

A TALE OF THREE COMPANIES: A STORY ABOUT INTER-ORGANISATIONAL CONTRACT STRUCTURES IN AGILE DEVELOPMENT

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This paper tells the story of an extreme programming [1] software development project that involved three organisations:

- *KCorp*, a large New Zealand company is the *customer* organisation for this project
- *DevCorp*, a large consultancy company is the outsourced *software development* vendor for this project and
- *BureauCorp*, a large infrastructure and software services company is the outsourced *infrastructure* vendor for this project

The data that forms this paper was collected in a series of interviews with both KCorp and DevCorp project participants, near the completion of the project [2, 3]. BureauCorp has yet to be approached to obtain their view on this project. One of the themes uncovered during the data analysis and briefly discussed in this paper is the relationship and contract structures inter-organisational involved in the project.

In the section below we outline the background of this project. Following that we discuss the benefits and limitations of time and materials versus fixed price contractual arrangements, an issue common to all kinds of business relationships. We then address the multi-organisation issues that arose in this particular project.

BACKGROUND

The project is seen as a success by KCorp, and part of that success was seen as the use of an agile development method. The project that we are discussing had been attempted by KCorp previously, but each previous attempt was unsuccessful. In fact, the KCorp customer representative notes that when her manager was handed this project to “sort-out”:

“We felt we could probably only do it if we used [DevCorp] ... because we had such a lot of confidence in them based on previous experience ... [later in the interview] ... we knew what they were capable of, you know ... they could actually deliver what they said they could ... also a key value of working with [DevCorp] is they had lots of good ideas too. You know, so it wasn’t just relying on us having 100% of the good ideas, it was a joint effort” — Customer, KCorp

The relationships amongst these three companies, outside of the specific project, are complex. The items of particular interest are:

- KCorp and BureauCorp are part of a business alliance, they work together to deliver services to other organisations. Each company also delivers services not specific to the services delivered as part of the alliance, that is, they work separately as well as together.
- BureauCorp is the outsourced vendor for all of KCorp’s internal infrastructure.
- BureauCorp and DevCorp both have software development service lines and compete against each other in this area.

TIME MATERIALS VERSUS FIXED PRICE

DevCorp worked on a time and materials basis on this project for KCorp. The project manager from DevCorp reflected on some of the benefits this approach allowed over a fixed price arrangement:

“We were very fortunate that we were working on [a] time and materials contract with [KCorp], if we were working on a fixed price per iteration for example, I would have had to be a lot harder on the client in terms of saying no ... if it was fixed cost, like you’ll deliver x, y, z functionality in three weeks, then I would have to have been a lot more strict about things like getting change signed off and if circumstances came along [e.g. infrastructure difficulties caused by BureauCorp] and we lost a day ... I’d have to go back

to the client and say well actually you've lost a day ... therefore you need to subtract that functionality [from this iteration] ... I was sort of able to let that ride with the client ... It didn't become blindingly obvious to me until I was [discussing the issue with a manager responsible for a fixed price XP project] ... if at the end of the iteration if we had not finished all of the stories on the wall we would just put them into the next iteration, but [on the fixed price project] they've still got to finish them without getting any more money.” — Project Manager, DevCorp

So a fixed price contract arrangement would result in a changed working relationship between the two companies. In a fixed price arrangement, the vendor needs to add an overhead to the process, that is included in the fixed price, to ensure that changes and/or lost time due to the client's environment, such as those caused by another company, would be at the client's expense not the vendors.

However, the project manager also noted some of the limitations of the time and materials approach encountered on this project:

“We didn't establish criteria for [the customer to complete acceptance testing] this is one of the differences between us [time and materials contract] and a fixed price contract ... if we were working on a fixed price basis we would have had to put some criteria around a sign-off ... we've not had to do that but what it does mean is that you don't get a very quick turnaround.” — Project Manager, DevCorp

The obvious impact of not having agreed delivery dates for acceptance testing was that (a) the defect stream was unpredictable making it difficult to manage the development team's workload and (b) the feedback from the customer was not immediate and hence errors in the development team's understanding remained for a longer time. Perhaps the not so obvious issues are (a) the customer may not realise that their actions caused this chain of events that affects the cost and (b) the customer may not realise that DevCorp team members were liable to interpret the customer's tardiness as a lack of commitment from KCorp potentially impacting their own commitment to the project.

Although it would be possible to negotiate and agree delivery dates in this area the lack of a contractual agreement can make it difficult to enforce these dates. It is difficult for a services organisation such as DevCorp to 'chastise' KCorp regarding this behaviour without endangering future work streams from KCorp.

THE EFFECT OF MULTIPLE ORGANISATIONS

This project not only had three organisations, but three organisations approaching the project with very different processes:

We were happy to step out of XP and work within the processes that [BureauCorp] dictated for any kind of change or to migrate any software or to actually have any software installed so we've almost had to take the whole infrastructure thing and stick it out of XP.” — Project Manager, DevCorp

All of the interviewees agreed that the effect of multiple organisations involved in the project, using a mixture of agile and non-agile processes, affected the timeline of the project, as summed up by this quote:

“I was fully [committed to] the project but I was ... all of these technical integration issues were just taking up about half the time [and later in the interview regarding the project delay] the big delay has been in the technical integration. You know, just getting the application to work on the software in the various environments” — Customer, KCorp

The term *technical integration issue* was used to refer to all of the issues encountered between DevCorp and BureauCorp. The impact of the inter-organisational issue was that the customer had significantly less time to spend on the requirements and testing tasks. While the customer understood that this impacted the quality of the delivered software, the flow-on delay caused by the quality issues appeared to be eclipsed by the obvious technical integration issues encountered.

The project manager recognised that the relationship between the three organisations was not a simple one and noted:

[KCorp] at the end of the day is also a client of [BureauCorp] ... because of the nature of the relationship they have, KCorp haven't got any weight to push around, they signed up for these processes and they have to follow them so there is frustration on both sides of the camp” — Project Manager, DevCorp

He also reflected on how to improve the situation between the three organisations next time:

“We need to actually work together to build something that actually doesn't hinder the project process ... this is my first time working with three parties as in another party owning a significant portion of the project and I think sitting down and sorting those rules of engagement out at the start would be something in hindsight I would have like to have done” — Project Manager, DevCorp

CONCLUSION

This story focussed on some of the differences between a *fixed price* and a *time and materials* contract arrangement between companies on an agile development project, concluding that there are benefits and limitations to both arrangements. It also highlighted the types of issues encountered when multiple organisations are involved in the project, which appears to be an increasingly common trend. We need to ensure that agile contracts and approaches are able to work with multiple organisations where each organisation may be approaching the project not only with different software development processes but with different contractual relationships and commitments.

REFERENCES

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