

Minimizing the Impact of Culture in Botswana on the Implementation of New PM Paradigms

Mex Muatjetjeja
*University of Botswana, Gaborone, Botswana
Muatjetjeja@mopipi.ub.bw*

Dean Kashiwagi, Kenneth Sullivan, Jacob Kashiwagi
*Arizona State University, Tempe, Arizona, USA
Dean.Kashiwagi@asu.edu; Kenneth.Sullivan@asu.edu; Jacob.Kashiwagi@asu.edu*

Abstract

It has been a "perceived" that a "different" culture has an impact on introducing and implementing forward thinking and advanced paradigms and project management models in developing countries. A research group at the University of Botswana (UB) is investigating whether culture in a developing country has an impact on the introduction and testing of new, innovative project management (PM) techniques; and if an impact exists, how that cultural impact can be minimized. The research is to identify if out of the box, progressive paradigms from more developed industries and countries such as the United States (U.S.) can be quickly introduced in a culture that is not as progressive. The UB research group has partnered with the Performance Based Studies Research Group at Arizona State University and the CIB TG 61 to test whether an innovative Performance Information Procurement System (PIPS) can be implemented, sustained, and a research platform built at UB in a very short period of time.

Keywords

Culture, Alignment, Project management, Logic based model

1. Introduction

The Performance Based Studies Research Group (PBSRG) has been trying to transfer a very progressive approach to delivering services and a research methodology/platform for the past five years. It has found the task very daunting. Every university has its own culture. Every client/buyer has their own culture. Every industry area has its own culture. Every different country has its own culture. The authors propose it is not an exercise in changing cultures, but an exercise in alignment of the cultures of key players, including the university research team, the researchers, the strategic direction of the university, the economy of the clients, and the status of the supplier industry.

The Performance Information Procurement System (PIPS) was developed as a dissertation topic in 1991, and introduced by Dean Kashiwagi to the United States Air Force in 1992. Within two months, Kashiwagi found that the USAF construction management program was too bureaucratic and did not have the capability to utilize the new best value technology. Leaving the USAF, he brought the best value technology to the Del E Webb School of Construction (DEWSC) at Arizona State University in 1992.

The PIPS technology and concepts were different from the current concepts and delivery of construction procedures in the following ways (Kashiwagi, 2006; Kashiwagi, 2001; Kashiwagi, 2002; Kashiwagi, 1996):

1. Proposed that price based processes were inaccurate, inefficient, and invalid unless connected to a level of performance (on time, on budget, and meeting client's expectations). This agreed with one of the most important tenants of Edward Deming (1985).
2. Proposed that management, control, direction, and decision making by client's representatives was incapable of delivering a consistent and high level of performance.
3. Proposed that performance information was more critical than technical information in selecting the best value vendor and delivering performance.
4. Proposed that price based systems created an adversarial environment, which forced management activity and transaction costs to rise, resulting in a decrease in industry performance and capability to provide services.
5. Highly prescriptive and detailed specifications were not an efficient way to deliver performance.
6. Higher performance contractors and experts lowered costs and increased value and quality.
7. Risk was being introduced by the client through decision making instead of risk being something not identified ahead of time and minimized by the contractor.
8. The client/buyer and their representatives and their processes were the major source of risk and the source of nonperformance.
9. Risk and control should be transferred to a best value contractor, and the contractor should administer the contract and do quality control, and the client's representative should do quality assurance, or ensure that the contractor was doing quality control.

PIPS technology was based on the Information Measurement Theory (IMT) which stated (Kashiwagi, 2008; Kashiwagi, 2007):

1. All events are fixed by the initial conditions and have only one outcome.
2. If someone does not have enough information and cannot accurately perceive the initial conditions of an event, they cannot predict the outcome, and are creating risk with their decision making.
3. When people cannot predict the outcome, they make more decisions and their expectations become less in line with the final conditions.
4. A person or organization cannot control another person or organization.
5. Every person makes decisions and acts based on what they understand. People are predictable if there is enough information on their past actions and their capability to perceive.

The PIPS structure was based on the following deductive logic:

1. People or organizations cannot be controlled.
2. Every person and organization is different, with different strengths and understanding.
3. Clients/buyers should align the best value for each particular project.
4. Contractors should preplan, control, and do the project.

PIPS uses the following filters to select and align the best value contractor (Kashiwagi, 2009; Kashiwagi, 2006):

1. Measures the capability of the contractor and key elements of the project team.
2. Requests the competing contractors to identify the risk they do not control in a project, and asks them to identify how they would minimize the risk.
3. Requests the competing contractors to identify how they are different in adding value.
4. Interviews the critical components asking them to identify their ability to see the project from beginning to end.

5. Compares the past performance, the ability to identify risk and add value, vision of their key components, and price to identify the best value.

PIPS then takes the best value contractor and requests them to (Kashiwagi, 2008; Kashiwagi, 2006; Sullivan, 2007):

1. Separate the technical risk from the non-technical risk that the contractor does not control.
2. Create a risk management plan that identifies all the identified risks and concerns of the client, and identifies how they will be minimized and managed.
3. Creates a weekly risk report that will manage the deviation of the project in terms of cost and time.
4. The risk management plan and weekly risk report along with the milestone schedule which is the baseline projection of the best value contractor, all become a part of the contract in addition to the client's technical requirement/specification and legal contract language.

2. Resistance to New Concepts by the U.S. Construction Industry, DEWSC Faculty, and Other Research Entities

Every environment and industry has their own culture. Culture describes who the group of people is, and what they do in different situations. Cultures have traditions which resist change. The following concepts were contrary to the culture of the U.S. construction industry and made it very difficult for the industry to accept PIPS (Kashiwagi, 2003; Byfield, 2002; Kashiwagi, 1999):

1. The contractor controls the project, and administers the contract.
2. The contractor is the expert instead of the client's representative.
3. The contractor does quality control, the client's representative should do quality assurance.
4. The contractor's experts were more technical (construction and quality control), the client's personnel's duties (quality assurance) are not as technical.
5. The majority of the contract that minimizes risk is written by the contractor.
6. The best value is the best value for the lowest cost.
7. Contractor performance cannot be controlled or managed effectively.
8. Best value is the alignment of resources, and not control of resources.
9. Best value delivery is not technical, but based on deductive logic, performance information, and value.

Along with these concepts are major deviations from current management practices (Chong, 2007; D. Kashiwagi, 2008; J. Kashiwagi, 2008):

1. Minimize client representative decision making and activity.
2. Minimize the use of client representative experience.
3. Minimize the flow of information.
4. Transfer risk and control to the contractor.
5. Minimize transactions (management, control, direction, and inspection activities) and transaction costs.

These ideas run counter to many of the concepts being taught by project management education and current best practices in the United States (US), the United Kingdom (UK), and project management groups. The authors propose that any "out of the box concept" will meet with resistance in any culture. Every culture must have differences; therefore the resistance will be more or less, depending on the culture.

The PIPS concepts, the research program using the PIPS concepts and constantly testing of the concepts received resistance from nearly every quarter, from clients, contractors, professionals, and from the university itself. Yet, the program survived, and today is one of the most successful research programs over the last 15 years. It is one of the most sustainable research programs which has had a tremendous impact on industry practices and has had the most industry participation in research tests. The resistance to the testing of the PIPS concepts, and the method of PIPS research (repeated hypothesis testing of the PIPS system, modification of the hypothesis, and retesting, and heavy industry participation) was characterized by the following events:

1. In 1994, two years after working as a visiting professor, Kashiwagi met resistance in being hired as a tenure track professor. However, the visionary department head and dean of the College of Engineering were able to support his hiring.
2. In 1995, the director of the DEWSC moved Kashiwagi and the PBSRG research effort to another building to ease potential tensions caused by the aggressiveness of the research team.
3. In 1997, and 1998, Kashiwagi again met resistance in being promoted and again was supported by the DEWSC Director and Dean of the College of Engineering.
4. In 2001, the State of Utah, after delivering five successful construction projects (\$80M) including the University of Utah Olympic Housing for the 2002 Winter Olympics Phase II, discontinued use of the PBPS (what PIPS was called before a name change in 2000) based on the unsuccessful contractors and designers desire to go back to the status quo system of relationships and price based procurement (Kashiwagi, 2001 and Kashiwagi, 2002).
5. In 2002, the State of Hawaii, University of Hawaii, and the Hawaii Department of Transportation, stop using PIPS after five years of very successful results, based on political resistance (Kashiwagi, 2002; Kashiwagi, 2003).
6. In 2002, the Performance Based Studies Research Group (PBSRG) submitted a research project to the National Science Foundation with Harvard University as an industry partner to study how to sustain PIPS against cultural and political resistance. The NSF peer review concluded that PIPS was nothing new, had no value, there was no research value, and the PBSRG staff were not research oriented (Kashiwagi, 2006; Kashiwagi, 2007; Kashiwagi, 2008; Kashiwagi, 2008). Harvard funded the project themselves, ran five tests, and the test results at Harvard was so dominantly successful (lower cost and very high performance) that it received the 2005 Corenet Global Innovation of the Year award.
7. The Federal Aviation Administration (FAA) spent approximately \$500K and spent three years testing PIPS (2002-2005). It was their second attempt at implementation. Their bureaucracy never allowed the process to run as designed, and the FAA finally gave up without running a complete test (Kashiwagi, 2004).
8. PBSRG tried on two separate efforts to transfer the PIPS research program to other universities in the U.S., to Central Connecticut State University in 2004, and Florida International University in 2005. In both cases, the research tests and research program could not be sustained.
9. PBSRG signed an MOU with the Glasgow Caledonian University (GCU) Built Environment group in Scotland, and GCU awarded Kashiwagi a visiting professorship (2004-2008). In four years, Kashiwagi and PBSRG were unable to transfer and sustain the technology.
10. In 2007, a PIPS paper on the updates of the testing of the PIPS technology and research methodology was disapproved by the Associated Schools of Construction peer review. The peer review comment was that the claims made by PBSRG required auditing, the concepts were not validated, and the research work was of poor quality. The peer reviewers were using their bias and disagreeing with the concepts of the research, and did not have any research results or performance information to challenge the PBSRG results (ASC Reviews, 2007). The paper was accepted and presented in the 2008 COBRA conference and received a great response from industry attendees.

In summarizing the resistance to PIPS, both the industry culture and the university research paradigm/culture in construction management has resisted the PIPS technology. Very few clients have

been able to sustain an effort of change to the more efficient PIPS structure and concepts (Sullivan, 2007; Kashiwagi, 2008; Michael, 2008; Kashiwagi, 2002):

1. Neogard (waterproofing manufacturer) (10 years) and still active.
2. U.S. Army Medical Command (4 years) and still active.
3. University of Minnesota (4 years) and still active.
4. Arizona State University (3 years) and still active.
5. State of Hawaii (3 years) and inactive.

The PIPS research methodology forces the clients and researchers to:

1. Create a seamless industry/university research interface. If the industry doesn't want to collaborate, that means that they see minimal value to the new research concepts.
2. Prove immediately that the concepts of the technology are valid through actual tests. If the researchers and industry are not used to running tests, this could stop the effort.
3. Become accountable. Both clients and researchers must be accountable and interested in finding the source of issues, and wanting measurements.
4. It forces the alignment of the researcher's teaching load, research work, and value to the industry. Due to the extensive work involved in running actual tests, understanding the new concepts, and documenting the results, researchers must slash their current workload by becoming very efficient.

The PIPS technology brings the following to organizational structure (Sullivan, 2005; Kashiwagi, 2003; Kashiwagi, 2002):

1. Accountability.
2. Transparency.
3. Efficiency.
4. Minimization of transactions.
5. Require less manpower for more work.
6. Identifies sources of performance and risk.
7. Minimizes the need for management transactions due to efficiency.

Not only the clients who are testing this new technology, but the researchers themselves must be practicing this new "culture". If they are not, they will not understand the technology, and will not be able to explain it to others. Most cultures and people in the culture do not favor the above. Universities by nature are bureaucracies. They are inefficient, and rarely have the funding to allow researchers to be able to do research. Therefore, a part of overcoming the existing culture will be the researchers' ability to form a new culture. In many cultures, especially developing cultures, the above characteristics are not a part of their culture. However, these characteristics are also not in very developed cultures as documented by the PIPS research effort in the U.S. Despite the resistance, PIPS has had the following successes (Kashiwagi, 2009; www.pbsrg.com):

1. Overall industry funding (PBSRG has used no university and minimal government research funding until 2008) of \$7M (1994 – present), and \$1M in 2008, driven in large measure by a secondary researcher, assistant professor Sullivan, and running a research manpower cost of \$600K per year in soft funding or non-university funded slots.
2. 611 tests where PBSRG has controlled the entire delivery process, continually testing the theoretical hypothesis, in construction (\$528M). PBSRG is the only research group that has run hundreds of repeated tests to do hypothesis testing.
3. Delivered nine (9) Arizona State University non-construction services for over \$2B using PIPS, which brought ASU a value added investment of \$50M (capital/cash). It is the only construction management research group given full guidance/control of their own university and a major US

university (largest U.S. university based on student count of nearly 70,000 students) procurement/contracting and contract administration system and allowed to dictate the contract management of the projects using PIPS research concepts.

4. Also tested technology at the University of Minnesota, University of New Mexico, Boise State University, and University of Hawaii, and the University of Idaho.
5. 98% performance meeting client's expectations.
6. Minimized up to 90% of construction management risk activity (State of Hawaii results and University of Minnesota results).
7. Maximized contractor profit by as much as 5% (State of Hawaii results and University of Minnesota results).
8. Documented twice in the Engineering News Record (ENR) in 2006 and 2008 in full length articles.
9. Identified by the International Council for Research and Innovations in Building and Construction (CIB) as the coordinator for the Task Group 61 in 2005 based on the innovative research and worldwide leadership in the use of performance information, and awarded a Working Commission (WC) (W117) and a CIB journal in 2008 on the implementation of performance information in the built environment industry.
10. Tech Pono award in the State of Hawaii (1999) for technology innovation, Corenet Global Innovation of the Year award (2005) for testing results at Harvard University, Construction Owners of America Association (COAA) gold award for the City of Peoria PIPS implementation in 2007.
11. Assisted the International Facility Management Association Phoenix Chapter to receive 2005 chapter of the year award, and Project Management Institute Phoenix Chapter to receive 2008 Chapter of the year award based on PIPS/IMT education/research collaboration.
12. Fulbright grant in 2008/2009 for education and transfer of the PBSRG research program to the University of Botswana.
13. Arizona State University licensed contracting/procurement technology (State of Hawaii, University of Hawaii, Hawaii Department of Transportation, University of Minnesota, State of Oklahoma, US Army Medical Command, Heijmans, Dutch Infrastructure agency, State of Idaho, Scenter, Delft University).
14. One of few university based research professors tasked to be on IPMA PMForum's International Academic & Editorial Advisory Council (2009).
15. Requested by the WP Cary School of Business, one of the top rated business schools in the US, to consider packaging a best value option undergraduate education concentration for the school of business (2009). This is a fifteen year developed technology, which is licensed, is being moved from the construction area to one of the most prestigious business curriculums.
16. Only university research group requested to make radical changes to Corps of Engineers contract/procurement processes, run tests, and measure the effect of the new university licensed technology.
17. Only U.S. university research based construction program requested by a Dutch agency delivering construction to license and use the developed technology to attempt to solve the problems caused by collusion, over-management, and poor construction performance.

The PIPS testing in the U.S. has the following performance characteristics:

1. Required two years to run a first test in construction.
2. Required five years to run a first test on building modification/general construction.
3. Required fourteen years to find another lecturer/professor to join the research effort.
4. Required fourteen years to run the first test outside of construction.
5. Has never received funding support from the university or DEWSC for research efforts.
6. Has never have had a client sustain the PIPS processes for over four years.
7. Has never successfully transferred the PIPS technology and research testing to another major university in the US or UK.

8. Required sixteen years to transfer the technology successfully to Delft University, and it was transferred to an academic research unit outside of construction.
9. Required thirteen years to run the first tests outside of the supervision of PBSRG (in the Netherlands).

These time measurements define how difficult it was to overcome the culture in developed countries (U.S., U.K., and European). Reviewing all the successes in the developed countries, there was always an alignment of participants: university research group, visionary professors, opportunity for a research group, clients who needed change and industry participants who needed change to survive. The authors are proposing in this preliminary research paper, that alignment of participants may be a requirement to overcoming industry, university, and client cultures in developing countries.

3. Existing Cultures in Botswana

In communicating with the DBES, the major engineering group delivering construction for the Botswana government, the following characteristics of the industry were identified:

1. Less capability to document, measure deviation, and control their own projects.
2. The more experienced, performing, and lower cost construction companies and individuals come from outside of Botswana (Mburu, 2008).
3. The local industry is not competitive with foreign contractors.
4. When projects are critical, risky, and large, there is a good chance that a foreign contractor will get the project.
5. The current industry uses a highly managed and directed structure and process.
6. The current environment is price based (Gaborone, 2005).
7. The current industry performance and direction must be improved.
8. Increasing requirements and decreasing funding and value of the local currency.

This was echoed by the Bank of Botswana, the Botswana Development Corporation, and UB academic departments. There seemed to be enough clients who were ready to investigate a new solution. The University of Botswana College of Engineering and Civil Engineering department has the following unique characteristics in 2008:

1. They are understaffed and overworked. They have no existing strategic plan to overcome the problem.
2. The graduate programs are education based, and not research based.
3. They have a unique Masters of Project Management (MPM) program that services all industries.
4. They have a Dean of the College, and a head of department (HOD) who want to elevate the research capability of the college and department.
5. They have the head of the MPM program who wants the courses of the MPM program to contain the latest technology, wants to create an industry research interface, and wants to move more toward a research based graduate program.
6. They have lecturers who need to get their doctorate to enhance their capabilities.
7. They need to increase their publishing of refereed conference and journal papers.
8. The college needs to be able to leapfrog other more traditional programs with very limited funding, resources, and limited industry participation in Botswana.

The current construction industry in Botswana is no different from the other African countries. The culture is set by the British. It is a client controlled delivery system, with design and engineering consultants, managers, and quantity surveyors. It is a management, control, directive, inspection, and price based culture. This system does not:

1. Increase the local industry expertise.
2. Make the local industry competitive.

3. Increase the need for training programs, education, and continuous improvement programs.
4. Is adversarial.
5. Increases transaction costs, and decreases value.
6. Creates a delivery system that is filled with decision making, risk, finger pointing, and results in poor performance.

4. Hypothesis

The authors are proposing that the new technology can be introduced quickly into a developing country like Botswana if: 1) there is an opportunity for the university or professors to create dominant results; 2) a university research team can be motivated to change their paradigm; 3) there is alignment of industry resources, client/buyers, and professionals; and 4) an economic situation that requires very efficient operations. The authors propose that due to the unique circumstances of the University of Botswana, and the Botswana circumstances, there may be a potential alignment of resources, culture, and need. The test will determine if the following can be done in Botswana, at the UB, and in the industry in four months spaced over the course of a year. The hypothesis will be tested using the following objectives:

1. Get the Department of Building and Engineering Services (DBES) educated and convinced in a large enough group to make a difference to move toward efficiency, value, and quality assurance, instead of management, direction, and control.
2. Get a major user/buyer to use PIPS to deliver both design and construction.
3. Use PIPS to deliver services outside of construction.
4. Get the university departments to use PIPS to run university procurement.
5. Identify protégés to learn the PIPS technology, the research mentality, and give them the confidence to interface with the industry.
6. Assist UB to change their graduate masters program from an education based to research based program.

If the above is accomplished, the test will show that even though culture may have an impact on the introduction of new, cutting edge concepts, an alignment of participants and culture may overcome the cultural differences. This is a preliminary investigation into the impact of culture and overcoming of cultural resistance to cutting edge concepts. The research effort will identify the different cultural differences, the relative degree of the differences, what degree of alignment of resources is required to overcome the differences, and a potential methodology for university research groups to make the transition from educational, reactive programs to research based, proactive programs.

5. Current Status of Research Test

The new project management model PIPS was brought to the UB in 2008 via the Fulbright program. Kashiwagi has finished two months of the planned four month schedule. The following are the preliminary results:

1. Overcome the general expectations of the faculty, as industry participants have been energized.
2. The major engineering organization DBES has requested a two day presentation.
3. The Bank of Botswana has given approval for a test to deliver design and construction.
4. The Botswana Development Corporation has committed to a test.
5. Two UB departments, IT and the medical school, have shown great interest in running the concepts.
6. A core team of the project management section has stepped forward to learn and implement the technology.
7. Three lecturers have agreed to pursue their dissertations in the area of the technology.
8. Coauthoring seven papers on the effort.
9. Implemented the concepts in the project management measurement class in the MPM program.

10. Developed a new risk model explanation to facilitate a more efficient explanation to the clients.

6. Conclusion

A research team is studying the implementation of cutting edge PM and risk management concepts into a developing nation and culture. The research team is trying to identify the cultural difference between a developing country and where the concepts have been successfully implemented. The effort will identify how the cultural differences can be measured, identify the methodology to overcome the cultural resistance, and use the technology to change the academic research expectation. It is a new model on all fronts: the university research culture, the client/buyer culture, the contracting culture, the industry vendors, and the interfaces between all the groups. This is the first of many efforts to find proactive ways to overcome the cultural resistance to change.

7. References

- ASC Reviews. (2007). ASC International Proceeding of the 43rd Annual Conference, Northern Arizona University, Flagstaff, AZ.
- Angelo, W.J. (2006). Progressive Project Delivery – Best Value – University’s System Boosts Value Added. Engineering News Record, Published on April 3, 2006, accessed at http://enr.ecnext.com/coms2/article_febiar060403d.
- Byfield, R. and Kashiwagi, D. (2002). “Testing of minimization of subjectivity in ‘Best Value’ in procurement by using artificial intelligence systems in state of Utah procurement”. *ASCE Journal of Construction Engineering and Management*, 128 (6), 496-502.
- Chong, N., Sullivan, K., Sullivan, M. and Kashiwagi, D. (2007). “Cultural revolution”. *The Naval Post-Graduate School (NPS) 4th Annual Acquisition Research Symposium*, Monterey, CA, USA, Panel 15, CD 028, (May 16-17, 2007).
- Gaborone, T. (2005). Evaluation of procurement systems in Botswana, University of Botswana, Department of Civil Engineering.
- Kashiwagi, D. T. (1991). Development of a Performance Based Design/Procurement System for Nonstructural Facility Systems. Tempe, Arizona: Arizona State University.
- Kashiwagi, D. T. (1996.) “Intelligent procurement of construction systems”. *Journal of Construction Procurement*, Vol 2, May 1996, pp. 49-58.
- Kashiwagi, D.T. (1999). “Construction delivery system of the information age”. *Automation in Construction*, 8(4), 417-425.
- Kashiwagi, D. T. (2008). “Project managers in a futuristic environment”. *4th Scientific Conference on Project Management (SCPM) & 1st International Project Management Association (IPMA)/Mediterranean Network (MedNet) Conference on PM Advances, Training & Certification in the Mediterranean*, Chios Island, Greece, pp. 56-64 (May 29-31, 2008).
- Kashiwagi, D. T., (2009). Best Value. Tempe: Performance Based Studies Research Group (PBSRG).
- Kashiwagi, D., Badger, W. and Sullivan, K. (2006). “Future research model of the new university”. *International Conference in the Built Environment in the 21st Century (ICIBE 2006)*, Kuala Lumpur, Malaysia, pp. 463 – 473 (June 13-15, 2006).
- Kashiwagi, D. and Byfield, R. (2002). “Case studies of the State of Hawaii and Utah implementation of performance based contracting”. *COBRA 2002 - Construction and Building Research Conference*, Nottingham Trent University, UK, pp. 297-309.
- Kashiwagi, Dean T. and Byfield, Richard. (2001). “State of Utah performance information procurement delivery system tests”. *ASCE Journal of Construction Engineering*.
- Kashiwagi, D., Parmar, D. and Savicky, J. (2003a). “Case study of the University of Hawaii implementation of performance based procurement”. *Joint International Symposium of CIB Working Commissions*, Singapore, 1, pp. 395-402.

- Kashiwagi, D., Sullivan, K., Badger, W. and Egbu, C. (2008). "Business approach to construction research". *COBRA 2008 The Construction and Building Research Conference of the Royal Institution of Chartered Surveyors*, Dublin Institute of Technology, London, UK, (September, 2008).
- Kashiwagi, D., Sullivan, K. and Badger, W. (2008). "Case study of a new construction research model". *ASC International Proceedings of the 44th Annual Conference*, Auburn University, Auburn, AL, CD 4:2 (April 2- 5, 2008).
- Kashiwagi, D., Sullivan, K. and Ssegawa, J. (2008). "Movement of the latest cutting edge project management/delivery systems to the University of Botswana". *First International Conference on Construction in Developing Countries (ICCIDC-I) "Advancing and Integrating Construction Education, Research & Practice"* August 4-5, 2008, Karachi, Pakistan.
- Kashiwagi, Jacob. (2007). Leadership is alignment not influence. Arizona State University. Tempe, AZ: United States of America. Master Thesis.
- Kashiwagi, J., Sullivan, K., Badger, W. and Kashiwagi, D. (2008). "New leadership model of alignment". *ASC International Proceedings of the 44th Annual Conference*, Auburn University, Auburn, AL, CD 5:14 (April 2- 5, 2008).
- Kashiwagi, J., Sullivan, K., Kashiwagi, D. and Badger, W. (2008). "Is project management alignment or influence/control?". *4th Scientific Conference on Project Management (SCPM) & 1st International Project Management Association (IPMA)/Mediterranean Network (MedNet) Conference on PM Advances, Training & Certification in the Mediterranean*, Chios Island, Greece, pp. 186-191 (May 29-31, 2008).
- Kashiwagi, J., Sullivan, K., Kashiwagi, D. and Badger, W. (2008). "Simplification of projects using deductive models and dominant information". *4th Scientific Conference on Project Management (SCPM) & 1st International Project Management Association (IPMA)/Mediterranean Network (MedNet) Conference on PM Advances, Training & Certification in the Mediterranean*, Chios Island, Greece, pp. 192-197 (May 29-31, 2008).
- Kashiwagi, J., Sullivan, M., Sullivan, K. and Kashiwagi, D. (2008). "Transforming an organization by using a new project management approach". *4th Scientific Conference on Project Management (SCPM) & 1st International Project Management Association (IPMA)/Mediterranean Network (MedNet) Conference on PM Advances, Training & Certification in the Mediterranean*, Chios Island, Greece, pp. 198-203 (May 29-31, 2008).
- Mburu, E (2007). "Construction services, contribution to sustainable development and issues on trade service". *United Nations Conference on Development*.
- Sullivan, K., Egbu, C. and Kashiwagi, D. (2005). "Forcing contractors to improve with minimized management effort". *CIB W92 Construction Procurement: The Impact of Cultural Differences and Systems on Construction Performance*, University of Nevada – Las Vegas (UNLV), Las Vegas, NV, 2, pp. 683-691 (February 8-10, 2005).
- Sullivan, K., Guo, Y. and Kashiwagi, D. (2007). "Contractor cash flow and profitability analysis between best value and low bid". *ASCE Construction Research Congress*, Grand Bahamas Island, CD Track 109 (May 6-8, 2007).
- Sullivan, K., Kashiwagi, D. and Chong, N. (2007). "Motivating contractor performance improvement through measurement". *Fourth International Conference on Construction in the 21st Century (CITC-IV): Accelerating Innovation in Engineering, Management, and Technology*, Gold Coast, Australia, CD Track 40 (July 11-13, 2007).
- Sullivan, K., Kashiwagi, J., Sullivan, M. and Kashiwagi, D. (2007). "Leadership logic replaces technical knowledge in best value structure/process". *ASC International Proceeding of the 43rd Annual Conference*, Northern Arizona University, Flagstaff, AZ, CD 6:10 (April 12-14, 2007).
- Sullivan, K., Savicky, J., Kashiwagi, D., Perkins, M. and Grussing, J. (2007). "Transitioning to an information environment: Performance research in large capital projects and facility management group". *Fourth International Conference on Construction in the 21st Century (CITC-IV): Accelerating Innovation in Engineering, Management, and Technology*, Gold Coast, Australia, CD Track 21 (July 11-13, 2007).