Team Performance and Reducing Risk:

Adding Prospective Hindsight Punctuation (PHP) to the Project Manager's Toolkit

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Abstract

Proactive project-risk identification and mitigation are essential project tasks that organizations sometimes struggle with and may even ignore. At project initiation, there is an idealized version of how the plan will unfold. Stakeholders may know of risks but not voice their concerns to avoid being labelled a negative influence. Risks that could have been easily identifiable and mitigated may later cause poor team performance and even complete project failure. The purpose of this Signature Project was to integrate the two concepts of prospective hindsight and punctuated equilibrium as a unique approach to project-risk management. The goal was to create a set of integrated tools that can be easily administered by a project manager while also developing a starting point for future research efforts. This study extended the value of the prospective hindsight driven premortem meeting by creating a replica "midmortem" meeting that is delivered at the temporal midpoint of a project. Executive MBA students (N=14) provided feedback on the concepts and their experiences with them. The proposed Prospective Hindsight Punctuation (PHP) framework is a practical, common-sense approach to identify and mitigate project risk. The findings from this study suggest its scalable and modular components have benefits beyond risk management. The premortem meeting may be used as a team-building exercise during project initiation while the midmortem meeting may provide additional value as a productivity management mechanism during the project's midpoint transition. Research participants identified the length of the project and leadership support among the potential factors that may influence adoption and effectiveness. The PHP framework's broader dissemination and application hold significant promise for individuals, consulting practices, and organizations seeking to improve their success in delivering projects and managing team development.

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Introduction

Successful project delivery is a fundamental enabler of organizational effectiveness. Projects are the method through which new machinery gets installed, a product line gets launched, or an upgrade to the payroll system is implemented. They are an integral part of every business, but not every organization manages projects well. A "project" has been defined as a set of tasks, with a defined start and end date, required to achieve a specific goal (Project Management Institute, 2012). Authorizing a project indicates that an organization recognizes that tasks are interrelated, time-limited, complex, and thus fraught with risk. Accordingly, most projects are not delivered by an individual. Management allocates people to work together as a team to complete the goals of the initiative.

New project teams often struggle to get familiar with each other and become productive quickly. Executives engage human resource consultants to run workshops with their managers and supervisors on how to facilitate team development. In these engagements, Tuckman's (1965) team development stages of forming-storming-norming-performing are a regular feature for group discussion and role-playing. Over 50 years after its introduction, Tuckman's (1965) model remains a favourite tool of consultants and is even used in mainstream management literature to explain the team development process (e.g., Pink, 2018). Consultants gravitate toward this model because the progression is logical and easily understood by their clients. New supervisors and experienced managers like the logical flow but, in practical terms, they are confounded by a lack of temporal markers in its application. In day-to-day operational work team development has no end date thus no impetus exists to move from storming to norming by a certain point. Projects, however, are defined by their time constraints and the goals they must achieve. Team development inside a project, in turn, must absorb these parameters (Kozlowski & Klein, 2000).

It is essential to consider the influences that time has on team development and project performance.

Punctuated Equilibrium in Project Teams

The concept of "punctuated equilibrium" offers an alternate team development paradigm for managers. It allows them to consider team development within the context of time-limited work. The theory of punctuated equilibrium has its origins in biology and evolution (Eldredge & Gould, 1972) and suggests that while species evolve slowly over millions of years, their progress has concentrated periods of significant change. Gersick (1988) extended the theory of punctuated equilibrium from biology into the study of team development and offered it as an alternate explanation to Tuckman's (1965) stages. In a field study that followed team performance in eight task force groups, Gersick (1988) noted the presence of temporal markers within each project. The first meeting defined the way in which they worked together during the first half of their task force. As time progressed, teams fell into low performing rhythms that were rooted in that initial meeting. At the midpoint of the projects, teams experienced dramatic changes in how they approached and completed the remaining work. Gersick (1988) found that the more successful teams better managed the midpoint transition. The midpoint was a predictable time at which teams became more open to interventions. Once the midpoint passed, however, the team's method for finishing the remainder of the project was set, and further influence was limited. The temporal midpoint of a project created a significant unconscious marker in the team's progress (Gersick, 1988). Punctuated equilibrium, in the project team context, proposes that people suddenly recognize the amount of spent time and feel the pressure of how little time is left. They begin to look for new models and methods and become spurred to action underneath that pressure. Additional research echoed Gersick's (1988) findings and suggested that other

"devices" could introduce a punctuation point to encourage creativity and productivity. For example, a new CEO creates a shift in corporate priorities and the goal of a department's project. This kind of organizational change creates a punctuating point in a team's development and productivity (Ford & Sullivan, 2004; Gersick, 1991; Knight, 2015; Romanelli & Tushman, 1994; Staudenmayer, Tyre, & Perlow, 2002).

Punctuated equilibrium provides the starting point for an alternative framework for understanding and influencing time-constrained team development. It also implies an intervention to assist the escape from team stagnation once inside a project. Recognizing that the midpoint transition will likely occur means it is a fundamental leadership task for a project manager to guide the team through that critical period. Project managers (PM) would benefit from a device that could be introduced to their team to focus imagination and spur team productivity through the remainder of the project. The tool must adapt to teams of varying sizes as well as organizations with differing mandates. The tool must also be flexible enough to adapt to the temporal limits that define a project. In searching for a tool, a technique revealed itself that was not constrained by time but invokes it explicitly.

The Premortem Technique

In 2007, Gary Klein wrote an article titled, "Performing a Project Premortem" (Klein, 2007). The premortem is akin to the more commonly used "postmortem" meeting. Postmortem meetings look at a project retrospectively to determine what went right and what went wrong. These post-project reviews seek to improve the organization's ability to execute similar projects in the future and through lessons-learned create a valuable cycle of continuous improvement (Deming, 1993; US Army, 1993). The premortem meeting, instead, attempts to proactively identify opportunities and risks by creating a challenge for stakeholders during the project kick-

off. Prospective hindsight is the perspective-taking method that underlies the premortem meeting and is the key to its effectiveness. Prospective hindsight asks participants to imagine themselves moved forward in time to the project's end date (prospective). Stakeholders are then told that the project was a disaster. Using that temporal frame and "looking back" at the project (hindsight), stakeholders are invited to identify reasons for that (assumed) failure (Klein, 2007).

Prospective hindsight creates a shift in perspective from an inductive or forward-looking mindset about something that could happen to a deductive frame that assumes the events have already happened. As per Figure 1, the perspective change facilitates the identification of the causal chain that led to that event (Gallop, 2017; Mitchell, Russo, & Pennington, 1989; Vesely, 2002). Using prospective hindsight has the potential to provide a team with a range of benefits. These may include reducing plan overconfidence, improving processes and outcomes, as well as proactively identifying and mitigating the reasons for possible project failure (Gallop, Willy, & Bischoff, 2016; Luth, Flinchbaugh, & Crawford, 2017; Venoitt, Klein, & Wiggins, 2010). The premortem provides a mechanism that allows for and encourages the extraction of these sentiments and provides an outlet for the team to identify additional risk creatively.

Following the publication of Klein's (2007) article, additional research confirmed that premortem meetings could provide a vehicle to highlight project risks and opportunities. Trotman, Simnett and Khalifa (2009) used the premortem as a method for auditors to detect fraud. In an experiment with 111 auditors from one of the "Big Four" accounting firms, Trotman et al. (2009) found that a premortem treatment outperformed brainstorming as a method of fraud detection in the areas of quality and quantity of risks defined. Venoitt, Klein and Wiggins (2010) conducted an experiment that examined 178 people assigned to one of five conditions who evaluated an H1N1 flu response plan. They found those assigned to use the premortem were

more effective than other methods (pro/con, con, critique, control) in reducing overconfidence in a plan. Faily, Parkin and Lyle (2014) utilized the premortem as a method of evaluating cybersecurity risks. One strength of the premortem was the ability to engage a broader cross-section of stakeholders. People without an information technology background could readily contribute to a highly technical project (Faily et al., 2014). Luth, Flinchbaugh and Crawford (2017) examined 187 undergraduate students across six classes to determine if the premortem would improve student success. Luth et al. (2017) found that the use of the premortem meeting provided gains in perspective taking within teams early-on and then throughout the entire semester. Teams took proactive action to improve their educational outcomes (Luth et al., 2017). Gallop (2017) believed that identifying risk was the most important element of the risk management process and conducted an experiment that involved 101 experienced project professionals from the government and defence industry. In the experiment, 51 subjects used the premortem technique while 50 used a brainstorming technique. Gallop (2017) used structured observation, surveys, and a Delphi panel to study the quantity and quality of differences generated by these two techniques. The study had an interest in the ability of these techniques to identify highly improbable but costly risks. Gallop found that the premortem techniques provided higher quality risks, more positive alterations to the project's plan to mitigate risk, and a better ability to identify high-impact unlikely risk scenarios (Gallop, 2017).

These studies have provided valuable insight into the use of the premortem technique but represent the bulk of empirical work completed since Klein's (2007) article. The lack of research on the premortem stands in contrast to the popularity it enjoys in online management and corporate blogs (Google.ca returned 278,000 search results on March 29, 2018). There it is lauded as an efficient technique for project risk reduction. One of the purposes of this Signature

Project was to advance the academic research efforts on this technique. The premortem offers managers a valuable engagement device early in a project's lifecycle. Using this simple tool at project outset seems to provide a cost-effective method to increase the chances of successful completion. This research project sought to advance the understanding of the application and provide direction as to when a manager should select the premortem technique from their toolkit.

Extending Prospective Hindsight: The Midmortem Technique

A novel contribution in the present work is the suggestion that the process of invoking prospective hindsight should not be limited to the beginning of a project. There is potential in this approach beyond the initial stage of team development and project initiation. The project execution phase would also seem to benefit from the use of a "midmortem" meeting. The midmortem meeting is proposed herein as a replica of the premortem and delivered at the midpoint of the project schedule. That is, there appears to be considerable value in combining prospective hindsight perspective-taking (Klein, 2007) at a crucial period for time-limited project teams (Gersick, 1988). The original purpose of creating the midmortem was less about identifying risk and more about managing team development and productivity. As the temporal pressure of the project midpoint enters the team's consciousness and acts as a natural punctuating device, the midmortem may provide a mechanism to influence the team's direction and productivity. The punctuated equilibrium model emphasizes the need to effectively manage the midpoint transition while prospective hindsight provides an approach for doing so. Project managers who ignore the midpoint transition leave potential risk unmanaged. Risk ignored may cause the team to take the wrong fork in the road on their project path or slip into a trough of unproductive busy work. The midpoint window where a group is receptive to outside intervention is limited (Gersick, 1988). The midmortem becomes a potential device that could be

used to help manage the temporal transition, reframe risks, and push the team's focus toward the final project goals. The content generated by the midmortem meeting may assist in identifying new project risks and can elaborate on existing ones produced during the earlier premortem. This technique may be beneficial, but the second round of prospective hindsight's real value is believed to be as a mechanism for individual and team recommitment to project goals.

Prospective hindsight's ease of use is a strength. Complexity in the training process raises the spectre of formal project management processes that may diminish its perceived value in an executive's mind. The effectiveness and broad applicability of prospective hindsight may lie in not requiring a rigid delivery process. Extensive structure may create constraints, but some structure may be required to deliver the framework effectively and efficiently. The target should be less focused on "training" and more on communicating delivery "guidelines" for the premortem and midmortem framework. The creation of a consistent framework was a practical objective of this Signature Project.

Goals of the Research Study

The literature review revealed no research on the combination of the punctuated equilibrium and prospective hindsight concepts. This may change as awareness of both Connie Gersick's (1988) and Gary Klein's (2007) research in these areas has reached a mass-market audience. Recent best-selling management books have highlighted both authors, and one, if not both, of the core concepts involved in this study (Grant, 2017; Pink, 2018). The proposed midmortem introduced in this Signature Project is a unique contribution. This research project has also attempted to be the first to formulate an integrated strategy and practical framework for managers. Given the lack of a combined paradigm, the goals of this Signature Project were twofold. First, using data gathered from interviews and questionnaires, one goal was to integrate

and refine the two concepts of prospective hindsight and punctuated equilibrium. The aim was to create a practical, effective, and scalable set of tools that project managers can easily understand and add to their toolkit. Secondly, in doing so, this paper sought to create a well-defined, reproducible process capable of acting as a starting point for future research efforts that can verify the efficacy of the model.

Method

This study followed an Action Research methodology involving the steps plan-act-observe-reflect (Bradbury-Huang, 2010; Smith, 2017). Stringer (2014) called action research, "a systematic approach to investigation that enables people to find effective solutions to problems they confront in their everyday lives" (p. 1). Action research provided the Principal Investigator (PI) with a way to offer tools for positive change among participants while simultaneously progressing the conceptual discussion. The steps in action research are typically delivered in cycles to facilitate elaboration on the element(s) under study. The initial Plan phase of the action research process began with the lead up to the start of class in the Fall of 2017. On Saturday, September 16th, a shift occurred to enter the Act phase of the first action research cycle. Specifically, the PI delivered a workshop to the Management of People & Organizations (BUS 6010) class in the Executive Master of Business Administration (EMBA) program at the University of Prince Edward Island. The workshop occurred on the second of four days of onsite coursework and was made part of the course curriculum. It contained a debriefing session near its end. The debriefing provided an opportunity to differentiate the end of the workshop from the beginning of the formal data collection of the research project. As students moved beyond that debriefing session, it represented a transition to the Observe and Reflect phases of the first action research cycle.

After the workshop debriefing was completed, the PI made a call for study volunteers. There were explicit instructions that those class members who did not wish to participate were free to leave at that time. There was reinforcement that research participation was voluntary and that a student`s choice to participate or not participate would not affect their BUS 6010 coursework, nor have any other repercussions. The BUS 6010 course instructor and supervisor of this Signature Project did not attend the workshop, was not present for the call for volunteers and had no access to primary data collected for the study, including no knowledge of the identities of participants. Students who wanted to take part in the study were asked to remain and sign a Letter of Informed Consent. The purpose of the letter was to act as a formal gate to confirm their participation in the primary data collection portion of this study. Participants were informed that feedback would be sought about their experience using the techniques presented in the workshop. Also, to broaden their insight, participants were encouraged to look for opportunities to use the new-found techniques in their personal or professional lives. The participants were presented with two mechanisms to provide feedback to the PI in this initial Observe-Reflect cycle. They could engage in an individual or group interview with the PI or could complete an online questionnaire.

The second action research cycle was initially intended to build upon the first. As participants continued to use the techniques in their daily life, they could feed those experiences into an iteration of the interview or the online questionnaire. Unfortunately, although the data gathering portion of the study stayed open until late December, there was minimal participation to constitute a segmented second action research cycle. There were no volunteers for a second interview, and only two submissions of the questionnaire were second iterations. Despite this, some aspects of the data collection that were expected to appear in the second cycle migrated

forward to the first. Six respondents provided feedback on their use of the premortem and midmortem techniques in their personal and professional lives.

Two factors led to the lack of a well-defined second cycle in the study. The primary reason was the time delay between the workshop and the interviews. Constrained time schedules of the participants and the PI hampered the timely completion of the interviews and drew the first phase out longer than was expected. The second factor was that there might not have been enough time in the data collection window to allow all participants to use the techniques and provide feedback. Participants, already busy with an EMBA and day job, may have required more time to find appropriate opportunities for application. Despite the lack of a distinct second action research cycle, there was still a substantial amount of data harvested. The insights garnered from the first feedback loop, enhanced by those people who had already used the concepts, have provided sufficient basis to advance the discussions and refine the application of the proposed Prospective Hindsight Punctuation (PHP) framework. The results of this study are adequate to create a starting point for coupling these risk identification and team management techniques into a single framework. Further research will be vital to improving and refining this model.

Participants

The pool for potential participants for this study came from the BUS 6010 course. The Fall 2017 class consisted of 16 students from the new 2017 EMBA Cohort and 14 students from the second-year 2016 EMBA Cohort. The different points each of these Cohorts had on a shared journey created useful temporal parallels to a project lifecycle. The 2017 Cohort was at the beginning of their EMBA while the 2016 Cohort near the midpoint of their journey. The composition of the Fall 2017 BUS 6010 class was unique due to a special offering in the fall of

2016 that affected the course sequencing for many of the students who started the program in 2016. Most students entering in 2017 took BUS 6010 as customarily scheduled at the beginning of their EMBA programs.

After the initial workshop presentation to the BUS 6010 class, 20 of the 30 students (67%) completed the informed consent form to indicate they wished to participate in the study. In this group, all 20 volunteered to participate via the questionnaire. Ten participants, 50% of those who had initially volunteered, submitted a response. In addition, two of those 10 completed the questionnaire a second time as part of the second action research phase. In that pool of 20 respondents, 19 indicated a willingness to participate in the interview portion of the study. In this group of 19 potential participants, there were 11 (58%) that responded to the request for an interview.

The only research instrument employed to query gender of the participant was the online questionnaire as it allowed for anonymous response. Seven (70%) of the questionnaire respondents were female, and three (30%) of the respondents were male. Although the PI did not ask the participant their gender during the interview, nor during the workshop, observationally this ratio appears to be reflective of the original BUS 6010 class. The breakdown of participants by Cohort Year was much less representative. The entire BUS 6010 class had 14 (47%) students from the 2016 Cohort and 16 (53%) from the 2017 Cohort. Those responding to the call to participate in the study was dramatically different at 13 (65%) from the 2016 Cohort and seven (35%) from the 2017 Cohort. Among those who participated in the study (N=14), there were 11 (79%) from the 2016 Cohort and only three (21%) from the 2017 Cohort. The PI believes the high participation rate from the 2016 Cohort is a result of his being part of that EMBA Cohort.

While a broader diversity of response between Cohort years was desirable, this study was not overly constrained in achieving its research goals.

Workshop

The hour-long workshop began with the BUS 6010 students learning about the core concepts of punctuated equilibrium and prospective hindsight. The session progressed into an outline of how to use the premortem and midmortem techniques and an overview of the study's methodology. The students then broke into smaller teams to practice the premortem and midmortem technique in a 15-minute session. The PI requested that the students separate into their EMBA program-assigned work teams. Grouping students in this manner was expected to have the most impact given these were the people they would be working with the most on school projects throughout their programs. The task assigned to the teams was to use the premortem or midmortem techniques to place themselves forward in time and imagine they had failed to complete the EMBA program. Using prospective hindsight, they were asked to identify the risks that derailed their EMBA completion and then start to create appropriate risk mitigation plans. Individual team members were given two minutes to write as many reasons as they could and then start to discuss their risks with their team. Verbally, and in the handout provided, instructions indicated everyone in the group should have a turn voicing their risks as they compiled a single prioritized group list in this 15-minute group segment. Finally, time permitting, they were to start to construct mitigation strategies for their top risks. Once this time expired, all teams came back together for plenary discussion. Each group was asked to share their number one risk with the entire class in a final 20-minute debriefing. Discussion of each group's top risk and potential mitigation strategies happened openly and collaboratively. Time constraints prevented sharing every risk by all groups. The PI recorded the class prioritized risks

and mitigation plans. The PI later compiled these and other generalized insights and distributed that information to the EMBA Program Coordinator and Program Director. The intention to deliver this report was communicated to the class during the workshop. The report provided an efficient way for current EMBA students to offer feedback to improve program delivery and education to future students. However, its prime purpose was to give students a chance to apply prospective hindsight to a common issue, even if in an abbreviated manner.

Data Collection Instruments

Two data collection instruments were used in this study, a questionnaire and an interview. These instruments were selected given their flexibility to be adapted to the multi-cycle action research approach and ability to be administered within the given time constraints. At the close of the workshop, the volunteer participants provided the PI with their email addresses and indicated in which elements of the study they wished to participate. The PI used these email addresses to contact the participants to arrange phone interviews or provide the web link to the online SurveyMonkey questionnaire, as per participants' desired method(s) of participation.

Questionnaire

The link to the questionnaire was distributed to study participants via email on September 18th, 2017. Potential respondents received a final reminder email with the link again on December 4th, 2017. The Premortem and Midmortem Reflection Questionnaire began with a chance for respondents to review and acknowledge their rights as a participant in the study. The structure of the questionnaire allowed all respondents the option to complete it anonymously one or more times. The first three questions queried as to which gender they most identified with, what year they started their EMBA program, and an open text field was provided to record their name. All three of these initial questions were not mandatory, and the respondent had the option

to leave them unanswered. The next question presented to respondents was to differentiate if this was their first time completing the questionnaire or if they were returning. This question allowed the workflow of the questionnaire to diverge so as not to ask returning participants the same questions asked in an earlier session. There was a total of eight questions presented to those who completed the questionnaire the first-time. Returning participants had a truncated list of three questions reflective of their presumed point in the second action research cycle. Appendix A provides a list of all questions asked in the online questionnaire in both streams.

Interview Guide

Participants had the opportunity to choose a group or one-on-one interview with the PI. All 11 participants who responded to the request for interview chose to conduct it in the one-on-one format. As the PI and the participants lived in different provinces, interviews were conducted over the phone between the dates of September 27th and November 6th, 2017. Interview lengths ranged from approximately 15 to 25 minutes. Each interview began with a review of participants' rights in the study, that it was being recorded, and that the PI would manually transcribe it at a later date. All participants had the right to review a copy of the transcription, but none made this request. Although there was a previously defined interview protocol (see Appendix B), ad hoc questions were sometimes required to elicit details from participants of relevant information that spontaneously emerged. No participant indicated they wished to provide a second, follow-up interview before the data collection window closed on December 22nd, 2017.

Results

Upon completion of the data collection phase of the study the data were extracted from the SurveyMonkey website into a spreadsheet form to aid in data cleansing operations. Each

response had a unique ID assigned, and non-essential fields were removed before the file was uploaded into the NVivo Pro 11 data analysis software package. A master spreadsheet was created that contained the unique ID information from the interview and questionnaire. The PI transcribed the audio recordings of the one-on-one interviews into individual word processing files. The transcription process required a three-pass approach to listen to the audio file at progressively faster speeds. On the final verification pass, the file was played at normal speed. Three passes were required to ensure the detail and accuracy of each transcribed session. Upon completion of the transcription, the files were assigned a unique ID, and a duplicate file was created. The master file was archived, and the duplicate was edited to remove the text representing the "voice" of the PI. Cleansing the transcribed files in this manner before they were uploaded into the NVivo data analysis program ensured more accurate word counts, and theme allocation during the analysis. In the final step, the PI updated the master spreadsheet to facilitate cross-referencing of the interviewees to those people who self-identified in the questionnaire.

The NVivo software was the primary vehicle for data analysis in this study. See Figure 2 for a word cloud generated from all interview and questionnaire source texts. The software facilitated the PI's examination of the data files and coding of the salient parts to different concepts. In reviewing these interview and questionnaire source files, approximately 60 different concepts were identified. The concepts were then grouped into 18 broader thematic areas. The themes were examined in detail, and the PI entered notes on each theme directly in NVivo. Organizing the data in this manner within NVivo facilitated an easily accessible, linked view of the source text, concepts, themes, and PI-generated notes.

In the many themes that emerged from the content, two broad categories stood out due to the volume of responses. These categories regarded the benefits or barriers to future use of the

framework. Other areas of feedback included participants' insights on the framework process and application, alternate methods of midmortem use, midpoint transitions, as well as delivering the framework as a formalized service offering to organizations. These and other themes are explored in greater detail below.

Participants' Views of the Conceptual Framework

The workshop included a presentation of the two core concepts that comprised the framework, prospective hindsight and punctuated equilibrium. In the case of the premortem, students had briefly encountered the idea in their assigned course readings. Additional knowledge gained from the workshop should have given them the appropriate tools to apply it to their own experiences. Although the workshop appeared to run smoothly, there was no immediate way for the PI to ascertain how well the potential participants embraced the concepts. It was not until interviews began and questionnaires were received that the PI was able to determine whether the participants felt the concepts "made sense." In all 11 interviews, the participants made specific mention of the concepts in a positive light. One participant indicated:

> I found them, it was kind of, it seemed like stuff like that was very logical and stuff that was to me, as someone who worked on projects, and obviously going through the EMBA program and then expecting to work on projects…I feel, that going through these steps, and at least being aware of these different transitions and how to handle them, to be very helpful, and just like as long as you follow them and kind of acknowledge the existence that these items are there to help, and use them in that sense, and they can be helpful to help people move the project along and smooth over any bumps that may come up. [GU17]

Determining if there was conceptual acceptance by the participants was an important aspect to confirm the results. Positive feedback may denote a higher likelihood that the participant had made, or would make, productive use of the framework. The positive feedback of the concepts suggests progress in achieving the study's primary goal -- providing a tool that would find immediate or potential use.

Subsequent Use of the Framework by Participants

Continued analysis of participant feedback revealed the actual use of the techniques by the participants. The cycle time employed by the action research method allowed some participants a chance to apply the framework in their own lives, though fewer than would likely be the case over a longer period of time. Encouraging participants to use the techniques thus elevated their breadth of experience and ability to provide the PI more robust feedback. Across the group of 14 participants, there were six (43%) who provided feedback that indicated instances where they had used the concepts in either their personal, academic, or professional lives since the workshop. The exciting aspect that emerged from analyzing the application of these six perspectives was that no one used workshop concepts in the same manner. Strikingly, none used it in its initially presented format. One could potentially view this as a shortcoming of the educational briefing provided in the workshop or the efficacy of the framework. Doing so, however, would represent an inflexible view of the framework. Participants extracted and adapted the individual concepts to the context of their situation. These were ad hoc or unscheduled mechanisms introduced to address a particular issue rather than an entire project. This adaptation allowed participants to use prospective hindsight and provide feedback within the time-constrained format of the data collection window. One participant, now suddenly aware

of the midpoint transition, used a modified midmortem process to help gather and re-focus their project team.

> So, I did do this midmortem exercise or sort of a loose version of it, I guess, and it went over quite well. People identified a number of different problems, and people also, as far as the punctuated equilibrium aspect of it, people sort of recommitted to the project and we'll see if it actually follows through. [GU9]

Another participant was able to extract the premortem knowledge and train someone else on its use. The participant, despite brief exposure to the concept, drew temporal parallels and identified a potential application with an associated individual. The study participant indicated to the PI that the individual proceeded to successfully use the premortem technique to evaluate a path and make a significant life choice decision.

Modularity, Familiarity, and Common Sense

The participant's extraction of the appropriate process elements is an example that shows the portability and modularity built into the framework. When delivered end-to-end, it likely creates the most significant impact, but this presumes the entire temporal context is available for application. Education sessions, such as the workshop, can be used to explain the framework and its individual elements. It is logical then that participants identified and applied these parts to specific contexts. The ability to extract and apply elements separately is not a negative aspect of the framework, but one that can add significant value. It is a multi-purpose framework that easily fits in a practitioner's toolkit. In the case of participant GU9 above, the premortem was the most salient point to extract and teach that external individual. They needed to make a point-in-time decision. It is unknown if this study participant provided additional education to the external individual on the remaining aspects of the framework. If they had, understanding the entire

process may have allowed the new practitioner an insight that they were also engaging in a potential process entry point. Instead of looking at their decision as a singular fork-in-the-road it could be considered a structure for evaluating life-choices. Engaging in a midmortem at a later point may provide further individual insight into new decisions that must be made. The framework becomes a familiar and easily accessible tool. Conduct a premortem to evaluate risk initially and a midmortem to re-assess and realign. Not every decision in life fits this model, but understanding the framework and its components helps users identify opportunities for entry.

The other important characteristic of this example is this premortem-created benefit for an individual and not a group. The framework and composing modules are not just for group activity but individuals as well. As one interviewee elaborated, “if you’re self-aware about that you’re using this…process, I think it could work for like a single practitioner type of a worker. Somebody who is an independent worker” [GU11]. Understanding the framework can be perceived as modular and not inflexible allows an individual or team to insert themselves at any point temporally. If they start part of the way through a project, it is okay, introduce a midmortem. Methodologically premortems and midmortems reflect a similar process, and temporally it is what is applicable. For example, one participant indicated they did not get together as a group in the first half of a project. As they experienced a midpoint transition, the midmortem process was utilized to focus the team and get them back on track to completing their goal. The absence of an earlier premortem does not preclude the latter application of a midmortem. A direction for future research is to investigate through experimental or quasi-experimental research the main and interaction effects of premortems and midmortems as distinct interventions.

All subsequent framework-adopting practitioners in this study reported a positive outcome in their respective applications of prospective hindsight. The extraction and implementation of components provided tangible benefits for participants either personally or professionally. The workshop included an initial draft diagram of the framework (see Figure 3). Why was the extraction of the framework components so prevalent among the study participants despite the short time frame they had to apply it? Feedback pointed toward the clear explanations given for the premortem, midmortem, and punctuated equilibrium components during the workshop. Education was a barrier to overcome. The single most cited impediment to common usage of the framework by participants was that people are simply unaware of these concepts and techniques. Nine respondents came back to the topic of communication and education a total of 26 times throughout the interviews. Some of the feedback regarding communication and education centred on basic awareness-raising whereas other constructive feedback focused on suggested refinements to the methods used in the workshop. In particular, the action-oriented elements of using prospective hindsight in a premortem or midmortem meeting were singled out as needing elaboration. Despite this, there was a frequent comment expressed by several (6) interviewees. They assessed the framework as being akin to "common sense." There is an apparent juxtaposition that exists between the framework being common sense yet also requiring education to implement. Why are both characteristics of the PHP framework?

Educating Common Sense

These contradictory positions may stem from two items that emerged from participant feedback. First, not all participants had a unique framing for the premortem and midmortem meetings. There was no recognition that applying prospective hindsight created a qualitative differentiator that distinguished these meetings from ones that used simple brainstorming. The

result was that several participants drew a direct line to the brainstorming technique they traditionally used for group engagement. Several participants even referred to the breakout session in the workshop as a brainstorming task. The ubiquitous role of the brainstorming process in business, academic, and everyday language has raised it to the level where many can make the easy leap to call it "common sense." The premortem and midmortem process, although made qualitatively different through prospective hindsight, has strong parallels in its group involvement and can be painted with the same brush as it was by participants in this study.

It is essential to draw a distinction that premortems and midmortems are not brainstorming. Brainstorming has a somewhat checkered history. Popularized over 65 years ago (Osborn, 1953), its use remains widespread in the workplace today as a method for idea creation in groups. The popularity endures despite extensive research that has found it to be less effective than other techniques such as nominal groups (Furnham, 2000). Why then does brainstorming remain a favourite tool that managers use time and again? Recent research has suggested that there is more that attracts people to the technique than idea generation alone and that it serves a function to build group cohesiveness (Henningsen & Henningsen, 2017). There is also research suggesting that brainstorming is best not used in isolation. The creation of a hybrid model, consisting of both individual and group ideation techniques can be “important for effectively tapping group’s creative potential” (Korde & Paulus, 2017, p.189). Despite the parallels that may come from some shared characteristics with brainstorming, significant differences exist in conceptual approach and execution between these techniques. The premortem and, by extension, the midmortem uses not only prospective hindsight but mixes individual, small group, and larger team idea-generation formats. These differences may speak to why Gallop (2017) and Trotman

et al. (2009) both found the premortem method more valuable than brainstorming. The nature of these differences is an important consideration when educating potential future practitioners.

The second item that emerged related to the educating common sense theme was that participants identified a need for training on the terminology. There appeared to be a mental distinction that arose from the situational context of where the concepts were first introduced. The concepts and application of the framework came through their Executive MBA course readings and an in-class workshop rather than from their professional lives. The methodological elements were placed in their minds in an academic context, potentially colouring how they view them. It is possible some participants associate the capacity to understand these terms with the requirement of having an advanced level of education. Indeed, the words, “prospective hindsight," "punctuated equilibrium," “premortem,” and “midmortem” are not commonly used and could easily be construed as academic in origin. One word, midmortem, was constructed for this academic study although the intention is it will eventually find broader use. Understanding the context of concept introduction lends some understanding as to why so many participants may have identified education for these common-sense principles as being a necessity.

Discussions with participants revealed other possibilities for this lack of common sense adoption. One participant highlighted that some people are “so busy with the day-to-day and not taking that time to think about the big picture” [GU12]. People live in and act in an operational context and not a strategic one. They deal in the near term instead of future planning. Time constraints and a business culture that maintains a bias toward action instead of reflection create a barrier to usage.

> You know I think we get all caught up when we’re, not just in an academic atmosphere but in any work atmosphere we’re so caught up in the day-to-day of

> our tasks and trying to achieve our day-to-day objectives that we just don't really have, take the time to reflect and observe and think about what we're doing. [GU12)

Respondents believed people might not have time to practice these methods. In the rush and pressures to get work done, the process becomes viewed as too time-consuming. For example, to execute a premortem or midmortem the PM must get all the stakeholders in a room (physical or virtual), brief them on the concepts, and facilitate the process. In busy companies with complex organizational structures distributed across time zones, this is not an easy task. For many staff, they feel they are better off just executing and if an issue occurs then, and only then, will the risk be addressed. This is a straight-forward approach that is biased toward action but does not assign time for planning and reflection. It is an approach based on learned behaviour. The cultural influence comes from above and highlights another significant theme identified by the study participants, leadership.

Project Success, the Role of Leaders, and the Public vs Private Debate

Several of the participants expressed significant reservations that this framework would not be able to be used unless leaders supported it. These concerns came in two distinct flavours. The first sentiment expressed, as mentioned above that leaders do not want to deal with risk until it happens. It is wasted effort. The participants felt that leaders tended to value straight-forward task completion rather than initiatives that first engaged in reflective action such as risk identification and mitigation planning. The possibility that the premortem or midmortem exercises would not be viewed as value-add processes is a high barrier to acceptance. Education on the framework and its benefits is again required to dispel potential misunderstandings among leaders. Senior managers may also need assistance in realizing that the full benefits of the

framework lies beyond the simple, yet compelling, Return on Investment (ROI) associated with mitigating project risk. There are potential benefits from gaining a broader strategic view (Meissner & Wulf, 2015) and by building a more cohesive sense of team (Henningsen & Henningsen, 2017). The premortem exercise at the start of the project may help build that initial sense of "team" that may not always be present at a project kick-off meeting. The midmortem can be leveraged in a subsequent iteration to provide a focusing mechanism through which the midpoint transition is managed, and its structured collaboration helps build upon the sense of team.

Secondly, there was a limitation highlighted that leadership support was necessary to ensure any methodological process adoption inside an organization. Leaders must champion the cooperative onboarding process before it can be considered a viable organizational approach.

> I think of some barriers with management leadership styles. It may not be as collaborative of getting people's input as much as just giving out orders. [GU8]

The importance of leader support was a popular sentiment. Unfortunately, some participants did not seem to hold out much hope for its endorsement from their leadership team.

> I don't really see the upper management putting much of an emphasis on reflection and observation… [GU12]

This perceived barrier to leader adoption became pronounced for those participants who also self-identified as being in a public sector role. They felt the downward pressure, or lack of executive support came from superiors who were driven by political will. Respondents felt this was an added complication to their ability to implement this framework versus a private sector organization that does not face the same level of public-driven political pressure.

There is a counter-argument to be made for why the applicability of the PHP framework may be even more crucial in a public service environment. Civil servants constrained by the changing directions of "political will" would greatly benefit from a structured process for identifying and mitigating the seemingly absurd or improbable risks that threaten their projects. An early premortem process to help identify and mitigate all risks, including those of political origin, could have substantial benefits. The midmortem could aid in keeping the project on track and provide a reassessment phase of that same political risk. On the surface, one would think politics is only another force to evaluate, but this may be an oversimplification. One participant alluded to why political risks in a public environment may be qualitatively different.

> …originally there was some ideas thrown out. Then as some of those ideas were kind of bounced off a Deputy, the Minister came back with more direction and basically said, one of the ideas that one of the members came up with, completely off the table, and to make it clear it's not to be discussed, it's not an option. Government had no interest moving that direction. [GU7]

The identification of risks and being forced to confront them as a matter of public record could create an unpalatable situation for a leader. Actively identifying risk and creating mitigation plans acknowledges a risk's existence. Public organizations are required to have detailed paper trails that could become available to media or political rivals under freedom of information requests. In these cases, the proactive use of risk identification and mitigation framework tools closes the sometimes convenient and politically expedient avenues of executive ignorance that could provide an escape should a project failure occur. Although overt public politics are absent or reduced, similar considerations exist in private organizations and publicly-traded companies. Does not the executive feel the pushes and pulls of market forces well beyond their control? That

political or market-based force may influence the efficacy of the framework is an attractive potential avenue for elaboration, contrast, and discovery.

Those who cited leadership as being a barrier, no matter whether the participant was from a private or public organization, expressed concern that this group would not embrace the necessary level of collaboration required by these techniques. The lack of upper-level support will almost certainly mean adoption failure by organizations. Rodgers and Hunter's (1991) meta-analysis found that Management-By-Objective (MBO) was most successful when the leadership had endorsed and adopted the method for themselves. MBO had declining rates of success as leadership involvement, and support waned (Rodgers & Hunter, 1991). Organizational traction of the premortem and midmortem techniques can expect similar parallels. Leaders tend to espouse a desire for creativity and adoption of new methods but to force themselves to stretch into the uncomfortable new is not a universally held management trait. To put it in common sense terms, it is not enough for them to "talk the talk" they must also "walk the walk." Employees seek leaders who provide new solutions and are not hypocritical about their use. Rules apply to leaders perhaps more than anyone else. Even in cases where leaders offer support and model use of the PHP framework, participants in the present study identified other structural constraints within organizations that may act as a barrier to framework adoption.

Common Structural Resistors

Many companies have Project Management Offices (PMO) that control every aspect of project delivery. PMO's are responsible for educating staff and enforcing the consistent use of the standardized project management practices authorized by their organization. They may use highly structured methodologies or a loose process explicitly designed for their corporate culture and industry. The PHP framework, despite the appearance of common sense, is not using

mainstream PM concepts and thus will likely encounter resistance among those who adhere to accepted PM principles. The trepidation of acceptance is echoed by one respondent's observation that, "these processes are not formally adopted by my orgs PM group" [GU19]. Fortunately, the framework proposed in this study is not one based on exclusivity. It can be an overlay on any pre-existing organizational methodology. It has the flexibility to adapt and enhance. During the initial education sessions, the project manager should draw attention to synergies between existing project management methods and the PHP framework. This will aid in anchoring the change management process in what participants find familiar. Framework adopters will encounter the most significant resistance in environments that have cultures that dogmatically enforce adherence to their standard. The PHP framework must demonstrate its effectiveness in real life projects before this type of organizational resistance will fade and, longer-term, it becomes part of the mainstream PM toolbox.

Creating opportunities for grassroots level process introductions and demonstrations may be problematic. The ad hoc adoption of the process can be independently proposed, but team buy-in is required. The decision to take a leap of faith and try something new is grounded in the credibility of the person suggesting it.

> …this would be something that I can have a discussion with and probably, you know, influence them to say let's try this and I am sure that they would look at it and say, "Yeah sure let's give it a try." But I don't know if somebody else, you know like if the minute taker said that it would get the same traction. [GU14]

The framework promises that most anyone can understand and use it effectively in a short time. This ease of use is not enough to ensure adoption. Speaking to a team from a position of formal or informal authority will be required to affect a team's inclination to change. Anyone can

suggest a change of process, but not everyone has enough credibility to have their suggestions adequately considered. As some responses from interviewees highlighted, it is not just who delivers the idea of process change but how it is introduced and implemented.

Acknowledging the "Black Swans" in the Room

The delivery of a well-articulated educational component during the setup of a premortem or midmortem meeting is critical to the success of new practitioners. This clarity includes framing their deliverables. Participants suggested that there was an initial sense of disbelief and lack of confidence in what they were generating. In the workshop briefing, it was not explicitly stated that creating a list that included highly improbable or unusual risks was part of the exercise. The breadth of vision and list of improbable risks that resulted from using the premortem and midmortem techniques caused surprise in groups as they started to share.

> Yeah, like I remember, we found something, a couple teammates and I put down something like a, you know, something that would prevent us from…finishing our degree would be like, death or illness. And I remember thinking is this an actual thing? Should I be putting that down? [GU12]

The fact that participants were surprised is an interesting finding as the ability of the premortem technique to identify extremely rare or "Black Swan" (Taleb, 2007) events had been a significant area of focus in the previous empirical research (Faily et al., 2014; Gallop et al., 2016; Gallop, 2017; Trotman, Simnett, & Khalifa, 2009).

Facilitators of this method should be aware of potential mental barriers that may constrain risk identification. Nothing should be off-limits. Otherwise, tool effectiveness is limited. As discussed earlier, such a limitation may particularly hamstring a public-sector organization's use of the process. The facilitator must provide their team with the proper

coaching statements at the outset. Group members should be encouraged not to feel embarrassment, and they should record and share even improbable risks. One of the strengths of the process is it formalizes the elicitation of risks from all group members. The facilitator should position the exercise as one that requires open collaboration to ensure team members are not marginalized and withhold their opinion for fear of ridicule. In one interview, a participant admitted that in looking back they came to realize that they had made an error in suppressing another student's opinion. It was not until they returned to discuss the smaller group results with the entire class that they realized their mistake. The opinion they helped suppress was the most significant failure reason identified by the rest of the class. This is a cautionary tale for future researchers and facilitators. It is important to remind participants during the briefing exercise that expressing and recording every risk is a crucial part of the premortem and midmortem techniques. It also supports the idea of using smaller breakout teams within a larger group to reduce the chance of missing important insights due to the dynamics of a particular team. Risk kept hidden cannot be mitigated and perhaps just as important; unspoken risk cannot inspire.

Risk Identification through Inspiration

Another common theme was that risk identification accelerated once group discussion began. One person voicing a concern, in turn, led someone else to vocalize a previously unrecognized issue. This group discovery, elaboration, and risk mitigation is a critical part of the premortem and midmortem meetings. It also highlights why it is important not to discount any individual idea that arises. All ideas should be shared with the group to facilitate a comprehensive discussion. The team can subsequently focus its efforts on prioritizing the risks it feels it needs to mitigate. Allowing the free flow of ideas without criticism (Osborn, 1953) is a characteristic the premortem and midmortem techniques share with brainstorming but not one

universally endorsed. Grant (2017) has contended that encouraging dissenting opinions in brainstorming activities shows better results than when criticism is withheld. This is perhaps true in brainstorming, but there are different considerations when using the premortem and midmortem techniques. First, prospective hindsight uses a deductive process rather than the inductive one used by brainstorming. Second, the prospective hindsight guided technique presumes the negative frame of project failure, and thus every idea generated is critical by design. The reprimand individuals would typically receive in their organization by appearing negative about a project is lifted (Kahneman, 2014). In fact, in a premortem or midmortem, the negative lens is encouraged thus potentially harvesting some of those benefits suggested by Grant (2017). The question of whether these differences impart a superior performance derived from the premortem technique is an exciting topic for future study.

The individualized use of prospective hindsight in the premortem or midmortem meetings should be kept to a pressure-inducing time frame. The workshop used a timed two-minute window to create a sense of urgency to close this section and force the teams together for plenary discussion. Lengthening this time allocation may be a consideration in highly complex projects. There may also be a point of diminishing returns by allowing too much time for this segment. Team discussions are also aided by having time constraints to instill urgency and force task progression in deliberations. The complexity of the project and depth of issues to be mitigated are expected to have some bearing on the time required for a proper group discussion. The facilitator must consider this when they are planning a premortem or midmortem meeting. They should also view the time necessary for a group discussion in much the same way as team development in the larger project. It, too, has a beginning, middle, and end. Several participants indicated that new ideas and discussion started to slow down as the group discussion moved

along. Other groups only prioritized risks and did not get to the risk mitigation planning portion, potentially indicating they did not correctly manage their midpoint transition. The team discussion time should be marked for the groups to highlight the midpoint transition and task progression. Calling out how much time is remaining and what tasks need to be done at the midpoint may be a useful facilitation strategy. Facilitators should also be mindful of allowing overly long tracts of time for group discussion causing people to be done early and sit idle. Influential individuals, such as busy executive stakeholders, will rail against future use as being overly time consuming and burdensome if they experience an unnecessary idle time when practicing. Kicking off a project with a drawn-out premortem meeting could derail a much needed midmortem meeting.

Midmortems and Project Length

Midmortem meetings as an individual construct within the framework received widespread positive feedback from participants. The regrouping of the team and reflective process afforded by the midmortem was appealing, but there was some disparity of thought regarding when it should be applied. The divergence arose because some believed there were limits on punctuated equilibrium due to project length. Some participants commented they saw transitions could happen within a short span, such as two weeks. Several others thought that the midpoint transition, and thus a midmortem, was only applicable during longer-term projects. Further examination of the responses seemed to indicate a potential connection between long-running projects and multiple midmortem applications. There was some participant feedback that suggested long projects – those spanning more than six months or a year – could benefit from additional midmortem meetings rather than being singularly applied at the temporal midpoint. The suggestion was that long-running project teams require regular checkpoints to stop and

regroup. The midmortem meeting would be a supporting mechanism to assist with the maintenance of risk management, team focus, and project momentum. Despite the participant feedback, there is a concern that there may be a potential loss of effectiveness in the midmortem technique if it is continuously re-applied. Regular midmortem meetings may have been attractive to participants not because of what midmortem delivered but that it represented a method to drive project communication, perhaps something lacking in their past project experience. The regular application of the midmortem is one potential technique to ensure regular team communication, but it is not likely to be the most effective method. Elaboration and study of scenarios involving multiple midmortem application is another potential avenue for future study.

Mitigating the Risk of Team Dysfunction

Feedback from the participants provided clear insight that there are benefits for the premortem and midmortem meetings beyond project risk identification and mitigation. One participant succinctly commented that it, "forced our team to listen to each other" [GU13]. Team dysfunction may have been present, and the nature of these meetings helped them overcome. The premortem works to identify risk and set team expectations during project initiation. Risk sharing creates knowledge pools and builds bonds between new teammates. It can create team connectivity and, through a retrospective visualization of the future, validates a team member's understanding of project goals. Stakeholder vocalization of a misaligned risk acts as a warning sign of a danger commonly experienced by project managers. They have not provided enough clarity on the purpose of the project. In this part of the framework, the premortem may also be acting as a team alignment mechanism. Misalignments can cause team tensions and unproductive behaviours as the project progresses. Likewise, a properly facilitated midmortem can become a road post on the project journey that can help teams confront and release these team tensions.

Research on the potential impact of premortems on team dynamics is unavailable. Studies have primarily focused on the quantity and quality of risks identified, not what the action meant for team relations. The Henningsen and Henningsen (2017) study found brainstorming increased perceptions of group cohesiveness. Given the group engagement parallels to brainstorming, do the same considerations exist in the use of the premortem and midmortem techniques? Research efforts have also shown where problem-solving oriented team building activities have a strong positive relationship with affective and process outcomes (Klein et al., 2009). Do the premortem and midmortem techniques meet the definition of a team building activity? Is the same positive relationship present? In another study, Hackman and Wageman (2005) identified temporal points where particular types of team coaching are beneficial to performance. Their research found that coaching is best used to motivate at the project kick-off, consult at the midpoint, and educate at the end (Hackman & Wageman, 2005). Does the application of the premortem, midmortem, and postmortem techniques fill the role of team coaching interventions? Can the impact of the technique on team performance be improved by further understanding the coaching implications within their specific temporal contexts? Given the breadth of management research on team performance topics, these represent a few areas ripe for future research endeavours.

Creating Framework Guidelines

The proper facilitation of the midmortem meeting again touched on the theme of education and communication. It is not surprising as these concepts and the PHP framework were new to the participants. Its application has its rough edges. Smoothing those edges requires adding some definition and structure to the process. This sentiment arose in the interviews as well. Participants believed it was appropriate to formalize the procedures further to act as guidance for potential practitioners. In keeping with the sense of an easy to use framework,

participants were not vocalizing a need for a burdensome structure. The focus was on simple and easy to use tools such as a creation of a checklist or reference card.

> …some type of a quick checklist or something… [GU14]
>
> …something that would help you to replicate it to…follow each step…whatever the best practices would be to apply it. If you had something that would guide someone through that process that would be perfect. [GU9]

Creating a written outline as a reference for facilitators and participants would increase framework consistency. It would also allow less experienced staff greater comfort in delivery and participation. One participant suggested that it would be beneficial if the "hints" extended to how to make this framework part of the meeting or, temporally, the best places to insert specific components.

Study participants felt the formalized written structure should be easy to understand, but there was some uncertainty around the use of language. One comment surfaced as to whether the "lingo" should be “professionalized.” Unfortunately, the PI did not fully clarify this feedback at the time of the interview. There is some ambiguity regarding the comments, and thus they are subject to interpretation. It does, however, open a door for future discourse and research. What exactly was meant by the professionalization of language in delivering these techniques? Is it because terms like punctuated equilibrium and premortem are considered academic terms and not appropriate to a mainstream work environment? Would the professionalization of the language drive a perceived sense of credibility and increase usage? Alternately, would further formality hinder broader applicability? Should these specific terms be deconstructed and not used at all? Is the language audience dependent? These are all interesting questions that would have significant implications for the delivery and adoption of the PHP framework.

Delivering a Packaged Tool

Several participants believed this framework could be delivered into an organization as a "package." The lack of complexity and adaptability does lend itself well to a program or workshop that a consultant could modify per-client context. As with any change, process introduction should not be entered into blindly as potential pushback from leaders and change-resistant PM's and PMO's are a possibility. The concerns surrounding change management were voiced by a participant who cautioned that in the EMBA workshop there were like-minded people regarding formal education and desired goal achievement. Another participant suggested that people entering the workforce may not have the experience to understand the rationale behind these team dynamics and risk mitigation exercises. An interesting viewpoint was also raised by a participant who suggested that it may be easier to get people who have experienced recent or significant project failure to adopt the framework. The rationale they proposed was that these individuals might be more open to broadening their methods to include more robust risk mitigation planning because of their unhappy history. In this case, the framework could find an organizational beachhead with (former) underperformers before expanding its reach to mainstream practitioners.

Discussion

The application of an action research methodology in management research is atypical. It normally finds use in the fields of education and health research. For this study, despite some execution issues, it proved to be the correct fit. The method was reasonably adaptable to the time constraints and context of this Signature Project. By consulting with and incorporating feedback from experienced professionals and managers, the present study refined the original

conceptualization of the PHP framework in the process of developing a meaningful, real-world approach.

The initial workshop was intended to be a hands-on use of premortem and midmortem methods to create a discernible positive impact on the EMBA students, some of whom volunteered to participate in the data collection phase of the present research. Feedback from the study participants indicated that the workshop accomplished this goal. Several found further application of the concepts in their academic, personal, and professional lives to positive effect. Study participants took advantage of the new knowledge and created practical solutions to commonplace problems.

Midmortems are not Premortems

The premortem and the midmortem techniques are the actionable elements in this arrangement of concepts. They are what hook people's interest as they are comprehensible and tangible. Although the midmortem may appear to be a replica of the premortem regarding the core use of prospective hindsight, it is important not to overlook the difference that the temporal context creates between each meeting type. The application of the midmortem at the midpoint transition may, in fact, yield different insights than would a premortem. For example, participants in the present research study voiced different types of risks depending on their different EMBA years. Teams beginning their EMBA journeys (premortem) versus those that were approximately half-way through the program (midmortem) had different perspectives on what constituted a risk. Midmortem participants attributed that difference to the vantage point that their experience lent them when using prospective hindsight.

Getting Organizational Support: Creating Believers

The application of the essential principals of this framework is not complicated. Technically, they can be used by most anyone after a 10-minute education session. Receiving education does not ensure practitioner action. The truth is that most people do not control their destiny at work and must operate within many constraints. They can exert even less influence over peers assigned to their team and the views held by diverse project stakeholders. To move from education to action, clear organizational leadership is required. This study's participants articulated the need for support from executives or the PMO as a requirement to adopt these methods. One block of influencers was less evident among participants' feedback, the informal organizational leaders. These are the experts that are well regarded by their peers and scattered through any organization. The chances of successful integration of these methods should increase by obtaining support from more leadership sources. The goal is to create believers in the PHP framework. Belief is not intended to imply a quasi-religious conversion, but to represent enlightenment achieved by users connecting with a process that can help them improve their team's success in project delivery. Executives often respond to the bottom-line, quantitative assessment characterized by such measures as ROI. Project managers advocating the application of the PHP framework as a low-cost, high-impact way of avoiding risk and unexpected project cost overruns illuminate an easy path to ROI. The time expenditure required to gather resources and conduct the meetings then becomes a worthwhile investment. PMOs will respond when it is framed in their organization's standard project methodology as an extension that may help increase project success rates. Informal leaders are often subject matter experts deep in the organization. They should view favourably a meeting that gives everyone an opportunity to speak. These are forums that allow knowledgeable informal leaders a platform to safely voice

concerns while demonstrating expertise in coming up with solutions. It is an attractive opportunity for these individuals to shine. Validating these assumptions of different channels of support and determining the most effective approach are areas worth further study. In addition, as was highlighted by study participants, there may be variance in framework application due the influence politics plays in public versus privately held organizations.

The Benefits and Pitfalls of Anchoring Understanding in the Familiar

Creating believers still requires educating future process champions and their practitioners. The principle of providing concept clarity was one that came through loud and clear from study participants. In this regard, the framework has the strength of being "common-sensical" in understanding but the weakness of not being "common-sense" by practice. Conveying the concepts is not time-consuming, but caution is necessary when communicating the principles. People draw parallels and anchor their vision of new concepts in what they find familiar. The premortem and midmortem processes for some seemed like the familiar method of brainstorming. This association could have simply been caused by the passage of time between the workshop and the interview, but it should be a real concern to a facilitator when briefing practitioners. In educating a group on how to use prospective hindsight, a facilitator may feel tempted to coach it in terms such as, "It is sort of like brainstorming." This approach is not accurate, nor useful. Initially framing the premortem and midmortem as brainstorming may encourage conversion in the method, but the activity may lose some of its effectiveness. Gallop (2017) saw study participants slip into the mental ease of brainstorming. Brainstorming is the path of least mental resistance to completing the task at hand. Prospective hindsight requires an individual, group, or team to shift forward in time and into a potentially uncomfortable context of failure and then asks them to deduce what events led them to that point. The process takes

more mental effort than the temporally unconstrained inductive approach of brainstorming. Facilitators should be aware that if anchoring the audience's understanding becomes a necessity, then it may be more beneficial to frame brainstorming in a somewhat contrasting position to the process of prospective hindsight to differentiate those approaches.

The reflective nature of this research project has surfaced other dangers that could manifest at the midmortem meeting which were not initially considered by the PI. Allowing stakeholders a structured way to voice opinions must be handled carefully for teams arriving at the midpoint transition in a state of conflict. Groups that have encountered the typical struggles within the first half of a project, such as poor performance or lack of visible progress, can make great use of the risk mitigation and performance improvement gains that may come from holding a midmortem meeting. Nevertheless, there also exists a danger that a team member may use that outlet, one guaranteed to allow them a voice, as an inappropriate way to single out an individual or group for perceived poor performance. These actions could cause harm to the team and project success. The potential for team conflict should not be a reason to avoid using the midmortem. Adapting the introduction to the meeting, so participants understand that it is a forum for positive collaboration is a more direct way to tackle this issue. Avoiding the underlying conflict is ignoring the opportunity to confront and overcome an evident project risk. Team conflict and misunderstanding sometimes require a medium to initiate dialogue. The midmortem meeting, properly facilitated, may represent a mechanism to address this problem.

Project Length and Midmortems

An additional insight taken from this research project was not to always view midpoint as a singular temporal entity. This research paper began by stating a traditional definition of a project – a defined set of tasks with a start and end date (Project Management Institute, 2012).

Participants' feedback supports this definition, but participants also recognized that some projects last so long that they take on the same characteristics as daily operations – tasks will always exist and never be done. Standing committees offer different considerations than do time-limited task forces. Even time-limited projects get extended (sometimes unexpectedly), so an original temporal midpoint will not always be invariable. The scope may change. Tasks may change. Stakeholders may change. These are not uncommon fluctuations. On a long-running initiative, it means project completion risks and the original mitigation plans transform as well. The framework should and can adapt.

Length of the project is a variable that requires further study to determine its impact on the efficacy of the framework. In long-running projects, how would a PM judge when a midmortem should be applied? Is it best reserved for the temporal midpoint or should interim prospective hindsight meetings be held at (yet to be specified) intervals? Perhaps in long-running projects time is not the best indicator of application but instead the level of team motivation? In a long-running project, team momentum could be cyclical. Application of midmortem-like meetings may be temporally influenced but also potentially beholden to team morale. In this case, the introduction of additional midmortem checkpoints may prove more useful to a PM to maintain team progress than its additional insight into risk mitigation.

There are additional research vectors that exist in this area that include the application of the framework inside teams using "agile" methods or those operating virtually. Agile methods such as "Scrum" are driven by short time-limited "sprints" (Sliger, 2011). Sprints are discrete time windows, usually two to four weeks, in which project members are delivering one piece of the work in the larger whole. The "Scrum Master" meets every day with the team to monitor progress. Reviews are conducted at the end of each sprint before the team selects the piece of

work to begin in the next iteration. Scrum is based on clear temporal parameters and structured reflection and makes it an interesting candidate for PHP framework integration and study.

The challenges that a virtual team may face using of the PHP framework is another topic for future research. Virtual teams in the present-day context have changed over the past few decades since the concept became technologically feasible. The original enabling technical tools such as email, web, and video-conferencing have become predominantly free and ubiquitous. There is a burgeoning number of broader collaboration platforms such as Slack, Microsoft Teams, and Facebook Workplace that provide small and large teams alike dynamic online workspaces. Group communication is recorded and delivered to laptops and mobile phones on a timeline interface with a familiar social media experience. Does the application of the PHP framework need to be altered for a virtual project team that interacts only online? Given technical platforms are meant to reduce communication barriers, is the PHP framework more effective when delivered online than when conducted in person? Is there an opportunity for the framework process itself to be integrated with these new tools to improve project outcomes? These are exciting academic and practical questions that would benefit from further research and discussion.

Scaling for Team Size

The structure of a given project is not a constant and tools must be flexible enough to adapt to its attributes. Team size is one of the project variables that the premortem and midmortem meetings can scale up or down to accommodate. The actual process of using these meetings requires an individual session of prospective hindsight followed by a time of team sharing and elaboration. Breaking a large team into smaller groups for this is logistically more convenient than administering it as one large group. It also mitigates the risk of a few people

dominating the entire meeting. The likelihood of a negative impact then becomes constrained to a smaller group. Ideally, if they are following the method, all voices are heard even in that small team. As this study has shown, the discussion in the broader team is capable of re-aligning individuals and groups that may have gone astray.

Why "When" may be Important

Determining the team breakout structure for the premortem/midmortem could have a significant impact on framework efficacy but considering "when" a meeting should be run may prove just as interesting for additional research efforts. Recently, author Daniel Pink (2018) in his book *When: The Scientific Secrets of Perfect Timing* makes the argument that some activities are best done at certain points in the day. Pink (2018) points to research that shows more logical tasks are done earlier in the day and that people should be aware of the afternoon slump that affects mental alertness. He draws on research that points to age-dependent circadian rhythms in humans. For example, younger people tend to be more sluggish in the morning and peak later in the day (Pink, 2018). The concept of "when" does open an interesting door for future discovery given time is already a fundamental pillar of this framework. Should a facilitator stay away from conducting a premortem or midmortem at specific points of the day? Is it better to do it in the morning or the afternoon? Does it depend on the age mixture of project stakeholders? These are questions of practical importance. In a busy work environment, a project manager is often challenged even to find a block of time that everyone can be in the same room. There is seldom, if any, concern given to the time of day and the impact it may have on creating successful meeting outcomes.

Don’t Forget the Postmortem

Unlike the consideration of time of day for meeting bookings, the postmortem meeting was a concept the PI understood well before embarking on this project, yet it was not initially considered in detail concerning this work. The postmortem was used in the workshop as a contrasting mechanism to help the BUS 6010 class understand the premortem and midmortem concepts. As well, the diagram presented in the workshop (Figure 3) did not illustrate the postmortem placement in the framework. The PI was attempting to focus potential participants on the temporal points of project initiation and midpoint transition, not project closure. Nevertheless, the rationale for conducting a reflective project postmortem still exists even when a premortem and midmortem have occurred. The postmortem can do what it has always done. The meeting allows PM’s to capture what went right and wrong to help improve subsequent initiatives. The retrospective postmortem or “lessons learned” meeting, despite its underutilization, adds value to the project management process (Duffield & Whitty, 2015; Kerzner, 2018). The improvements it recommends would not be limited to the project content but provide valuable reflection on the delivery of the PHP framework and its components.

Individual Elements

The extraction and application of the individual elements of the framework appeared in several discussions with this study’s participants. They understood the framework was made up of different components and applied those they felt were most appropriate to their specific circumstances. This study proposes that combined they are a stronger and more coherent approach yet not all situations allow for a “clean” application of the framework from start to finish. Project managers extracting individual tools can potentially create inconsistency, dilution, and incorrect application of methods. As one participant of the study said, they are using “a

version of it" [GU9]. There is a balance between extracting the pieces for the sake of convenience instead of considering the benefits of the whole. Future research could potentially quantify the benefits of individual components. In doing so, project managers could make evidence-based decisions about applying certain framework elements. Research beyond this pioneering investigation could lead to construction and evaluation of customized best practice templates that target typical situations and ensure minimal loss of benefit in implementing the framework. In considering template creation, there is a balance, too, between the forces of adaptability and standardization. Overly formalizing the PHP framework process may mute its adaptability. Organizations that normally would be attracted to the PHP framework because of the absence of rigid formal project management structure may now be less inclined to adopt. Alternately, the standard templates may provide just enough structure for some PMO's to consider it a viable approach. Continued application, reflection, and study of the framework are required to ascertain the best approach in a given organizational context.

The Prospective Hindsight Punctuation Framework

During the interviews, participants voiced support for codifying the framework into an easily digestible written form. Cheat sheets or reference guides that potential practitioners could turn to were thought to have the most significant impact on future use. Appendix C provides an execution guide for the PHP framework for both the PM/facilitator and the participants. In standardizing the framework, it encourages consistency in application. Consistency will facilitate future academic research while also creating an easily understandable and distributable tool for personal and professional application. Even a short educational session, such as delivered in this study, may net positive results with potential practitioners.

A written definition of the tool also offers exciting options for both PM and management consultants should future research provide additional support for its efficacy. Project managers can adapt and overlay this framework on existing organizational, or personal, processes within their business. The framework can work with complementary structures, but PMs should be careful about creating too much procedural overhead that could cause rejection of this method from the team. Consultants have an opportunity to encapsulate this process as part of their engagement practice with clients, thereby broadening their revenue stream while providing promising services. The flexibility of the framework to match organizational culture, the regular interface points, and the ability to integrate with other offerings can create a more satisfying engagement. Future research can aid in validating the conceptual approach and refining the framework to provide practitioners greater confidence as they expand their evidence-based service.

Limitations

This study was limited in that its participants were strictly comprised of EMBA students. This proved to be a limiting factor in that some participants expressed they were not able to find an application of the methods given their busy school and work schedules. The study may have benefitted from extending the candidate pool or a more prolonged data collection period. The use of the technique outside the workshop for school, in personal and professional contexts, is indicative that this research has broader applicability. In addition, the PI did not determine whether the volunteers who did not participate in this study held negative views about the concepts investigated herein.

Another limitation was that the participants were living in a single, small geographic region with a heavy emphasis on occupational backgrounds in the public sector rather than

private enterprise. Further research should be conducted to expand the occupational insight of this research and to examine the applicability of the findings in a broader global context. The representativeness of the candidate pool between Cohort Year also arose as a concern during the study. There was a much larger representation of the 2016 Cohort conducting a midmortem exercise than the 2017 Cohort practicing the premortem. Although this may be due to the PI belonging to the 2016 Cohort, other factors such as the delivery of the educational component may have influenced the participation rates and should be examined. Ensuring a greater balance between the two temporal groups is an important part of future research.

Another limitation that was stated previously was the relative collapse of the second action research cycle. Ideally, there would have been two distinct cycles but, due to time limits and scheduling, this did not materialize as originally planned. This study also experienced limitations in that it was qualitative in nature and did not employ a rigorous experimental design. Lack of experimental or quasi-experimental methods prevented this study from providing conclusive evidence of the effectiveness of the framework. Using these type of methods in a more controlled environment in future studies may also help evaluate how to moderate the slide from prospective hindsight into brainstorming that this study experienced.

Finally, one of the learnings from this study was the importance that the initial briefing plays in educating participants on the scope of the premortem or midmortem exercise. As was experienced in this study, some participants did not think they should be looking at “Black Swan” (Taleb, 2007) events that may never occur. Properly setting the stage for the meetings to remove potential mental barriers ensures the techniques are properly administered. Even with these shortcomings, the research gathered in this study provided sufficient data to elaborate on the PHP framework and provide a starting point for future research efforts.

Conclusion

The purpose of this Signature Project was to integrate the concepts of prospective hindsight and punctuated equilibrium as an approach to risk management. The goal was to create a starting point that could be used by future researchers to validate the efficacy of this newly proposed framework. It is not rigid, but a scalable and modular process. The PHP framework allows a PM to work collaboratively with their team to identify and mitigate risk, thereby increasing the likelihood of project success. It creates an easily administered mechanism that doubles as a team-building exercise during project initiation, and productivity management during a project's midpoint transition. The results of this study have extended the framework beyond its original conception to include several new aspects including consideration for workshop education and delivery, the potential impact on team dynamics, and the oft-forgot postmortem meeting. The study represents an entry point for future research efforts to test and refine this new extension of the project management model. Variables such as project length and leadership support were identified as potential factors that can mitigate adoption and efficacy. Longitudinal studies that monitor teams practicing these methods over the course of a project would also provide valuable insight. In addition, future studies that leverage an experimental or quasi-experimental design that examines the entire framework (premortem, midmortem, and postmortem) would be beneficial to advance the management research in this area. The Prospective Hindsight Punctuation framework is a practical, common-sense approach to identify and mitigate project risk. Its broader dissemination and application holds significant promise for individuals, consulting practices, and organizations seeking to improve their success in delivering projects and managing team development.

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Appendix A: List of Questions from the Online Questionnaire

1) To which gender identity do you most identify?

   Response (Radio Button): Female/Male/Trans/Other/I Prefer Not to Answer

2) What year did you start the UPEI EMBA program?

   Response (Radio Button): 2016/2017/Other/I Prefer Not to Answer

3) Please enter your first and last name. It is okay if you prefer to remain anonymous. To do so, please leave the field blank and press the "Next" button to proceed with the remainder of the questionnaire.

   Response (Open textbox)

4) Is this the first time you have taken the questionnaire after participating in the workshop?

   Response (Radio Button): Yes/No

   [If Yes system forwards to Question 5. If No system forwards to Question 13]

Initial Use Questions (all open text response)

5) What were your impressions of the concepts I presented and had you try out at the workshop?
6) Can you describe your team's experience in using the premortem technique in the breakout session?
7) Were the risks only identified in your first 2 minutes or did they come up later in the breakout session?
8) Have you used or tried to use the pre-mortem or mid-mortem method since the workshop?

9) Think back to any personal or professional projects where you may have been the lead, part of the team, or have been an observer. These may be successful or unsuccessful projects. How would you describe the progression of team productivity through the course of the project?
10) You learned about the pre-mortem, mid-mortem, punctuated equilibrium, and mid-point transition through your EMBA course. What barriers or enablers might exist to a wider audience learning how to use and practice these techniques?
11) How can these techniques be improved?
12) Please provide any other feedback you think would be helpful for this study.

Subsequent Use Questions (all open text response)

13) Have you used or tried to use the pre-mortem or mid-mortem method since the workshop or since you last completed this questionnaire? If so, please describe your experiences.
14) Do you have feedback on how can the pre-mortem and mid-mortem techniques may be improved?
15) Please provide any other feedback you think would be helpful for this study.

Appendix B: Interview Protocol

Date_____
Time Start_____
Participant Name_____
Initial or Secondary Interview_____
Interview Unique ID Number_____

Introduction:

- A few administrative items I first need to review with you as we begin our conversation:
  - First, as a participant in this study, you have the right to withdraw from the study and request your results be removed. You also have the right to halt this interview at any point. I want to confirm that we are fine to continue at this time.
    - *NOTE: If the participant indicates, "No." at this point the interview will move directly to the Conclusion script*.
  - Secondly, I wanted to make you aware that this session is being recorded only to ensure I transcribe it properly for the purposes of this study. Anonymized quotations and other data resulting from this interview may be used in the completion of this study. The original recording will be destroyed after it has been transcribed. As a participant, you have the right to request a hard copy of the transcribed version of this session. You will be given the opportunity to make this request at the conclusion of this interview. Once the transcript has been delivered, you will be provided one week to review its contents before you will be required to return the document. As a participant, you are free to withdraw your data from this study up until two weeks after this interview or up to the point the transcript has been returned, whichever date is later. Are there any questions or concerns regarding the transcription and withdrawal of results processes that I have explained?
    - *NOTE: The recording device will be visible between the Principal Investigator and the subject. If it is a phone interview, it will be verbally identified to the participant at this point that the recording device is on the Principal Investigator's end.*
    - *NOTE: If the participant indicates they wish to terminate the interview it will move directly to the Conclusion script. If additional information is requested on the transcription element, the Principal Investigator will explain the process in further detail so the participant can make a decision to continue or not. If they wish to continue but just have it recorded only the PI's notes will exist for that interview.*
  - *If participating in the interview as a group:* The third item I need to make sure I have covered is ensure that you understand due to the group interview I cannot guarantee the anonymity or confidentiality of the information shared in this session. If there are concerns with this, please let me know at this time.
    - *NOTE: If all participants wishes to leave the interview at this point proceed to Conclusion script for those participants, and they may be*

excused. If the original group, smaller group, or individual remain proceed with the script as detailed below.

- Last, before we get into my questions for you, I just want to review the purpose of the study quickly. The purpose of this study is to help elaborate on the combination of two concepts within the context of a time-limited endeavour like a project. Those two concepts were: punctuated equilibrium and prospective hindsight. Prospective hindsight was used during the pre-mortem and mid-mortem meetings to look back and discover risks before the project begins. Our conversation around punctuated equilibrium revolved around teams having a mid-point transition. This aim of this study is to construct an easy and practical set of tools that a professional Project Manager, or anyone for that matter, can use to help ensure a project's success.

Questions:

NOTE: The initial interview, as well as any follow-up interviews, will be semi-structured. As such, the question guide listed below represents a general flow for the interview. During the interview, the PI may prompt the participant for further elaboration on responses relevant to the study that go beyond this list.

1. What were your impressions of the concepts I presented and had you try out at the workshop?
2. Can you describe your team's experience in using the premortem technique in the breakout session?
3. Were the risks the team identified only come during the first 2 minutes or did they come later in the breakout session?
    a. *If a spike at a certain time identified* - Can you recollect what led up to or happened at that time?
    b. *If risks identified outside the initial 2-minute window* - Do you remember at what point in time that your number 1 risk was identified?
4. Have you used or tried to use the pre-mortem or mid-mortem method since the workshop?
    a. *If yes* – Are you able to discuss where and how you used it?
    b. *If no* – Why do you think you have not been able to make use of the technique?
5. Think back to any personal or professional projects where you may have been the lead, part of the team, or have been an observer. These may be successful or unsuccessful projects. How would you describe the progression of team productivity through the course of the project?
6. You learned about the pre-mortem, mid-mortem, punctuated equilibrium, and mid-point transition through your EMBA course. What barriers or enablers might exist to a wider audience learning how to use and practice these techniques?
7. How can these techniques be improved?
8. Please provide any other feedback you think would be helpful for this study.

As part of the Action Research cycle, the PI will provide feedback to the participant on any structural enhancements to the pre-mortem/mid-mortem framework that may have been highlighted in the workshop/last interview. This is done to allow the immediate interviewee benefit from improving their practice in using the tool.

Conclusion:

- Thank you for taking the time to answer these questions. As discussed earlier, a copy of the transcript from this interview can be sent to you just let me know now or in the future.
- The online questionnaire is always available if you want to provide additional feedback. You can use it as many times as you want.
- It is voluntary, but I would be interested in a shorter follow-up interview if you happen to use the pre-mortem or mid-mortem process in your personal or professional life. If interested feel free to contact me before the completion of the data gathering portion of this study on December 22nd.
- Finally, just to reiterate before you leave that you have the right to withdraw your results from the study at any time.
- Thank you for your participation in this research. Your feedback has been extremely valuable.

PI NOTES

Appendix C: Prospective Hindsight Punctuation (PHP) Framework Facilitator's Guide

Frequently Asked Questions (FAQ)

What is the Prospective Hindsight Punctuation Framework?

The Prospective Hindsight Punctuation (PHP) Framework is a method of identifying and mitigating risk while providing a tool to manage team productivity in a project. It is a modular and easy to use process that is scalable based on team size, project complexity, and length. It can be used in conjunction with an existing project management methodology or on its own.

Why should a person or organization use the PHP Framework?

There are many reasons why a company or a project manager may want to utilize the PHP Framework. They include but are not limited to: risk identification and mitigation, team building, managing team productivity, and helping increase project success. It is an easy way to enhance practices in an organization with little cost.

How is the PHP Framework delivered?

The framework is delivered to a project team via three different meetings: the premortem meeting, the midmortem meeting(s), and the postmortem meeting.

What is a postmortem meeting, what are its limitations, and why are we talking about it first?

Some people may have heard of a postmortem meeting (also called a lessons-learned, After Action Review, or post-project review meeting) or used them in the past. Understanding the purpose of the postmortem will help you understand the purpose of the premortem and postmortem discussed below. The postmortem meeting happens after a project has been completed. All the project members/stakeholders gather together and look back on what went right and what went wrong in a project. Understanding these lessons learned allows projects to be more successful in the future by reducing the chance of repeating the same mistakes twice. Reflecting on what happened is an essential part of the cycle of continuous improvement. That is, we want to get better with each project we execute. The main limitation of a postmortem meeting is that these improvements come too late for the project that was just completed. The project may have even failed because of these issues. A postmortem meeting is important, but the insight it can share is limited to only helping future projects. How about the project that is about to start?

What is a premortem meeting?

The premortem[1] meeting is similar to a postmortem meeting but used at the start of the project instead of the end. It is done at the start to try and help that new project avoid failure. There are many times when people may know of risks but do not feel they have a way to voice them. The premortem meeting is a way of engaging stakeholders to ensure all voices are heard.

[1] Klein, G. (2007). Performing a project premortem. *Harvard Business Review, 85*(9), 18-19.

Are there other benefits to a premortem meeting other than risk identification and mitigation?
Yes, as the premortem happens at the beginning of a project, it can also be used by a project manager as a team-building exercise. Given risks are openly discussed, it allows people to understand their teammate's viewpoints and concerns. It also allows the project manager to identify if any people are misaligned on the scope and goals of the project.

What is a midmortem meeting?
The midmortem meeting is the same process as the premortem meeting, but it is held at the mid-point of a project. For example, if a project is supposed to be six months long, you would have the midmortem at the three-month mark. The midmortem has the same type of benefits as the premortem, but it also allows project managers to help focus their team during this transition point. The midpoint is a disruptive time for a project[2]. Many people experience a sense of panic when they suddenly realize how little time is left. Project managers, realizing that this transition is bound to occur at that time, can schedule a midmortem meeting to focus the team's efforts through the group exercise. It allows the team to air risks that they may not have known earlier. It is vital for project members to understand that risk that is kept hidden cannot be mitigated and perhaps, just as important, unspoken risk cannot inspire others to come forward and identify their risks. To this end, a project manager/facilitator must ensure a safe space for communication in a premortem, midmortem, and postmortem meetings.

Do I have to use the entire PHP framework?
Using the entire framework end to end in a project should provide the team with the most benefit, but it is flexible enough to be adapted to many situations. For example, if you are already midway through a project, you do not need to wait for the next project. You can start with the midmortem meeting. The framework is very adaptable to project and organizational needs.

Can I implement the PHP framework in my organization by myself?
Yes, you can use the process yourself, but its effectiveness may be limited. Support from the project team and organizational leadership (e.g. executives, management, informal leaders, and subject matter experts in the company) can enhance its effectiveness. Make sure you take the time to explain the benefits of the process to gain support for its use.

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[2] Gersick, C. J. G. (1988) Time and transition in work teams: Toward a new model of group development. *The Academy of Management Journal*, 31(1), 9-41.

Implementation Procedure – Premortem/Midmortem/Postmortem

The PHP Framework is adaptable to project and organizational needs. The following procedures provide a guideline for a project manager or facilitator to administer these three meeting types.

Preparing for a Premortem, Midmortem, or Postmortem Meeting

Equipment Required

- A room (virtual or physical) where the entire team can communicate and create break-out groups.
- Members of each group will require a pen/pencil and paper or an electronic means of recording their thoughts.
- Central flip chart, web meeting, and/or overhead projector that everyone in the team can view.
- Copies of the *Premortem/Midmortem/Postmortem Meeting Quick Reference Guide* to distribute.
- A watch or timer.

Team Composition

It is important for the project manager or facilitator running the meeting to understand the composition of the team that they are inviting to the meeting. Is it three people or thirty? Are members all of the same background or different? For example, are they all technical people or are some executives? Do different people have different goals for the project? Understanding your audience will guide how you want to assign people to groups. Two potential methods of assigning people are suggested below:

- Randomly assigning people to smaller groups. For example: having stakeholders draw numbers from a bowl as they arrive to create a random assignment of groups.
- Assigning people to groups, so multiple organizational viewpoints are represented in each group.

Group Size: It is recommended that each break-out group be no larger than five people. This group size limit helps ensure all people are heard within the time allotted.

Scheduling: The premortem meeting is typically held during a project kick-off meeting when all stakeholders are present. A midmortem is usually scheduled at the midpoint of a project timeline. The postmortem meeting is held after the project has been completed.

Meeting Length: Each meeting can be scheduled for approximately one hour. Longer may be required for extremely complex projects. Avoid unnecessarily long meetings and try to minimize the unproductive time during meetings. Respect participants' time.

Time of Day: Facilitators may want to decide whether it should be a morning meeting or an afternoon meeting if they have a choice about when to schedule a meeting. For example, some research suggests that a team heavily comprised of younger workers may be more effective in the late afternoon while more one with more mature team members produces better results early in the day.[3]

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[3] Pink, D. H. (2018). *When: The scientific secrets of perfect timing.* New York, NY. Penguin.

Conducting a Premortem or Midmortem Meeting (Template Structure)

Meeting Length: 60 Minutes

1) Ensure all team/stakeholders present in the meeting have pencil/pen and paper or an electronic method of recording their insights. If not, distribute these instruments before beginning.
2) After considering the team composition of those attending, assign people to break-out groups. Make sure no group is larger than five people to facilitate effective communication within the limited time available.
3) Have each break-out group move to sit together in the room. Virtual teams may require other considerations. Consider methods to pre-assign attendees to specific seats that are clustered with their group to minimize the disruption of moving (See also Step 17 and maximize the remaining time for the exercise.
4) Ask each break-out group to quickly decide who will fulfill each of these tasks within their group (these can be the same or multiple people):
    - Note Taker
    - Spokesperson
5) Explain to the team the concepts of the premortem, midmortem, and punctuated equilibrium and their associated benefits. Definitions can be extracted from the FAQ and modified to the context of the project and stakeholders.
6) Reinforce with the team that this meeting is meant to be a positive event to help identify and mitigate project risk and thereby increase the chances of project success.
7) Speaking to the entire room, quickly review the scope and purpose of the project.
8) Continue by setting the stage for the groups to start identifying risk. A potential introduction is provided below:
   In the first part of our exercise, I want you to take a moment and imagine yourself forward in time. The project has just finished. You are looking back at how the team did, and it has been a complete disaster! Things have gone terribly wrong! The project goals have not been achieved. Consider for a moment what were the things that happened that led you to this project failure? Remember that you are in the future looking back at these failures. Please take <u>2 minutes</u> by yourself to write down every reason why the project failed and how it occurred. Remember, no reason for project failure is off-limits, no matter how unlikely. Identifying both common and uncommon risks is important in this process. I will let you know when your two minutes are up.
9) Start the 2-minute timer. Call out to the room when there is one minute left.
10) During these 2 minutes distribute a copy of the Premortem/Midmortem Participant Quick Reference Guide for each group to reference in the next phase of the process. Lay it face down on in front of them so as not to distract them during this window.
11) At the end of the two minutes ask for people to stop writing and gather back together in their small break-out groups.

12) Announce that the groups will now do Steps 3-5 of the document just distributed and read out the steps from that sheet. Inform participants that it is a quick reference sheet in case they forget the instructions.
13) Ask that the Note Taker in each group to start compiling a list of risks for the group. Each person in the group will take a turn to identify their top risk and what caused it. If a duplicate risk comes up, make a quick note of the multiple entries and a quick poll to see if it exists with others in the group. Once a tally is taken, move to the next unique risk identified on the person's list. Keep going around your group until all risks on each group member's list have been recorded on the central group list.
14) Once the list is complete the group should work together to decide the priority of those risks. They can choose how they wish to prioritize them (e.g., the probability of happening or impact on the project or some combination of both).
15) Once the risks are prioritized, the final step of this section is to quickly write some steps that the team can take to mitigate or avoid the risk. The break-out groups should understand that new risks may suddenly show up once they start discussing. This is expected, and they should just consider the risk and re-prioritize their list as necessary. Indicate they have 20 minutes for this section of the exercise and ask them to begin.
16) The facilitator starts the timer for 20 minutes. At the halfway point of 10 minutes indicate to the room how much time is left. Provide a final warning when 2 minutes are remaining.
17) Ask the groups to go back to their original seating so the entire team/room can now have a discussion for the final 30 minutes.
18) The Facilitator then goes around the room and asks each group Spokesperson to identify their top risk and what they had as a mitigation strategy. The Facilitator should record these on a flip chart, web meeting, or an overhead computer screen that is visible to all participants. In the case of duplicates, a tally should be noted across the remaining groups without revisiting the earlier conversation. The Spokesperson should move to the next risk on their list. Each group should continue to voice their prioritized risks until all groups have exhausted their lists.

NOTES:

- The Facilitator should decide whether they wish to invite broader team discussion on each risk as each is voiced or whether they want to hold discussion until all risks are on the team board.
- Depending on the amount of discussion and available time in this section the Facilitator may need to truncate the building of the team's final list. The smaller break-out group lists may need to be gathered separately if time runs out. Extending the meeting to accommodate the extra discussion time is not recommended as it is important to respect Stakeholders' time. Additional discussion can be scheduled for a later meeting.

19) Once all risks have been voiced, ask the team to prioritize the list and elaborate on the mitigation plans for each.
20) The compiled list of risks and the mitigation plans are provided to the Project Manager for review so that they may be integrated into the project planning process.

Options

- Extending Meeting Length or Constricting Project Scope - This template is based on an hour-long meeting format where an entire project is considered. Facilitators may be concerned that incredibly broad or complicated projects may not fit within this timeframe. In this case, they have the option of breaking the project into parts or expanding the time allotted. This is best decided on a case-by-case basis.

Conducting a Postmortem Meeting (Template Structure)

Meeting Length: 60 Minutes

In conducting a postmortem, the Facilitator has the option of creating break-out groups as they did in the premortem and midmortem meetings or doing it a single large team. This is dependent upon how much time is available and how many stakeholders attend. The method described below presumes a well-attended meeting requiring break-out groups.

1) Ensure all team/stakeholders present in the meeting have pencil/pen and paper or an electronic method of recording their insights. If not, distribute these instruments before beginning.
2) After considering the team composition of those attending, assign people to break-out groups. Make sure no group is larger than five people to facilitate effective communication.
3) Have each break-out group to sit together in the room. Virtual teams may require other considerations. Consider methods to pre-assign attendees to specific seats that are clustered with their group to minimize the disruption of moving (See also Step 17) and maximize the remaining time for the exercise.
4) Ask each break-out group to quickly decide who will fulfill each of these tasks within their group (these can be the same or multiple people):
    - Note Taker
    - Spokesperson
5) Explain to the team the concept and benefits of conducting a postmortem meeting. The definitions can be extracted from the FAQ and modified to the context of the project and stakeholders.
6) Reinforce with the team that this meeting is meant to be a positive event to help identify things to do and not do in the future. In doing so, it will help improve future project success.
7) Speaking to the entire room, review the original scope and purpose of the project.
8) Continue by framing the purpose of the postmortem meeting. Sample wording is provided below:
   The project is now finished. You are looking back at how and what you and the team were able to accomplish. Please take <u>2 minutes</u> to write down what went <u>right</u> in the project.
9) Start the 2-minute timer. Call out to the room when there is one minute left.
10) Speaking to the entire room create a second frame of reference for the entire team:
    Finally, take another look back at how and what you and the team were able to accomplish. Please take another <u>2 minutes</u> to write down what went <u>wrong</u> in the project.
11) Start the 2-minute timer. Call out to the room when there is one minute left.
12) During these final 2 minutes distribute a copy of the Postmortem Participant Quick Reference Guide for each group to reference in the next phase of the process. Lay it face down on in front of them so as not to distract them during this window.

13) At the end of the two minutes ask for people to stop writing and gather back together in their small break-out groups.
14) Announce that we will now do Steps 5-6 of the document just distributed. Inform participants that this is a quick reference sheet they can use in the next part of the meeting in case they forget the instructions.
15) Ask that the Note Taker in each group to start compiling a list of positive and negative events or processes from the projects. They will have a total of 20 minutes for this section of the exercise.
    a. For positive events or processes, these are the things that went well. Each team member should have a chance to share in turn until all positive events have been compiled. Make a note of the frequency of which certain events are identified.
    b. Then the team repeats the same process of creating a second list. The things that did not go well. **It is important to emphasize with participants that assigning personal or group blame in a task failure(s) is not appropriate and will not help future projects.**
16) The facilitator starts the timer for 20 minutes. At the halfway point of 10 minutes indicate to the room how much time is left. Provide a final warning when 2 minutes are remaining.
17) Ask the groups to go back to their original seating so the entire team/room can now have a discussion for the next 30 minutes.
18) The Facilitator then goes around the room and asks each group Spokesperson to identify the first item from each of their positive lists. The Facilitator should record these on a flip chart, web meeting, or an overhead computer screen that is visible to all participants. In the case of duplicates, a tally should be noted across the remaining groups without revisiting the earlier conversation. The Spokesperson should move to the next positive item on their list. Each group should continue to voice their positive events until all groups have exhausted their lists.
19) The Facilitator then repeats this same process for the negative list. They will go around the room again and ask each group Spokesperson to identify the first item from their negative lists. The Facilitator should record these on a flip chart, web meeting, or an overhead computer screen that is visible to all participants. In the case of duplicates, a tally should be noted across the remaining groups without revisiting the earlier conversation. The Spokesperson should move to the next negative item on their list. Each group should continue to voice their negative events until all groups have exhausted their lists.
20) First, as a team discuss ways of avoiding and mitigating the negative aspects (risk) in future projects. Second, discuss in what ways the positive events of this project (benefits) can be better leveraged in the future.
21) The lists and compiled feedback are provided to the project manager who can help the organization improve its methods in future initiatives.

Premortem/Midmortem Meeting Quick Reference Guide

The Facilitator will assign each team member to a smaller group. In your break-out group decide who will fulfill the tasks of 1) Note Taker and 2) Spokesperson. They can be done by one or more people.

2 Minutes

Step 1: The facilitator will ask each individual to imagine themselves forward in time:

In the first part of our exercise, I want you to take a moment and imagine yourself forward in time. The project has just finished. You are looking back at how the team did, and it has been a complete disaster! Things have gone terribly wrong! The project goals have not been achieved. Consider for a moment what were the things that happened that led you to this project failure? Remember that you are in the future looking back at these failures. Take 2 minutes by yourself to write down every reason why the project failed and how it occurred. Remember, no reason for project failure is off-limits, no matter how unlikely. Identifying both common and uncommon risks is important in this process. I will let you know when your two minutes are up.

Step 2: The meeting facilitator will start a timer for **2 minutes**. It is important that everyone stop writing at the 2-minute mark and come back together as a group to discuss.

20 Minutes

Step 3: The Note Taker asks **every person in the group** to give their top reason for failure and what caused it. The Note Taker records the results.

- Where duplicate reasons exist go to #2, #3, etc. on each person's list
- Create a complete list of all risks

Step 4: The team works together to quickly prioritize the list of risk compiled by the Note Taker.

- If new risks pop up in the middle of your discussion, it is okay to add to your list and re-prioritize.

Step 5: Create a brief plan on how the team can mitigate or avoid these risks.

30 Minutes

Step 6: The Spokesperson shares your risks with the broader team. Each group will take a turn sharing their risks.

Step 7: The entire team decides on the most important risk priorities and mitigation plans.

Step 8: These risks are fed into the project management plan to help make the project more successful.

Postmortem Meeting Quick Reference Guide

The Facilitator will assign each team member to a smaller group. In your break-out group decide who will fulfill the tasks of 1) Note Taker and 2) Spokesperson. They can be done by one or more people.

4 Minutes

Step 1: The Facilitator will ask each individual to take two minutes and consider the following:

The project is now finished. You are looking back at how and what you and the team were able to accomplish. Please take 2 minutes to write down what went right in the project.

Step 2: The meeting facilitator will start a timer for **2 minutes**. It is important that everyone stop writing at the 2-minute mark.

Step 3: The Facilitator will ask each individual to take two minutes and consider the following

Finally, take another look back at how and what you and the team were able to accomplish. Please take another 2 minutes to write down what went wrong in the project.

Step 4: The meeting facilitator will start a timer for **2 minutes**. It is important that everyone stop writing at the 2-minute mark and come back together as a group to discuss.

20 Minutes

Step 5: The Note Taker asks **every person in the group** to give their **positive events**, and records the results.

- Where duplicate reasons exist go to #2, #3, etc. on each person's list
- Create a complete list of all positive events

Step 6: The Note Taker asks **every person in the group** to give their **negative events**, and records the results.

- Where duplicate reasons exist go to #2, #3, etc. on each person's list
- Create a complete list of all positive events

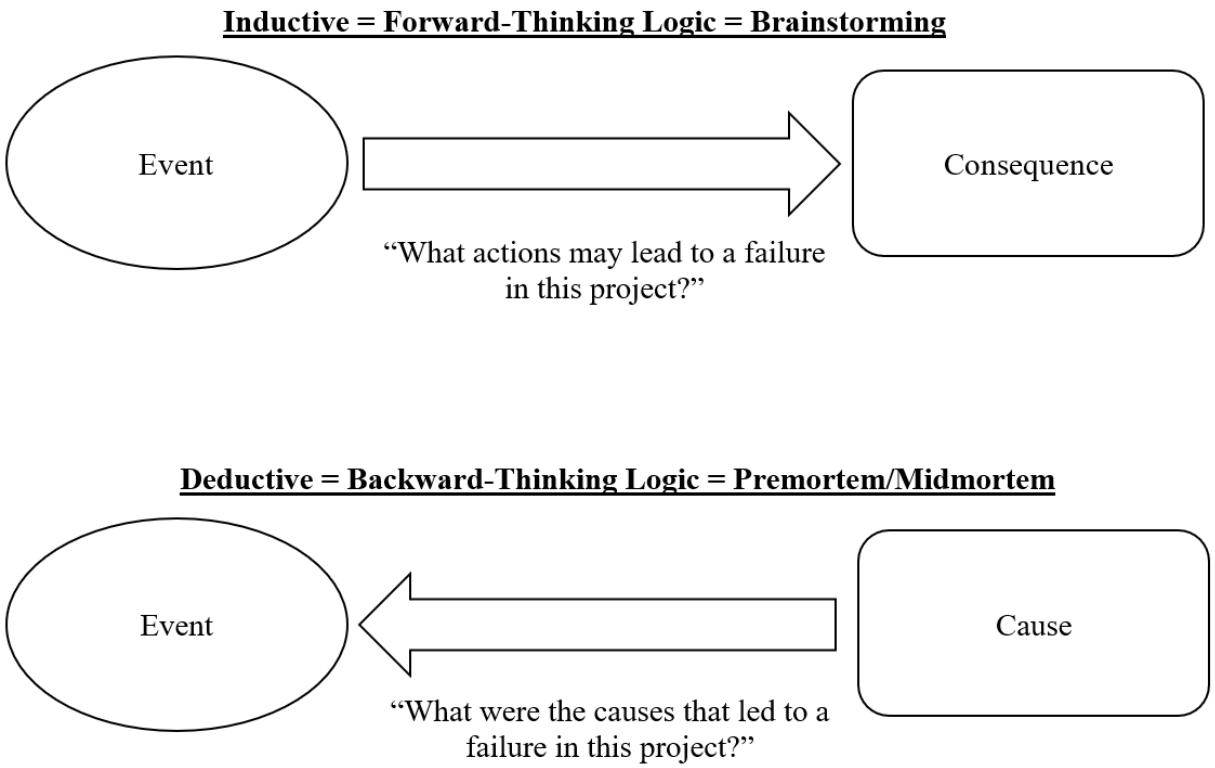
30 Minutes

Step 7: The Spokesperson shares your positive events and negative events with the broader team. Each group will take a turn sharing.

Step 8: Ways to leverage the positive events and mitigate the negative events in the future are discussed and recorded.

Step 10: The lists and discussion are given to the project manager who uses them help improve the process and make future projects more successful.

Figure 1 – Inductive (Brainstorming) vs Deductive (Premortem & Midmortem)



Adapted from Gallop (2017), Mitchell, et. al, (1989), and Vesely (2002)

Figure 2 - Word Cloud

Figure 3 – Draft Diagram of the Prospective Hindsight Punctuation (PHP) Framework