****

9B17C037

Carrie Pan (A)

Kathryn Tang wrote this case under the supervision of Darren Meister and Don Uffen solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

*This publication may not be transmitted, photocopied, digitized, or otherwise reproduced in any form or by any means without the permission of the copyright holder. Reproduction of this material is not covered under authorization by any reproduction rights organization. To order copies or request permission to reproduce materials, contact Ivey Publishing, Ivey Business School, Western University, London, Ontario, Canada, N6G 0N1; (t) 519.661.3208; (e)* [*cases@ivey.ca*](mailto:cases@ivey.ca)*;* [*www.iveycases.com*](http://www.iveycases.com)*.*

Copyright © 2017, Richard Ivey School of Business Foundation Version: 2017-10-05

Since joining the structural engineering team at Lewis, Miller, and Chan (LMC) nearly a year ago, junior engineer Carrie Pan had struggled with the demands of her team. Like other recently hired engineers, Pan faced a steep learning curve and received minimal support from the senior staff. The team worked overtime to cope with a constantly heavy workload and frequently missed deliverable deadlines. Now, in the fall of 2013, Pan was facing her first annual performance evaluation and wondering whether she should continue to pursue a recent issue.

Pan had recently worked with her manager, Mark Burgundy, to produce recommendations for the design of a structural support system for a dual-layer canopy system on the Bearings Tower project. Burgundy had insisted on taking the average load of two canopies as the total, but Pan saw this as only half of the correct load. Burgundy then applied a factor of two to his calculations, as a matter of conservatism. Pan raised concerns throughout the project and was frustrated when Burgundy dismissed these. Pan felt that Burgundy, as a professional engineer, should understand what she considered to be a basic exercise, and she thought his stubbornness undermined his competence. Recognizing that she was still relatively new to the team and that her first performance evaluation would be conducted by Burgundy within the next few months, Pan wondered if she should continue to pursue this dispute.

The Company and Industry

LMC was a privately owned Canadian firm headquartered in Toronto, Canada, with over 300 employees. Founded in 1975 as Lewis & Associates, LMC had offices in Canada, the United States, the United Kingdom, India, China, and Malaysia. The company had expertise in structural engineering, façade engineering, building science, sustainability, construction engineering, and forensics. LMC provided a comprehensive set of engineering design and analysis services across building types and throughout each phase of the building cycle. It consulted for clients worldwide on projects of every level of building complexity and was renowned for its expertise in structural design; LMC led the industry to push the boundaries of what could be built.

LMC’s organizational structure included three engineering divisions—structural design, construction and forensics, and building science—as well as a corporate division that housed the finance, marketing, and human resources departments. Its current chief executive officer was Aaron Sullivan, who started his career in the building science division and had served the company for 30 years.

The Structural Team

The structural design division within LMC was led by general manager Jan Galbraith and included the structural engineering, façade engineering, and earthquake engineering teams. The structural engineering service area was a flagship team within the firm; it had a notable portfolio of high-profile work and generated 36 per cent of total company revenues. This team was founded in Canada in 1982, where much of its technical expertise remained. A second structural engineering team was built up in the United Kingdom following the acquisition of a speciality engineering consulting services firm. A third structural engineering team opened in India in 2006 to provide more affordable engineering analysis.

As a consultant for building developers, LMC’s roster of jobs relied heavily on the building cycle and the state of the general economy. The 2008 subprime mortgage crisis drastically affected LMC, where it precipitated waves of layoffs in 2008. The structural team in Canada was especially hard hit: a team of 25 was reduced to a team of eight. During this downturn, the company continued to hire staff in the India office, which further depressed morale and incited anger among the Canadian staff.

Following the recession, the U.K. team began to hire additional engineering staff immediately, whereas the Canadian team did not add any full-time staff from 2008 to 2012. Because of this discrepancy in the hiring history, the Canadian team had an average age of 41 and an average of 17 years of experience. The average age on the U.K. and India teams was closer to 29 with an average three years of work experience. Staff on the India and U.K. teams tended to leave the company after a tenure of two to five years, whereas no employees had left the Canadian team since the recession. All three teams were predominantly male (85 per cent).

The team tended to hire students coming out of graduate programs with specializations in structural or seismic engineering, which was necessitated by the intensely technical nature of project work. A few members of the Canadian team had been supported by the company to complete master’s programs in structural engineering during their tenure.

Much of the Canadian structural team hailed from the same academic institution and research group, and some staff members were former classmates and roommates. This included technical directors and former staff members who graduated to become project managers, including Jerry Gilfoyle, the acting regional manager of the U.K. office, and Galbraith, who had been a student of the institution in the 1990s and was a professor there before he was poached to head LMC’s structural design division as a general manager and technical director in 2008. This common background was a source of friendship and community for everyone on the team. However, the difficulty of the 2008 recession had introduced tensions into these relationships, especially for Galbraith.

People on the Structural Team

The team was led by senior engineer Burgundy in Canada, technical director and regional manager Sager Dhal in India, and technical director and regional manager Jerry Kilfoyle in the United Kingdom. While there was a clearly defined hierarchy among the three leaders, in practice, Burgundy acted as a liaison between the three teams. He played an active role in managing team resources and allocated time for senior staff from Canada to facilitate junior staff in all offices. Burgundy also managed project allocation for the Canada and India teams, whereas the U.K. team was more independently operated. All three leaders reported to Galbraith.

Mark Burgundy

Burgundy, 38, had been with the company since graduating from his undergraduate program in civil engineering. He was supported by the company in 2006 to complete a part-time master’s degree in structural engineering. Burgundy was a professional engineer (P.Eng.) certified by Professional Engineers Ontario (PEO).

During the 2008 recession, Burgundy was laid off as a part of the company’s downsizing effort. He was then brought back in 2009 and laid off a second time when conditions failed to improve. During these times, Burgundy took on odd jobs for his friends to generate a sufficient living to support his young and growing family. Burgundy had a high level of mistrust for senior management within the firm, especially for project manager and principal, Mason Hallman, who had been instrumental in facilitating the layoffs. Burgundy displayed some hostility toward the India team.

With a dominant personality, Burgundy was a vocal spokesperson for innovation and provided a source of energy, which the structural team often lacked. He strove to ensure that the Canadian team succeeded and that the company supported the continued employment and development of its employees. Burgundy applied to lead the Canadian team despite knowing that, historically, managers were often the first employees to be laid off. He was critical of the U.K. team, the India team, and upper management; these sentiments were shared by other senior staff on the team. He often spoke to teammates and colleagues from other divisions about how leaders should engage, empower, and excite employees.

Pan appreciated Burgundy’s passion but was baffled by his criticism, which seemed hypocritical because his team was largely unengaged. She remembered the most recent company holiday dinner, where Burgundy had attended only to look disgruntled throughout the event and leave immediately after the meal. On another occasion, Burgundy had stepped onto his desk to shout over his cubicle wall that a colleague standing on his desk posed a safety concern. A teammate joked that Burgundy told people to do as he said, not as he did, and Pan found this to be both humorous and accurate.

Jan Galbraith

Galbraith, 41, was the acting general manager of the structural design division of LMC. Recruited from a previous role as a structural engineering professor, Galbraith succeeded Perry Miller, who had been the founding manager of the structural division, past president of LMC, and then a part-time consultant for LMC in his semi-retirement. Galbraith joined the team near the beginning of the recession and was stunned by the first wave of layoffs during his first week at the company. He consulted as a technical director on engineering projects, where he worked with engineering staff to navigate technical complexity and conversed with clients to manage these relationships.

Galbraith had been a high performer throughout his academic career, and he expected a high level of performance and professionalism from his teams. He hoped to achieve a balance of technical innovation, corporate profitability, and job security for employees while maintaining a welcoming work environment. With an objective to grow each part of his division, Galbraith had a vested interest in the success of newer staff, each of whom he tried to meet personally. He had a serious demeanour and appeared intimidating.

Jerry Kilfoyle and Sager Dhal

Kilfoyle, 42, was the acting regional manager of the U.K. office. He was responsible for the structural engineering team, façade engineering team, project management staff, technicians, and administrators at that location. Kilfoyle completed his PhD in structural engineering while working part time on the structural team. Kilfoyle was generally soft-spoken but was known to have a temper that came out occasionally.

Dhal and Kilfoyle both managed junior to intermediate level staff. They empathized with the frustrations of trying to access support from the Canadian team and were protective of their staff. Both regional managers had dealt with some employee turnover and sought to improve the way international teams collaborated.

Senior Staff

Senior staff on the team offered a wealth of industry experience and technical expertise. With 27 years of service at LMC, Grant was the team elder and the mastermind behind many of the techniques and tools that the team currently depended upon. Grant frequently shouted at his colleagues when he disagreed with an approach, and his teammates had developed a sense of humour to cope with this.

Junior Staff

The Canadian team tended to keep two temporary positions filled by interns and co-operative education students, who took on project work under the supervision of senior engineers. As of 2012, two full-time engineering staff members, including Pan, were added for the first time since the recession. An increase in project volume was expected to continue into 2014 and 2015, and the team intended to meet this demand by adding more engineers at the junior and intermediate levels.

Carrie Pan

Pan had completed her undergraduate education in civil engineering at the University of Toronto. She had been a high performer throughout her studies, graduating in the top 10 within her class of 143. Pan had also cultivated a well-rounded skill set that included assignments working at Microsoft and in automation. She was highly involved in her student community, where she developed an appreciation for effective leadership. One lesson she took from a previous role was that anyone could look beyond the limitations of formal authority and find ways to add value to an organization. As a residence advisor, Pan had learned the importance of cultivating a leadership network to engage a community to effect scalable and lasting change.

Upon completing her undergraduate degree in the fall of 2012, Pan joined LMC as a junior engineer/scientist under the management of Burgundy. She was excited to join LMC because, as an industry leader, it afforded her the opportunity to navigate technical challenges and be involved with high-profile work. With a wealth of in-house expertise, LMC offered no shortage of learning opportunities. Many leaders within the company had successfully built their entire careers in the firm, and Pan saw the potential to do the same. However, Pan was disappointed that her work thus far had largely been procedural, which was neither her strength nor her interest. She was unhappy with the level of support she had received thus far, and she saw the level of overtime and stress the team faced as unsustainable. Pan felt that her performance at LMC paled in comparison to her studies, which she had hoped to improve upon. Of 10 full-time staff, Pan was the youngest and one of only two members without a graduate education in structural or seismic engineering.

Project Assignment and Performance

Engineering staff were typically managing two to six projects at various stages of their lifecycles at any point in time. The project management team resided in the Canada office, and Burgundy was the first point of contact for project assignments for the Canada and India teams. Projects were assessed based on complexity; the project checklist included items such as, “Is this project suitable for India?” Historically, the Canadian team had worked on the full range of incoming projects. Since the addition of the India team, jobs that were straightforward tended to be allocated to the staff in India, whereas more technically challenging work was allocated to senior staff in Canada.

For engineering staff, project complexity affected both career progression and learning curve. Complex and high-profile work typically correlated with intense intellectual effort, more changes in design requirements throughout the project, more changes in project timelines, unpredictability in terms of effort required, and lower profitability. Variability was an integral part of this industry, where 50 per cent of projects required changes in design or schedule. Changes in project schedules affected subsequent phases of projects and concurrent projects, and this could cause significant resource conflicts for teams.

Since 2008, the building industry had slowly picked up, as had demand for structural engineering consultants. However, the team had been hesitant to add more permanent staff and risk future layoffs. The team was constantly under a heavy workload, with time pressure on each project coming from project managers, clients, and team leads alike. Technical coordinators and project assurance contacts (PAs) were assigned to projects despite their limited availability, and they tended to say yes to all incoming work. Engineers frequently projected 50-hour or longer work weeks for months at a time and felt a high level of stress.

Project timelines changed frequently, and teams tended to adapt to changes as projects progressed. Missed deadlines were common on the structural team, where project managers and their clients were often notified on due dates that deliverables would be a week or two late. Another compounding factor was that the structural design landscape had become increasingly competitive, with other players aggressively marketing their services as cheaper, faster, and more reliably on time than LMC’s. While LMC still led the industry with regard to technical expertise, competitors offered viable alternatives for projects with lower complexity.

Projects Assigned to Technical Coordinators in India

For projects allocated to technical coordinators in India, a local coordinator in Canada was assigned to liaise with project managers and consult with clients on conference calls. Throughout projects, local coordinators tended to check over the technical design and make changes to be adopted by the technical coordinators. This had been a source of frustration for technical coordinators, who felt set back when they had to revisit completed tasks; they also felt disrespected by local coordinators who interfered with their judgment. On the other hand, local coordinators expressed frustration with the quality of work from the India team, which they felt was often poor, and noted that they were left to clean up mistakes before they could conduct effective conversations with their clients.

This interoffice tension peaked in February 2013, when complaints from the India office led Galbraith to step in and ask the Canada team to cease interfering. Local coordinators were asked to trust the judgment of their overseas colleagues. As a compromise, they were no longer expected to attend client-facing conference calls. To improve interoffice relations and training, Galbraith periodically invited engineering staff from the U.K. and India teams to shadow their counterparts in Canada.

The Environment and Innovation

Despite LMC’s reputation for technical breakthroughs and industry-leading techniques, little innovation was currently being cultivated in the structural team. Formally, team members had a 15 per cent allowance of time which they were expected to spend on overhead tasks, including research and development, personal development, training new staff, and general meetings. However, as projects piled up, engineering staff devoted nearly all their time to addressing immediate issues and did not spend time developing new tools. Apart from one flagship internal design tool, many of the team’s programs were outdated and unintuitive. Senior staff frequently reminisced about the “good old days,” when the team had been more academically oriented, and disagreed with senior management’s shift toward a more production-oriented approach.

Newer staff, especially, worried that the team did not currently innovate fast enough to last as a long-term career option. Everyone on the team recognized this as a problem and agreed that they needed to do things differently. However, without a clear incentive system for research and development, and with a continuing fear of unemployment, staff continued to prioritize chargeable work.

As an attempt to streamline repetitive work within the team, Pan unsuccessfully tried to launch an Octave script to automate a set of calculations that were normally managed within the graphical user interface (GUI). Knowing the substantial cost savings this provided, Pan continued to use them without formal consent and was disappointed that her teammates insisted on using the GUI instead.

On the social front, the team was largely disengaged. Compared to other parts of the organization, the team had low attendance at company events. Newer staff suggested fun social outings and team-building events, which were generally immediately dismissed. Burgundy even followed up with individuals to remind them that bold suggestions were not likely to be selected.

Training and Onboarding

New team members faced steep learning curves and were trained on an as-needed basis. They were assigned to be technical coordinators on projects right away. This meant they shadowed other coordinators or received training from their PAs as the projects progressed. Staff had access to an outdated training manual, last updated in 2006, which provided incomplete and often incorrect information about the use of internally developed tools. Staff felt that both in-person training and the training manual offered procedural guidance only and gave little insight into the underlying theory. Most of the qualitative insight required to make decisions effectively was passed on verbally and not documented anywhere. Historically, a sink-or-swim mentality had dominated the team.

Coordinators often found it difficult to command time from their PAs, who had to juggle their own assignments. This was a large source of stoppages and slowdowns throughout project lifecycles. Additionally, all PAs had adopted their own sets of best practices, which differed from those of their teammates. Coordinators were often trained by individual team members only to have their work rejected on later projects by different team members with different expectations for the same type of work. Coordinators would then either rework their projects accordingly or watch as their PAs revised their work. The level of communication PAs required also differed; some expected to approve every detail and others balked at junior staff who asked too many questions. To expedite learning, junior staff attempted to teach each other, much to the disapproval of their more experienced counterparts. New engineering staff typically managed project work independently within four months and contributed to team profits after six months.

Bearings Tower

In May 2013, Pan worked on the Bearings Tower project with Burgundy, her manager and team lead, as her PA. This unique project involved calculating overall loads for the design of a wall-mounted structural support system that held up a horizontal double-layer glass canopy. Pan and Burgundy had worked through this project side by side. Burgundy applied the average of the net forces on each canopy layer as the total load on the structural system. Burgundy then looked at comparable projects and applied a factor of two for structural design as a measure of conservatism because the calculated loads seemed low.

This introduced a matter of substantial concern for Pan. Had an artificial factor not been applied at the end of the calculations to inflate design specifications, the structural support loads Burgundy had calculated would only be half of the load the canopy bore. Pan had not agreed with this methodology throughout the initial calculations and had asked Burgundy to explain why he took an average load rather than a total load. Burgundy wrote out the original calculation again (0.5 × FA + 0.5 × F­B = FTotal) without providing additional justification. He asked Pan to trust him and walked off to attend to a different project.

This interaction left Pan deeply disturbed. She was currently registered with PEO as an engineer-in-training (EIT) and had recently started to study for her PEO exam in ethics and law. She knew that she had an obligation to protect the interests of her team, her employer, and the public. Pan was nearly certain that taking an average load as the total was incorrect, and she derived the calculations from scratch using three independent methods to verify her stance. Pan asked to speak to Burgundy about this project again the next day. Recognizing his relative seniority, Pan carefully broke down her approach and asked Burgundy to explain and help her understand why an average load should be used, as he claimed, instead of the total. Burgundy again reiterated his original equation without offering additional evidence. Burgundy became increasingly agitated and, upon being asked why the loads were reduced by half, he loudly exclaimed, “I can’t help if you just don’t understand.”

Working in close quarters with her teammates, Pan felt embarrassed and frustrated that this statement might detract from her credibility. She saw this set of calculations as a basic exercise in statistics and saw Burgundy’s failure to understand it as a sign of his incompetence. Recognizing that Burgundy would facilitate her annual performance review in a matter of months, Pan wondered whether she should pursue this debate further. Pan was still a relatively new member on the team, and she questioned whether a further discussion would put her job and career in jeopardy. Pan considered asking other senior staff on the team to assess the technical validity of these calculations but was concerned that this might anger Burgundy.

The Ivey Business School gratefully acknowledges the generous support of the John and Melinda Thompson Curriculum Fund in the development of this case.