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## Waging War on Complexity Costs

"This is an ambitious book packed with insight and fresh thinking. Separating good from bad complexity costs is a critical task facing companies today, and the authors provide a compelling roadmap for solving the problem."

**MICHAEL B. McCALLISTER**, President and CEO, Humana Inc.

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*Complexity Costs*. What are they and why do they matter so?

Complexity costs are ***the single biggest determinant*** of a company's cost-competitiveness, according to Stephen Wilson and Andrei Perumal, co-authors of ***Waging War on Complexity Costs (McGraw-Hill, November 2009)***. But most companies struggle to quantify their complexity costs nor do they understand how to manage or cut them in any significant way. The good news for companies is that their competitors are likely equally at a loss. And therein lies the opportunity: companies that attack complexity can see cost improvements of 15%-30% in significant portions of their business and attain a cost advantage over their competitors.

Wilson and Perumal look at the issue from all sides, discussing how best to tell if you have out-of-control complexity costs, how to identify them, how to quantify the impact, and how to root them out. The book uses real-life examples of companies that have effectively dealt with complexity costs and how the decision to deal with them head-on has positively impacted their business.

The authors lay out a groundbreaking and fresh approach for dealing with what has often been considered an intractable issue, and one which is not only defining companies' current cost competitiveness, but which will be critical in preparing them for profitable growth.

Wilson and Perumal's approach is unique and based on a deep understanding of the issue:

- **Focus on the nature of complexity.** Complexity is a systemic issue – therefore taking a piecemeal approach to assessing it or removing it is ineffective.

- **Take a multi-dimensional nature of complexity.** The authors look at the issue in terms of product, process and organizational complexity. Each of these is a critical dimension but even more significantly is how they interact. This is where the costs reside.
- **Account for the geometric nature of complexity costs.** Complexity costs are unique in how they rise geometrically. They often creep into companies over time, as the result of many decisions all rational in their own right. The key is to think about the connections. Consider a simple model: if you have 2 things then you have 1 connection between them; 4 things 6 connections; 10 things 45 connections and if you have 100 things you have 5000 connections!
- **A practical approach.** This need not be an academic exercise and in fact it's better with complexity to get a quick and broad understanding of how things fit together – and quickly take action – than go deep on one particular facet of the issue.
- **Take a two-pronged approach—both reduce complexity and make it less expensive.** While simplification is often a key part of the solution, companies are increasingly required to deliver a lot of variety to many different markets through different channels, or suffer the consequences. Winners will be those that can both *reduce bad complexity* but also build the capabilities to *deliver good complexity to the market cheaper* than competitors.

The authors, both experts in diagnosing the issues and offering solutions, offer this advice for business leaders launching their own “war on complexity costs”:

## Six principles for *Waging War on Complexity Costs*

### **Principle #1: There is good and bad complexity**

The fact that some complexity is good means you can't just focus on eliminating SKUs, parts, vendors, dealers, and so on. While this is an important component of controlling costs, it is only half the answer. Reducing complexity costs is not just about *reducing the amount of complexity* in your business. It is also about reducing the cost of delivering complexity—**making complexity less expensive**. The mix of the two approaches will vary according to your business, and to the opportunity. But it is usually a mix of both, rarely one *or* the other. Why? Because in many if not most business sectors, cutting product complexity is *necessary but insufficient* to remain competitive.

### **Principle #2: Complexity is a multi-dimensional issue**

Complexity is a systemic problem—one that is dispersed in origin and affects everything inside the system. Therefore the approach to tackle this also needs to have a systemic—or

integrated—perspective. It is the results of the interactions of many different parties—and to compound the problem, like pollution the effects are hard to see and track.

Understanding these dimensions—and, more importantly, how they interact with each other—is key to developing appropriate battle strategies. For now, suffice it to say that **it's the multi-dimensional nature of complexity that has thwarted many traditional cost-cutting approaches**. Trying to cut product complexity (eliminating product or service options or brands, for example) without *also* tackling the associated process or organizational complexity will have a limited effect.

### **Principle #3: Piecemeal approaches will not move the needle on cost reduction**

In “peacetime” it is not uncommon to see a myriad and diverse set of cost reduction programs across an organization. In our experience, most of these nibble at the edges of cost management and do not address some of the core structural issues.

As the saying goes, if nothing changes... nothing changes! In order for a company to find and sustain significant improvements in their cost structure a company needs to make some big changes in the way things are done. A cost reduction strategy that focuses on doing the same things, the same way, but cheaper, is likely to lead to disappointing results.

### **Principle #4: Unlocking the benefits requires “concurrent actions”**

Given the systemic nature of complexity, unlocking the benefits requires a coordinated combination of actions. To achieve big savings, you need to understand how the three dimensions of complexity (process, product and organizational) work to trap costs in the business. And then you need to attack complexity with an integrated campaign targeted at a combination of dimensions. For example, consider the pharmaceutical company that was looking to reduce its factory footprint and distribution network. As it examined the various factors involved, such as geography, channels, portfolio and volumes, the focus soon became how to best rationalize the footprint *assuming the same or near-same portfolio of products*. This is a decision-trap: assuming an element is fixed and designing around it.

### **Principle #5: Complexity costs “creep” in incrementally, but you need to remove them in chunks**

Consider a typical product portfolio: over a number of years, a portfolio has grown bloated with line extensions, new products, and new brands. These additions pile on top of the existing portfolio. What you are left with is a sprawling portfolio that is the result of hundreds of isolated decisions. The answer is not to trim the bottom 5% of SKUs. That will do little to free up capacity, cost and focus; but when you can cut deep enough to cut a brand, close a warehouse, cease a productivity-draining process, then you will see substantive cost savings.

The takeaway is that when addressing complexity costs, recognize that there are pivot-points at which fixed or semi-fixed costs are released. These points represent the staircase of cost targets that can release substantive costs.

Moreover, *the likelihood that you will reach these pivot-points by chance is low*, as it often requires a coordinated combination of actions that stretch across process, product and organizational dimensions.

### **Principle #6: This need not be a long academic exercise**

Throughout your efforts, we urge you to focus on leveraging 80/20 thinking. Taking out complexity costs does not and should not be a long academic exercise. Ensure that you are not embarking on a months-long program that is long on analysis but short on insights. It is important to get a more grounded view of the drivers of complexity cost, but a broader view with less detail is more important than deep-diving into any one area.

Do enough to develop a battle strategy, and constantly ask yourself, *What do I need to know to move forward on this?* In our experience, it is possible to quickly develop hypotheses as to the drivers of complexity cost, which can then be validated, and this is a much faster approach than an exhaustive, bottoms-up approach.

**Waging War on Complexity Costs** not only helps business leaders identify and ferret out their complexity costs, it carefully lays out a battle plan and a structured process to help organizations effectively deal with them, and focus their attention on part of the organization and product mix that yields the most value..

### **About the Authors**

**Stephen A. Wilson** is Managing Director of WilsonPerumal, the strategy and operations management consultancy. He is co-author of *Conquering Complexity in your Business* and a contributing author of *Fast Innovation*, both published by McGraw Hill. He has a decade of experience advising senior clients in the US and Europe on issues relating to operations and strategy. Previously, Mr. Wilson was a Principal with George Group Consulting, and has prior experience with Marakon Associates. His education includes an MBA from The Wharton School at the University of Pennsylvania.

**Andrei Perumal** is Managing Director of WilsonPerumal, the strategy and operations management consultancy. He works with CEOs, executive teams, and government leaders to help them solve challenging problems with a focus on integrating strategy, operations and organization. Previously, Mr. Perumal was with Bain & Company and was part of the leadership team at George Group Consulting. He also served as an officer in the US Navy, worked in industry as an engineer and as director of strategic operations for a financial services firm. He has a BS in Aeronautical and Astronautical Engineering from the Massachusetts Institute of Technology and is a graduate of the U.S. Navy's Nuclear Power Program.

## **WAGING WAR ON COMPLEXITY COSTS:**

*Reshape your cost structure, free up cash flows and boost productivity by attacking process, product, and organizational complexity*

**Authors: Stephen Wilson and Andrei Perumal**

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### ***Praise for Waging War on Complexity Costs***

"This is an ambitious book packed with insight and fresh thinking. Separating good from bad complexity costs is a critical task facing companies today, and the authors provide a compelling roadmap for solving the problem."

**MICHAEL B. McCALLISTER**, President and CEO, Humana Inc.

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"*Waging War on Complexity Costs* examines an incredibly important and often overlooked aspect of business and organizations in general—regulators and government officials should read this book and take notice. Complexity dramatically increases costs and risk of failure. It is like a cancer that eats away at efficiency and profitability."

**ANDY BEAL**, Chairman and CEO, Beal Bank

"This is by far the best and most useful explanation of how to address complexity in a business. *Waging War on Complexity Costs* frames the issue in a way that companies can finally tackle the problem – this book delivers."

**AHMAD R. CHATILA**, CEO, MEMC Electronic Materials Inc.

"This is the first book that really targets organizational complexity in a compelling way, making this a must-read for any organization that is looking to distance itself from the

competition. After years of cost-cutting, many companies are realizing that they still don't have a discernable cost advantage. This book provides the platform to achieve just that, by attacking the complexity that bogs them down."

**TOM DiDONATO**, EVP Human Resources, American Eagle Outfitters, Inc.

## Examples and Results of Waging War on Complexity Costs

**Cadbury's**- attacked its complexity costs and are seeing 4-6% revenue growth projected over a four year period. Additionally there has been a 2% improvement in operating margins.

**Motorola**- One division reduced its portfolio of products, and customers were delighted. The simplifying of their product line allowed Motorola to improve quality and increase on-time delivery from 70% to 78%. Customer Satisfaction increased dramatically from 27% to 55% in JUST 18 MONTHS. And year over year revenues increase by 25% despite the 40% reduction in the product portfolio.

**Wal-Mart**- Found that the average shopper spent 22 minutes in the store and that a wider range of products actually led to fewer items in the shopping basket

**Tesco**- the largest grocery store chain in the U.K. with 30% of the overall market, Tesco decided to standardize and invent a single way of working for a large number of defined processes, such as listing products and suppliers, setting prices, ordering, distribution, keeping track of finances, and payroll. It's called the "Tesco Operating Model", and this simplification allows them to be profitable and efficient in spite of the fact that they have 4,000 stores across 14 countries.

## Q&A with authors Stephen A. Wilson and Andrei Perumal

### *1. Why did you write this book? What's new and different?*

We wrote it because we bring a unique perspective on the topic and we saw companies continue to struggle with how to attack complexity, even if they realized that there was an issue. Also as companies struggled to reposition for growth we wanted to share our finding that complexity costs are the biggest single determinant of a company's cost-competitiveness. Specifically:

- **We focus on the nature of complexity.** This is important and has practical ramifications. Complexity is a systemic issue – therefore taking a piecemeal approach to assessing it or removing it is ineffective. The best way to address a systemic issue is by taking a broad view but focused actions. Unfortunately many companies get this backwards – taking a narrow view and looking at one facet of the issue, and then trying to push broad actions. This doesn't work.

- **We take a multi-dimensional nature of complexity.** Typically many companies think first of SKU or product complexity but that's just a part of the issue. We look at the issue in terms of product, process and organizational complexity. Each of these is a critical dimension but even more significantly is how they interact. This is where the costs reside.
- **We recognize and account for the geometric nature of complexity costs.** Complexity costs are unique in how they rise geometrically. They often creep into companies over time, as the result of many decisions all rational in their own right. But – in aggregate – the impact can be huge in terms of cost, focus and efficiency. The key is to think about the connections. Consider a simple model: if you have 2 things then you have 1 connection between them; 4 things 6 connections; 10 things 45 connections and if you have 100 things you have 5000 connections! That's a lot of cost and headaches. At the same time the good news is that for companies trying to tame complexity, there's nonlinear benefit as well.
- **We've lived this and bring a practical approach to bear.** This need not be an academic exercise and in fact it's better with complexity to get a quick and broad understanding of how things fit together – and quickly take action – than go deep on one particular facet of the issue. We get that companies can't afford to take 6 months to study the issue and our book and approach reflect that fact.
- **We advocate a two-pronged approach—both reduce complexity and make it less expensive.** Our point of view as a firm is that companies today are competing in an ever complex world. So while simplification is often a key part of the solution, companies are increasingly required to deliver a lot of variety to many different markets through different channels, or suffer the consequences. We believe the winners will be those that can both *reduce bad complexity* but also build the capabilities to *deliver good complexity to the market cheaper* than competitors.

## ***2. Why is tackling complexity particularly important today?***

A big reason is that companies are still looking for opportunities to take out cost. There's been belt-tightening but many times traditional cost reduction initiatives fail to get at the heart of the issue. Here you have the situation where many companies are still burdened with costs tied to revenue that is forever 'lost'. These costs are often trapped in the connections we talk about – organizational complexity trapping product complexity for example. But with the recession, companies need to become far more focused and differentiated in their approach to the market, and they can no longer support money-losing complexity. So if 20% of your product line supports 300% of your profitability – what we call the 'island of profit in a sea of cost'—then there's a basis for action.

Another big reason is that the downturn has compressed complexity across less revenue, with devastating impact on margin. So it's not just that there's an opportunity and need for taking complexity out – an upside. Doing nothing has a clear and in many cases disastrous downside.

If a company attempts to keep all the complexity it had prior to a revenue contraction, the cost of complexity is concentrated on the remaining portfolio, and it can totally wipe out margin! So ‘do nothing’ is a bad strategy.

### ***3. So what’s in it for companies to wage a war on complexity costs?***

There’s a clear value-proposition. We’ve found that companies that attack complexity costs can see a 15-30% improvement in costs in significant portions of their business.

Companies will see benefits in their processes, their organizational costs and as they extract the complexity, there’s a significant improvement in ROIC as invested capital is reduced down.

But there’s also clearly a broader strategic benefit, and one related to growth. For one, complexity erodes performance levels, both directly and indirectly, so a complexity reduction can see tremendous gains in customer satisfaction. One tech company cut its product line complexity and saw its customer satisfaction leap from about 25% to 60% driven largely by the fact it was now able to meet on-time delivery requirements.

Also companies that reduce complexity are better equipped to focus on where value is created. Take the example we mentioned – 25% of a portfolio driving 300% of the profits. That might prompt 2 concerns: the first is – the 75% of the portfolio that is destroying profits. The second is – are we appropriately nurturing and exploiting the 25% that is creating profit. Often-times, good complexity, the variety customers care about, gets lost in the noise.

### **4. Why has complexity become such a large issue for companies?**

For one, there have been a number of macro trends that have increased the demand for more variety – in goods, in channels, in degree of customization and so on. And that has gone along with an increase in process and organizational complexity – as supply chains have become global, become fragmented and organizations are having to reinvent themselves. All this change has happened at a far greater rate than most companies internally can deal with it – which has led to today’s issues and increase of complexity. Another macro trend has been the increasing focus on specialization – which has led to enormous technological advancements, but has also impeded the ability to see much less manage complexity. Our message is not that you want to ignore the benefits of specialization, but in fact that you want to ensure that companies are “coherent” enough to leverage those strengths. One COO once told us that you can’t innovate your way out of poor execution. You don’t want your key areas of competitive advantage destroyed by complexity-related performance issues surrounding it.

On the internal side, the benefits of additional complexity are often overestimated and the costs typically underestimated—or not even recognized. So that tends to lead to institutionalized practices that *default* to more complexity. A great example is product

proliferation. Companies will proliferate on the basis on increased incremental revenue (which is visible) but ignore or miss the incremental costs (that often exceed the revenue).

As a result, incremental decisions that add complexity seem to make sense individually, but in aggregate they have a negative impact on profits and performance.

## ***5. Why haven't more companies taken action, given the size of the opportunity?***

**First, no one has quantified the size of the prize—so attacking complexity as a root cause has not been made a priority.** Financial systems and processes are ill-equipped to quantify, or even flag, the costs of complexity, which is why many of these costs stay hidden from executive line of sight. But even when leadership recognizes the symptoms, they have difficulty placing a dollar value on what it's worth to address complexity. This is a major hurdle when it comes to deploying real resources and investment to wage the war on complexity costs. Thus, such initiatives often fail to get traction, overshadowed by alternative initiatives that are less profitable but more easily quantified.

**Secondly, companies are put off by the scale and nature of the problem itself.** Even for those executives who recognize the issue and the opportunity, it can seem at the outset an intimidating mountain to climb. There are many interactions between products, processes and organizational structures that extend beyond the normal functional structures in corporations for “getting things done.” Cross-functional efforts, by definition, require coordination across functions to work. Given the nature of complexity, it is not surprising that many efforts that start out with ambitious goals are reduced to piecemeal solutions.

**Finally, companies need better battle strategies, which is why we wrote the book!** Even for those companies that understand the financial prize on the table, and are looking to take this on, companies need battle plans that account for the nature of complexity, which can extract meaningful benefits quickly without getting quagmired in endless analysis and frustrating sets of interdependencies.

## **6. Many people equate complexity reduction with SKU rationalization or component standardization, but you have a different take.**

Product complexity is a big lever and primary battle ground in the war on complexity, but you cannot ignore process and organizational complexity. In fact, the one area that companies often are already working is in reducing SKU complexity, which makes process and organizational complexity an under-explored opportunity. Process and org complexity are also the areas that have increased the most in many industries in the last decade, making them a big opportunity.

There's another reason that you want to take a multi-faceted view of complexity. While there are often opportunities to reduce product and service complexity, to a place more in sync with what the market is demanding, that still leaves on the table the opportunity for

*making complexity less expensive.* To do that means addressing process and organizational complexity.

By taking an integrated approach, you are best positioned to limit the revenue impact of a complexity reduction while positioning your renewed portfolio at the optimal cost position.

## **7. Is complexity just an operations issue?**

Clearly not. In fact viewing it as *just* an operations issues tends to limit the benefits that a company can attain. Having said that, viewing it as *just* a strategy issue is also off-the-mark. For example, many SKU reduction initiatives focus on product profitability only and cut off the tail. But a better approach is to assess the linkages between a number of different facets – the SKU selection will then be better suited to save costs, meet market needs and improve operations. So in addition to looking at complexity-adjusted costs (for profitability), we'd look at other facets, including cost- breakpoints (to assess at what levels of SKU reduction are disproportionate benefits realized), coverage (where does the product line overlap and where are there gaps), operations and process (how does the number of SKUs effect process performance and cost) and strategy (Where and how does the company compete), among others. The point here is that it's better to have an 80% view across all these different facets than a 100% view of just one of them.