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WHY PRICING OPERATIONS AND SIX SIGMA PRICING

The superior man, when resting in safety, does not forget that danger may come. When secure, he does not forget the possibility of ruin. When all is orderly, he does not forget that disorder may come.

—Confucius (551 BC–479 BC)

1.1 Introduction

If sales is the life blood of a company, then price is the oxygen in that blood. Yet in a 2006 interview with *Harvard Business Review*,[1] the statements of Jeffrey Immelt, CEO of General Electric (GE), are quite revealing about pricing in his company. He said, "When it comes to prices we pay, we study them, we map them, we work them. But with the prices we charge, we're too sloppy."

If the CEO of one of the most admired and process-oriented companies perceives pricing-related processes in his company as "sloppy," one can imagine things are not exactly wonderful at other companies either. GE was able to bring control to many manufacturing and services processes using Six Sigma, so why not use Six Sigma for controlling and improving pricing processes as well?

According to a November 2004 survey of 16,500 executives, "Pricing is their preeminent worry—ahead of talent shortages and operational capabilities."[2] CEOs do not feel they are in a situation to control prices at least in regard to increasing them or even sustaining them during shifts in market dynamics. As one CEO responded to an analyst's questions regarding pricing, "The business environment limits our ability to control prices."

It's true that companies can always "control" the marketplace by lowering prices, but the results can be disastrous for the bottom line. Conversely, the most efficient way to improve a company's profits is to increase the realized price of its products and services. Prices are not only influenced by external market conditions, but they are affected by less-than-perfect pricing decisions and operations within the company.

Consider the example of Lexmark International in 2005, which was enjoying growing sales in the profitable ink-jet printer segment under such brands as Dell Computers.[3] Then as sales went down when Dell lost market share for printers, Lexmark cut prices up to 30% in some brands to gain sales growth—but ended up simply losing margin and had to cut 275 jobs. At the same time, rivals Hewlett-Packard, Canon, and Seiko posted better results. Indeed, pricing decision-making and expertise are integral to a company's ability to succeed and survive.

Controlling prices refers not just to the marketplace, but also to the internal processes that have as their final output the ultimate realized price from the customer in any specific transaction. This book focuses on improving these internal pricing processes in the context of business-to-business selling. These processes encompass setting transaction-specific discounts as well as creating pricing-related clauses within contracts that affect realized prices in future transactions. Companies need to look internally at these processes to improve realized prices and stem revenue leaks.

No matter how competitive and difficult the marketplace is, much can be done within the company to improve the overall level of prices by controlling price variation and thus improve revenues. Hence, pricing expertise comprises not only the ability to devise a pricing strategy, but also to manage internal processes to adhere to this strategy.

Companies are typically not bad at controlling manufacturing or service processes or at improving operations in general. Many companies have become skillful at managing costs and improving manufacturing efficiencies. The TQM and Six Sigma movements have seen to that. Six Sigma has been used in many global companies such as Motorola, Allied Signal, General Electric, and Citibank to name a few. There is broad interest in many different industries.

However, the discipline so often brought to the cost side of the business equation is usually lacking on the revenue side. As a result, many companies continue to leak cash from the top line sales because of "defects" in the form of excessive discounts in some transactions or in the form of opportunistic high prices in other transactions that lead to customer dissatisfaction and consequent loss in future sales. Many companies are already adept or are learning to be adept at improving controls on their manufacturing and some service processes with homegrown Six Sigma expertise. We show in this book how to leverage the expertise in decreasing manufacturing defects and variability to improve pricing processes.

There are several good books, primers, and handbooks for Six Sigma and TQM, but none address pricing operations or processes. Pricing is quite different from other application areas in its context and warrants adaptation of Six Sigma (or any other methodology) developed for manufacturing or services. Likewise, there are books on pricing, but surprisingly none focus on pricing operations, let alone discuss how to improve pricing processes with better controls or other adopted methods. This book shows how Six Sigma Pricing can help improve internal pricing operations—and thus profits.

1.2 Who Should Read This Book and How They Should Read It

This book has four parts. *Part I* is about the motivation behind our approach and the payoff in improving pricing operations. We recommend this part to all readers. *Part II* provides basics of pricing operations as well as basics of Six Sigma. It will be particularly useful for MBA students or others new to pricing. *Part III* provides details of applying "Six Sigma Pricing," as we call our adaptation to Six Sigma regarding pricing. It is especially relevant for those who will be carrying out or overseeing such projects. This part is the heart of this book, showing how you can use a fact-and-data-based approach to improve operations by designing better processes and controls. The final part, *Part IV*, is about enterprise-wide deployment of Six Sigma projects and targets senior managers who need to understand enterprisewide ramifications.

The key target audience for the book are business leaders who would like to instill internal discipline and improved capability for pricing. Senior managers will learn how they can improve realized prices by bringing pricing under control. CFOs and other senior managers working on Sarbanes-Oxley issues can validate and set controls on their companies' sales or compensation processes, if related to pricing in any way, using the principles described in this book. For these managers, Parts I, II, and IV of the book should be particularly relevant.

Part III of the book provides the details for applying Six Sigma Pricing or other fact-and-data-based methodologies that improve internal pricing processes, which should be very helpful for mid-level managers involved in carrying out or overseeing Six Sigma Pricing projects. A detailed example called "Acme," based on our experience with a few different companies, supports each chapter in this part. Managers will also find supporting evidence for building a business case for such projects in Part I as well as lists of business processes in Part II.

Pricing practitioners and strategists within companies can use this book to bring colleagues together from various functions to explain pricing operations and to define roles in order to streamline pricing within the company among different functions and between the company and its customers. They can view Six Sigma Pricing as a framework to help align multiple functions to common objectives and help functions work together. They should at least skim through Parts I and II to understand how pricing operations can support or foul up any pricing strategy. They can then read Part III to see how to improve internal pricing processes, and they may find Part IV useful in drawing up enterprise-wide plans for improving pricing operations.

Consultants with pricing backgrounds will discover a practical approach to help their clients manage pricing operations better, thereby actualizing the pricing strategies they are recommending. These consultants already have tools and frameworks to understand the marketplace and to extract better prices. They can enhance their value to clients also by considering internal processes and ways to improve realized prices consistently. For them, Parts III and IV can be quite useful, while Part II can help delineate internal and external aspects of pricing.

Six Sigma experts will find in this book yet another domain within the enterprise to apply their expertise. These experts have made tremendous and well-documented contributions to the organization, not just in manufacturing but for such varied services as internal audit, customer service, and IT services.[4] These experts will find that using Six Sigma for pricing can have a huge impact even with small projects.

They should read the chapters on pricing and pricing operations in Part II of this book carefully to familiarize themselves before they get into Part III to see how their Six Sigma expertise applies to pricing.

Finally, business school students, primarily those in MBA programs and those with marketing interests, can also benefit. Business schools are sometimes accused of emphasizing theory to the neglect of practice.[5] Our book addresses two gaps: We introduce students to pricing operations as a marketing topic and in the application of an operations management tool for process improvement, namely Six Sigma. Both Part II and III should be part of the same course. The final Part IV would be especially valuable if supported by case studies involving enterprise-wide deployment of Six Sigma, TQM, or Lean Manufacturing.

1.3 Why Target Pricing Operations

Almost every marketing primer starts with the *4Ps* (product, price, promotion, and place), the marketing decision variables or marketing mix that are in a company's control. Getting this mix right is critical in order to successfully market and sell a product. Yet few companies are confident that their pricing practice can execute to their business strategy with consistency. Companies constantly invest resources in modifying pricing tools, methodologies, information systems, and training to address an ever-changing market place.

These companies do so because of the significance of price improvement to the bottom line. Consider, for illustration, an income statement with $100 in revenues, $80 in cost of goods sold, and $10 in selling costs. Then the corresponding 1% increases in earnings before interest and taxes are 8% for a 1% drop in cost, 1% for a 1% increase in volume, and 10% for a 1% increase in price. Table 1-1 shows the relative impact of improving the realized price. Therefore, it makes sense to target pricing among the three options to have the most impact on the bottom line. Of course, this is not easy, and it is the purpose of this book to show how to improve price realization by building better internal controls.

Table 1-1 An Illustration Showing Impact of Price Increase Relative to Unit Sales Increase or Cost Decrease

Income Statement Item	*Actual Amount*	*Amount Projected with 1% Decrease in Costs*	*Amount Projected with 1% Increase in Volume*	*Amount Projected with 1% Increase in Prices*
Revenues	**$100**	$100.0	$101.0	$101
Cost of goods sold	**$80**	$79.2	$80.8	$80
Selling costs	**$10**	$10.0	$10.1	$10
Earnings before interest and taxes (EBIT)	**$10**	$10.8	$10.1	$11
Percent increase in EBIT	—	8%	1%	10%

Similar analysis has been done by various consultancies on different groups of companies like 2,463 companies in Compustat (by McKinsey) and the S&P 500 (by A. T. Kearney).[6] The results are different for the two sets of analyses, but both indicate price as proportionally the most important driver for profits (see Table 1-2). On an average, a 1% increase in price without a drop in volume can lead to operating profit improvements of 11.1% for the Compustat companies and 8.2% for the S&P companies. The corresponding increases for 1% improvements in variables costs, sales volume, and fixed costs are much lower. Essentially, because price enhancements carry no corresponding increase in costs (for example, potential variable cost associated with increased volume), they flow directly to the bottom line.

Table 1-2 Average Impact of 1% Improvement of Driver on Operating Profit

Driver	*Compustat Companies*	*S&P 500 Companies*
Price management	11.1%	8.2%
Variable cost	7.8%	5.1%
Sales volume	3.3%	3.0%
Fixed costs	2.3%	2.0%

(Source: Phillips 2005: p. 14)

Despite price being so important, it is also something over which companies feel they have the least control. Clearly, given that the lack of control on pricing is mostly within the company, pricing operations is an area where companies should assert control to bring about price improvement.

1.4 Pricing Challenges and Six Sigma Pricing

There are many challenges pertaining to pricing processes within the company that cause "defects" by way of excessive discounts or excessively high prices, sometimes even to the same customer. Excessive discounts hit the top line and bottom line of the company directly. Excessive realized prices may appear attractive to the company, but customers eventually do find out if the seller has charged different divisions markedly different prices for the same product or has offered other customers higher discounts without clear explanation. These customers affect revenues by either leaving or decreasing their business, or they affect profitability and price by negotiating for extra discounts in future transactions.

Defects in pricing can be detrimental to a company's growth prospects in the long term as well. Band-aid solutions that do not fix the cause only worsen the situation. Negative experiences feed customers' perceptions that a company is difficult to work with as a partner. The occurrence of defects erodes confidence among stakeholders internal to the company as well. For example, pricing and sales personnel may offer extra discounts if they are not sure about the validity of a price point when customers complain, thus eroding margin.

Business strategy developed in the boardroom might be brilliant, but poor execution means poor results in regard to realized prices or profitability. Senior managers may feel they do not control prices because of external market factors. However, they can bring about internal discipline to control several internal factors that contribute to the gap between strategy and execution.

Six Sigma Pricing can provide this internal discipline. Even if a company applies Six Sigma Pricing to pricing operations and to transactions, shared understanding of the pricing-related roles of different groups and individuals helps in strategic pricing as well.

Let us first look at challenges that relate to pricing and pricing processes. It is these challenges that engender price-related defects.

Challenge 1: Interfunctional Divergence

Usually, processes within a single function or even across two functions tend to have good controls. Whenever we have more than two functions, it may be the case that the functions do not have the same perception of the process or its objective. This is the case with pricing processes in marketing, finance, sales, and product management because of overlapping roles and ownership, at least in the members' perceptions.

Stakeholders in various functions and levels within the company do not necessarily have the same objectives. *Salespeople* compensated on sales volume want flexibility in pricing so they can increase volume wherever there is an opportunity to do so. Marketing people are the brand builders guiding the value of a product. This can put them at odds with sales personnel who might think the list price (or proposed contract price) is too high to bring in large volume. *Pricing personnel* may use their analysis to present their view that the proposed transaction price or proposed contract price is too low relative to existing similar products. *Finance personnel* may raise questions regarding why realized or proposed prices cannot be higher than their current values.

The pricing function attempts to impose controls on prices to focus on overall pricing. However, different functions may have incentives to bypass these controls when it does not suit their objectives or their view on what would benefit the company in the future. Senior managers who could resolve these interfunctional conflicts may not be close enough to the operational level of pricing in many companies to intervene every time. Unresolved issues render price controls in these companies ineffectual and the processes ad hoc.

Pricing-related processes are also ad hoc in many companies because there is lack of a shared understanding of the role of pricing and of pricing processes. These companies have not paid much attention to pricing as a function. Therefore, results that a company obtains are not necessarily commensurate with the investments made in hiring senior-level pricing managers and in implementing pricing software technology. Use of technology in environments where interfunctional divergence is reflected in poor controls on pricing and in poor shared understanding of the pricing process is only an ill-conceived panacea.

Still there are industries with pricing operations expertise, for example car rentals and airlines, that have learned to consistently extract positive, if lean, margins even in bad times. The good news is that in other industries, attention to pricing operations is growing. Some companies now have managers and directors of pricing strategy, even Chief Pricing Officers. The number of consulting firms and pricing software companies grows by the day.

Six Sigma Pricing can focus this attention to help the different stakeholders understand pricing operations and bring different functional perspectives together. It uses data and facts to provide a framework to review and design close-looped processes.

Challenge 2: "The Customer Is Always Right"

A customer-focused company always looks for better ways to serve its customers. However, being customer-responsive is not the same as being customer-focused. Customers want quick turnaround on pricing decisions, and there is no reason why it should not be so. But, when a company has tens of thousands of transactions a year, this can create pressure to lower the price in two ways. If a company does not have solid pricing processes, its personnel may give in too easily and too quickly to requests for lower pricing for a particular single transaction, or worse, over many transactions by improving contract terms.

The "need-for-speed" in responding to the customer can translate into putting aside any due process for a transaction or putting aside any consensus-building efforts around a contract's terms. The customer's assertion of the price being "wrong" or too high can go unchallenged in this situation in the absence of any fact-based analysis.

There may have been a genuine case of a wrong price in the past. System glitches, changes in personnel at customer or vendor location, changes in competitive offering, and miscommunication are among many other known problems that exist in a business environment. Sometimes a customer learns of another customer receiving an inexplicably low price from the vendor. When a sales representative is not sure of the problem source, either scenario spurs a discussion around dropping the price in the interest of keeping the customer happy.

In the absence of a systematic framework, being responsive to the customer invariably leads to the customer extracting a lower price or less favorable terms from the seller's viewpoint. Six Sigma Pricing provides for a fact-based systematic decision process that leads to consistent prices and a focus on the customer's needs rather than always simply lowering prices to be "customer-responsive."

Challenge 3: Continual Internal and External Changes

Pricing is complex also because of its sensitivity to the continual changes in the internal and external environment. Internally, a company may have seen turnover or may have brought in new leadership, resulting in changed policies. Every changed policy can entail changes in pricing processes, and the company might not train everyone in the new process.

Externally, economic cycles or massive changes, such as the 2005 oil-price increase, change customer needs and drive the company's response. External events like mergers and acquisitions have internal impacts. For instance, existing IT systems and legacy processes with specific customer accounts or products (owing to a merger with another company for instance) make controls difficult because of integration-related challenges.

Even in stable environments, many companies make unnecessary changes in processes and organizational structure that create undesirable variations in the output of their processes, particularly in the pricing. As with manufacturing or service processes, "variation is evil" for pricing processes as well.[7] This is because the variations resulting from inconsistencies in pricing decisions lead to highly varying prices with low overall levels. Setting the price or discount for any transaction or setting terms for any contract should be a repeatable and consistent process—having variations can only lead to "defective" prices that are too high or too low. Companies need to appreciate that pricing processes should be consistent and repeatable, not just for transactions or standard contracts, but also for one-off deals for customized products.

Six Sigma Pricing can help bring control to operational processes to design and redesign transaction-level pricing processes. After all, the process to change processes is a process too and one that should be repeatable even in a dynamic environment.

Six Sigma Pricing assists in standardizing the pricing process. It helps ensure that the flow of communication from the customer to the salesperson through pricing and IT systems is smooth and timely and occurs in a closed loop system with controls that include defined exceptions for flexibility. Having standardized processes also helps with contingency planning if something were to go wrong. Standardization helps decrease inconsistencies in pricing while allowing the flexibility salespeople need to pursue sales opportunities and to close transactions profitably.

Challenge 4: Management by "Gut-Feel"

Managers may make pricing decisions based on their intuition (informed by vague memories of demand curves in Economics 101), and drop prices to increase unit sales or increase list prices to increase dollar sales. Such thinking is not wrong on a fundamental level, but the devil is in the details of execution: How sensitive is the "market" to price changes in one particular transaction? After all, an increase or decrease in list prices is one thing, the ability to realize a proportional change and desired result over thousands of transactions is quite another.

When dealing with a customer's influence on pricing, wouldn't we have more confidence in each situation if we knew the customer's purchase history, geographical location, and discount levels before addressing the customer's needs? Likewise, proposing large discounts to customers based on gut-feel about "tough times" would be on a more solid basis if such proposals were additionally based on analyzing the impact on profitability—vis-à-vis the likelihood of losing such sales.

Six Sigma Pricing helps supplement a decision-maker's gut-feel with fact-based evidence and analysis. Data-driven and fact-based evidence can take the emotion out of meetings where everyone has a different gut-feel. Doing so also results in consistent execution regardless of who is making the decision.

1.5 What Six Sigma Pricing Is

As discussed, many factors contribute to defects in pricing processes. The fundamental causes are poorly designed or even unspecified processes. But even if the processes are known and clear, controls may not be effective. Either way, the Six Sigma approach for improving processes can help.

The Six Sigma philosophy, using data and statistical tools to systematically improve processes and sustain process improvements, can be applied to the pricing process with a focus on eliminating the "defects" of excessive discounts or excessive prices. Six Sigma is a methodology traditionally used in manufacturing to improve quality. Six Sigma Pricing, or the application of Six Sigma to pricing, enables systematic elimination of process-related defects by exposing the sources of these defects.

The five stages of Six Sigma Pricing are the same as that of Six Sigma except that they are adapted for pricing processes:

- **Define** the pricing-related "defect" in operational-, transaction-, or contract-specific pricing processes and the extent of the defect.
- **Measure** the extent of the defect along with parameters of the pricing processes as well as the invoice, say by analyzing past invoices.
- **Analyze** the data collected in Measure to infer how the size or incidence of defects varies with different aspects of the pricing processes as well as brainstorm on the other causes of defects related to the existing process.

- **Improve** the process by making process change recommendations along with quantitative estimates of how much improvement in related prices or other metrics would take place following implementation of these changes.
- **Control** the proposed process. For example, recommend controls to ensure that people are following the agreed-upon modifications and that the estimated benefits are achieved.

1.6 What Six Sigma Pricing Is Not

Six Sigma Pricing is not intended to create a pricing strategy, but to improve pricing operations and adherence to an existing strategy. It applies to pricing operations and *repeated* processes, that is, to control discount levels off list prices in contracts or in individual transactions. It is not intended to define the company's position as it regards price and product attributes in the market.

A company usually centralizes its pricing strategy-setting effort—such processes tend to be tightly run, although they do not occur frequently during a year. However, setting prices for individual discounts for the tens of thousands of individual transactions in one division in a year and even creating contracts for many customers is necessarily decentralized. Such an environment can have breakdowns in control and resulting revenue leaks. It could therefore benefit from the improved controls and discipline that Six Sigma Pricing can bring. Even periodic list-price-setting across thousands of products is a repetitive process that Six Sigma could improve.

Six Sigma Pricing is not about yielding control to the pricing function or to sales personnel, although it does entail giving sales and other personnel flexibility to respond quickly to the customer. Giving personnel flexibility does not mean giving up control. In fact, using Six Sigma Pricing, companies can create tighter controls, escalating guidelines for salespeople, sales managers, and pricing personnel for discounts. Thus, Six Sigma Pricing can help companies create the right balance between flexibility and faster responsiveness on one hand and tight controls of the price on the other.

Six Sigma Pricing projects are not focus groups or jawboning sessions. Such a project involves using tried and tested robust statistical tools and other mechanisms. Furthermore, each stage has its own set of tools applicable to different situations, which we discuss.

Six Sigma Pricing is much more than designing and using improved measurement and control. It is a systematic process of building a shared understanding and the rationale for improved measurement and control. Good measurement and reporting are quite useful in controlling any process whether or not related to pricing. However, achieving this is easier said than done. The most challenging problem for CEOs is bringing about change in an organization, and Six Sigma helps with that—improved measurement and reporting are merely outputs.

Six Sigma Pricing is not about controlling only excessively low prices but also excessively high ones. Cowboy managers "taking risk" in setting very high prices or exceedingly low discounts off the list price in a particularly opportunistic transaction can be part of the problem rather than the solution when it comes to pricing. An excessively high price can be a problem especially because the customer may eventually find out about discounts offered to other customers and even to different groups in the same company. A company's gains come from the various sales and pricing personnel consistently sticking close to desired discount levels off list prices around relevant segmentation variables such as industry of the customer served, size of customer, size of transaction, and geographic location, rather than "bold" decisions by mavericks. Six Sigma Pricing helps achieve this consistency.

1.7 Summary

Pricing is critical to a company's success, and realizing a slightly better price overall across all transactions has a tremendous impact on the bottom line for any company. As such, improving prices and preventing price erosion in transactions or contracts should be the first priority for a company seeking to improve its profits.

However, many senior managers feel they have no control on prices because they cannot control external factors such as escalating raw material prices or tightening customer budgets. They need to realize that internal issues impact realized prices as well, and they can control these.

These internal issues pertain to pricing-related challenges that cause “defects” in terms of transaction prices being excessively low (or excessively high). These challenges stem from (1) pricing spanning multiple functions and therefore being subject to interfunctional conflict, (2) excessive emphasis on customer responsiveness, sidestepping internal consensus-building and analysis, (3) continual external and internal change, including ad-hoc processes, and (4) management-by-gut-feel that is different for different individuals in the absence of data-driven fact-based analyses.

The heart of the problem is the absence of well-defined processes or the absence of functioning controls even if the processes are well designed and well intentioned. Six Sigma is an approach that has done wonders for manufacturing and for services in improving processes to reduce defects.

The real purpose of Six Sigma Pricing is to help the CEO develop a shared understanding and rationale for improved control and thus manage change to improved pricing processes.