UNITY WITHIN DIVERSITY: SOCIAL EFFECTS ON
PROJECT EFFICACY

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PÚBLICA E DE EMPRESAS PARA OBTENÇÃO DO GRAU DE MESTRE

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Master’s thesis presented to Corporate International Master’s program, Escola Brasileira de Administração Pública, Fundação Getúlio Vargas, as a requirement for obtaining the title of Master in Business Management.

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Rio de Janeiro
2015
DEDICATIONS

I dedicate this work to my wife Honig, who suffered the most, and my daughter Leona, who misses her daddy.

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Disseção apresentada ao Curso de Mestrado Profissional Executivo em Gestão Empresarial da Escola Brasileira de Administração Pública e de Empresas para obtenção do grau de Mestre em Administração.


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Abstract

We describe a performance gap in project management standards and pose the question, “What is the best methodology for addressing this gap?” The purpose of our exploration is to measure the relationship between social factors and project performance as a function of two variables; unity and diversity. The general objective is to define the gap through the lens of our philosophical worldview and apply a methodology for measuring it. In so doing, we seek to raise awareness of the importance of a project’s social performance as a success criteria. Using a theoretical social health model as our tool, we quantify the social performance potential of a case study project environment as a numeric measurement. Ethnography and a mixed method approach focus attention on context and its synthesis of findings. Findings identify improvements in people processes which can be applied to the practices and procedures of global practitioners. Specifically, we refer to social engineering improvements in the planning, executing, and monitoring processes. Our analysis of the model’s output was largely supportive of the performance findings of the case study environment. However, it revealed some technical flaws in the model’s structure requiring improvement. First, refinements are needed to account for imbalances in individual nodal weights based on systemic failures, which put performance potential at risk. Second, our measurement of performance potential challenges the traditional criteria of project success. Based on the findings, we describe a scenario where social design may well be incompatible with the widely accepted definition of project success. We must then consider what is more costly. Changing an organization’s culture, or redefining success according to the performance potential of the organization encountered.
Introduction

This research project proposes a model to explore the causal link between project identity and project efficacy. Identity is defined as the shared experience of all project stakeholders. Efficacy is defined as a combination of efficiency and effectiveness leading to an optimal customer experience. Findings are expected to identify improvements that can be applied to the practices and procedures followed by global practitioners of international project management standards. Specifically, we refer to social engineering improvements in the planning, executing, and monitoring processes defined by these standards. Correlations are drawn to traditional social science findings detailed in our literature review; however, the sociotechnical nature of projects requires an interdisciplinary approach to performance requiring contributions from service science principles and management practice. Application of existing knowledge from these scientific fields is applied against a case study of an international project environment serving as a source of qualitative data. All source knowledge is used to design the model and the input data generates quantitative performance measurements for analysis against our hypothesis. Empirical evidence in the form of personal experience and observations from the case study informs our analysis. Measurements are expected to be representative of the historical performance potential from the case study projects which would offer support for the models as a reliable predictor of future project success or failure. We acknowledge that our proposal is theoretical in nature and likely to encounter skepticism from many within the international project management community. However, we intend to contribute to a necessary dialogue about the gap between the social and technical performances of projects and how that gap should be addressed in order to advance growth in the industry.

Projects are performed by teams of people with the skills required to deliver a given product or service. Assessment of these skills should include the social elements necessary for success as determined through the application of formal processes. Although isolated evidence of such processes exist in a limited number of international organizations, the concept is not universally applied throughout the industry (Antoniadis, 2012). This points to a gap in international project management standards and frameworks. The world’s largest project management standards body, The Project Management Institute (PMI), conducts an annual pulse of the profession study. The 2015 research report (©2015 PMI) gathered data from 2,800 global practitioners linking high performing organizations to culture. However, although culture based initiatives have been
proven to increase project efficacy, gains have plateaued below what most executives would consider an acceptable outcome (©2015 EYGM).

Figure 1: Organizational project performance

General Objective

Our general objective is to identify exactly what the performance gap in current project management standards is, and apply a methodology for measuring it. In so doing, we seek to raise awareness of the importance of a project’s social performance within the professional community and to convene a conversation on the topic. We do not attempt to validate our findings against the global universe of project statistics, and further research and development of our methodology is required before any practical or operational use can be considered. Quantifying social performance using an analytical toolset offers a numeric measurement of a project’s social health, which serves as a proxy for predicting performance potential and therefore future outcomes. We further advocate for the research, development and adoption of more capable tools, techniques, and procedures focused on social processes and their integration into larger organizational performance monitoring systems (White, 2002). Our research offers considerations for multi-national corporations wanting to increase their project success statistics and drive better investment decisions.

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1 PMI’s Pulse of the Profession, “Most organizations have developed unique cultures over time by practice and common usage.”
These objectives will lead to increased confidence in strategic project initiatives and the return on investment expected by executives. Performance gains will also serve as a growth driver for the project management industry. Measuring the social health of projects quantifies human motivations in the workplace which, left unregulated, diminishes organizational efficacy (Martins, 2009). Organizational efficacy is best ensured through cross-departmental collaboration in a continuous monitoring and action process facilitated by systems automation and the use of corporate resources (Lee, 2006). A typical definition of a project would be, temporary in nature and having a beginning and end. Our objectives require an alternative definition of a successful project environment which we define here as, an environment where stakeholder needs are met through an organizational structure facilitating the delivery of quality products and services as determined by customer satisfaction; when everyone is a customer. We use this expanded definition of a project as a lens to our exploration of a philosophical worldview relevant to our approach.

Context
Arguably, the key benefit of well managed projects is a reduction of uncertainty when implementing strategic change. Gibson (2006) establishes a positive relationship between pre-project planning and enhanced performance looking at more than 100 organizations. We go beyond the traditional methodologies observed in Gibson’s work to hypothesis that reliable performance is only achievable when the monitoring and controlling functions of projects include the sophisticated and contextual processing of social factors. Today’s practitioners rely primarily upon expert judgement techniques to estimate the effects of social factors (Jorgensen, 2004) and would find small support for any subsequent budget or schedule additions. Expert judgement requires training and experience, whereas more reliable methods require behavioral instruments; such as models offering diagnostic analysis. Performance statistics reported by the Standish Group report (© 2014 Project Smart) offer an insight to the financial impacts of project performance in the United States. Organizations spend approximately $250 billion per year on 175,000 IT development projects of which 31.1% will be cancelled before completion. A further 52.7% of projects will cost 189% of original estimates. The Group estimates that American companies and government agencies will spend $81 billion for cancelled software projects and an additional $59 billion for projects exceeding original estimates. These statistics are not unique to the United States, and are surprisingly consistent across multiple sources.
At one end of the performance scale, John Kotter’s (1996) book Leading Change identifies that only 30 percent of change programs succeed on average. At the other end of the spectrum, a 2010 McKinsey global survey of 2,314 global respondents found success rates up to 70 percent in organizations that ensure a sense of ownership (© 1996-2016 McKinsey & Company). Numerous other national and international surveys offer strikingly similar conclusions with top performing organizations peaking at approximately 70% efficacy and low performing organizations obtaining roughly 30% efficacy. Commonly used indicators of social performance, for example “culture” or “sense of ownership,” are too simplistic in our point of view to offer meaningful project management solutions representative of structural change focused on performance improvements; primarily success rates. The wide range in success statistics is a strong indicator that something more complex than any single factor model is capable of dealing with effectively. We define this complexity as the aggregate of individual perspectives about the work environment, or, the project’s identity. We assume that the consistently documented performance gap between mature organizations and peak efficacy (i.e. 100%) lies entirely within the complexity inherent in sociotechnical management. We define this unrealized performance potential as the “social health” of the project and we hypothesize that further performance improvements cannot be achieved through the acquisition of technical skills, increases in process maturity, or current management practice. Social performance gains must be addressed through new action based research using mixed method approaches that result in innovative management instruments and practices. Performance measurement systems, such as the commonly used earned value management (EVM) technique for example, must come to incorporate these numeric social values in the overall evaluation of project performance.

Relevance

The relevance of exploring new methodologies to measure social performance is evidenced in research by Becker (2001) during his study of hundreds of General Electric (GE) projects in which he found that high quality technical solutions were insufficient to guarantee success. In fact, he found an extremely high percentage of failed programs with excellent technical strengths paying little attention to challenges in the sociopsychological dimension. This from a corporation known for its high levels of management training and process maturity further enhances our viewpoint that greater innovation is necessary. High value projects linked to strategic business initiatives often create conflict and project teams experience this conflict first during the team
selection process. During this process the development cycle for small groups hypothesized by Bruce Tuckman (1977) known as forming, storming, norming, performing and adjourning takes place. This cycle is familiar to all project management professionals including our own personal experience in numerous project implementation efforts, both successful and unsuccessful. During the performance phase of this cycle we hypothesis that a continuous monitoring and analysis system is necessary for sustained improvement in project success rates. Further evidence of the role of social factors on project performance is found in the Harvard Business Review article by Huckman (2013) which examined 1,004 software development projects involving 11,376 employees counting the number of times team members worked together. When familiarity increased by 50%, defects decreased by 19%, and deviations from budget decreased by 30%. Incorporation of such findings during the planning and estimating phase of projects can only improve performance during subsequent monitoring and controlling phases.

Modern technologies are often expected to solve performance problems, yet companies continue to struggle in finding effective digital solutions to improve performance (Hartung, 2010). In general, the application of digital tools to effect project management efficacy has not received sufficient focus to support sustained and consistent increases in performance (Frame, 2002). Ewenstein (2015) finds evidence that applying such tools can make change more meaningful and durable, but that progress in hindered in part due to the complexity and difficulty of modeling and predicting human action. IBM’s Jim Sphorer (2014) introduced service science, management, and engineering (SSME) terminology encompassing systematic, multi-disciplinary approaches to performance. As noted in an IBM (2015) Almaden Research Center report on the emergence of service science in 2006, one challenge to systematic service innovation is the interdisciplinary nature of service, integrating across technology, business, social, and client (demand) innovations (Sphorer, 2008). The meaning we derive from these works is that the formal representation and modeling of service systems is nascent due to complexity. Maglio (2006) defines complexity as a function of the number and variety of people, technologies, and organizations linked in a value creation network. We consider the difficulties of implementing value creation networks, such as SSME, to be highly relevant to improving project performance. The general lack of advanced project management platforms offering instrumentation capable of monitoring social dimensions from an integrated systems point of view offers an explanation of why project success rates have
plateaued, and are unlikely to improve further until meaningful progress has been made in this area.

Training for project management professionals rarely includes a focus on social health management. The only formal acknowledgement of the importance of this management topic is generally a brief overview of the importance of “soft skills” in industry terms. Industry specific knowledge on soft skills is largely confined to general information borrowed from leadership teachings and standards references, such as those found in the Project Management Body of Knowledge (PMBOK). The work of Muzio et al (2007) states that “soft skills” are universally recognized as being critical to successful project management. However, methods of measuring these skills are, to date, largely subjective and nonsystematic. The same can be said of current project team selection criteria. Inadequate, yet common, practices include team selection by human resources personnel based on technical skills only, project manager selection generally based on personality matches or individual bias, and matrixed organizational resources assigned on an ad-hoc basis. A team selection study conducted by Antoniadis (2012) found that neither standardized processes, nor existing techniques, were used consistently. Diversity is another consideration complicating this process, and although it is a desirable social characteristic due to strong evidence linking it to improved performance, it takes longer and is more difficult for psychologically diverse teams to achieve and maintain communications and cooperation (Wilde, 2010). We hypothesizes that the performance of a system (i.e. the project management system) relying on formalized, repeatable processes will suffer random permutations when subjected to unregulated social designs.

**Literature Review**

The literature review encompasses the intersection of service science text, traditional social sciences findings and modern management practice. Our search focuses on finding existing knowledge related to the effects of social complexity on human behavior. Each of these fields contributes knowledge to our area of inquiry and frames the preliminary considerations of our

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2 Project Management Body of Knowledge, Fifth Edition, “Soft skills are valuable assets when developing the project team.”
design. Works are selected for their contributions to our framework and methodology for analyzing and evaluating social performance potential.

**Interdisciplinary Nature**

Until such time as advanced project management instruments are available to capture contextual information about social health in real time, research helps to fill the gap by offering insights to managers and leadership when implementing projects. Formalized process groups constitute the building blocks of the project management framework and receive the bulk of attention by practitioners (PMI Inc., 2013). However, our practitioner viewpoint is that the project management tools supporting the framework are not evolving at the pace required by the current transition to a services economy driven by rapid technological innovations. Even more importantly, we see no standards based movement towards a greater integration of tools into larger organizational systems. Qiu (2014) finds that at each point of interaction in a projects social network, stakeholders gain perspective on both the utilitarian and sociopsychologocial fulfillment dimensions. The end result is the customer experience, as perceived by the individual project stakeholder. Leading global corporations increasingly recognize that the experiential dimension is the differentiating factor for many customers (Fornell, 1992). We note that the definition of customers is no longer an external definition. Employees are increasingly becoming customers of their corporate environments (Cardy, 2001). Bad project experiences or outcomes jeopardize not only budgets and strategic initiatives, but also human capital. Our research introduces the systematic investigation of the social factors affecting an individual’s experience, and measures their impact on performance potential.

**Service Science**

Daily news headlines around the world offer evidence that as cultures increasingly mix, integration difficulties manifest themselves in various social conflicts. These conflicts are powerful forces capable of disrupting politics and impacting national economies. Multinational project teams, just like governments and societies around the world, continue to underestimate the difficulty of mitigating the complex social risk of integration. This risk is balanced against strong evidence that diversity is a proven performance multiplier when managed properly (Van Kippenberg, 2004). Service science offers the foundational knowledge for creating a project management approach that is capable of dealing effectively with human based interactions.
Katzenbach (1993) found that project teams share an essential professional discipline, yet possess unique insights and complimentary skills contributing collectively to work environments. Teams balancing this paradox act as a value multiplier creating the potential for future increases in project success statistics. Applying the foundational knowledge of service science, we define a shared rule set to instruct our model’s treatment of the case study environment (Qiu, 2014). In a well functioning integrated service system, any degradation in project performance would be immediately visible to those monitoring the system. In today’s project environments, a lack of sensors and tools capable of detecting degradation of social performance metrics limits peak efficacy. Our research focuses on the development of an experimental model as a rudimentary tool for the exploration of measuring social performance potential as a first step to quantifying the effects of social factors on project success criteria.

Social Science

Collectively, social science knowledge aids our selection of the social criteria used in the architecture of the model, as well as our decisions about the measurement scale. Psychology informs us on a wide range of motivational factors driving behavior including: Maslow’s (1943) theory self-actualization applied in a linear hierarchy; Alderfer's (1969) associated ERG theory correlating satisfaction to desire and separating need into non-linear levels; Herzberg's (1959) dual factor theory utilizing independently moving sets of factors. We acknowledge the plentitude of competing theories in this field, but find these the most applicable to our methodology and design requirements. Tsoukas (1994) describes four epistemological approaches to obtaining knowledge in management studies and his work is useful to our exploration and organization of complex, conceptual classifications used in the selection, arrangement and weighting of social health measurement criteria. Donnellon (1996) identifies tensions within project environments as leading to the paradox that teams require both the preservation of differences among members, as well as the integration of those differences into a single working unit. This is key to the theme of our research; unity within diversity. Review of these works influence our use of two closely correlated performance indexes measuring unity and complexity in order to assess social health as a predictor of project success. We draw a parallel line of thought that all humans share a base nature which is overlaid with social complexity resulting in individual variations in behavior, and we measure the aggregate effect of these variations using a case study as a reference point for the discussion.
Management Practice

Kotter (1996) draws a distinction between management and leadership which is important in the holistic context of project performance. Managing social performance involves numerous factors which often conflict with each other. Leadership soft skills make useful contributions to social performance, but are not a systematic application that is capable of consistent, repeatable results. Leadership skills are also not a viable substitute for the monitoring and controlling of social complexity which does lead to consistent, repeatable results. We explore an instrument capable of increasing management’s ability to assess social complexity. Without instruments such as this, the effectiveness of management processes decreases, while the reliance on unmeasured leadership “ability” increases. The current reliance on soft skills (i.e. leadership) has predictable results which are reflected in the global project success statistics we have cited. The overall effect is a reduction in certainty; a key benefit of projects. Management tools, as opposed to leadership skills, are necessary for measuring balance between efficiency and effectiveness. Without a measurement of this balance, projects may be efficient in their delivery while suffering a lack of effectiveness in their products or services. Efficient delivery of products is not useful when those products do not serve the intended purpose, or result in a beneficial experience.

Supporting Theory

Our view is that social performance is determined by individual experience and must be managed using a social design that encompasses individual perspectives within an interactive social network. Multi-year reviews of reports such as Pulse of the Profession report (©2015 PMI) indicate that project success rates have plateaued. Our philosophical viewpoint offers a conceptual explanation for why, and implies that further performance gains will not be possible until social performance criteria are integrated into a systems based approach to performance. Complexity theory applies directly to our research by offering explanations of complex phenomenon not explainable by traditional mechanistic means. We apply the theory to reconcile the unpredictability of dynamic, complex social network interactions by applying an underlying structure (Ferreira, 2001). The theory predicts that outcomes are not controllable when factors are addressed on an individual basis and must be managed in a holistic context. We define this holistic context with regards to project management environments as the projects identity.
The underlying structure of our design framework does not attempt to simplify project identity into a limited construct based on a small number of unrelated quantities. Rather, we handle complexity as a system component that has no function outside of the entirety of the system in which it operates. Our proposed expansion of the performance measurement system cannot be achieved in the current stand alone approach to project management, and must be part of a larger organizational service system. Until an expanded sociotechnical success criteria is established, projects will continue to miss scheduling and budget targets while jeopardizing strategic business interest (Atkinson, 1999). Proper project planning, including a social dimension, requires new estimating techniques and more rigorous team selection criteria including non-traditional resources, such as industrial psychologists (Lee, 2006). Cost and schedule timelines may increase using these approaches. However, for corporations valuing certainty, and return on investment, understanding the real costs of projects upfront will improve results.

The theory of perspectivism was coined by German philosopher Friedrich Nietzsche in the 1800’s during his development of an even older philosophical view that all ideations take place from particular perspectives. Nietzsche’s (2011) views on perspectivism aids us in determining the valuations we assign to various social factors. This philosophy implies that perspective determines value, but does not require that all perspectives are equally valid. In the absence of objective facts, there are no ethical or epistemological absolutes, and rules (i.e. those of philosophy, the scientific method, etc.) are assessed according to individual perspective. ‘Truth’ is therefore created by integrating different vantage points together. This lens frames our structural approach to measuring individual perspectives about the work environment to provide the contextual input data for predicting performance potential. Quantitative “truth” about our case study environment is provided as the composite measurement of individual perspectives provided by respondents of a survey. The models design converts this collective “truth” to a numeric value.

Identity intelligence networking techniques use an analytical framework adapted for use by global intelligence communities seeking advanced technological solutions for understanding people and predicting social outcomes (Aftergood, 2014). We combine principles of identity intelligence with the other components we have assembled to create the Theory of Project Identity, or PI theory. PI theory is a generalization that a project has a complex identity which
can be monitored and analyzed to predict outcome. Based on this theory the social health indicator produced by our model offers a reliable predictor of project success when combined with technical performance indicators commonly used throughout the project management industry. We name three project identity types. Projects with low social health indicators we express as having an individual project identity. They may be highly efficient at performing low level tasks but are generally not effective when dealing with complexity. Balanced social health indicates a group project identity and is optimal for performance, meaning that the project is both efficient and effective, or balanced. Organizational project identity corresponds to high social health and maximum effectiveness, but contributes the most to project failure statistics when subjected to the traditional measures of success, such as budget and schedule.

**Research Purpose**

We have described a performance gap in project management standards and now we pose the question, “What is the best methodology for addressing this gap?” In our attempt to answer this question we explore the following series of hypothesis, which were introduced previously in our text. The purpose of exploring this doubt is to measure the causal relationship between social factors and project performance as a function of two variables; unity and diversity.

1. Reliable performance is only achievable when the monitoring and controlling functions include the sophisticated and contextual processing of social factors.
2. Further performance improvements cannot be achieved through the acquisition of technical skills, increases in process maturity, or current management practice.
3. The performance of a system relying on formalized, repeatable processes will suffer random permutations when subjected to unregulated social designs.
4. A continuous monitoring and analysis system is necessary for sustained performance improvements.

**Methodology**

The emergence of mixed methods as a movement in social and behavioral sciences research began during the 1980s. Although the definition of mixed methods research is a contested area (Brewerton, 2001), we prefer the simplified definition appearing in the Journal of Mixed Methods defined as, “research in which the investigator collects, analyses, mixes, and draws inferences
from both quantitative and qualitative data in a single study or program of inquiry” (Johnson, 2007). We employ a mixed method approach in which our research lies in the middle of a continuum incorporating elements of both qualitative and quantitative approaches and using a researcher-designed framework. This gives us the required flexibility to express a philosophical worldview which we frame using an innovative methodology incorporating modeling instruments. Cresswell’s (2013) description of mixed methods research summarizes our study as an inquiry involving the collection of qualitative and quantitative data, conversion between the two forms of data, and the application of a unique design involving philosophical assumptions and theoretical frameworks. The outcome of this study is articulated through an analysis of the model’s output in the context of a case study. Our familiarity with the research environment allows us to draw conclusions based on ethnographic evidence gathered as a participant. Ethnography is particularly useful to our methodology because of the attention it gives to context, and its synthesis of findings from different methods. We are transparent regarding the logic of our inquiries, the professional activities leading us to develop this topic of interest, and our personal biases.

Although we begin our inquiry from a philosophical viewpoint, our design demands a pragmatic approach allowing freedom of choice in the selection of procedures for the innovative use of data collection and analysis techniques (Cresswell, 2006). Our data collection method extracts subjective meaning from a complex set of individual social perspectives gathered from a retrospective activity3 conducted with the sample population using three open-ended questions to gather broad based information on social factors affecting performance, both good and bad. Results of the activity were used to inform the creation of a social survey on the work environment with the objective of capturing respondent’s subjective views. Broad based rules are applied to instruct the model on the treatment of the data collected. The research setting is contextually focused on the case study environment involving a multi-national defense industry IT project.

**Strategy**

Herzberg (2011) notes that the degree to which studies in job attitudes are the basis for theory contains few instances in which investigations of people’s attitudes toward their jobs has been

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3 See Appendix for retrospective activity description and recorded results
integrated into a scientific body of knowledge. Even fewer in which theory was used as a starting point for the investigations. Where application of theory to the analysis of people does occur, it is limited to the group as the unit of investigation with individual roles tending to be in terms of a position within the group or as a contributor to group processes. Our strategy moves into this limited space by creating a narrative on performance and establishing a theoretical viewpoint focused on individual perspectives in terms of a predictor of group process outputs. Scientific knowledge offers plentiful evidence that negative effects on individual motivation levels result in dysfunctional organizational behavior; ergo poor performance (Bissell, 2008). Bissell notes that behavior in contagion groups is not planned or coordinated, but results in similar “stories” whose themes reveal the core system breakdown. Key to our analysis of Bissell’s findings is that behavior is not the problem, rather the symptom. Rather than managing behavior, which is complex and difficult, the same results can be achieved through the monitoring of aggregate individual perspectives identifying the sources of social imbalance. To accomplish this, we use a network of social factors as the framework for collecting and organizing data. Application of this strategy is demonstrated in our model design, and through our diagnostic analysis of results.

During the study of hard sciences, such as physics, chemistry, or biology, scientific analysis of organized accumulations of information gathered from the products of scientific activity results in advances from rules, to laws, to larger systemic arrangements which model the subject matter in order to make statements (Skinner, 1953). Our strategy follows a similar pattern of information accumulation and organizational arrangement.

Research Design

To test the framework we use an exploratory sequential design including a survey, a model, a case study, and analysis based on an inductive reasoning process as results emerge. The survey records individual perspectives about the social health of the case study environment. The model converts the qualitative survey data to quantitative measurements using the networked social factors organized from all source information. Our analysis explores the causal links between the main concepts of the research, which are unity and diversity. Unity is a direct value of the collective individual perspectives whereas diversity is an indirect value determined by the level of unity encountered. By studying job attitudes from an individual perspective, and integrating the results into a networked view, we explore concepts for measuring new performance variables.
We position our self in the research as participants in order to interpret meaning from the organizational activities forming the basis of our case study.

The setting for the case study consists of a work environment which includes a multi-national project team; a sample population consisting of nine nationalities; a gender ratio of roughly 9:1 (consistent with the larger parent organization); and a working language of English with a minimum proficiency level in force. Projects deliver integrated IT systems providing operational capabilities to an international community of users. Cultural context involves ethnic origins from multiple continents and countries. Oversight and sponsorship of projects is provided by political designees of participant nations. The sample population consists of mainly senior professionals with top subject matter expertise in their field, advanced educations and extensive international experience. Our own work experience is extensively international including experiences in more than 20 countries. Compensation levels are high and team member skillsets are in global demand. At an individual level, many members hold dual citizenship and/or have cross cultural life partners. This environment is therefore representative of the high sociotechnical complexity we seek to model and predict. We apply a set of social rules reflective of our philosophical worldview to lay a foundation.

1. Rule#1: The core commonality rule states that all humans share the same basic drive of selfishness which returns them to a state of conflict over time.
2. Rule#2: The social complexity rule states that individual values are a result of personal experiences which determine an individual’s perspective.
3. Rule#3: The individual perspective rule states that all humans will arrive at unique dimensional conclusions about a shared experience.

The underlying logic of the rules is that every individual’s dimensional conclusions are equal to their perception of the environment. Individual perspective about the environment establishes the baseline for project performance. Our design assumes that an intrinsically selfish human nature resulting in a baseline state of low performance. The treatment of this effect requires the application of core organizational values through the medium of shared experience.

As project members actualize the common experience, their perception across multiple interconnected social dimensions will determine their individual conclusion about the experience. If their conclusions move them closer towards organizational objectives, performance will
improve regardless of past experience. If their experience moves them further away from organizational goals, performance will decrease regardless of past experience. Increasing diversity paradoxically increases both the potential for higher performance and the potential for failure. Ignoring shared experience and leaving individual conclusions to random design parameters will result in unpredictability. Socializing an organizational perspective frames the question for project participants of how their selfish natures will be satisfied by the achievement of organizational goals. If organizational objectives are unconvincing in their appeal, unity and performance will decrease in direct proportion to the total variance in individual perspective. The model is constructed in order to measure this variance and the measurement serves as a predictor of future success.

Survey Design

The survey serves as the user interface to the model. Questions are formulated in part based on the results of the retrospective activity in which the case study sample population identified work factors affecting performance. Only two states are possible for a given survey question with the first state being equal to the assigned factor weight (i.e. the weighted state), and the second state being equal to zero (i.e. the non-weighted state).

Table 1: Survey Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>What nationality do you most associate with?</td>
<td>Do you believe that change is good?</td>
</tr>
<tr>
<td>Does organizational culture negatively affect your work performance?</td>
<td>Have you experienced discrimination?</td>
</tr>
<tr>
<td>Have you observed unethical work behavior?</td>
<td>Have you experienced bias?</td>
</tr>
<tr>
<td>Do you enjoy your work?</td>
<td>Do you feel like work decisions are equitable?</td>
</tr>
<tr>
<td>Are you aware of any personal conflicts?</td>
<td>Do you have a conflict with anyone at work?</td>
</tr>
<tr>
<td>Have you been stereotyped by anyone at work?</td>
<td>Are you religious?</td>
</tr>
<tr>
<td>Are religious boundaries respected?</td>
<td>Do you feel committed to your job?</td>
</tr>
<tr>
<td>Do you have any unmet work needs?</td>
<td>In your opinion, are you overburdened with work?</td>
</tr>
<tr>
<td>Are you happy with your assigned role?</td>
<td>Do you feel under stress more than once a month?</td>
</tr>
</tbody>
</table>

This is a project diagnostic tool. No personally identifying or user information is recorded and all responses are anonymous. Responses are used only to measure the social health of the project using an underlying model to generate analysis which helps management improve the working environment. All questions are asked in the social context of your current work environment, experience, and relationships.

4 See Appendix for retrospective activity description and recorded results
In your opinion, do you consider your compensation adequate? | In your opinion does organizational policy enable your work?  
---|---
Are there any counterproductive rules at work? | Do you have strong leadership at work?  
---|---
Do you have direct communications with line management at least monthly? | Do you generate and consider new ideas?  
---|---
In your opinion, does management respond to your ideas appropriately? | Is the strategic objective of your tasking clear?  
---|---
Does management have a comprehensive plan? | Is management consistent in implanting the plan?  
---|---
Are there tools missing that would make your work easier? | Have you experienced negative gender authority beliefs?  
---|---
Are you Male or Female? | Do you feel empowered?  
---|---
Is diversity encouraged at work? | Have you experienced inequality?  
---|---
Do you have sufficient autonomy to show initiative? | Are you on track to achieve your professional goals?  
---|---
Do you feel secure with your current employment? | Are you seeking advancement?  
---|---
Do you perceive future opportunity in your work? | Do you feel incentivized to perform your role?  
---|---
In your opinion, are your work peers able to communicate effectively? | Are you respected by your professional peers?  
---|---
In general, do you understand your colleague’s point of view? | Are all viewpoints accepted at work?  
---|---
Are your beliefs challenged by your peers? | In your opinion, are social networks at work Positive, or Negative?  
---|---
Does individual behavior reflect organizational values at work? | Obedience is the result of which condition in your organization; Coercion, Attitude, or Judgement?  
---|---
Do you perceive the work you do as political in nature? | Which is more important to you; your Self, your Team, or your Organization?  
---|---
Is the work environment conducive to collaboration? | Do your past cultural experiences make working with others easier?  
---|---
For you, is language a barrier to understanding meaning? | Is there a climate of trust in the workplace?  
---|---
Is there mutual respect among team members? | Is there a dynamic and/or exciting atmosphere at work?  
---|---

Model Design

The model design is complimentary to other common project modeling techniques, such as the critical path method. This method is commonly used with any form of project having interdependent activities and wanting to apply a method of analysis. We considered similar concerns related to interdependent perspectives when applying the following design components:
1. A list of identity factors; serving as the entry point for qualitative data in response to survey questions.
2. Weighting of identity factors; the conversion point from qualitative to quantitative data based on contextual importance.
3. A Unity Index (*Uf) and a Complexity Index (*Cf); the scale of measurement indicating performance potential.

The models design incorporates concepts from Bell’s (1973) scaled model concept capable of estimating and judging individual actions. It utilizes two scaled social states that are correlated to the two performance parameters; efficiency and effectiveness. Both measurements together indicate a project’s social health which serves as the proxy indicator for a project’s social performance potential. Performance potential can be evaluated either as a predictor of outcome (i.e. success/failure) or as an indicator of overall efficacy. A prediction of failure puts the social concern on the critical path whereas an indicator of efficacy might result in fine tuning in order to maximize return on investment. The scale for efficiency is based on the unity of individual perspectives in responses to survey questions. Unity contributes to performance through less disruption and greater cohesion. The scale for effectiveness is based on the diversity of the sample population as determined by the proportion of weighted responses. Diversity contributes to performance through greater discovery and innovation. An inter-related network of 55 social survey questions, 20 social performance factors, and 5 social nodes are used to generate the measurements.

There is an indirectly proportional relationship between the scales, which move inversely. The scale of measurement is from 0 to 1. Maximum efficiency and effectiveness are both measured at 1. However, due to their inverse nature maximum efficiency requires 100% unweighted survey responses while maximum effectiveness would require 100% weighted responses. Generally speaking, increases in efficiency (i.e. moving closer to 1) will drive the effectiveness scale lower and vice versa. As we have explained, this is due to the paradoxical nature of unity and diversity, which cannot be resolved, only measured. However, the exact ratio of the effect is determined by customizable threshold settings in order to accommodate varying project types and needs. For our case study measurement, we set the response threshold at 30%, meaning that a minimum of

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5 A detailed view of the design framework is provided in Table 7 found in the Appendix
30% of respondents must provide a weighted response in order to move the measurement on the effectiveness scale. Optimal performance for either indicator is measured at center scale (i.e., .5). For multi-national project environments, strategic change initiatives, and similar types of complex project initiatives, measurements nearing either end of the scale are a strong indicator of project failure due to a lack of balance in individual perspectives. This is representative of the fact that it is not only possible, but commonplace, to deliver a product on time and on schedule (i.e., efficiently) while not meeting the needs of the customer the product was created for (i.e., effectiveness). Our research does not attempt to establish whether or not a specific range on the scale serves as an accurate statistical indicator of future project success or failure.

In addition to measuring performance and predicting success, the model’s structure also facilitates the evaluation and analysis of individual social factors, thereby identifying the source of social issues within a work environment. Although we do not do so in this study, the model can be manipulated to output actionable analysis for manager’s use in addressing social issues. This feature can help to reduce the cognitive dissonance manager’s experience when attempting to make accurate and specific management decisions based on vague and general information. Information derived from our mixed method data collection is organized into the context provided in Table 7 found in the appendix. The data structure represented in the table forms the underlying framework of our social health model. The architecture draws from the reference project environment and the retrospective activity involving 35 members of the sample population. Participants generated feedback in response to three open-ended questions about the work environment and responses were thematically analyzed and interpreted. A graphical depiction of the models networked factors is provided below. The graphical depiction is only a notional concept of the networked relationship between design elements and is not intended to depict the complete architecture of the model.

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6 An excel file containing the working model can be requested from the author using the information provided in the appendix.

7 Retrospective details, including description, instructions and results are documented in the Appendix.
Model Application

The customizable threshold accommodates a nominal level of variation in individual perspective which depends on the context of the project environment. We designated the scale of measure for efficiency as the unity factor (*Uf) and this index averages the weight of all individual responses, meaning that the *UF measurement is a composite of every respondents unique perspective and any single response contributes directly to an increase or decrease in the unity measurement. The scale of measure for effectiveness is the complexity factor (*Cf) and this index increases or decreases as a function of the customizable threshold. For example, our case study subjects the averaged weight of all respondents for a specific survey question to a threshold of 30% of the total weight\(^8\) assigned to that question by the model’s architecture. If responses do

\(^8\) Weights and linkages are documented in Table 7 found in the Appendix:
not result in a weight that surpasses this threshold (i.e. perspectives are aligned) the *Cf scale will
not be affected. Because the two indexes are inversely correlated, this means that a sufficient
number of respondents must hold opposing viewpoints in order to drive both scales towards a
balanced state and optimal performance. Correspondingly, too many opposing viewpoints across
too many social factors will drive the measurements to the opposite end of the scale. The farther
from center scale that is measured, the greater the probability of project failure and the lower the
performance potential. This model is applied to the social half of a sociotechnical system (i.e. the
project management system) and uses mathematical valuations to provide intelligent, actionable
analysis for managers. Just as the critical path method directs managers attention to the evolving
technical failure points, our methodology identifies the social failure points.

Analysis

From the case study’s sample population totaling 63 members, 25 individuals responded to our
survey. Survey responses from the sample population generated a *Uf of .691 and a *Cf of .393
when entered into the social health model. Although the two factors were not designed to be
directly proportional, their close correlated in the results from our case study indicate a strong
causal link between the two factors. The dependency on the parameters we modeled, and the
threshold settings we used, constitutes our bias. As such, the results are not intended to provide
conclusive evidence of a causal link; but are noteworthy nonetheless. Due to the small amount of
variation measured between the response of 10 participants and the response of 20 participants,
we expect that results would remain relatively consistent across the entire sample population;
although nodal emphasis could shift. As an indicator of project performance the case study
measured efficiency at 72% of peak (.500/.691=.723) and effectiveness at 79% of peak
(.393/.500=.786); an average of 76% of peak social performance potential. This falls within the
range of mature organizations citing “culture” or “sense of ownership” as drivers of social
performance. The case study’s project identity is trending toward a group identity with elements
of individual identity still prevalent. This determination is based on analysis of responses to Q.
#50, “Which is more important to you; your Self, your Team, your Organization?” 60% of
respondents indicated Team (i.e. group), 25% indicated Self, and just 15% indicated organization.
Further evidence is found in the 68% of respondents who believe that organizational culture
negatively affects their work performance (Q. #3). Our ethnographic observations of the parent
organization agree with these findings as organizational strategy objectives are consistently not implemented, support elements are not resourced, and management moves ineffectively from one “existential crisis” to the next.

The biggest performance drivers were measured across Node 1 and Node 3. Node 1 measures factors related to culture and recorded the lowest level of unity across all the nodes. The top questions contributing to this nodal result are provided in the following table.

Table 2: Top culture factors affecting performance.

| Q28 | Is management consistent in implanting the plan? |
| Q22 | Do you have strong leadership at work? |
| Q21 | Are there any counterproductive rules at work? |

The performance issue is amazingly clear and accurate in this representation and the actionable analysis could be provided from any management textbook. As participants in the case study environment we are in agreement with these findings. Although this node contributes to an overall increase in effectiveness on our performance scale, it is significantly out of balance in comparison to the levels measured on other nodes, and the effects on performance will clearly be negative. Furthermore, this issue will be particularly difficult to improve since management is the source of the issue, and also the party responsible for fixing it. This finding represents an anomaly in our model design, and does not support our methodology in its current form. At a minimum, it indicates that refinements are needed to account for imbalances in nodal weights based on systemic failures identified in a project. In other words, if we predict a 76% performance potential, which is technically realistic based on a general measure of social health, a specific critical risk factor makes it impossible to achieve the potential. Therefore, the model must be adapted to somehow factor this risk into the overall prediction. This additional capability could be a simple extension of the existing models functions perhaps achieved through the application of more advanced analytics.

Node 3 measures social factors related to need and found below are the top questions contributing to the second highest performance driver.
Table 3: Top need factors affecting performance.

<table>
<thead>
<tr>
<th>Q49</th>
<th>Do you perceive the work you do as political in nature?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q38</td>
<td>Are you seeking advancement?</td>
</tr>
<tr>
<td>Q29</td>
<td>In your opinion, does management respond to your ideas appropriately?</td>
</tr>
</tbody>
</table>

Unlike node 1 there are three distinct social issues displayed here and none of them offer a critical risk to success, as found in node 1 where all issue were closely related. The first issue in node 3 relates to the parent organization. Our observation is that the organizational culture of the parent organization results in a consensus style of leadership/management that is ineffective because it lacks any power to incite action-oriented results. Consensus environments do not contribute to either efficiency or effectiveness in our experience. The mitigating factor for this social issue is to drive performance at the component level of the system (i.e. within the project). The net effect of this treatment is that complexity and the level of difficulty will increase across the entire project effort with cascading effects on performance. This social issue is very likely to impact the traditional definition of project success based on budget or schedule, even though the reduction in efficiency and increase in effectiveness are accurately measured by our analysis. This issue points out another potential flaw in our methodology and instrumentation. Primarily, that we measure a performance potential which has the effect of challenging the traditional criteria of project success. In fact, based on these findings, we describe a scenario where social design may well be incompatible with the widely accepted definition of project success. Considering the options, what is more costly? To change the organization culture, or to redefine success according to the performance potential of the organization encountered?

The second issue represents a team selection process which lacks a social design; a common problem as we have shown earlier. In the case study environment the sample population consists of mainly senior professionals. Management believes this is necessary for optimal performance. In fact, a team that is top heavy with subject matter expertise in their field are almost all seeking influence and/or advancement. This competitive situation bleeds over into the third issue which represents the outcome of the improper social design. Too many people competing for the same resources results in a management response that is adequate to please everyone. Everyone is an expert and is certain that they have the best ideas which require the most recognition and reward. The treatment is to balance the team with the proper range of experience so that everyone
occupies a space that is not too crowded and needs do not overlap. Of the five nodes measured, the order from lowest unity to highest was as follows; culture, need, security, social, and gender. The node measuring gender demonstrated the highest level of unity in the sample population. The large gap in the sample population gender ratio of 9:1 offers insight into the causal link. Our viewpoint is that disproportionate numbers of male members skew the environment towards a male perspective, resulting in a net negative effect on performance. This observation is supported by parent organization policy and initiatives supporting gender diversity. For example, the gender perspective and the women, peace and security agenda; the gender mainstreaming initiative; the creation of gender field advisors; gender focal points and gender enablers; and the gender education and training plan. Notwithstanding this acknowledgement of the problem by the parent organization, and the plethora of initiatives aimed at it, we have not observed a single instance of their practical application within the case study environment. We do observe a higher level of disagreement on work related initiatives and decisions between males and females than that found between male colleagues only. This effect is a healthy contributor to effectiveness and overall performance. However, it has clearly not reached a critical mass sufficient to improve the performance potential of our case study environment as indicated by respondents. This node offers the greatest opportunity for enhancing performance beyond the current potential, as well as bringing the overall social health into greater balance. We attribute this to perspective, which is a key component of our worldview in which it is easier to gain a new cultural perspective than it is to gain cross-gender perspective. Therefore, gender diversity is more durable as a long term performance driver.

**Perspective**

Our nodal analysis, supported by the qualitative data of respondents, demonstrates the potential to provide actionable intelligence targeting complex social issues affecting performance. Skipping the manual process and moving directly into an integrated systems approach utilizing advanced technologies including innovative analytical approaches taking advantage of ubiquitous real-time data would negate many of our doubts about social performance. It would also apply greater sophistication to overcome some of the shortcomings we have identified in our initial modeling effort. Leveraging emerging, disruptive and proliferating technologies capable of providing unambiguous linkages between people and events would augment strategic decision making.
capabilities. Methodologies involving identity intelligence would address the people component of intelligence problems and deliver focused and targetable social analysis which can be immediately actioned. For now, people remain the center of an organization’s operations, and never more so than in the emerging service economy. The inherent complexity in this approach requires balance to function optimally. It is plausible, even probable, that a detailed study of failed projects would identify a higher degree of complexity than that encountered in successful projects. As an industry, we may need to reconsider the definition of success and return on investment. If structural systemic changes are rejected, estimating procedures will require significant improvements in order to provide more accurate calculations.

Our model is a simple tool that allows managers to consider the impact of their projects’ social performance in their approach to effective project management. The methodology and the worldview offer more significant contributions to our professional community. They help managers focus their attention on targeted areas of social deficit allowing them to provide social intervention and/or group therapies in a proactive approach making results easier to obtain. Integration within a service system would facilitate a new level of efficacy. The mathematical computations of the model, simple though they are, offer a theoretical explanation for a statistical trend which is troubling in its implications to the service economy and to the businesses that depend on it. The basic framework for our analysis may be found to be applicable to the social performance evaluation of all groups and organizations based on further work in this area. If applied to scale, and provided with the appropriate resources and technological support, more rigorous and robust industrial versions of this concept might become suitable for integration into enterprise systems facilitating automation and real-time data driven decision making support.

Assumptions

The research approach assumes that the reference project environment is representative of large multi-national projects globally, and that it presents a good case for the study of social complexity. Incorporation of service science principles assumes that the value of the social aspects within a sociotechnical system have a direct impact on project efficacy, regardless of technical quality. This is unlikely to be a universally accepted assumption among project management professionals, or may be outside the relevant experience of others. The survey questions are assumed to provide an adequate index of the social health of the reference
environment. If the design of the questions is lacking in this regard, or results in answers from respondents which are not indicative of the true social health, then the value of the research results could be diminished, misleading or incorrect its conclusions.

Limitations

The models design and construction is basic in nature, representing a stand-alone tool requiring manual configuration and deployment. This makes the tool conceptual at best and not intended for use on an active project. The questionnaire was not specifically tested for validity thereby limiting its reliability as a valid data source. This research was conducted under time and resource constraints limiting the results to what we have been able to achieve here. Many areas we have touched upon could be further explored to support or modify our findings. As a result of the complexity inherent in the topic, the information mined and analyzed from existing bodies of knowledge is limited to what we could discover, and certain areas may have been overlooked, or even intentionally excluded in the interest of time. We do not possess sufficient research expertise to ensure that our bias was properly handled during the design and hereby acknowledged that our personal perspective, in which bias would be inherent, was used to contextualize the research. A much more thorough and reliable job would be possible within a specialized research group. Well beyond the scope of this research, a lack of advanced analytics capabilities limit what analysis is possible here.

Conclusion

We have offered cognitive insight and quantitative data for use in evaluating the validity of our approach. A larger experiment of integration into real time monitoring and management of people processes was not possible here but represents the true test of the principles we apply to our study. Future technology innovations will impact this field and will greatly enhance the performance of people processes. Biometrics and associated biographic data, combined with advance sensor technologies, will transform behavioral and contextual interactions with system components in a continuously monitored environment that will significantly enhance control functions and improve performance. Further development of P1 theory, or its equivalent, can lead to more effective policies and procedures at the organizational level, or within international standards bodies such as the PMBOK. Our ambition for the social health model is one of
‘adequacy’ in establishing our line of thought and stimulating greater consideration of social factors when implementing projects.

Today, service science remains more art than science. The advent of digital tools is a derivative of the business necessity of organizations to deliver rapid and sustainable growth in an increasingly competitive environment driven by an increasingly short technology cycle. The pressure to adapt and change to an unprecedented degree means leaders have to make decisions more quickly, managers have to react more rapidly, and employees have to be more collaborative. Traditional training is increasingly too slow and ineffective at scale. Powerful digital tools can, and are, enhancing the customer experience and shifting behaviors. Wearable technology, adaptive interfaces, and integration into social platforms are examples of ongoing innovations making change both personal and responsive to need. Specific tools are necessary to achieve such gains, tools such as ‘gamification’ which adapt leaderboards and rankings. However, tools are not solutions and each company should have a clear view of the behavior it wants to reinforce and what digital solution supports that behavior best (Ewenstein, 2015). The time is rapidly approaching to systemically quantify the human experience in order to drive tomorrow’s performance breakthroughs.
References


Appendix

Retrospective

Team Retrospective Instructions

-----Original Appointment-----

From: Xxxxxxxx Xxxxxx
Sent: 14 October 2015 16:16
To:

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx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Xxxxx Xxxxxx will lead this activity and to facilitate the discussion, we will distribute index cards early next week to solicit inputs (everything will be kept anonymous). To facilitate open communication, Xxxxxx, Xxx and myself will meet separately during the first phase of the meeting and will join the rest of the team towards the end of the activity. Here’s a summary of the activity:

**Goal:** Discuss and identify: What worked well for us? What did not work well for us? What actions can we take to improve our process going forward?

**Roles and Responsibilities:** Retrospective Leader (Xxxx) facilitates meeting; Xxxxxx team members are participants; Xxxxxx Team leadership is observer for outbrief only

**Additional info:** As it is expected some discussion will be generated on the items noted, it is up to the Lead to steer or direct conversations, helping the team to reach consensus during the retrospective, helping the team to stay focused, removing obstacles that are impeding the team's progress, and protecting the team from outside distractions. The Lead is not to express an opinion and should remain impartial.

**Process:**

Index cards will be distributed to team members in advance of the meeting so they can bring completed cards with their comments to the event

Referring to the inputs provided on the index cards and any other inputs, the team lead captures on a large paper tablet what worked well, what didn’t work well

Lead conducts vote to prioritize each item – team members vote by either hold up zero, one, or two fingers to vote - capturing the total vote beside each item

Items are ranked

Results are reviewed and ideas for improvement are discussed

Findings are captured in table and distributed to team after meeting

Thank you for supporting this important activity.
Team Retrospective Results

From: Xxxxxx Xxxxxx
Sent: 19 November 2015 15:02
To:

Team,

Please find attached a summary of last month’s Retrospective. We have begun to implement some changes to the programme to address these points and will continue to tackle all the excellent feedback received. A huge thank you to all those who participated as these type of events are only as good as the input received, and also a big thanks to Xxxx for leading the event. I look forward to our next retrospective the first half of next year.

Thanks,
**Retrospective Goal is to evaluate the contract work over the last period, as viewed by the team, and improve on it**
- Good: what the team believes has gone well
- Bad: what the team believes has gone poorly
- Better: what the team believes are areas for improvement, to include areas where things have went well

**The objective is not to have a complaint session, but to evaluate and improve (e.g., performance, environment, management)**

**Retrospective Logistics:**
- Team was given an advance overview of the Retrospective process / purpose, during team meetings and in email
- People were instructed to provide feedback in 3 areas (Good, Bad, Better)
- Areas open for discussion and feedback included:
  - Team and Management
  - Project and task work
  - Work environment
- Index cards were handed out to the Team during weekly meeting
  - This allowed people to fill out the cards in advance of the Retrospective
  - Card with no names on them, to keep anonymity, were put into a large shopping bag
- An “Impartial” moderator led the retrospective session
  - Reviewed Retrospective process and purpose with team again
  - Pulled out of the bag the filled in cards and wrote the responses on large isle pad for each category
  - Encouraged & facilitated discussion on responses, and kept team focused
  - Led / tallied votes
- The team discussed responses for each category and voted importance
  - For each and every item, a person could vote 2 fingers, 1 finger, on none
  - Votes for each item were totaled up and added to Isle pad
  - Responses for each of 3 categories were ranked based on team votes
  - Asterisks for really important items were added too in place of votes
- Once discussion and voting was completed, Team (LT) management was brought into the room with the Team

<table>
<thead>
<tr>
<th>#</th>
<th>Team Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Team dynamics among the Group work well together</td>
</tr>
<tr>
<td>2</td>
<td>Good team of people</td>
</tr>
<tr>
<td>3</td>
<td>Highly motivated &amp; proactive</td>
</tr>
<tr>
<td>4</td>
<td>Can-do attitude about getting the job done</td>
</tr>
<tr>
<td>5</td>
<td>Team has mutual respect</td>
</tr>
<tr>
<td>6</td>
<td>Ability to learn quickly</td>
</tr>
<tr>
<td>7</td>
<td>Stress level is relatively low</td>
</tr>
<tr>
<td>8</td>
<td>Good working environment</td>
</tr>
</tbody>
</table>
Cooperative environment
Team has diverse skill sets
Brought in new contract team & got them up to speed
Phases of training done well
Starting to put processes in place & following them
IPT approach & attitude
Willingness to work together on projects regardless of organizational boundaries
Team All-Hands meeting
Weekly Tuesday night dinner
Brought in new contract team & got them up to speed
Phases of training done well
Starting to put processes in place & following them
IPT approach & attitude
Willingness to work together on projects regardless of organizational boundaries
Team All-Hands meeting
Weekly Tuesday night dinner
Database tool - Note: single point of failure
Great bank of industry and technical knowledge
Team has been patient w/chaotic situation
Good relation w/customer
People are dedicated
Template for documentation in place now
Beginning to have more cooperation
Beer Friday!!
General Team spirit
All-hands meeting important
Dealing with projects following Project Specs is very good practice. Involving leads also good.
Purple Thursdays
Sending notifications on WhatsAppTM
Social activities

Table 5: Team Retrospective Results: -- Bad: What Has Gone Poorly --

<table>
<thead>
<tr>
<th>Votes</th>
<th>Team Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>****</td>
<td>No management direction</td>
</tr>
<tr>
<td>***</td>
<td>Too many small leaders, takes 3-5 people for direction and decisions. Makes things difficult</td>
</tr>
<tr>
<td>***</td>
<td>Lack of a &quot;One Team&quot; Mentality</td>
</tr>
<tr>
<td>**</td>
<td>IT / help desk support lacking</td>
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<tr>
<td>**</td>
<td>Poor Overall Communication, lack of Big Picture Provided, Poor communications with those people that have</td>
</tr>
<tr>
<td>*</td>
<td>Meeting - No point to meeting Don't follow agenda</td>
</tr>
<tr>
<td>27</td>
<td>Network slow</td>
</tr>
<tr>
<td>24</td>
<td>Lack of Training on Systems</td>
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<tr>
<td>23</td>
<td>Constantly changing roles/responsibilities</td>
</tr>
<tr>
<td>22</td>
<td>Tasking: no direction, Just people names against an item, no expectations, constantly changing priorities, no</td>
</tr>
<tr>
<td>22</td>
<td>Poor Intra-branch communications</td>
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<tr>
<td>20</td>
<td>Spend too much time building briefings for Boards and Committee</td>
</tr>
<tr>
<td>18</td>
<td>Poor allocation of people skill sets to Projects &amp; Tasks</td>
</tr>
<tr>
<td>18</td>
<td>We are led by others Schedule</td>
</tr>
<tr>
<td>17</td>
<td>Lack of support from Projects</td>
</tr>
<tr>
<td>16</td>
<td>Failed to deliver tools</td>
</tr>
<tr>
<td>16</td>
<td>Office chairs need replacing</td>
</tr>
<tr>
<td>14</td>
<td>Lack of critical thinking, with popup tasking, customer crisis becomes our crisis, no push back, too many</td>
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<tr>
<td>13</td>
<td>Too document centric vs. date centric</td>
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<tr>
<td>13</td>
<td>Tasking concept</td>
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<tr>
<td>Votes</td>
<td>Team Responses</td>
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<tr>
<td>-------</td>
<td>--------------------------------------------------------------------------------------------------</td>
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<tr>
<td>***</td>
<td>retain personnel</td>
</tr>
<tr>
<td>**</td>
<td>More training &amp; cross training opportunities</td>
</tr>
<tr>
<td>**</td>
<td>After each Test, set up a quick briefing for all team</td>
</tr>
<tr>
<td>*</td>
<td>Better Communication across the entire group</td>
</tr>
<tr>
<td>*</td>
<td>Become one team</td>
</tr>
<tr>
<td>*</td>
<td>Stronger leadership</td>
</tr>
<tr>
<td>*</td>
<td>Take on the customer when they are wrong.</td>
</tr>
<tr>
<td>*</td>
<td>Hold branch meetings quarterly and only if there is a clear agenda and action log</td>
</tr>
<tr>
<td>*</td>
<td>Better control of meetings. Keep focused &amp; short</td>
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<tr>
<td>*</td>
<td>Education on process rather than piecemeal Ad hoc</td>
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<tr>
<td>*</td>
<td>Portal usage and structures</td>
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<tr>
<td>*</td>
<td>Have office chairs replaced more frequently</td>
</tr>
<tr>
<td>*</td>
<td>Punctuality for ALL meetings. (Start &amp; End)</td>
</tr>
<tr>
<td>*</td>
<td>Venue for issues, problems or observations to be aired and solutions identified</td>
</tr>
<tr>
<td>*</td>
<td>Configuration Management process</td>
</tr>
<tr>
<td>*</td>
<td>Change Management rigour</td>
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<tr>
<td>23</td>
<td>Control pop-up tasks. Coordinate w/PO Project lead.</td>
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<tr>
<td>23</td>
<td>Peer review of important products or deliverables</td>
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<tr>
<td>21</td>
<td>Improve Information Management - searching and currency</td>
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<tr>
<td>21</td>
<td>Process development</td>
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<tr>
<td>20</td>
<td>Have folks that are more available</td>
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<tr>
<td>19</td>
<td>Create opportunities to provide feedback to management—then have them act on it</td>
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<tr>
<td>17</td>
<td>Increase involvement</td>
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<tr>
<td>15</td>
<td>Opportunity for people to move between branches and/or subject matter areas</td>
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<tr>
<td>15</td>
<td>Increase involvement in test events</td>
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<tr>
<td>14</td>
<td>Project Leads need to plan better (detail)</td>
</tr>
<tr>
<td>14</td>
<td>Identifying problems without offering solutions or options</td>
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<tr>
<td>14</td>
<td>Allocate one person full time for Tools maintenance</td>
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<tr>
<td>13</td>
<td>We’re good at developing things but poor at maintaining them</td>
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<tr>
<td>11</td>
<td>More realistic staffing plan. Not changed so easily</td>
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<tr>
<td>7</td>
<td>Project plans and staffing should be top-down &amp; not bottom-up</td>
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<tr>
<td>6</td>
<td>Utilize IPT meetings more or find a better day and time to meet</td>
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<tr>
<td>4</td>
<td>Project management - lack of awareness of what is happening on the ground - strategic goals</td>
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<tr>
<td>3</td>
<td>Base staffing plan on hours - not days</td>
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<tr>
<td>0</td>
<td>Individual recognition for going above and beyond</td>
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<tr>
<td>0</td>
<td>Need a resource-loaded schedule. Tasks, work, people, time</td>
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<td>Post top 5 priorities on SharePoint</td>
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<td>Project Leads to communicate better</td>
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<td>Too much reactionary work. Need a plan</td>
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<td>communicate Big Picture better</td>
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<td>Weekly or monthly no email or no chat day</td>
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<td>0</td>
<td>Knowledge management and information sharing</td>
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<tr>
<td>0</td>
<td>Knowledge of our own contract to understand our obligations</td>
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<tr>
<td>0</td>
<td>Following procedures</td>
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<tr>
<td>0</td>
<td>Training on tools and procedures</td>
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<tr>
<td>0</td>
<td>Define the process for test</td>
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<td>QA - what do they do?</td>
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<td>0</td>
<td>Team to communicate technical and resource limitations</td>
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<tr>
<td>0</td>
<td>Visibility into how the Organization can help us</td>
</tr>
<tr>
<td>0</td>
<td>Communication - respect points of view, listen actively, don’t interrupt</td>
</tr>
</tbody>
</table>
Qualtrics Survey

Q1. What nationality do you most associate with? (not required to be your country of birth)
   - Yes
   - No

Q2. Do you believe that change is good?
   - Yes
   - No

Q3. Does organizational culture negatively affect your work performance?
   - Yes
   - No

Q4. Have you experienced discrimination? (defined as, "treatment or consideration based on group, class, or category rather than on individual merit)
   - Yes
   - No

Q5. Have you observed unethical work behavior? (defined as, "behavior not in accordance with the rules of your organization or the standards of your profession")
   - Yes
   - No

Q6. Have you experienced bias? (defined as, "an inclination of temperament or outlook to present or hold a partial perspective, often accompanied by a refusal to consider the possible merits of alternative points of view")
   - Yes
   - No

Q7. Do you enjoy your work?
   - Yes
   - No

Q8. Do you feel like work decisions are equitable?
   - Yes
   - No

Q9. Are you aware of any personal conflicts?
   - Yes
   - No

Q10. Do you have a conflict with anyone at work?
    - Yes
    - No

Q11. Have you been stereotyped by anyone at work?
     - Yes
     - No

Q12. Are you religious? (defined as, "scrupulously and conscientiously faithful to following the rules of a religion")
     - Yes
     - No

Q13. Are religious boundaries respected at work?
     - Yes
     - No

Q14. Do you feel committed to your job?
     - Yes
     - No

Q15. Do you have any unmet work needs?
     - Yes
     - No

Q16. In your opinion, are you overburdened with work?
     - Yes
     - No

Q17. Are you happy with your assigned role?
     - Yes
     - No

Q18. Do you feel under stress more than once a month?
     - Yes
     - No

Q19. In your opinion, do you consider your compensation adequate? (all benefits, monetary or otherwise)
     - Yes
Q20 In your opinion, does organizational policy enable your work?
   ☑ Yes
   ☑ No

Q21 Are there any counterproductive rules at work?
   ☑ Yes
   ☑ No

Q22 Do you have strong leadership at work?
   ☑ Yes
   ☑ No

Q23 Do you have direct communications with line management at least monthly?
   ☑ Yes
   ☑ No

Q24 Do you generate and consider new ideas?
   ☑ Yes
   ☑ No

Q25 In your opinion, does management respond to your ideas appropriately?
   ☑ Yes
   ☑ No

Q26 Is the strategic objective of your tasking clear?
   ☑ Yes
   ☑ No

Q27 Does management have a comprehensive plan?
   ☑ Yes
   ☑ No

Q28 Is management consistent in implanting the plan?
   ☑ Yes
   ☑ No

Q29 Are there tools missing that would make your work easier?
   ☑ Yes
   ☑ No

Q30 Have you experienced negative gender authority beliefs? (defined as, "beliefs linking men to high-authority and women to low-authority roles or vice versa")
   ☑ Yes
   ☑ No

Q31 Are you Male or Female?
   ☑ Male
   ☑ Female

Q32 Do you feel empowered?
   ☑ Yes
   ☑ No

Q33 Is diversity encouraged at work?
   ☑ Yes
   ☑ No

Q34 Have you experienced inequality?
   ☑ Yes
   ☑ No

Q35 Do you have sufficient autonomy to show initiative? (if you are not interested in showing initiative answer "yes")
   ☑ Yes
   ☑ No

Q36 Are you on track to achieve your professional goals? (if you have no unmet professional goals answer "yes")
   ☑ Yes
   ☑ No

Q37 Do you feel secure with your current employment?
   ☑ Yes
   ☑ No

Q38 Are you seeking advancement?
   ☑ Yes
   ☑ No
Q39 Do you perceive future opportunity in your work?
- Yes
- No

Q40 Do you feel incentivized to perform your role?
- Yes
- No

Q41 In your opinion, are your work peers able to communicate effectively?
- Yes
- No

Q42 Are you respected by your professional peers?
- Yes
- No

Q43 In general, do you understand your colleague’s point of view?
- Yes
- No

Q44 Are all viewpoints accepted at work?
- Yes
- No

Q45 Are your beliefs challenged by your peers?
- Yes
- No

Q46 In your opinion, are social networks at work Positive, or Negative?
- Positive
- Negative

Q47 Does individual behavior reflect organizational values at work?
- Yes
- No

Q48 Obedience is the result of which condition in your organization; Coercion, Attitude, or Judgement?
- Coercion
- Attitude
- Judgement

Q49 Do you perceive the work you do as political in nature?
- Yes
- No

Q50 Which is more important to you; your Self, your Team, your Organization?
- Your Self
- Your Team
- Your Organization

Q51 Is the work environment conducive to collaboration?
- Yes
- No

Q52 Do your past cultural experiences make working with others easier?
- Yes
- No

Q53 For you, is language a barrier to understanding workplace meaning?
- Yes
- No

Q54 Is there a climate of trust in the workplace?
- Yes
- No

Q55 Is there mutual respect among team members?
- Yes
- No

Q56 Is there a dynamic and/or exciting atmosphere at work?
- Yes
- No
Table 7: Weights and Linkages

Please answer all questions in the context of your current work environment, experience, and relationships. This is a project diagnostic tool only and all responses are completely anonymous. Your participation assists management in identifying workplace improvements. Thank you!

<table>
<thead>
<tr>
<th>Nodes/Factors</th>
<th>N/F</th>
<th>Relational Context</th>
<th>Trigger survey questions to activate weighted values used in analytical computations to generate qualitative efficacy data. All questions are posed</th>
</tr>
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<tbody>
<tr>
<td>Culture</td>
<td>N1</td>
<td>Identity</td>
<td>What nationality do you most associate with? &gt;1 .025</td>
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<tr>
<td>Nationality</td>
<td>F1-1</td>
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<td></td>
</tr>
<tr>
<td>Sex</td>
<td>F1-2</td>
<td>Behavior</td>
<td>Have you observed unethical work behavior? Y .025</td>
</tr>
<tr>
<td>Race</td>
<td>F1-3</td>
<td>Bias</td>
<td>Have you experienced bias? Y .025</td>
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<tr>
<td>Religion</td>
<td>F1-4</td>
<td>Ideology</td>
<td>Are you religious? Y .025</td>
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<tr>
<td>Values</td>
<td>F1-5</td>
<td>Ethics</td>
<td>Have you observed unethical work behavior? Y .100</td>
</tr>
<tr>
<td>Status</td>
<td>F1-6</td>
<td>Role</td>
<td>Are you happy with your assigned role? N .100</td>
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<tr>
<td>Authority</td>
<td>F1-7</td>
<td>Responsibility</td>
<td>Do you feel under stress more than once a month? Y .075</td>
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<td>Beliefs</td>
<td>F1-8</td>
<td>Attitude</td>
<td>Do you believe that change is good? N .075</td>
</tr>
<tr>
<td>Relationship</td>
<td>F1-9</td>
<td>Business</td>
<td>Are you aware of any personal conflicts? N .035</td>
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<tr>
<td>Benefits</td>
<td>F1-10</td>
<td>Collaboration</td>
<td>Is the work environment conducive to collaboration? N .025</td>
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<td>Environment</td>
<td>F1-11</td>
<td>Rules</td>
<td>Are there any counterproductive rules at work? Y .035</td>
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<td>Stress</td>
<td>F1-12</td>
<td>Quality</td>
<td>Do you feel under stress more than once a month? Y .075</td>
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<td>Conflict</td>
<td>F1-13</td>
<td>Individuality</td>
<td>Do you have a conflict with anyone at work? Y .075</td>
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<td>Response</td>
<td>F1-14</td>
<td>Discrimination</td>
<td>Have you experienced discrimination? Y .050</td>
</tr>
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<td>Experience</td>
<td>F1-15</td>
<td>Cognition</td>
<td>Do your past cultural experiences make…easier? N .035</td>
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<tr>
<td>Politics</td>
<td>F1-16</td>
<td>Hegemony</td>
<td>Which is more important…your Self, Team, Organization? &lt;O .025</td>
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<td>Linguistics</td>
<td>F1-17</td>
<td>Communication</td>
<td>For you, is language a barrier to…workplace meaning? N .035</td>
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<td>F1-18</td>
<td>Planning</td>
<td>Do you feel incentivized to perform your role? N .025</td>
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<td>Role Model</td>
<td>Do you have strong leadership at work? N .035</td>
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<td>Processes</td>
<td>Is management consistent in implementing the plan? N .100</td>
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<td>Gender</td>
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<td>Nationality</td>
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<td>Discrimination</td>
<td>Have you experienced discrimination? Y .050</td>
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<td>Sex</td>
<td>F2-2</td>
<td>Perspective</td>
<td>Are you Male or Female? &gt;1 .050</td>
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<td>Race</td>
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<td>Intersection of equality and discrimination</td>
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<td>Religion</td>
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<td>Boundaries</td>
<td>Are religious boundaries respected at work? N .050</td>
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<td>Values</td>
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<td>There is no consistent support for gender differences in work values. Null .000</td>
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<td>Obedience is the result…Coercion, Attitude, or Judgement?! &lt;J .125</td>
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<td>Prejudice</td>
<td>Have you experienced negative gender authority beliefs? Y .100</td>
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<td>Empowerment</td>
<td>Is diversity encouraged at work? Y .100</td>
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<td>Stereotyping</td>
<td>Have you been stereotyped by anyone at work? Y .035</td>
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<td>Bias</td>
<td>Have you experienced bias? Y .025</td>
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<td>F2-12</td>
<td>Aggression</td>
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<td>Do you feel like work decisions are equitable? N .035</td>
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<td>Equality Have you experienced inequality?</td>
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<td>F-19</td>
<td>Cognition Do your past cultural experiences make…easier?</td>
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<td>Development Are you on track to achieve your professional goals?</td>
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<td>Bias Have you experienced bias?</td>
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<td>Boundaries Are religious boundaries respected at work?</td>
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<td>Commitment Do you feel committed to your job?</td>
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<td>Feelings Do you have any unmet work needs?</td>
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<td>Advancement Are you seeking advancement?</td>
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<td>Beliefs</td>
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<td>Motivation Do you enjoy your work?</td>
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<td>Credibility Are you respected by your professional peers?</td>
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<td>Salary In your opinion, do you consider…compensation adequate?</td>
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<td>Opportunity Do you perceive future opportunity in your work?</td>
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<td>Stress</td>
<td>F-12</td>
<td>Performance Does organizational culture…affect your performance?</td>
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<td>F-13</td>
<td>Personalities Do you have a conflict with anyone at work?</td>
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<td>Response</td>
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<td>Innovation Do you generate and consider new ideas?</td>
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<td>Experience</td>
<td>F-15</td>
<td>Equality Have you experienced inequality?</td>
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<td>Perception Do you perceive the work you do as political in nature?</td>
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<td>Regulation In your opinion,…organizational policy enable your work?</td>
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<td>Leadership</td>
<td>F-19</td>
<td>Vision Is the strategic objective of your tasking clear?</td>
<td>N</td>
</tr>
<tr>
<td>Management</td>
<td>F-20</td>
<td>Systems Are there tools missing that would make your work easier?</td>
<td>Y</td>
</tr>
<tr>
<td>Security</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nationality</td>
<td>F-4</td>
<td>Discrimination Have you experienced discrimination?</td>
<td>Y</td>
</tr>
<tr>
<td>Sex</td>
<td>F-5</td>
<td>Bias Have you experienced bias?</td>
<td>Y</td>
</tr>
<tr>
<td>Race</td>
<td>F-6</td>
<td>Discrimination Have you experienced discrimination?</td>
<td>Y</td>
</tr>
<tr>
<td>Religion</td>
<td>F-7</td>
<td>Bias Have you experienced bias?</td>
<td>Y</td>
</tr>
<tr>
<td>Values</td>
<td>F-8</td>
<td>Ethics Have you ever observed unethical work behavior?</td>
<td>Y</td>
</tr>
<tr>
<td>Status</td>
<td>F-9</td>
<td>Rank/Class Do you feel empowered?</td>
<td>N</td>
</tr>
<tr>
<td>Authority</td>
<td>F-10</td>
<td>Promotion Do you perceive future opportunity in your work?</td>
<td>N</td>
</tr>
<tr>
<td>Beliefs</td>
<td>F-11</td>
<td>Empowerment Is diversity encouraged at work?</td>
<td>N</td>
</tr>
<tr>
<td>Relationship</td>
<td>F-12</td>
<td>Equality Have you experienced inequality?</td>
<td>Y</td>
</tr>
<tr>
<td>Benefits</td>
<td>F-13</td>
<td>Development Are you on track to achieve your professional goals?</td>
<td>N</td>
</tr>
<tr>
<td>Environment</td>
<td>F-14</td>
<td>Autonomy Do you have sufficient autonomy to show initiative?</td>
<td>N</td>
</tr>
<tr>
<td>Stress</td>
<td>F-15</td>
<td>Employment Do you feel secure with your continued employment?</td>
<td>N</td>
</tr>
<tr>
<td>Conflict</td>
<td>F-16</td>
<td>Personalities Do you have a conflict with anyone at work?</td>
<td>Y</td>
</tr>
<tr>
<td>Response</td>
<td>F-17</td>
<td>Cooperation Are you aware of any personal conflicts?</td>
<td>Y</td>
</tr>
<tr>
<td>Experience</td>
<td>F-18</td>
<td>Cohesion Is there a climate of trust in the workplace?</td>
<td>N</td>
</tr>
<tr>
<td>Politics</td>
<td>F-19</td>
<td>Stereotyping Have you been stereotyped by anyone at work?</td>
<td>Y</td>
</tr>
<tr>
<td>Linguistics</td>
<td>F-20</td>
<td>Cognition Do your past cultural experiences make…easier?</td>
<td>N</td>
</tr>
<tr>
<td>Policy</td>
<td>F-21</td>
<td>Planning Does management have a comprehensive plan?</td>
<td>N</td>
</tr>
<tr>
<td>Leadership</td>
<td>F-22</td>
<td>Direction Do you have direct…management at least monthly?</td>
<td>N</td>
</tr>
<tr>
<td>Management</td>
<td>F-23</td>
<td>Processes Is management consistent in implanting the plan?</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>F&lt;sup&gt;5&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>-------------</td>
<td>------------------------</td>
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</tr>
<tr>
<td>Nationality</td>
<td>F&lt;sup&gt;5-1&lt;/sup&gt;</td>
<td>Tolerance</td>
<td>Are all viewpoints accepted at work?</td>
</tr>
<tr>
<td>Sex</td>
<td>F&lt;sup&gt;5-2&lt;/sup&gt;</td>
<td>Tolerance</td>
<td>Are all viewpoints accepted at work?</td>
</tr>
<tr>
<td>Race</td>
<td>F&lt;sup&gt;5-3&lt;/sup&gt;</td>
<td>Tolerance</td>
<td>Are all viewpoints accepted at work?</td>
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<tr>
<td>Religion</td>
<td>F&lt;sup&gt;5-4&lt;/sup&gt;</td>
<td>Tolerance</td>
<td>Are all viewpoints accepted at work?</td>
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<tr>
<td>Values</td>
<td>F&lt;sup&gt;5-5&lt;/sup&gt;</td>
<td>Congruence</td>
<td>Does individual behavior reflect...values at work?</td>
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<tr>
<td>Status</td>
<td>F&lt;sup&gt;5-6&lt;/sup&gt;</td>
<td>Respect</td>
<td>Is there mutual respect among team members?</td>
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<tr>
<td>Authority</td>
<td>F&lt;sup&gt;5-7&lt;/sup&gt;</td>
<td>Credibility</td>
<td>Are you respected by your professional peers?</td>
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<tr>
<td>Beliefs</td>
<td>F&lt;sup&gt;5-8&lt;/sup&gt;</td>
<td>Meaning</td>
<td>Are your beliefs challenged by your peers?</td>
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<tr>
<td>Relationship</td>
<td>F&lt;sup&gt;5-9&lt;/sup&gt;</td>
<td>Discrimination</td>
<td>Have you experienced discrimination?</td>
</tr>
<tr>
<td>Benefits</td>
<td>F&lt;sup&gt;5-10&lt;/sup&gt;</td>
<td>Prestige</td>
<td>Is there a dynamic and/or exciting atmosphere at work?</td>
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<tr>
<td>Environment</td>
<td>F&lt;sup&gt;5-11&lt;/sup&gt;</td>
<td>Information</td>
<td>In your opinion, does management...ideas appropriately?</td>
</tr>
<tr>
<td>Stress</td>
<td>F&lt;sup&gt;5-12&lt;/sup&gt;</td>
<td>Emotion</td>
<td>In your opinion, are you overburdened with work?</td>
</tr>
<tr>
<td>Conflict</td>
<td>F&lt;sup&gt;5-13&lt;/sup&gt;</td>
<td>Personalities</td>
<td>Do you have a conflict with anyone at work?</td>
</tr>
<tr>
<td>Response</td>
<td>F&lt;sup&gt;5-14&lt;/sup&gt;</td>
<td>Fulfillment</td>
<td>Do you enjoy your work?</td>
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<tr>
<td>Experience</td>
<td>F&lt;sup&gt;5-15&lt;/sup&gt;</td>
<td>Creativity</td>
<td>Is there a dynamic and exciting atmosphere at work?</td>
</tr>
<tr>
<td>Politics</td>
<td>F&lt;sup&gt;5-16&lt;/sup&gt;</td>
<td>Resources</td>
<td>Do you perceive the work you do as political in nature?</td>
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<tr>
<td>Linguistics</td>
<td>F&lt;sup&gt;5-17&lt;/sup&gt;</td>
<td>Comprehension</td>
<td>For you, is language a barrier to...workplace meaning?</td>
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<tr>
<td>Policy</td>
<td>F&lt;sup&gt;5-18&lt;/sup&gt;</td>
<td>Intersection of Incentives and Networks</td>
<td>Null</td>
</tr>
<tr>
<td>Leadership</td>
<td>F&lt;sup&gt;5-19&lt;/sup&gt;</td>
<td>Incentives</td>
<td>In general, do you understand...colleague’s point of view?</td>
</tr>
<tr>
<td>Management</td>
<td>F&lt;sup&gt;5-20&lt;/sup&gt;</td>
<td>Networks</td>
<td>In your opinion,...networks at work Positive, or Negative?</td>
</tr>
</tbody>
</table>

Contact mes324@georgetown.edu for access to excel files

Social Health Model (.xlsx)

Social Health Model.xlsx

Qualtrics Survey Report (.docx)

Qualtrics Survey Report.docx