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Leadership Based Project Management Model Tested On Food Services at Arizona State University

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Abstract

A new project management (PM) model has been tested in construction over the last 13 years, and has minimized construction management functions by up to 90 percent. It was hypothesized that the new PM model is based on theoretical leadership based principles, and could thus be applied in non-construction industries. The model was tested in a university food services contract (\$400M, ten year contract). Results validate the theoretical model and support the idea that the PM problems encountered in construction and other areas are not industry based, but due to the use of inefficient and ineffective management principles.

Keywords

Leadership based PM model, proactive PM model

1. Problem

The Arizona State University purchasing and contracting group was faced with re-competing their food services contract in the fall of 2006. From past experience in administering the previous food services contract and other services contracts, they realized the great potential for improvement. Similar to project managers (PMs) in the construction industry, the university's PMs had found it extremely difficult to

manage a contract after its implementation (Suttell 2005, Guetzko 2004). The PMs were unable to receive project performance and risk information in a timely manner and did not have accurate documentation of the contract. They were constantly in a reactive mode, and never seemed to have the contracts in control.

The university contracting personnel wanted to use a new PM model. They wanted to alter the focus of the PM from management activities (done after the contract's signing) to risk transference activities (performed before the contract's signing). The PM should assist in the selection of the highest performing vendor, implement tools that forced the vendor to preplan to identify and minimize all potential risk (both risks that they controlled, as well as risks they did not control), and use a contract that transferred the majority of risk and control to the vendor. To accomplish this, the client's PM would need a new PM model. This model must assume that the major risk of a project when a very experienced vendor is hired, is the risk that the vendor does not control.

ASU contracting personnel concerns were very similar to concerns in the construction industry. They included:

- The traditional method to procure a vendor included too much direction and expectation from the client's PM and not enough listening to what the vendor could actually do. The PM would then be required to constantly ensure that the vendor was meeting the PM's expectations. This model of the PM directing, controlling, and inspecting (influence model) the vendor was not very successful at ASU. (Hoff 2003)
- The PM was not transferring risk and control to the vendor, but was attempting to direct, control, and make decisions for the vendor (influence model). The contracting personnel were worried that the existing model was not logical, efficient or effective. The result is that the vendor became reactive and low performing. (Korman 2004)
- The majority of risks in the food services contract was risk that the vendor did not control. Oftentimes, after the risk occurred, it became a finger pointing exercise. This placed the PM in a reactive mode. This model did not help in administering the contract. (Babcock 2006)

2. Hypothesis

The hypothesis of this research is that the new alignment based PM model (picking the best value, and allowing them to preplan to minimize the risk that they do not control before the project), is better than the traditional expectation/influence model that minimizes the risk during the project by a reactive PM. The authors also hypothesize that the same issues (risk that the vendor does not control) which cause problems in construction also cause problems in food services. The authors

hypothesize that the traditional reactive PM model is a major source of the problem. The researchers also propose that the problems may be caused by the structure of the current PM model including:

1. Selecting the lowest bidder who is reactive and low performing.
2. The client's PM becomes the expert instead of the vendor.
3. The PM ends up directing the low bidding vendor, keeping the risk with the client.
4. The low bidding and low performance vendor is merely reacting to the client's PM.
5. The client's PM is making the decision on what the acceptable level of service is using minimum standards. The vendors are actually motivated to lower their performance and not use their own expertise, but follow the guidance of the PM.

3. Best Value PIPS PM Structure

The new PIPS best value PM model is a three phase model that includes (Kashiwagi 2008): 1) selection (based on past performance information on critical elements, financial package, vendor's ability to identify and minimize risk that they do not control, and propose key individuals who can minimize risk ahead of time, document their performance, and manage their own project); 2) prioritization of the best value and requesting the best value vendor to create a quality control (QC) program that minimizes the risk that they do not control; and 3) having the awarded contractor controlling and documenting their own contract, documenting the risk, and managing by risk minimization. This PM model transfers the risk and control to the vendor. The best value PIPS PM model does not have the five characteristics of the status quo PM model discussed in the previous section. The new PM model has the following components that differ from traditional models:

1. The vendors differentiate themselves through documented performance information and value adding capabilities. They show what they can produce instead of what the client expects them to produce.
2. The model forces the vendors to present dominant, quantifiable information that clearly differentiated them from the other vendors. This transfers the risk and control to the vendor.
3. The best value vendor identifies and minimizes the risk that they do not control in a QC plan. The QC plan becomes the major part of the contract, with the vendor financial package, and client required legal documentation.
4. Vendor pre-planning, risk minimizing, and value added effort before contract award.
5. A weekly reporting system that forces the vendor to document and communicate the performance and risk. The vendor must hold all parties accountable by minimizing the risk that they do not control.

4. Methodology

The methodology of this test included:

1. Modified the new PM model to fit the university's specific food services needs.
2. Create a best value RFP.
3. Run the best value PIPS PM model.
4. Measured and analyze the results.
5. Identify differentials from the status quo methodology and the new best value PIPS PM model.

5. Analysis and Results

The researchers propose that the new best value PIPS PM model is better than the status quo manage, direct, and control PM model used in traditional service and outsourcing industries. The differences will be shown by measurement of client satisfaction, measurement of value (quality and financial package), and whether the client repeats the process on another test. If the above three are positive, the authors will propose that the hypothesis is validated that the best value PIPS PM model may be more effective than the traditional PM model.

5.1 Client Satisfaction

The researchers looked at two measures to capture client satisfaction. The first was a survey that compared the traditional PM method to the PIPS best value PM model. The survey was distributed to the university's core committee members (eight in total), upon contract award. It consisted of seventeen questions regarding the selection process. Each of the seventeen questions required two answers, one answer as it related to the traditional method and another as it related to the new PIPS best value PM method. The answers were on a scale from one to ten, with ten being optimal.

Table 1 contains a sampling of the seventeen questions and the results. From the results of the survey, the participants stated that there was a 139 percent overall improvement. It was concluded that the PIPS best value PM model was preferred over that of the traditional method. The second measure utilized was the client's willingness to reimplement the PIPS best value model on additional outsourced service contracts (sports marketing service, furniture buy, and the outsourcing of the IT department Networking.) The ASU procurement group has committed to transform themselves to the new PM model.

		TM	BV	%Δ
1	Your confidence in the chosen vendor	5.88	9.38	60%
2	Your knowledge of the vendors' capability, before contract award	5.13	8.88	73%
5	Ease in differentiating between vendors' capabilities/values	4.13	9.00	118%
6	The amount of pre-planning, risk minimizing, and value added by the vendor, before contract award	3.38	9.25	174%
8	The process minimizes the amount of meaningless information	2.63	9.13	248%
9	The process promotes win-win situations (benefits all parties)	5.25	9.00	71%
10	The process minimizes unnecessary management and decision making efforts on the part of the client	2.88	8.75	204%
15	The process documents performance via contractually binding measurements, which create accountability for all parties involved	3.29	9.13	190%
16	The process is fair for all parties involved	4.63	9.13	97%

Table 1: Client Satisfaction Survey

5.2 Value

The new PM model showed an increase in performance and value from the traditional model. Using the incumbent as the traditional PM model and the best value as the new PM model, past performance information, current performance information, and price were compared. Table 2 presents the results. The shaded cells identify the highest rating for each criterion. Vendor B proposed the best financial package, over \$32.5 million (62.3 percent) higher than the incumbent. Vendor B differentiated themselves with a total selection phase score 13.2 percent higher than the next best vendor based on performance and minimum revenue to ASU. This was a much higher performance than what the traditional PM model had delivered to the university.

5.3 Efficiency (minimized effort)

An underlying objective in the approach was to increase the efficiency of managing the project. The new PM model RFP was 1/7th the size of the traditional method. The new PM model minimized the vendors' submittals by 85%. The result of the substantially minimized documentation reduced useless non-binding or marketing information. The efficiency showed in questions five, eight, and ten in the client satisfaction survey (Table 1). Another realized efficiency gain was shortcutting of the negotiation usually required by the traditional PM model. The previous dining service contract at the university was in negotiation for an entire year before a contract was signed. Under the PIPS best value PM model, negotiation took 40 days (89 percent reduction in time). Another sign of efficiency was the repositioning of university management. The repositioning resulted in a 100 percent gain in efficiency, when compared to the university's previous required efforts.

No	Selection Phase Criteria	Weight	Vendor A	Vendor B	Vendor C
1	RAVA Plan	28	16.55	19.85	17.67
2	Transition Milestone Schedule	2	1.03	1.39	1.27
3	Interview	25	15.77	16.78	13.53
4	Past Performance Information - Survey	9	8.82	8.99	8.84
5	Past Performance Information - #/Clients	1	1	0.53	0.78
6	Past Performance Information - Financial	15	10.53	13.01	10.35
7	Financial Rating	5	2	4	4
8	Financial Return - Commissions	7	3.309	6.5775	7
9	Capital Investment Plan	6	4.3118	6	3.6073
10	Equipment Replacement Reserve	2	1.7654	1.0034	2
	Total Selection phase score	100	65.00	78.13	60.04

Table 2: Selection Stage Results

The last measures utilized to capture the gain in efficiency were the financial metrics. The following dominant (indisputable and irrefutable) financial metrics were created and are tracked by Vendor B on a monthly basis:

- Revenue (Total, Retail, Catering, All Other)
- Total Commissions to ASU
- Total sales per labor hour & # of transactions
- Total Revenue per transaction
- Voluntary meal plan participants
- Mandatory meal plan participants

The results of the first year of the new vendor are compared with the previous vendor in Figure 1. The best value vendor sold more food, gave more commissions to the university, made more financial investments into the university’s capital program, reduced the number of university personnel required for management by a dominant number, and raised the level of student satisfaction with the food.

These numbers are a validation of the new project management model. Because the numbers are so dominant, it leaves very few decisions to make on the value and performance of the new PM model.

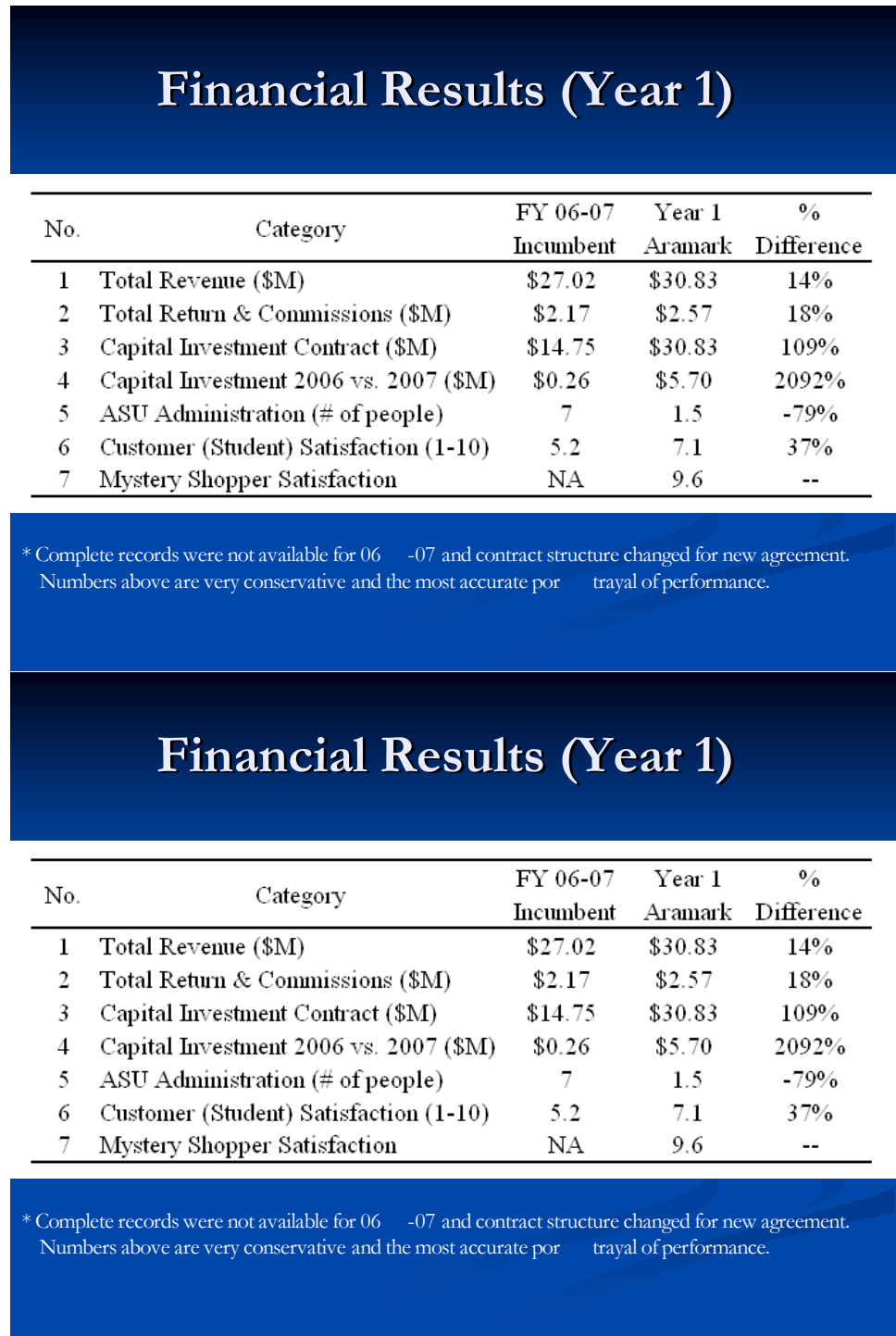
6. Conclusion

The test of the new PM model led to the following results:

1. The same problems that exist in construction exist in other services.
2. The best value PIPS PM model in testing shows to be much more efficient and effective.
3. If risk is transferred to the vendor, and PM assists the vendor instead of managing, directing, and controlling the vendor, performance of the vendor in this test was optimized.

The new PM model engages the PM before the contracting of the vendor, and uses the use of listening and competition instead of directing, and forces the vendor to minimize the risk that they do not control to transfer risk and control to the vendor before the project starts. The new PM model is proactive, aligns the best value vendor, allows the vendor to self manage, regulate, and measure their own performance using dominant measurements. The measurements in the new PM model are set before the contract begins, and are set by competition, and preplanning. The new PM model structure minimizes the risk by hiring technically competent vendors who show performance by the use of dominant information, minimizing the decision making and risk of the PM. The test results shows that this new PM model may be much more successful, simplistic, and efficient than the traditional model of direction, control, and influence/expectations. The new PM model, according to the participants in the test, changed the operation of the food services industry. The new PM model is now being used to tackle an industry that has been traditionally fraught with risk, the information technology industry at Arizona State University. Other applications will be run by the State of Oklahoma on various services and commodities. For more information, see the website pbsrg.com.

Figure 1: Financial Comparison Between the Best Value Vendor and the Previous Incumbent



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PBSRG is the worldwide leader in improving facility/project performance and efficiency. Kashiwagi has developed a "hands off" approach to managing contractors or vendors in any industry. His concept is contrary to traditional price-driven procurement. The technology has been tested over 500 times totaling \$1.135 Billion (\$683M in construction projects and \$451 in non-construction projects) with a 98% success rate since 1994. His work is now being tested in the Netherlands. Kashiwagi has integrated these concepts into a Facility-Project Asset Graduate Program at ASU. His presentations are highly sought out by highly recognized international organizations such as the Project Management Institute (PMI) Global Congress. Dean can be contacted at dean.kashiwagi@asu.edu.

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