

Leveraging Cost Estimating Techniques in Price-to-Win Analysis

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Abstract

In competitive bid environments, organizations are consistently striving to develop pricing strategies that maximize the probability of winning a contract while ensuring profitability. 'Price to Win' (PTW) analysis has emerged as a strategic tool to achieve this balance. It focuses on estimating the most competitive price at which a contract can be won. The use of cost estimating techniques is pivotal in this analysis. Traditional cost estimating methods, such as analogy-based, parametric, and bottom-up estimating, provide a foundation to understand the potential cost structure of the proposed solution. By integrating these techniques, an organization can determine its likely price point based on anticipated costs, desired profit margins, and an understanding of the competition's potential pricing strategy. Additionally, incorporating risk analysis with these techniques allows for a more dynamic and realistic PTW prediction. By understanding both internal cost structures and external market dynamics, organizations can position their bids more strategically. This holistic approach to bidding not only increases the chances of winning contracts but also ensures that they are won at prices that are beneficial to the long-term sustainability of the organization.

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1. Introduction

In an increasingly competitive global market, the art of crafting the perfect bid is akin to a tightrope walk. On one side, organizations risk underselling their services, sacrificing profit margins for the sake of securing a contract. On the other, overpricing can lead to missed opportunities, with competitors swooping in with more appealing proposals. This delicate balance pivots on a single fulcrum: the Price-to-Win (PTW) analysis. Yet, the foundation for a robust PTW strategy lies deeply rooted in leveraging accurate cost estimating techniques. This fusion between understanding the cost structure and predicting the winning price is reshaping the landscape of competitive bidding.

At the heart of every successful business transaction lies the fundamental principle of value proposition. Customers, whether they are corporate entities or government agencies, are invariably seeking the best value for their investment. This 'value' is a composite of various elements, ranging from the quality of the product or service offered to the assurance of timely delivery. Yet, the most tangible and often decisive factor is the price. The question then arises: How does one determine the optimal price point that is not only appealing to the client but also ensures the vendor's profitability? Enter PTW analysis, a strategic tool designed to gauge the most competitive price that can be offered while ensuring the contract's viability.

However, PTW is not an isolated strategy built on market perceptions alone. Its efficacy is heightened when grounded in sound cost estimating techniques. Understanding the intricate web of expenses, from labor to materials and overheads, forms the bedrock of a credible PTW. Without a clear insight into these costs, businesses may either undervalue their offerings, leading to potential losses, or overvalue them, which may deter potential clients.

Cost estimating in itself is a vast field with methodologies ranging from analogy-based, where estimates are derived from past similar projects, to parametric and bottom-up estimating that hinge on statistical modeling and detailed aggregation of every task respectively. Each technique offers a unique lens to dissect the financial aspects of a project, making them indispensable tools in the arsenal of any organization aiming to dominate in bid environments.

As markets evolve, the synergy between PTW and cost estimating has never been more pronounced. Emerging technologies, fluctuating economic landscapes, and the ever-present element of human unpredictability make today's bidding environment a complex maze. In such a scenario, having a clear roadmap built on reliable cost structures and astute market understanding becomes the guiding light. Leveraging cost estimating techniques is no longer a mere strategic advantage; it's a critical necessity.

Imagine being in a room where businesses are pitching their offerings, each vying for a single lucrative contract. Every representative is armed with a PTW strategy, but only a few have grounded their analysis in comprehensive cost estimating techniques. These few have an edge, an advantage not just in understanding their internal financial landscape but also in predicting and adapting to the external market dynamics. They are the businesses that not only perceive the price their potential clients are willing to pay but also know the limits to which they can stretch without compromising their own sustainability.

As we delve deeper into the intersection of PTW analysis and cost estimating techniques, we stand on the cusp of a transformative approach to competitive bidding. An approach where data-driven insights and strategic foresight converge, promising not just successful contract acquisitions but also long-term

business sustainability. Welcome to the dynamic world of leveraging cost estimating for PTW analysis—a realm where precision meets strategy, and opportunities are waiting to be seized.

2. Significance of Price-to-Win Analysis

In the high-stakes world of competitive bidding, success hinges on more than just offering quality products or services. The true game-changer often lies in understanding the client's perception of value and presenting a proposal that resonates with it. Enter Price-to-Win (PTW) Analysis - a strategic methodology that bridges the gap between a bidder's capabilities and a client's expectations, all while ensuring the bid remains both competitive and profitable.

2.1. Understanding PTW Analysis

At its core, PTW Analysis is a competitive pricing strategy that aims to determine the optimal price point at which a proposal or bid is most likely to succeed. It's not just about undercutting competitors; it's a nuanced balance that weighs the organization's internal cost structures against external market dynamics and competitor strategies. The central premise is simple: "What price do we need to propose to win the contract while ensuring sustainable profit margins?" Another way of defining PTW is to ask, "How high can I bid and win the contract?"

2.2. The Need for PTW Analysis

In sectors like defense, aerospace, IT solutions, and large-scale infrastructure projects, contracts can be worth millions or even billions. Here, the bidding process is intense, and the margins between competitors can be razor-thin. Winning such contracts can significantly elevate a company's market position and financial health. On the flip side, consistently losing bids or winning at unsustainable rates can spell financial disaster. PTW Analysis emerges as a beacon, guiding businesses through this intricate landscape.

3. Overview of Cost Estimating Techniques

Cost estimation, an essential component of project management, budgeting, and financial planning, has historically provided businesses with the necessary framework to navigate the intricate web of financial decision-making. Before the influx of modern digital tools and sophisticated algorithms, professionals relied heavily on traditional cost estimating techniques to plan and predict project costs. These techniques, although seemingly basic compared to today's standards, have stood the test of time due to their inherent adaptability and foundational logic.

3.1. Expert Judgment

Often considered one of the oldest methods in the book, expert judgment involves consulting individuals or groups with specialized experience relevant to the specific domain of the project. These seasoned professionals draw from their past experiences to provide estimates. While this method can be susceptible to biases, the tacit knowledge and intuitive understanding of seasoned professionals can be invaluable, especially when hard data is limited.

It's for these reasons that expert judgement is considered the estimating technique of last resort in PTW analysis.

3.2. Analogous Estimating (Top-down)

As the name suggests, this technique bases its estimates on the costs of similar past projects. By comparing a current project with a historically analogous one and adjusting for differences, project managers can arrive at a reasonable cost estimation. This method is particularly useful during the early stages of a project when detailed information might be sparse. However, its accuracy largely depends on the similarity between the current and past projects.

The strength of this technique as related to PTW Analysis is when the projects in question are very similar and more detailed data is not available.

3.3. Parametric Estimating

This technique utilizes statistical modeling and historical data to predict costs. It involves establishing relationships between variables and the cost. Some examples of parameters are:

- Weight for space programs
- Function points or lines of code for software
- There are hundreds of different parameters that can be used in estimating

The key is having reliable historical data and ensuring the conditions remain consistent. There are several tools available for parametric estimating. These tools are extremely powerful and can be invaluable in PTW Analysis if the data to use the tools is available.

Some examples of these tools are:

- The SEER Suite of Estimating Tools
- TruePlanning by Unison
- QSM SLIM Suite of tool

3.4. Engineering Build Up

In stark contrast to analogous estimating, Engineering Build Up (bottom-up estimating) dives deep into the nitty-gritty of every task. Each segment of the project is estimated separately, and then all the estimates are aggregated to provide a comprehensive overview. This method, while time-consuming, is often deemed one of the most accurate, especially when the details of each task are known.

However, this technique is not a good fit for PTW Analysis due to the rigor required and time-consuming nature of the activity.

3.5. Actual Cost Extrapolation

The extrapolation of actual costs is considered one of the most accurate cost estimating techniques available. However, this only works for projects that are a true continuation of current work. Therefore, again, this is not a good technique to use in PTW Analysis. Most all projects bid where PTW analysis is employed must take much more into account than merely extrapolating actual costs. Other bidders will look to reduce costs and not simply extend what the current incumbent has been billing the government.

3.6. Summary

While these traditional techniques have provided businesses with reliable frameworks for years, it's essential to recognize their limitations. They often rely on historical data, which might not always be reflective of current conditions. External factors like economic fluctuations, material scarcity, or technological advancements can significantly sway costs. Moreover, the human element can introduce biases and errors.

However, the beauty of these traditional techniques lies in their foundational principles. They serve as a starting point, a baseline, and when used judiciously in tandem with modern tools, can yield highly accurate results.

As the business landscape continues to evolve, there will always be a place for these traditional cost estimating techniques. They encapsulate lessons from the past, offering a time-tested approach to cost prediction, ensuring that businesses, regardless of their scale or domain, can tread the path of financial prudence.

4. The Mechanics of PTW

To execute a successful PTW analysis, organizations typically traverse the following stages:

4.1. Customer Analysis

An analysis and understanding of the customer's requirements (usually in the form of an RFP or similar document) is required to ensure the proposal meets these requirements. Budgetary constraints of the customer must be understood so that an affordable proposal can be submitted. This is where a Top-Down estimate is performed based on historical contracts, available budgetary data, and current awarding biases of the customer. Reviewing past award trends of the customer are essential in understanding how they may act in the current procurement. Historical data can offer clues about the client's behavior and preferences.

4.2. Competitor Analysis

Studying and understanding all potential competitors is paramount in PTW analysis. Questions such as these must be answered in order to gain a proper understanding of the competition.

- What have they bid in the past?
- What are their strengths?
- What are their vulnerabilities?
- What do their costs structures look like?
 - What are their WRAP rates?
 - What division/segment of the competitor is bidding?
 - What is their bidding history?
 - What is their fee/margin history?

Tools like SWOT analysis can be instrumental here.

4.3. Competitor Price Estimation

A generic, baseline cost estimate is conducted to arrive at a potential solution to the bid. This estimate is not tied to a specific competitor. Once the baseline model is built, separate and distinct models are built for each competitor. Labor rate assumptions are made based on location and salary percentiles. Several salary surveys are available for estimating labor. Some bids include the use of Collective Bargaining Agreements (CBAs) and/or the Service Contract Act (SCA) Wage Determination.

Competitor specific WRAP Rates are applied to each model. These WRAPs are either estimated internally or are purchased from vendors of such data. A WRAP Rate is a factor that is applied to direct labor to estimate the total cost of direct labor. Some examples of costs accounted for in a WRAP rate are:

- Fringe
 - Medical and life Insurance
 - OASDI/Medicare/FUTA/SUTA
 - Holidays/Vacation/PTO
 - 401k and/or pension
- Overhead
 - Occupancy costs
 - Indirect labor
- G&A
 - Home office costs
 - Corporate Services

Fee percentages are estimated for each competitor based on their reported margins and how strategic this particular bid is to their future.

Potential variances to the proposed solution are also considered. A competitor could choose to use technology to augment labor as an example.

Lastly, potential gaming of the total evaluated price is evaluated.

4.4. Evaluation Criteria and Recommendation

Based on the insights from the above steps, a price range is established. The price is positioned to appeal to the client while ensuring profitability. One of the most important steps of PTW Analysis is understanding how the bid will be evaluated, both technically and price. If the evaluation is Lowest Price Technically Acceptable (LPTA), then the lowest bid wins. If the evaluation is Best Value, then a premium may be paid to the technically superior bidder. Understanding how much of a premium the customer may pay is imperative. Properly estimating how each bidder will score on the technical proposal will drive the eventual recommended price needed to win the bid.

We have established a numerical model that attempts to quantify the Best Value acquisition process. We do this because the government specifically used subjective, adjectival scoring for the technical part of the bid. We convert their language about importance of the evaluation factors into the below mathematical model.

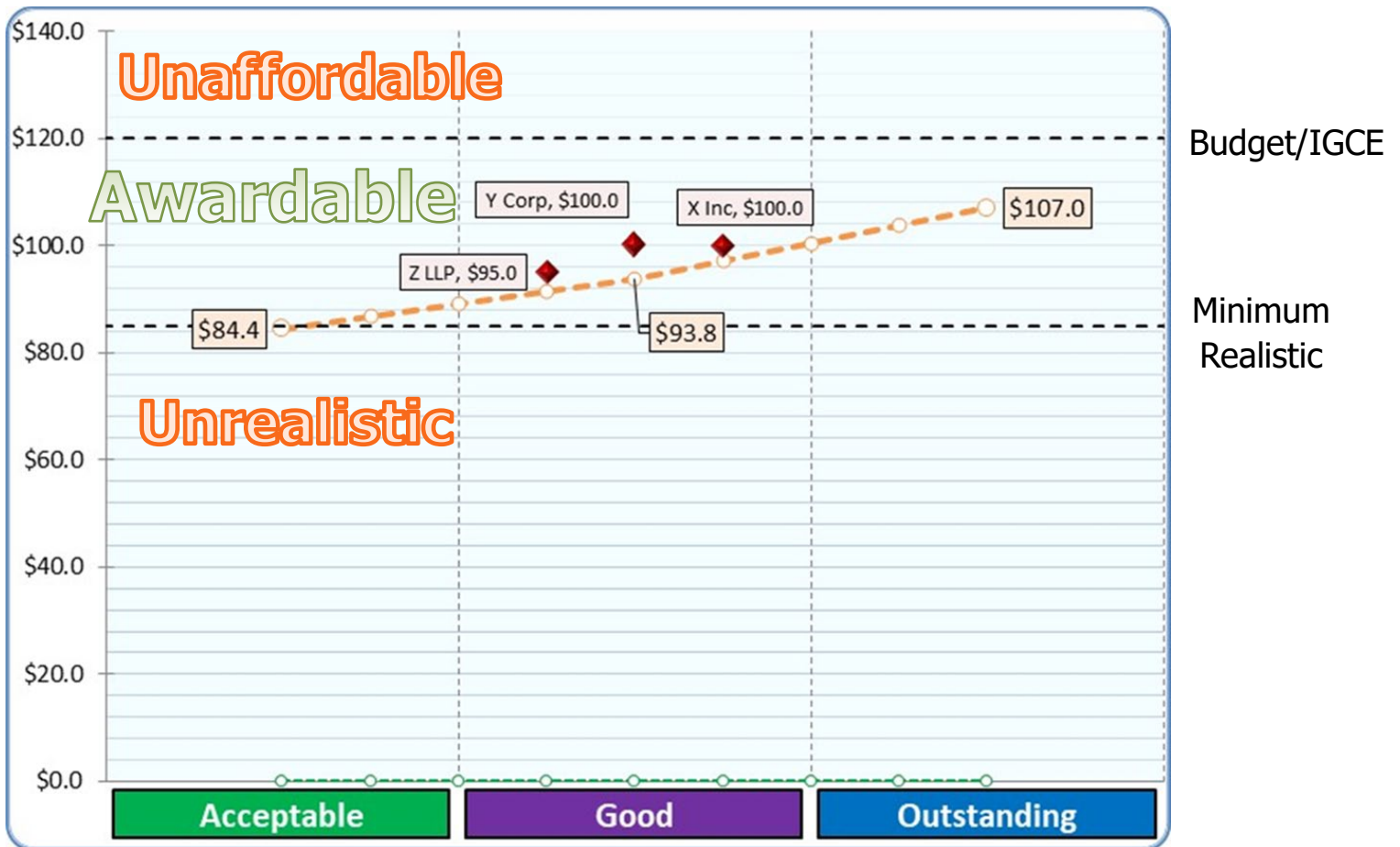


Figure 1: Technical and Price Combined Scoring Example

4.5. Summary

In a world driven by competitive bidding, Price to Win Analysis stands tall as a strategic lighthouse, guiding organizations towards informed, data-driven decisions. It demystifies the chaotic dance of bidding, providing a structured approach to understand, adapt, and ultimately win. For businesses that aim to thrive in this high-stakes arena, PTW is not just a tool; it's a philosophy that melds ambition with realism, aspiration with pragmatism. In the grand chessboard of business contracts, PTW is the master move that separates the novices from the grandmasters.

5. Integration of Cost Estimating and PTW

The complexities of today's business environment demand intricate strategies to navigate the challenges of competitive bidding. Two methodologies, each significant in its own right, are the cornerstones of formulating effective bidding strategies: Cost Estimating and Price-to-Win (PTW) Analysis. While each offers its distinct advantages, the true magic emerges when these methods are integrated seamlessly. Their combined power creates a holistic approach that maximizes the chances of winning bids without compromising profitability.

5.1. The Individual Strengths of Each Approach

Before delving into their integration, it's essential to understand the standalone strengths of each approach.

5.1.1. Cost Estimating

This involves assessing the financial outlay required to execute a project or contract. By examining factors like labor costs, material expenses, overheads, and other direct and indirect costs, businesses can predict the expenditure involved. The primary goal here is accuracy, ensuring that any quoted price is rooted in reality and safeguards the company's interests.

5.1.2. Price-to-Win Analysis

PTW is a strategic tool that focuses on understanding what a potential client might be willing to pay or what price might win the contract against competitors. It assesses the client's perceived value, examines past bidding behaviors, and scrutinizes competitors' likely bids. The focus here is less on internal cost structures and more on external market dynamics.

5.2. The Power of Integration

When these approaches operate in isolation, a gap emerges between internal cost realities and external competitive scenarios. This disconnect can lead to bids that are either financially unsustainable or uncompetitive. The integration of Cost Estimating with PTW bridges this gap, creating a balanced and informed strategy.

5.2.1. Holistic View

This synergy allows businesses to have a 360-degree view of the bidding landscape. They gain insights into their internal financial metrics and can adjust their strategies based on market dynamics.

5.2.2. Precision in Bidding

By understanding the precise costs involved and aligning them with what the market (or a specific client) might be willing to pay, businesses can craft bids that are aggressive yet sustainable.

5.2.3. Risk Mitigation

One of the inherent risks in bidding is the potential for financial strain when the actual costs surpass estimates. Integrating PTW with Cost Estimating ensures that the bid price is grounded in real, quantifiable data, reducing the risk of unforeseen expenditures.

5.3. Practical Integration

The practical steps to integrate these methodologies involve a mix of data analytics, market research, and strategic forecasting:

5.3.1. Data Collection

Gather detailed data on all cost aspects, ensuring every potential expenditure is accounted for. Parallely, collect data on potential clients, market trends, and competitor behaviors.

5.3.2. Analysis Phase

Use the cost data to develop detailed cost models. Simultaneously, run PTW analysis to predict potential bid prices that could win the contract.

5.3.3. Alignment

This is the crux of integration. Align the insights from the cost models with the PTW predictions. The goal is to find a sweet spot—a bid price that is competitive in the market and aligned with internal cost structures.

5.3.4. Continuous Feedback

The business environment is dynamic. Regularly update cost models and PTW predictions based on real-time data and feedback, ensuring the integrated approach remains relevant.

5.3.5. Conclusion

In the intricate dance of competitive bidding, the integration of Cost Estimating and Price-to-Win Analysis emerges as a masterstroke. It melds the art of understanding market dynamics with the science of accurate cost prediction. For businesses seeking an edge in today's cutthroat markets, this integrated approach is the beacon that promises guidance, clarity, and success. As the business adage goes, "knowledge is power," and this synergy epitomizes the pinnacle of informed decision-making.

6. Conclusion: Challenges, Benefits, and the Future

6.1. Challenges

While PTW presents a robust framework, it's not without challenges:

6.1.1. Dynamic Market Conditions

Economic fluctuations, technological advancements, and geopolitical events can greatly influence both client expectations and bidder capabilities.

6.1.2. Data Accuracy

PTW is heavily reliant on accurate data. Misinterpreting or misapplying data can skew the analysis, leading to undesirable outcomes.

6.1.3. Competitor Unpredictability

While historical data provides clues, competitors can, and often do, adapt, and evolve, making their actions unpredictable.

6.2. Benefits

The benefits realized from properly executed PTW Analysis can be immense. Companies experience enhanced strategic positioning in bid environments. They utilize informed decision-making which leads to increased contract wins. Possibly most importantly, PTW Analysis leads to sustainable and increased profitability.

6.3. The Future

With the increasing complexity of projects and contracts, PTW's importance is set to grow. Emerging technologies, like artificial intelligence and machine learning, are poised to refine PTW strategies, offering predictive models that can adapt and evolve in real-time. In fact, we are gathering data today with the intent of leveraging AI in the near future. I envision using AI to help identify trends in the complex web of interrelated data points used in PTW Analysis. Currently, I am testing the use of ChatGPT 4.0 to help build and estimate competitor WRAP rates.

Moreover, as global markets become more interconnected, PTW analysis will need to factor in a broader range of variables, from global economic indicators to intricate supply chain dynamics.

In a world driven by competitive bidding, Price-to-Win Analysis stands tall as a strategic lighthouse, guiding organizations towards informed, data-driven decisions. It demystifies the chaotic dance of bidding, providing a structured approach to understand, adapt, and ultimately win. For businesses that aim to thrive in this high-stakes arena, PTW is not just a tool; it's a philosophy that melds ambition with realism, aspiration with pragmatism. In the grand chessboard of business contracts, PTW is the master move that separates the novices from the grandmasters.

6.4. Conclusion

The integration of cost estimating and PTW analysis represents a strategic imperative in the arena of competitive bidding, especially within government contracting and defense sectors. By harmonizing the insights from cost estimation with the strategic foresight provided by PTW analysis, firms can navigate the complex bidding landscape with greater precision and confidence. This synthesis not only enhances the accuracy of bids but also significantly improves a firm's competitive position. Future trends indicate that this integration will become increasingly sophisticated, with advancements in technology and data analytics offering deeper insights and more accurate forecasting. However, as firms navigate this evolving landscape, ethical considerations and global market adaptability remain paramount. The integration of these methodologies is not just a tactical maneuver but a strategic approach that can determine the difference between winning and losing in the competitive bidding process. Thus, firms that master this integration will not only secure contracts more efficiently but will also set new standards for competitiveness and innovation in their respective industries.