Pre-Sales Requirements Engineering based on Miller Heiman's Sales Approach

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Abstract. Requirements engineering (RE) is not only part of the process while delivering or creating a service or product. In the pre-sales phase, RE activities play an important role during the offer preparation. Although this sounds like business as usual there is a major difference: the pre-sales phase entails challenges (e.g., a limited duration or the contractor's pre-investment) having a tremendous impact on all of these activities. However, from a project manager's perspective these challenges are nothing but risks—in the pre-sales phase usually addressed best by sales approaches like Miller Heiman's. The latter appears to be even more interesting since it uses requirements engineering strategies to mitigate other typical sale's risks. Therefore a joint approach appears not only feasible but worth a try. Conducting a risk analysis of the pre-sales phase and examining the performance of this joint approach reveals how well the two fit together.

Keywords: Pre-sales requirements engineering, Miller Heiman Conceptual Selling®, pre-sales risks

1 Introduction

Requirements engineering and management are typically activities associated with the delivery or creation of a service or product. Usually a contract already exists and everybody is ready to get to the details. Yet, a lot of requirements engineering activities already take place during the pre-sales phase. In order to prepare a reasonable offer, the major objectives are to solve the prospective customer's problem and to ensure the offer is sufficiently precise providing the contractor a positive outcome, i.e., an overall win-win situation. To meet these objectives usually the following questions have to be answered: What has to be done? Can it be done? What does it cost? How long does it take? Typical means to answer these questions are a project calculation that is based on an effort estimation that is based on something that basically describes what needs to be done which affords some sort of requirements engineering activity. Although this sounds like business as usual there is a major difference: the challenges the pre-sales phase entails and their impact on the above mentioned activities. However, neither project management nor requirements engineering alone addresses these challenges straight away with appropriate measures. From a project manager’s perspective they are actually *risks*: “A risk is an uncertain event or condition that, if it occurs, has a positive or negative effect on the projects objectives” [1]. Strategies or risk responses are needed to secure the pre-investment, eliminate uncertainty and to safeguard the sale’s aftermath—strategies that typically belong to the sales discipline.

Talking about sales nearly immediately leads to the company of Miller Heiman and its sales approach. It provides not only appropriate risk responses sought for the pre-sales phase: these sales expert realized that merely pushing products or services might not meet the client’s expectations and even introduces the risk of losing a potential contract [2]. Listening to the customer first suddenly becomes en vogue or rather a risk response for sales people—a strategy typically used by requirement engineers. Therefore a combined approach appears not only to be feasible but to be worth a try.

This paper introduces such a joint approach based on Miller Heiman. In order to support the idea, the first section outlines the most important risks of the pre-sales phase. The following section briefly describes the Miller Heiman approach and contributes its risk responses (mostly mitigation strategies). Yet, the Miller Heiman approach also entails its own risks (aka *secondary risks* [1]) which are responded by requirements engineering measures eventually followed by this paper’s final conclusions.

2 Pre-Sales Challenges—The Risks

The pre-sales phase involves lots of challenges. This section focusses on the ones having the greatest impact on the activities of the contractor. Each one of them is assigned a name followed by a short description and the area of impact. However, this list claims not to be comprehensive:

1. **Limited time:** the duration of the pre-sales phase is limited. Usually there is not enough time for a detailed requirements analysis which adds a large degree of uncertainty to the effort estimation and all dependent tasks. All activities are affected by this, thus they have to be very efficient and focused on the items necessary.
2. **Competition:** the pre-sales phase is shared with competitors trying to close the deal on their end. The final offer and solution description has to point out how and why a solution is the right one for the customer.
3. **Pre-investment (time/money):** the pre-sales phase takes place at the expense of the potential contractor. This investment is lost if a competitor closes the deal. All activities have to prove in advance that they are worth the effort.
4. **Bargaining/Negotiating:** the pre-sales phase involves a great deal of negotiation. All negotiation activities must ensure that the contractor is not the loser in the end, i.e., the outcome of the deal must be acceptable for the contractor.
5. **Limited trust:** the pre-sales phase not always but often stands at the beginning of a business relationship where there is only limited trust on both sides. If that is the case trust building activities have to be considered.
6. **Unknown organization and decision making:** the pre-sales phase not always but often stands at the beginning of a business relationship where it is unclear how the

customer's organization and decision making works. Yet, talking to the wrong people equates to wasting time and risking the investment. If unknown, activities revealing this information have to be considered.

7. **Fragility:** the pre-sales phase may be over before it started. It might also abort due to reasons that have nothing to do with the proposed solution, i.e., there are other factors than just technical details. Feelings and attitudes have the potential to break deals even if the solution offered ranks best of breed.
8. **Right time:** especially when driven by the contractor, it needs to be determined if it is the right time for the prospective customer to be approached, otherwise the effort will be a waste of time and money.
9. **Seriousness of interest:** not always but sometimes the customer's interest might be fake just to acquire some external proficiency or feedback for free (or rather at the contractor's expense). It must be possible to derive a discrepancy which urges him to find a solution. Seriousness is also underlined by providing a budget and staff that can make decisions.
10. **Buying is not selling:** both are not one but two processes which need to be aligned. Disregarding the difference leads to wrong assumptions, e.g., that the customer is about to sign the contract only because the contractor reached the end of his selling process.

All of the above items require risk responses (i.e., actions to avoid, transfer, mitigate, or accept a given risk [1]). They also have in common that they allow defining exit criteria—certain levels at which the contractor ought to quit the pre-sales phase. This definition of exit criteria is another major difference to the regular "post-sales" requirements engineering.

3 Mitigating Primary Risks—The Sales Risk Responses

This section introduces the Miller Heiman approach and presents the measures or risk responses it uses to address the challenges mentioned in the previous section.

3.1 The Miller Heiman Sales Approach in a Nutshell

Miller Heiman is one of the top five companies in sales performance providing game-changing insights to sales leaders for nearly the last four decades. Their *Strategic Selling®* [3] and *Conceptual Selling®* [2] approaches bundle their long-term sales expertise and experience into methods and tools. This paper focuses on Conceptual Selling® which aims at the individual sales session while Strategic Selling® provides a framework for multiple customer interactions gathering feedback from several directions. The central objective of Conceptual Selling® is to get access to the customer's concept, who wants to *achieve*, *fix*, or *avoid* something for a certain reason. The approach seeks to find this discrepancy and root cause first, before promoting a specific product or service requiring the sales staff to listen actively rather than talk. Buying reason and buying influencers have to be determined since the "customer buys for her reasons, not yours"[2]. A sales session is comprised of three major building blocks: “Getting information”, “Giving information”, and “Getting commitment”. The first tries to capture the customer’s concept by questioning, the second aims to build specific links to the product or service being offered, and the third negotiates further customer contributions to the overall process. Especially the third part is to ensure a win-win situation, a central goal of the approach.

The part “Getting information” provides a questioning framework consisting of “Confirmation questions”, “New information questions”, and “Attitude questions”. These check and confirm already existing knowledge about the customer, collect new aspects of the customer’s concept, and even go beyond technical details by asking for attitudes and feelings. The *Green Sheet* is the Conceptual Selling® tool. It helps preparing the session and provides structure and guidance for the abovementioned parts.

3.2 Risk Responses

As a sales approach Miller Heiman provides appropriate responses to the risks of the pre-sales phases introduced earlier:

1. **Limited time:** the approach has a strong emphasis on preparation and a strong focus on the things needed especially expressed by its tool, the Green Sheet.
2. **Competition:** the approach explicitly requires providing information connecting customer needs to product/service attributes and to build a dedicated and unique selling position, which might be more expensive but truly addressing the customer’s need.
3. **Pre-investment:** the approach explicitly asks why a sales session should take place from a customer’s perspective and records it as buying reason on the Green Sheet. A reason for selling is recorded as well. The approach further secures the contractor’s investment by explicitly asking for customer commitment or otherwise exit.
4. **Bargaining/Negotiating:** the concept’s central objective is to stay win-win. It strongly recommends to quit rather than to accept a losing situation for either the contractor or the customer.
5. **Limited trust:** the concept and the Green Sheet have a section on trust building measures, if needed
6. **Unknown organization and decision making:** the approach contains a detailed buying influencer analysis. Asking to reveal the decision making process should be one of the first commitment questions.
7. **Fragility:** the approach urges its users to look for basic issues and to find them by using attitude questions. They are marked as “red flags” which mark situations that have to be taken care of in the tools (e.g., the Green Sheet).
8. **Right time:** it is mentioned in the concept to address the right people with the right solution at the right time, though it is not explicitly mentioned in the Green Sheet. Yet, it can be conceived as part of the buying reason which is to be phrased from the customer’s perspective.
9. **Seriousness of interest:** this is monitored by asking for the customer’s commitment, e.g., to provide a budget in combination with offering refunds when closing

the deal instead of free incentives. Another approach is to use the discrepancy analysis to find out if the customer has true reasons for his interest.
10. **Buying is not selling:** Miller Heiman explicitly differentiates selling and buying processes and strongly monitors the buying process using commitments requested from the customer.

As already mentioned, each of the risk responses allows defining criteria or situations when the contractor should exit or quit the pre-sales activities in order to save his pre-investment or not to start an unfavorable business relationship. On the other end, signs or reasons that the customer might quit for are marked with red flags in the tool.

4 Mitigating Secondary Risks – The Requirements Engineering Risk Responses

Miller Heiman addresses nearly all of the pre-sales risks, while at the same time, introducing new ones. Risks like these are also known as *secondary risks* which are introduced by risk responses to other risks [1]. However, for the case of Miller Heiman these can be handled in turn by typical requirements engineering activities or strategies.

1. **No documentation guideline:** while Miller Heiman provides a questioning framework it does not provide any guidelines on how to document the results. User stories [4] may prove to be useful. They employ a common format and can be handed over easily to the delivery unit to give them a jump start. These should be complemented by the “five whys” [5] which allow to track down the root cause which helps revealing and documenting the original discrepancy.
2. **No glossary:** Miller Heiman does not prescribe creating a glossary for the terms used by the customer. Yet, these are an integral part of his concept. In order to avoid misunderstandings leading to false effort estimates it is strongly recommended to create one.
3. **No scoping guideline:** the scoping is left to the skills of the one using the questioning framework. There is no guideline or tool section guiding the scoping process. Yet, scoping is ultimately needed to deliver precise efforts estimates. System and context have to be defined and documented which turns out to be even more important than researching the details for each single use case at this point.
4. **Only Kano performance attributes:** the way Miller Heiman works, i.e., with its questioning framework, entails that only Kano performance attributes [6] get recorded while missing especially basic attributes which might account for a lot of extra effort. There are two ways to mitigate this risk: one is transparency by documenting the elicitation method and using increased risk buffers. Another is to complement further methods and techniques capturing additional attributes, e.g. observations.

Once secondary risks have been taken care of, this joint pre-sales requirements engineering approach promises to deliver reliable results while securing the pre-investment and handing over a win-win contract to the delivery unit.

5 Conclusions

This paper showed briefly that the major differences between pre- and post-sales requirements engineering are the phase specific risks, their risk responses (mainly mitigation strategies), and exit criteria that have to be defined. Mitigation strategies are borrowed from Miller Heiman's sales approach, for sales approaches have been dealing with these risks ever since. Additionally, it proved to be very helpful that Miller Heiman can be easily combined with requirements engineering activities since this sales approach uses a very similar focus—the customer's concept. On the other hand requirements engineering helps out with the secondary risks Miller Heiman introduces.

However, this can only be a brief overview. A lot more could be said about the Green Sheet and its application, or the not even yet mentioned Blue Sheet, about buying influencer and discrepancy analyses, as well as red flags, the joint venture approach or the use of golden silence. Other topics skipped completely are the bidding process or dealing with Requests for Information (RfI) or Requests for Proposal (RfP) about which Miller Heiman sales people have a certain opinion.

Last but not least this paper should also encourage requirements engineering professionals to acquire sales knowledge since they either actively participate in pre-sales phase or have to deal with its outcome later as part of the delivery unit.

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