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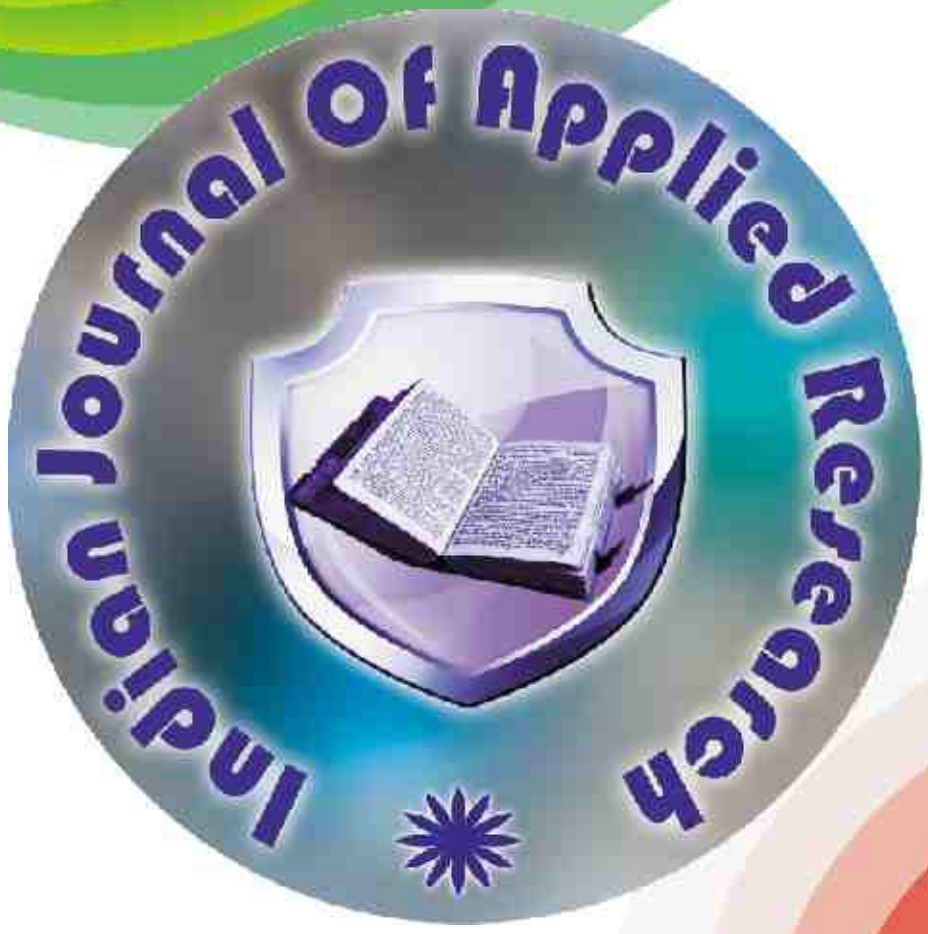

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Research Paper Management

Risk Management Processes And Techniques For Resolving Customer - Supplier Relationship Issues

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ABSTRACT

This study investigates what risk management processes & techniques are perceived to address customer supplier relationship issues and how effective those techniques are considered to be. Whatever approach is adopted, it is likely that some compromise will be required in order for both parties to classify a project as a success. If both supplier and customer work towards an outcome that both parties can agree is a success then perhaps that is a better measure of project success than whether or not what was delivered is completely the same as what was originally specified. Anything that threatens project success (in this broad sense) may be termed a project risk. Thus the nature of supplier and customer relationships becomes very important when considering risk management for web based software projects.

More important, IT Project managers need to do more to raise the awareness of the importance of risks associated with customer supplier relationship issues with their software delivery team. In a typical situation one supplier will have several customers. Thus the context of the project risk may vary from project to project. This means that these relationships have a bearing on the risk management at a project level, not just a business level. There are two potential areas where future research might be most fruitful. They are; introduction of new technology and unrealistic schedules and budgets.

Keywords : Customer Supplier Relationship Issue, Risk Management Techniques, Software Engineering.

Introduction

In our contemporary world, software plays a part in almost every aspect of our lives. This includes government administration, telecommunications and virtually every sector of the economy. Government and business have become so reliant on software it is hard to see how they would function without it. Software is crucial to the productivity of wealthy countries. The public have an increasing, direct exposure to software, particularly commoditized applications. In short, software has become pervasive.

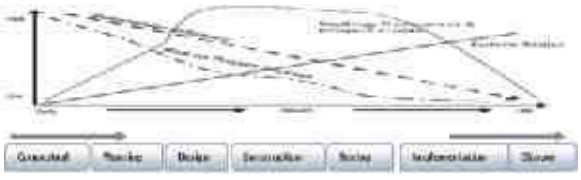
Anything that threatens project success (in this broad sense) may be termed as a project risk. It is suggested that IT (Information Technology) project managers may find it useful to consider the 14 important risks and how applicable those risks are for their individual organizations. Risks related to customer relationship issues are of particular significance and have tended to be over looked in the project management literature. It is submitted that study into customer supplier relationship risk management approaches may need to be combined with business risk management to gain a full understanding of the risks faced and addressed. Thus the nature of supplier and customer relationships becomes very important when considering risk management for software implementation projects.

It can be argued that this traditional view of project success is not suitable for an endeavor such as software development. Agile methodology is supposed to cater frequently changing business requirement. Unfortunately under this development methodology, the customer may in fact be taking ownership for an excessive amount of the risk. Whatever approach is adopted, it is likely that some compromise will be required in order for both parties to classify a project as a success. If both supplier and customer work towards an outcome that both parties can agree is a success then perhaps that is a better measure of project success than whether or not what was delivered is completely the same as what was originally specified.

Study team finds following hypothesis as an important criterion for the root cause analysis of the relationship issues:

Moving forward on a project without a proactive focus on customer supplier relationship increases the impact that a realized risk can have on software project and can potentially lead to failure of software projects.

Fig.2: Phase wise pattern of cost,stakeholder influence,project success and customer relation.



Hypothesis

H-1: Multilevel communication to high degree may lead to miscommunication.

H-2: Poor Account management may result into weak customer supplier relationship.

H-3: Awareness of customer expectation and providing the solution for the same during project discussion may cement the customer relationship.

H-4: Consulting techniques may result in identification and turnaround of situations where customer don't fully engage in discussions, maintaining their distance and not forthcoming.

H-5 : Sometimes sending someone to onsite to maintain a good relationship may result into positive attitude in customer.

Importance of Customer Relationship Management

CRM (Customer Relationship Management) is "an IT enhanced value process, which identifies, develops, integrates and focuses the various competencies of the firm to the 'voice' of the customer in order to deliver long-term superior customer value, at a profit to well identified existing and potential customers" (Plakoyiannaki and Tzokas, 2001).

Customer Relationship management is the strongest and the most efficient approach in maintaining and creating relationships with customers. Customer relationship management is not only pure business but also ideate strong personal bonding within people. Development of this type of bonding drives the business to new levels of success.

Once this personal and emotional linkage is built, it is very easy for any organization to identify the actual needs of customer and help them to serve them in a better way. It is a belief that more the sophisticated strategies involved in implementing the customer relationship management, the more strong and fruitful is the business. Most of the organizations have dedicated world class tools for maintaining CRM systems into their workplace. Some of the efficient tools used in most of the renowned organization are BatchBook, Salesforce, Buzzstream, Sugar CRM etc.

Objective of the study

- To explore the project risk management issues and suggest resolution that relate to relationship issues between customers and suppliers.
- The identification and avoidance of risk pertaining to customer-supplier relationship issues.

Materials and Methods

This study is concerned with realities and perceptions regarding customer supplier relationship pertaining to software projects. As previously discussed in the introduction to this study, software development is a human endeavor that is at least partially creative. It also includes a high degree of abstract representation. A purely positivist paradigm cannot account for such personal and metaphysical experiences. Thus a certain degree of interpretation is required for this part of the study.

By being grounded in a positivist paradigm, a measure of scientific rigor can be achieved. At the same time by leaning towards an interpretive paradigm this work considers those social and metaphysical aspects that are so important to customer supplier relationship. Beachboard (2004) describes the traditional existence of two contentious issues when considering IT practices in academia:

- There is a desire for scientific-style rigor in research, yet there is a pressing need to address issues relevant to practitioners.
- There is debate concerning the suitability of positivist versus non-positivistapproaches to what is a branch of social science research

Beachboard further discusses these issues and consequently promotes a multi- paradigmatic approach to research on risk management practices including customer supplier relationship. This study also leans away from a singularly positivist paradigm towards an interpretive paradigm. It should be considered that any particular view of the world sits on a sliding scale of recognized ways to view reality. A certain degree of the interpretive paradigm has been included for the purposes of this study to gain the rich insights potentially available from practitioners. The appropriateness of a mixed-method approach is further reinforced if the uniqueness of software projects is considered. To elaborate: the objective of this study is to consider current practices, a practice being a process that is generally followed. A practice might be considered a code of conduct. That is, a series of steps or actions that is expected to be followed in most situations.

An appropriate approach for this study was to interview experienced project managers involved in managing customer relationship and executing web based projects in different IT (Information Technology) organizations. Structured interviews enable the collection of targeted data while also allowing depth to be explored in areas of interest as they arise. A range of experienced project managers, delivery managers deeply involved in managing customer supplier relationship from several IT organizations were interviewed to form a multi-site field study. This was achieved by having prepared questions and by filling out a worksheet as the interview progressed. This provided a sense of the practices employed in general whilst the use of interviews provides rich insights into processes and effective techniques used by different IT organizations for managing customer supplier relationship.

A second phase of interviews achieved two purposes. First, it enabled the views of people holding different roles within the organizations to be considered in light of the results from the first phase of interviews. Second, a further interview with some of the high-level managers participating in Phase I allowed time to explore the relationships issues between suppliers and customers. Often the largest and possibly most important of these groups are the suppliers, customers and end users of the software. The majority of issues relating to customers are dealt with during the evaluation and implementation stages rather than the development stage. However there are significant issues of usability, testing and functional acceptance where direct user involvement is highly desired during development (Jiang, Klein, Chen, & Laura,2002). In addition, involving users during the entire project lifecycle is a key way to reduce risk in these projects (Addison, 2002).

Traditionally it has not been viewed as the customers role to be involved in risk management of the project. In part this was due to perceived conflicting goals the customer naturally desires more for less whereas IT project managers will need to supply deliverables within certain resource constraints. Therefore their perspectives on risk management diverged. However as capability maturity model practice has matured, IT savvy customers have become aware of software project risks such as the consequences of making excessive demands. In contemporary practice, as the Author has observed , experienced customers and project managers recognize the need to work collaboratively, making compromises in order to achieve a successful outcome.

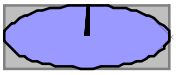
Data collection method

Following methods were adopted to collect the data of Customer Supplier Relationship Issues from different IT organizations as given below in TABLE1.

1. Phase I survey style demographic questions
2. Phase I highly structured interview questions
3. Phase II exploratory interview questions.

Structured interviews were more appropriate method to use, when exploring experienced project manager's perspectives. The participants were unanimous when considering the importance of customer relationship issues as can be seen in Figure below. All interviewees perceived this risk to be worth controlling and used one or more techniques to control them

Figure 3 : Importance of risk " Customer Supplier Relationship Issues"



- Worth controlling and a technique is used.
- Worth Controlling but technique often not used.
- Usually not worth controlling.

The interviewees were also unanimous in their attitude to risks related to customer relationship issues. In fact they all considered this risk to have the potential to supersede all other risks. They all reported that this risk was worth controlling and one or more techniques were used.

Sample Demographic Data Collected

Table 1 : Sample Demographic Data

Organization Type	Project Type	No Projects	Geography	PM Exp (Yrs.)	Type of Software
Telecom Product Company	New	4	India	>7	Billing Software
Organization Support System Integrator	New	25	UK	>8	Web Based Software
Consulting Organization	Custom	202	Europe	>10	Java/J2ee based
Portal development	Custom	25	South Asia	>6	IBM web portal
Report development	New	100	North Asia	>6	Oracle
CRM practice	Custom	55	Middle east	>8	SAP
Banking Product company	New	20	USA	>8	Object Oriented Language

Results & Discussion

What is done to identify and avoid customer-supplier relationship related risks?

In terms of identifying customer-supplier relationship risks the need to build and maintain a sense of mutual trust was repeatedly mentioned. The early detection of such risks was considered of particular importance. It was thought that formal approaches to risk management tended to identify such risks earlier. However, many of the risks that fall into this category could only be identified by informal approaches, such as chatting to the customer over a coffee. Thus both formal and informal channels needed attention in regard to the relationship.

The suppliers believed that they put considerable effort into maintaining a good working relationship with their customers so as to avoid these risks. This was conducted at multiple levels of the supplier organization but it was key to the role of the account manager/customer delivery manager. The importance of preventing these sorts of risks from escalating was stressed by the experienced project managers.

What risk responses do these practitioners use to address customer-supplier relationship related risks?

Organizational response to these risks was seen as necessitating a tailored solution to each situation. The initial step typically involved an internal discussion within the supplier organization, usually involving senior management. Consistent with the findings related to the identification of such risks, it was suggested that some issues could then be addressed through formal project management processes and that others were better addressed informally with the customer.

Steps taken to identify risks pertaining to customer supplier relationship

The steps taken by the developers and project managers were a combination of regular communication events and informal interactions. Almost every IT organization used multiple types of regular communication channel including scheduled meetings, video conference, web chat , teleconferences, email etc. There was a common thread of having meetings that included people from various stakeholder within both the supplier and customer organizations. For example, one project manager explained that they have weekly meetings that included the supplier, vendor and the customer. It also included the supplier customer delivery manager, software development team, the application support team, quality assurance staff and a business analyst. One project manager also commented on the value of ad-hoc and formal channels of communication such as via the service helpdesk.

The participants explained that informal interactions were just as, if not more important for identifying customer relationship issues. A practice akin to "taking the customer aside for a coffee", as one participant described it, was mentioned repeatedly. This was meant both literally but also as a euphemism to engage a key person in friendly conversation often simply to build rapport. Once the key person felt comfortable conversing with the supplier, as they would with any friendly person, they may volunteer information about important hidden risks. Many of these significant issues only came to light during such informal social encounters. When one developer was asked what they did to identify any emerging customer relationship challenges he answered: "[We] pick up the phone". In other words maintaining this friendly, easy, informal line of communication created safe channel through which the customer might raise concerns that they felt uncomfortable raising through formal channels. This may happen at any level of the organization, which was why having multiple levels of communication between both the supplier and customer was so important.

Responses further suggested that the members of the supplier organizations had learnt over time to be sensitive to such information from unlikely sources. For example, joining a conversation around the water cooler, with people not on the project team, could provide hints of problems that had not been expressed formally. One respondent described an interesting situation where a third party became aware of a future event which might have a major impact on the supplier's project. This event was creating uncertainty in the mind of the customer but the customer had not felt confident enough to share this with the supplier. Once the supplier discovered this information from the third party they were able to arrange an informal situation with the customer where they could gently draw the concerns out of the customer. This resulted in contingency plans being drawn up for the mutual benefit of both parties and a healthier working relationship was established.

Techniques and effectiveness determinant:

This section describes different techniques to resolve customer supplier relationship issues , their effectiveness and determinant in details.

Incidence and effectiveness of techniques

Project manager participants reported that this risk superseded all other risks. They explained that if a problem that could be described as a customer relationship issue was not dealt with effectively then it could undermine the whole project.

Figure 4 : Incidence & effectiveness of techniques used to address customer Relationship issues

Table 2 : Customer Supplier Relationship Techniques, Effectiveness and Determinant

Techniques	Effectiveness	Determined to be effective by
Convince client to participate in Agile processes	Mostly	Risk reduces/Risk no longer exist.
Maintain multilevel communication	Always	The more trusting and closer the relationship the more successful the project delivery. Willingness and speed to reference + more easily forgiven if other project mistakes made.
Put extra effort beyond what was contracted in order to improve strategic customer relationship.	Always	Value of customer over the long term.
Maintain multiple levels of contact between Customer and Supplier	Always	Longevity of customer – supplier relationships which have surpassed individual's tenure within the Organization
Send resources to onsite on rotation basis in order to maintain good relationship with customer.	Always	Immediate lift in positive attitude in customer. When someone not send, occasionally had customer relationship issues.
Strong account management	Always	Account Managers/Customer Delivery Managers at onsite should build up strong business relationship with customer.
Consulting techniques	Always	Results in identification and turnaround of situations where customers do not fully engage in discussions, maintaining their distance and not being forthcoming.
Multilevel communication to a high degree	Mostly	Not always effective because sometimes miscommunication occurs or perception of importance of some issues can be difficult between customer and supplier.

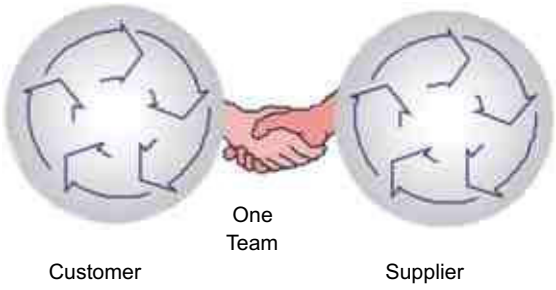
Table 3 : Context, Issues & Techniques For Resolving Customer Supplier relationship issues

Customer supplier relationship issues and Effective Techniques :		
Context	Issues	Effective Techniques
Customer Contact Approach	A multiple level contact approach is not in place for managing customer relationship issues and this issue may threaten project success. What other things should an organization do to keep a positive customer relationship and to identify any emerging challenges?	Establish one channel of communication via Account Manager/ Customer Delivery Manager (CDM-Customer Delivery Manager who is based out of onsite, works as a front face for customer. Helps in identifying and managing customer relationship issues) Direct communication with customer via phone calls, email, chat etc. Informal interaction: Social chat with customer over coffee. Propose to customer for Lunch/Dinner.
Distance-Offshore/Onsite	Physical distance (Onsite-Offshore) Developer–customer communication is not happening through one channel – i.e. through Customer Delivery Manager. Typically development team doesn't have strong relationship with customer. Language barriers sometimes Results in time consuming and ambiguous Lack of appreciation for problems	Developer to establish a channel of communication with customer via Account Manager/Customer Delivery Manager, apart from normal direct communication (i.e Audio calls, video calls, email, chat , web link , live link etc. Effective Implementation of rotation plan, where offshore development resources are given chance for travelling onsite for face to face interaction with customer.
Issue Log for managing issues.	Some time issues are not maintained and tracked properly. Mismanagement of issue may result into customer escalation.	Project manager to ensure issue logs are maintained, discussed and tracked until closure.
Response to an issue	How to respond to customer, when an issue has been identified.	Discuss in regular project meeting Highlight in project report Informal discussion around coffee. Provide options and often make recommendation.
Flexible approach of customer towards formal risk management	Customers usually don't want to pay to do Risk Management and may not prefer formal risk management. Worry about it when it happens.	Propose prototype and agree with customer for the contingency budget. Adopt Spiral Methodology and agree with customer for the contingency budget. Adopt agile methodology and agree with customer for the contingency budget.

Customer Supplier Risk Management Principles

Customer Supplier Risk Management extends risk management with team-oriented activities involving customer and supplier, where customer and supplier work together as a one team for resolving the risk in order to have successful delivery of projects.

Fig.5 : Customer & Supplier working as a One Team



Principles of Customer Supplier Risk Management

The first two principles below added to the five principles of customer supplier risk management constitute the principles of One team risk management. Open communications are further enhanced when customer and supplier use consensus-based processes, tools and techniques in order to have successful delivery of the project.

What is the "One Team" Concept?

- Willingness to listen
- Complementary mgt teams
- SME leadership and mentoring
- Executive involvement
- Mutual ownership and accountability
- Mutual success not blame
- Open access to engineers
- Relationships across levels
- Enablement not ownership
- Recognizing and providing opportunities for growth
- Not about "up and down" escalations
- Not about "over the wall"
- Not about barriers

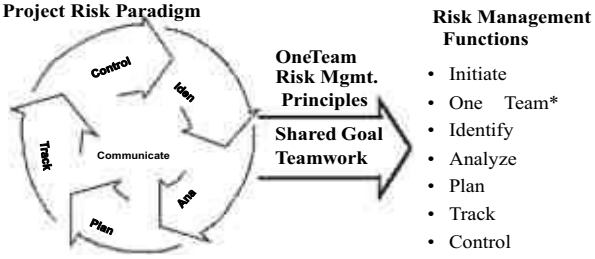
Customer Supplier Risk Management Functions

Customer supplier risk management functions is a framework for managing programs/projects as a one-team by sharing project goal focused on results, and using the processes and effective techniques of risk management for cooperatively managing risks and opportunities.Customer supplier risk management adds two new functions, Initiate and One-Team, to recognize both the required cultural paradigm shift and the emphasis on teamwork required for customer and supplier to work as a One Team and resolve issues and risks pertaining to customer supplier relationship issues

Table 4 : Principle And Effective Processes/approach Required For Managing Customer Supplier Relationship.

Principle	Effective customer supplier risk management requires:
Shared project goal	• Sharing project goal based upon common purpose, shared ownership, and collective commitment. • Focusing on quality delivery within agreed parameters.
Teamwork	• Working cooperatively to achieve a common goal. • Pooling talent, collaboration, skills, and knowledge.
Global perspective	• Viewing within the project/program context.
Forward-looking view	• Anticipating uncertainties.
Open communication	• Enabling communication.
	• Using consensus-based processes, tools and techniques in order to have successful delivery of projects.
Integrated management	• Making risk management integral.
Continuous process	• Managing risks routinely.

Fig.6 : Project Risk Paradigm and Risk Management Functions



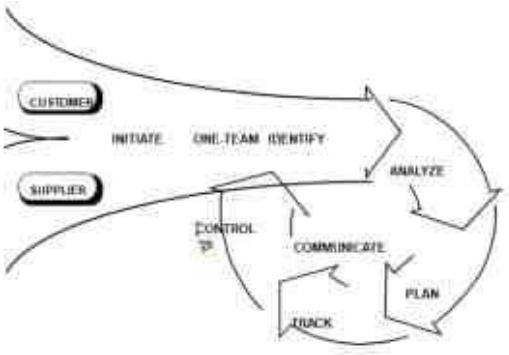
*Note: One Team is used as an action verb.

Customer Supplier Risk Management Model

Customer supplier risk management model is shown below.

Each function has a set of activities that are backed by processes, methods, and tools that encourage and enhance communication and teamwork. Two additional functions, Initiate and One-Team, described below complete the model.

Fig.7 : Customer Supplier Risk Management Model



Customer Supplier Risk Management Functions

The table below describes how Customer Supplier Risk Management model implements the risk management functions as a One team . Communication is an integral part of all these activities. However, explicit formal activities provide excellent communication opportunities for both customer and supplier.

Functions : Description

Initiate: Recognize project need and commit to create one team culture.Either customer or supplier may initiate team activity, but both must commit to sustain the team.

One Team: Formalize the customer and supplier team and merge the viewpoints to have common project goal. Systematic methods periodically and jointly applied. Share understanding of the project risks and their impact. Establish joint information base of risks, priorities, metrics, and action plans.

Example methods:

- Team building

Identify : Search for and locate risks before they become problems. Identify risks and set project priorities to arrive at a joint understanding of what is important. Identify new risks and changes.

Example methods:

- Examine each element of the project work breakdown structure to uncover risks.
- Conduct a risk assessment using risk category, source.
- Interview subject matter experts.

Function : Description

Analyze : Process risk data into decision-making information. Risk analysis is performed to determine what is important to the project, to set priorities, and to allocate resources.Group risks and quantify impact, and time frame.

Example methods:

- Rank the risk based on risk exposure (Probability*Impact)
- High exposure risk should be tracked and attended to

Plan : Translate risk information into decisions and mitigating actions and implement those actions. Joint risks require One team approach to develop commonly agreed mitigation plans.

Establish the mitigation, contingency plans for the risks.

Example methods:

- Fish Bone Diagram
- Brainstorming
- Pert charting

Note: A joint risk is one that requires action or attention by both customer and supplier.

Track : Monitor risk indicators and mitigation plans. Indicators and trends provide information to activate plans and contingencies. These are also reviewed periodically to measure progress and identify new risks.

Maintain visibility of risks, project priority, and mitigation plans.

Example methods:

- Risk-driven technical performance measures
- Performance trend charts

Control : Correct for deviations from the risk mitigation plans. Actions can lead to corrections in processes, tools etc. Any action may lead to joint resolution. Changes to risks, risks that become problems, or faulty plans require adjustments in plans or actions.

Maintain the level of risk that is acceptable to the delivery managers.

Example methods:

- Action plans
- Decision trees and tables

Communicate : Provide information and feedback internal and external to the project on the risk activities, current risks, and emerging risks. Communication occurs formally as well as informally.

Establish continuous, open communication. Formal communication about risks and action plans is discussed during design reviews, customer calls and user requirements meetings.

Example formal processes:

- Project Review: Weekly review meetings to evaluate status, new risks, priorities, and action plans.
- Joint Action Planning: Joint activity to develop mitigation and contingency plans for joint risks.

Scenario Comparing One-Team Risk Management to Risk Management

Customer supplier risk management builds on the principles and functions of risk management considering customer and supplier as One team. To show the differences between One-Team risk management and general risk management, a scenario of how a risk would be handled in each is compared inTable5.

Conclusion

In terms of identifying customer-supplier relationship risks, the need to build a sense of mutual trust was repeatedly mentioned. The early detection of such risks was considered of particular importance. It was thought that formal approaches to risk management tended to identify such risks earlier. However many of these risks could only be identified by informal approaches such as chatting to the customer over a coffee. It would be useful to include the perceptions of account managers/customer delivery managers regarding these issues in further research since their role is key in such relationships.

Project managers may need to do more to raise the awareness of the importance of risks associated with customer relationship issues within their own organizations. Project managers, senior developers and testers that participated in this study perceived risks related to customer relationship issues have potential to supersede all other risks. Although the project managers and senior developers agreed that this was a very important risk they generally did not exhibit the same level of awareness of its potential impact, on individual projects but also on the organization as a whole.

This finding is not evident in the project management literature. It is considered in some depth, however, in the business change literature. Software projects by their nature tend to involve varying amounts of business change. The two are inexorably linked together, since business change drives software requirements and software functionality binds business processes. Hence there is a significant gap in the software project literature in terms of researching customer relationship issues as they relate to software project management in general and customer supplier risk management in particular.

This study conducted some exploratory research methodology into this area. The customer's business environment appears to have a large impact on the project risks. In some markets customers seem to be risk averse and seek commoditized software solutions. In other markets customers are seen to have a mature understanding of software risks and the value of customized software solutions. In these latter cases, the customers and supplier s seem to be more likely to take a partnership approach to overcoming problems and ensuring a project outcome that both parties can call a success.

There is much more that can be learned from practitioners in this important domain.

For example, the perceptions of customer project risk management and relationship issues could be explored. Of particular interest would be to gain greater insight into how and why suppliers and customers develop and maintain a partnership approach for managing and maintaining good relationship throughout the project.

Table 5 : Comparison between Risk management and One-Team risk management based on function

Function	In Risk Management	In One-Team Risk Management
Initiate	There is no comparable activity (the first activity is to identify risks).	Customer requests the supplier to execute risk management as a one-team. Customer separately identifies the project risks. Supplier separately identifies the project risks.
One-Team	There is no comparable activity (the first activity is to identify risks).	Customer and supplier do team building. Customer and supplier formally constitute a project team to conduct Project Reviews for the project.
Identify	Supplier identifies risk of inadequate time in the test lab prior to project delivery.	Supplier identifies risk of inadequate time in the test lab prior to project delivery and both (Customer & Supplier) agrees for the same.
Analyze	Supplier identifies this risk as first priority.	Supplier reviews risk with customer during project review meeting. Customer and supplier jointly determine the high exposure risk.
Plan	Supplier plans to reorder test schedule to ensure critical elements are tested first in case risk proves true.	Customer and supplier jointly plan to have: • supplier reorder tests • customer locate & secure contingency test lab
Track	Test schedule is reordered.	Each test event and planned action is monitored jointly for follow-up.
Control	Risk proves true. Supplier asks for delay in delivery time to complete testing.	Risk proves true. Supplier makes use of contingency lab for the rest of testing.
Communicate	Internal communications are open. Issues are shared with the customer on a case-by-case basis. The test schedule does not come up until the supplier asks for a delay.	Internal communications are open. Communications between customer and supplier are open. Customer and supplier know ahead of the decision the risk and alternative actions to take.
Results	Project delivery is delayed to allow for complete testing.	Project is delivered on time, completely tested. Customer and supplier now know each other's point of view and both share a common set of priorities.

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