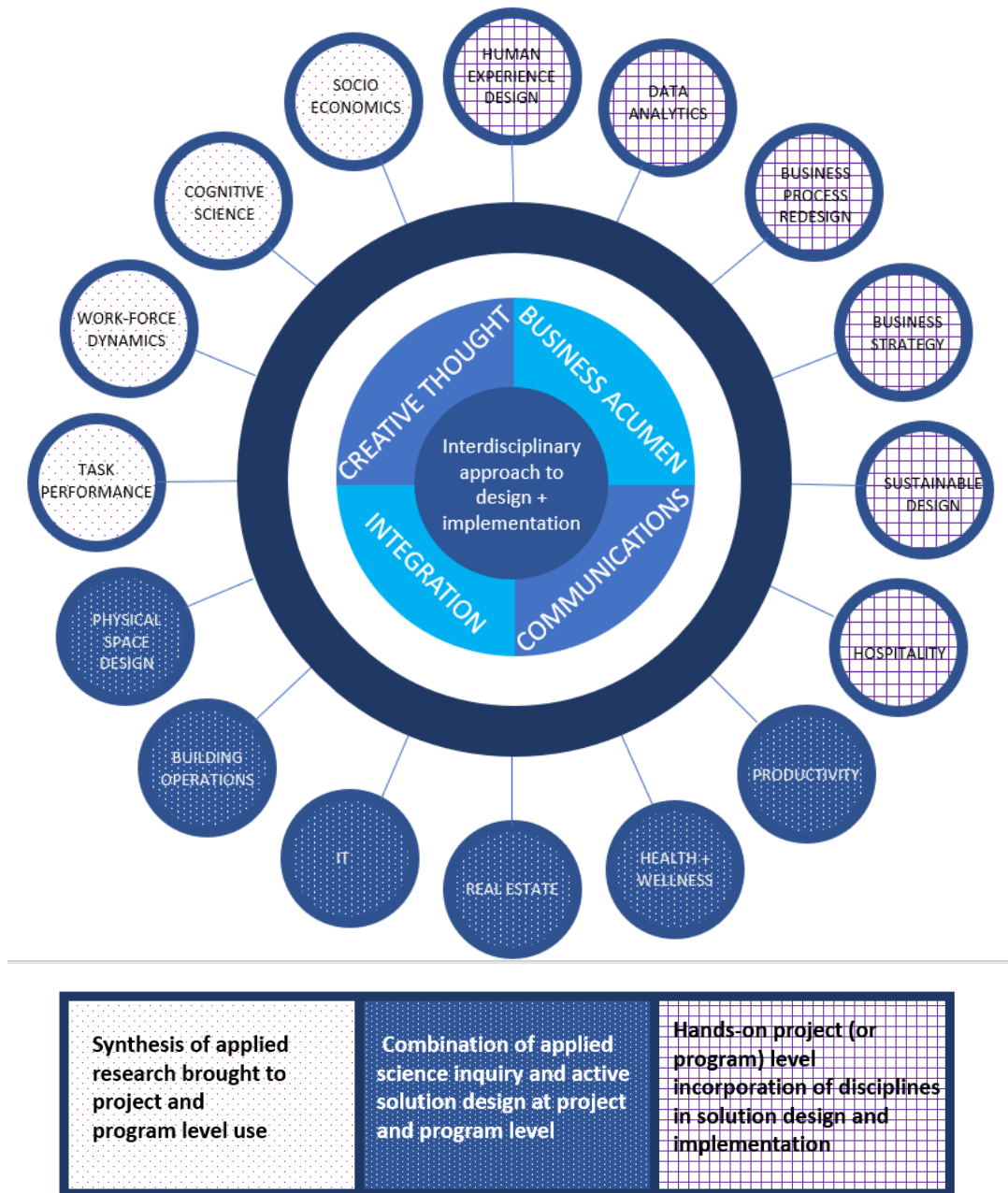
	Multidisciplinary	Interdisciplinary	Transdisciplinary
Keyword	Additive	Interactive	Holistic
Mathematical example	2+2=4	2+2=5	2+2=yellow
Food example	a salad bowl	a melting pot	a cake

Source: *Multidisciplinarity, interdisciplinarity and transdisciplinarity in health research, services, education and policy: 1. Definitions, objectives, and evidence of effectiveness.* Choi BC, Pak AW. Clin Invest Med. 2006 Dec;29(6):351-64.

So as not to get distracted by this in-depth study of definition we will simply suggest that our thinking encourages a transdisciplinary approach. We like the idea of adding two plus two to make yellow!

The authors offer several examples of situations where cross-disciplinary work is valued and productive. In health-care for example, both research and treatment benefit from the combination of understanding of specific physiological systems, but we might add that they can be further enhanced in their potential by embracing other non-traditional treatments about which there has been less study and to which the science is more contentious: homeopathic medicine, old world treatments and herb-based practices for example. Without wishing to enter this debate we simply suggest that an open mind will be a valuable quality as we look to create breakthrough solutions. With this in mind, we have begun the development of a list of contributors who might be considered as thought starters for this process. Immediately we would point out that this is not an exhaustive list, in fact one of our living principles is that any and all disciplines might be able to add value. To provide a practical start however we have selected some obvious ones as examples in Figure 4 below.

Figure 4



Meaning of Transdisciplinary

Given that our thesis involves the development of a transdisciplinary approach it is logical to start the list with a description of the role which lies at the center of the effort. This role drives the visioning, creation and integration of multiple disparate sources of input. Such an individual may come from a single discipline and become effective at this role by acquiring additional skills and capabilities. These would presumably enable the individual to feel comfortable working with other experts in fields that they were not themselves expert. Their role is to understand the intersections, overlap, dependencies and opportunities of relationships between multiple disciplines and then manage them accordingly.

Our most important objective in writing this paper is to create a pull for Universities to build courses to develop this expertise.

Human experience design

Building a day-in the-life work scenario as a means of articulating the experience of going to work for any given organization is a growing phenomenon. This process itself is multi-disciplinary and involves everything from hospitality experts to software and hardware designers who thrive on the pleasure and simplicity of performing certain tasks. It is also a user-centric exercise, designed to reduce the friction and frustrations of when things are not working as they should, and seeks opportunities to add delight whether it be through a great cup of coffee or a pleasant smile and personal greeting at a building entrance. Human experience designers are a point of integration of several disciplines but they do not carry all the perspectives necessary to produce a truly holistic solution: the business perspective or building science for example. Human factors engineers who can logically dissect specific functional activity and redesign better solutions will reduce stress, boost productivity and increase the quality of work performed. This does not necessarily mean ‘prescribed pathways’ – it still needs to enable multiple ways to reach the goal and push the boundary.

Business strategy

Broad-minded thinkers who are able to connect business goals and objectives to the creative process of design thinking to further address the strategic objectives. The message here is that change in this context involves a clear delineation of the challenges facing the organization and the development of paradigm shifts intended to respond to shifting the dynamics of business change. This process is less about the orderly evolution of business processes but about responses to the disruptive factors which constantly challenge business leaders. The MBA background is helpful because it creates discipline, structure and reference to the history of business change, not that the past is a reliable guide to the future

Health and Wellness

Psychologists, neuroscientists, sports coaches and nutritionists all have valuable roles to play in developing the right conditions for cognitive and physical fitness on which successful organizations thrive. Organizations are in a growth curve relative to their recognition of the importance of a healthy work environment. There is an ROI on having employees leave their workplace in better shape than when they arrived. Initiatives such as WELL certification are inspiring business leaders and workplace implementers to invest in the wellness of their employees and to take advantage of the consequential improvements in business results. But this is only the beginning. We are only in the preliminary phase of understanding how our bodies and brains work and what we can do to support their most effective contributions. As the science builds, so must those who are familiar with the progress be asked to step forward and message their findings to the workplace creators.

Physical space design

Traditionally we have relied on Architects and space planners to provide “innovation” in our workplaces but rarely do they move outside their reference to physical space in search of substantive solutions. The reality of delivering design solutions within tight-time frames and budgets precludes deeper and more holistic study even if the inquiring minds are present. Instead let us expand the nature of physical space designers to think about the role of industrial designers who help us to think about the form factor of physical things, stage-set-designers who are able to create compelling environments that can be constantly changed and rotated to serve a particular need, of those who design trade-shows and create easily reconfigurable environments which can be built and torn down inside a day. Retail designers also have a special skill in understanding user needs and preferences and creating spaces that align. In some ways, through the science of retail design they arguably offer the most responsive and documentable

measurement of their effectiveness i.e. retail volume. This would be a highly valued asset in the search for measurement of outcomes.

Sustainable design

An environmentally-based approach is both the “right thing to do” from a Corporate responsibility perspective but also an attractor to today’s modern workforce. The focus and enthusiasm on sustainable design matters seems to have plateaued over the last year and the current interest in health and wellness seems to have grabbed the headlines of late. Surely these two disciplines are not incompatible and should be considered in parallel. It is note-worthy that, in the US at least, the Green Building Council has assumed the mantle of certification of both environmental and the WELL standards. Regardless, no “total” solution could exist without care and attention of our planet being a fundamental consideration in providing forward looking workplace solutions.

Workforce dynamics

The workforce continues to shift rapidly in terms of their working arrangement and contracting methodology. It is vital to understand allegiance, loyalty and what it takes to attract the best full-time AND contract workers and create an eco-system of like-minded, loyal workers. Our evidence as to this shifting nature of the workforce comes from the Intuit 2020 report which predicts that by 2020 a full 40% of the workplace will be self-employed or self-contracted to those supplying work. Anecdotally, in asking a VP of HR of a large Silicon Valley based business how she felt about these numbers, she responded that she felt they were conservative. The fast rise of Coworking as exemplified by the stunning growth of WeWork for example, provides further evidence that the market for their services is growing and that any discussion of workplace solutions need to be centred on an understanding of the nature of the relationship between those who need work performed and those actually doing the work, be they full-time employees or members of the Gig economy.

Hospitality

In building the human experience specialist knowledge is required as to the value of various incremental service levels and their value in creating productive settings and “stickiness” to the organizations they serve. Building on the earlier discussion of the “experience of going to work” clearly the hospitality industry has a great deal of knowledge and experience as to how to contribute. The list of amenities and services offered by large companies continues to grow as they fight for their share of the talent pool. In areas of extreme competition such as the search for IT talent in Silicon Valley and Seattle, some new workplaces could easily be confused for luxury hotels, clubs and other hospitality sites such is their desire to endear themselves to their employees. Finding experts with the skill and wisdom to be able to uncover the services that make the most difference and to assimilate them into the financial and business models is, and continues to be, a growing need.

Information Technology

In and of itself technology is not the issue. The important need is to find creative, human-centric IT solutions which support ideal working arrangements with equal parts, enhanced user satisfaction and operational excellence. The ultimate contribution of IT will not be seen as a highly optimized technology platform delivered at the lowest possible cost, but more as an invisible infrastructure that works non-stop and for which any difficulties can be quickly fixed in the least stressful way. The drive to self-help solutions is surely the most expedient way to drive down cost but it builds an unacceptable level of stress in the user, particular in times of critical need and urgency. IT contributions to the most enjoyable and frictionless workplace proposition will require a sea change in the attitudes and MOs of many

technology support organizations. The winners will be those who are able to create a seamless IT infrastructure and where problems can get fixed very quickly with a smile. With regards to the future generations of hardware and software solutioning, again we would demand user-centric solutions. Those integrating solutions into the workplace must be able to paint a clear picture of the employee experience in which these tools are expected to operate. The design of them must be subservient to the dual focus on business success and desired customer focus.

Building operations

The use of sensors, technology and advanced information systems gives us the capacity to run buildings more efficiently and effectively but to date the incremental investment required to automate has been slow to materialize. Higher value propositions are required, challenging the creativity of engineers and process designers alike. Also, technology solutions should be viewed as enablers, rather than substitutes.

As important as technology innovation will be, there is still a deep need to have those responsible for running building services to be highly connected to the creative process. The very best facility managers have deep insight into the workings of the business (sometimes better than the executives they serve). Top facility managers who are able to successfully balance business and employee effectiveness needs over operational efficiency imperatives become highly prized contributors.

Data analytics

Creating great workplaces is part art and part science but the art is informed by measurement, the gathering of data and sophisticated analysis. Our ability to observe more and more so-called ‘un-observables’ is crucial and data science with high performance computing ability can help in closing those gaps in knowledge. Especially in the workplace environment, there are numerous areas – both physical as well as non-physical – where our current ability to capture actionable data is very limited. However, with superior computing ability and emergence of AI and machine-learning, it is not impossible to close most of these gaps. This is actuarial work on steroids.

Buildings are now in a position where they are beginning to generate untold amounts of data about what is happening within them. Not only are buildings particularly rich in terms of the ‘internet of things’ but it seems that every day we are uncovering more and better ways to use this data to better anticipate needs, pro-actively deal with issues or building failures, but also to better analyse base business operations and their alignment with the workplaces that support them. Sophisticated monitoring of how work is performed will continuously refine business processes and the infrastructure that defines them. Again, the key is to build an inter-related, transdisciplinary system where these contributions can be made accessible to other expertise working in other disciplines in a way that aligns contributions towards the $2 + 2 = \text{yellow}$ outcome.

Predictive analytics with due considerations for inherent and emerging uncertainty is crucial. It is no longer very expensive and time-consuming.

Business process design

Mike Hammer posed the phrase: “Adapt or Die” and that spirit runs through the need to keep challenging what work we do, how we do it and what infrastructure is required to support it. Modern businesses are so consumed by short term results they do not routinely invest in systemic process redesign. This needs to change. Ability to imagine a realistic long-term is essential for longevity. Perhaps the most compelling dimension of business process reengineering is speed. It is one of the key factors that drove the change to “Agile” methodologies in software design and rarely does innovation get triggered with the same intensity as when one is asked to complete a task in a fraction of the time it takes

today. The improvement of many elements IS process design. It involves everything from a new evaluation of “ why are we doing this?” asked several times to “what is good enough?” .

The processes we design will ultimately create the infrastructure with which we support the work, but we must also anticipate that these processes will continue to evolve and change over time, meaning that our solutions need to be adaptable and change with them.

Cognitive science

Intuitively we each know that our ability to perform work varies over time. We seem to be able to think more clearly at certain times and there are times and conditions that, no matter how hard we try, there are times when we are somehow not in peak form. This is not generally an arbitrary pattern. There are many things we can do in terms of diet, exercise, sleep etc. to relieve stress and put ourselves in the most productive frame of mind. There is plenty of research which shows incremental improvements in cognitive ability as a result of various behaviour factors, and there is a growing understanding of the impact of external factors such as light (color, intensity, distribution) and sound which provide guidance as to the more and least likely conditions for high sustainable cognitive performance.

While related to human experience design this involves a deeper dive into our understanding of human physiology and cognitive function. This deeper understanding will continue to enrich and inform our design of “the experience of going to work”.

Socio economics

Buildings are not islands. They are part of communities and we call on economists, town planners, local politicians and social science advisors to better qualify the matches between their communities and the businesses that reside there. Thriving communities are those where the ages, outlooks and expectations of a community match the opportunities to make a living, meet interesting people (either with the same or different outlooks) and to use social cohesion to build bridges and advance a strong social proposition from which we know productivity can emerge * (Six factors of Knowledge Worker Productivity, CEBMa, the Centre for Evidenced Based Management). Increasing migration to the Gig economy also places more control into the hands of the individual as to where, when and how we work. It is perhaps the task of socio economists to predict, design and support the development of attractive communities which become magnets to certain types of people, roles and lifestyles.

Anthropology

The study of humans in past and present societies appears a very productive area for future understanding with so many different dimensions. For example,

- The Welsh national rugby team is welcomed to the stadium for each home game by an all-male voice choir. The oldest Welsh rugby song of all is “[Men of Harlech](#),” a stirring tune penned in the eighteenth century that tells of Welsh defiance in the face of the English invader during a medieval siege that lasted seven years. It was originally sung to accompany the Welsh team as they entered the pitch, the “battlefield” if you like, and is still a key part of the pre-match build up. The inspirational value of this appeal to “Welsh-ness” is thought to represent a 7 point advantage over the visiting team.
- The study of the drift to urbanism refashions our view of the desirability of “leafy suburban living” versus higher energy urban living causes to think about age, the generations and the danger of over generalizing in terms of behaviours, preferences and the choices people will make.

- Political decisions have the ability to define future trends and condemn others. The move to remote working in many countries has reversed the natural draw to cities and given new life to fast-declining rural and remote areas despite the fact that man's drive to urbanization continues its global predominance.

Anthropology sets the contexts of our solutions and suggests their shelf-life. It is a vital ingredient of the framework in which we build creative solutions: informed as they are by the emergence and disappearance of cultural shifts over the centuries.

Productivity

Most organizations struggle with measuring productivity in tangible ways. Those, from whatever background, who can materially add to our understanding of productivity will become superstars. But productivity is multi-faceted.

One sticking point for any kind of reformation or transformation is our ability to accurately measure the impact of change. Clearly there are tasks involving output of a certain quality are relatively easy to measure but generally business struggles with the science of measuring white-collar output. Business leaders are quick to challenge new ideas on the basis that they need proof as to how the new ideas will work and yet they are unable to quantify existing levels of business effectiveness. It seems that they are comfortable managing by intuition, but many are not prepared to countenance change using the same logic. It is therefore imperative that there is a collective improvement in the science of measuring cause and effect and in simultaneously assessing the impact of sometimes complex and multi-dimensional new efforts at improvement. The Center for Evidence Based Management CEBMa has collected numerous cause and effect relationships for various productivity measurements but the challenge is to look at productivity as an interrelated system not a series of single incremental measures.

Real estate markets and strategies

The real estate industry is having to rethink its value proposition recognizing the fact that its main revenue has historically flowed from real estate transaction fees result and that this revenue stream is now under threat. The perceived high cost of these transactions is simply being avoided as new technologies and applications are making it easier to exact real estate transactions directly between the main parties much quicker and at much lower cost through a combination of increased lease and purchase terms standardization and the rise of simplified lease acquisition software which simply eliminates the middleman.

The drive to survive will no doubt elicit a powerful response from the industry in which they will act to keep the revenue stream alive by offering greater insight and value in the whole area surrounding real estate acquisition and operation. In their own way they will synthesize issues of finance, human capital, demographics, analytics, markets et al in pursuit of the why, where and how of place. Their deep efforts to survive indeed flourish will bring to the table further deep insight into the conversation of improved performance indeed, in some cases, they may even host this discussion.

Measures of success

The organizations with the most creative measures of success will be the winners. If you can measure it, you can better influence business activity and infrastructure designed to generate the required organizational outcomes. However, traditional ROI measures speak only within disciplines and fail to

identify the possibilities of a Transdisciplinary approach and the resulting outcomes, mostly because this work is difficult and few know how to do it.

A deliverable therefore from the aggregation of many different forms of input ought to be subscribing to a common set of measures. Each discipline will understand its roles within each of these measures, and how it needs to work with other disciplines to achieve them.

4. USEFUL SKILLS AND COMPETENCIES

The variety of disciplines and knowledge sets now brought to bear on the performance of work means that it is impossible for one mind to be the master of all. Instead, it is more critical that individuals be able to appreciate the interrelationships between the disciplines and successfully integrate and overlap their contributions. It is not essential that all individuals be fully conversant with the notion of Trans-disciplinary skills and practices: subject matter expertise for each discipline will still be essential, but their ability to better understand interrelationships, work as members of multi-disciplinary teams and contribute effectively towards more refined solutions will place a premium on certain skillsets. For clarity, we will break these into two sections:

Traditional/ Still-relevant skillsets.

- Purpose, contribution of the business: *Why should a business exist? What it is solving? How it is benefitting its customers by providing better life experience? There are key questions to understand the true value of a business proposition. All team members need to be able to metaphorically sit in the seats of others in order to best understand their challenges and how their contributions may reach their highest value and benefit to other members of the problem-generation team.*
- Understanding how business works: *An MBA-like appreciation of how decisions are made in business – requires the ability to visualize the eco-system and see how suppliers, partners and competitors can operate through symbiotic existence. The MBA background will be useful in distinguishing between a cost-based view of improvement and a set of value-based outcomes which is where we feel the highest performance improvements lie.*
- Change Management: *By definition, the world of work is a process of change and change faces resistance, coupled with pain/costs. This process of disintegrating the factors of inertia needs to be understood, invested in with a clear strategy for ensuring a painless transition as much as possible and is a key agent in creating successful outcomes. Successful change management programs appeal to both the heart and mind. The minds needs are addressed by information, delivered crisply and transparently: “the what and the how”. The heart needs to understand “the why”. Invariably the individual will internalize the change in their terms: “what’s in it for me?” and this involves a level of dialogue as the facts are shared. Understanding these dynamics and developing one’s skills to successfully make appeals to the heart and mind are essential where transformation is required.*
- Integration: *Perhaps the single most important skill; this is more than project management. It requires creative instincts to successfully combine complimentary disciplines to create new and better outcomes. The transdisciplinary approach offered in this paper is an appeal for much more than simply integration, but let us not think that fitting the jig-saw puzzle together is not a substantial and critical piece of this work.*
- Consultative skills: *Having a great solution is nothing without the ability to sell the ideas involved and bring others into the fold. Laying out cogent arguments and addressing others concerns requires a consultant-like approach. Everything needs to be ‘saleable’ but naysayers need to be convinced through rigorous use of facts.*
- Implementing strategy: *Sometimes on a massive scale, implementing strategy is not a project, it is a programme and requires considerable learning ramps, and feedback loops which build a continuous improvement curve. It is important to learn from others in this respect. Experience clearly educates but it is not necessary that we all make the same mistakes as others in order to be valuable programme managers. The proposed up-skilling would involve the*

differentiation between pure project or programme management and the need for the iterative trial and failure methodology required to test and recognize the very best solutions.

- *Crafting alliances: Complex implementations often experience a need to break down silos and develop common shared goals. This involves the building of the trust required to build truly complimentary solutions. It is probably true to say that when things get tough most disciplines run for the safety of their own silo. In this process it is important to build both personal and functional connections to others working in different disciplines. It is this stretching outside oneself own comfort zone and feeding on the specialized knowledge of others which is where the magic occurs.*
- *Communication skills: Many a good idea never saw the light of day because they were poorly represented. It is vital that the promoters of new ideas are extremely well equipped to effectively communicate the details: from strategy to tactics. Communications must be seen through the lens of Howard Gardener's "Theory of Multiple Intelligences" in the sense that there are different channels into people's minds. In order to make sure we get to all those impacted, not just some of them. Though many are quite capable of absorbing information through traditional visual and auditory means, a subset of the population is best addressed through an expanded set of communication techniques. The message here is that the delivery of information must contemplate the audience, the local norms, the organizations cultures and the fact that we are dealing with individuals who don't all think and learn the same way.*

New/Emerging skill sets

- *Design thinking: Aligned with the 2 + 2= yellow aspirations, design thinking describes the ability to draw on diverse disciplines to systemically address complex problems through holistic means. A system of systems exists in all issues and therefore, unravelling the system dynamics is important. Designing things is not just the territory of trained design professionals. Anyone can brainstorm, have ideas and appreciate the value of developing a new approach. Human ability to ideate is limitless – and all human beings have that and can contribute to ideation regardless of socio-economic and demographic and organizational situations! Establishing and facilitating ideation is not however as easy as it may otherwise seem. Random scattershot ideas may be the outcome at the outset but invariably do not represent the end product. The tapering and shaping of loose brainstorming (very essential) into buildable solutions requires guile and no lack of the personal skills needed to embrace the sensitivities involved and to maintain the discipline to ensure that we are working to solve the right problems*
- *Future thinking: Perhaps one of the biggest challenges to managers to day is to find the time and the motivation to think ahead and anticipate the future. In the everyday rush to address quarterly results, it takes discipline to stand back, assess medium and long-term trends and act accordingly. Enabling all employees to think about the future is immensely 'profitable'.*
- *Measuring success: Requiring great imagination, creative measures of success are fundamental to achieving them. The temptation is to measure things that are easy to measure but invariably they are only signposts and do not get to the heart of the matter. We are suggesting conversance and development of a skillset which is still very much in its infancy.*
- *Balancing art and science: Although we are a data-driven society there are moments when intuition and experience must take over from data and analytics. This antagonism between art and science is truly one of the great fascinations of this work.*
- *Organizational design: Most modern real estate organizations are still structured to create the results and outcomes of 25 years ago. Since then our goals, and the skills and resources necessary to achieve them, have change dramatically. The workplace org structure is in line for a massive rethink indeed it is probably important that the traditional real estate function is not at the heart of this new structure. To keep it there, without changing the name, will perpetuate the expectations of limited focus and steepen the slope to be climbed before it is recognized as the key strategic engine that it could and should be.*

- Understanding value versus cost: *The workplaces of today are full of examples of improperly understood and incomplete assessments of value. We make cost saving decisions that end up costing us more and we end up making investments which do not really contribute to the things that matter. We fail to understand what things we need to invest in, and why.*

5. REVENUE MODEL OF FUTURE WORKPLACE

In the previous section, we mentioned ‘understanding value versus cost’ as a key skill item. Any business needs to consider the financials at all times, which is achieved through a clear understanding of revenue streams and cost items. For this clear understanding, it is important to recognise the categories of revenue and cost items, which are as follows: Short-run vs. longer run items

- a. Monetary vs. non-monetary items
- b. Critical vs. non-critical items
- c. Easier vs difficult items
- d. Strategic vs non-strategic items
- e. Local vs global items
- f. Direct vs indirect items

A careful categorisation, as above, can enable organisations to identify areas/sub-areas to focus and channelize resources accordingly. It is important to note that none of the items (labelled short-run, non-critical, non-strategic etc.) are redundant. To devise measures of success, one needs to look across all these items for the unit of assessment with varying degrees of relevance and significance. A clear understanding and buy-in of these items by all stakeholders is important.

6. CONCLUSION

In the proposal for his doctorate, Tom Morin offered the following thoughts:

“With respect to an interdisciplinary approach, the inquiry proposed here seeks to develop a new, practical theory and implementation model for making work meaningful by synthesizing knowledge and practice from the fields of existential philosophy, existential psychotherapy, humanistic psychology, vocational psychology, organizational behaviour, human resources management, labour relations and systems theory.

.....the most compelling evidence of a transdisciplinary inquiry would be the creation of an entirely new discipline that cannot be subsumed by any of the disciplines that constituted the scope of the initial inquiry...”

What Morin is arguing is that the successful fusion of multi-disciplines does not just create a value-add for each but a new solution generating entity which sits above all.

In practical terms, our urging of solutions which transcend the scope and achievements that any individual discipline can make on its own supposes the foundation of a new organizational model, with lofty, ambitious goals for improvement. It is run by leaders with job descriptions that don’t exist yet but it offers the promise of a deeper and more profound set of improvements to the way work is performed.

Returning to the beginning of the paper where we observed the impressive abilities of transdisciplinary Formula One and America's Cup racing teams to excel in their demand for improvement, it does not go unnoticed that this thirst for improvement lies in areas of pursuit that, in the general scheme of things, aren't that important. And yet, when it comes to the fundamental production of goods and services that should matter a lot, there seem to be a lot less examples of the active focus necessary to do things better.

Organizations, in their thirst for competitiveness, need to invest the time, energy and resources it takes to reinvent their businesses in response to all the disruptive forces, known and unknown, that face them. Furthermore, the truly breakthrough solutions will come from a broader range of disciplines. Workplace needs a new name that denotes a stronger tie to the company's strategic activities and those who run this new organization require an expanded set of skills, which needs rethinking training needs and training provisions.

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