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How cost rationalization can grow a business

An example from the telecom company Ericsson

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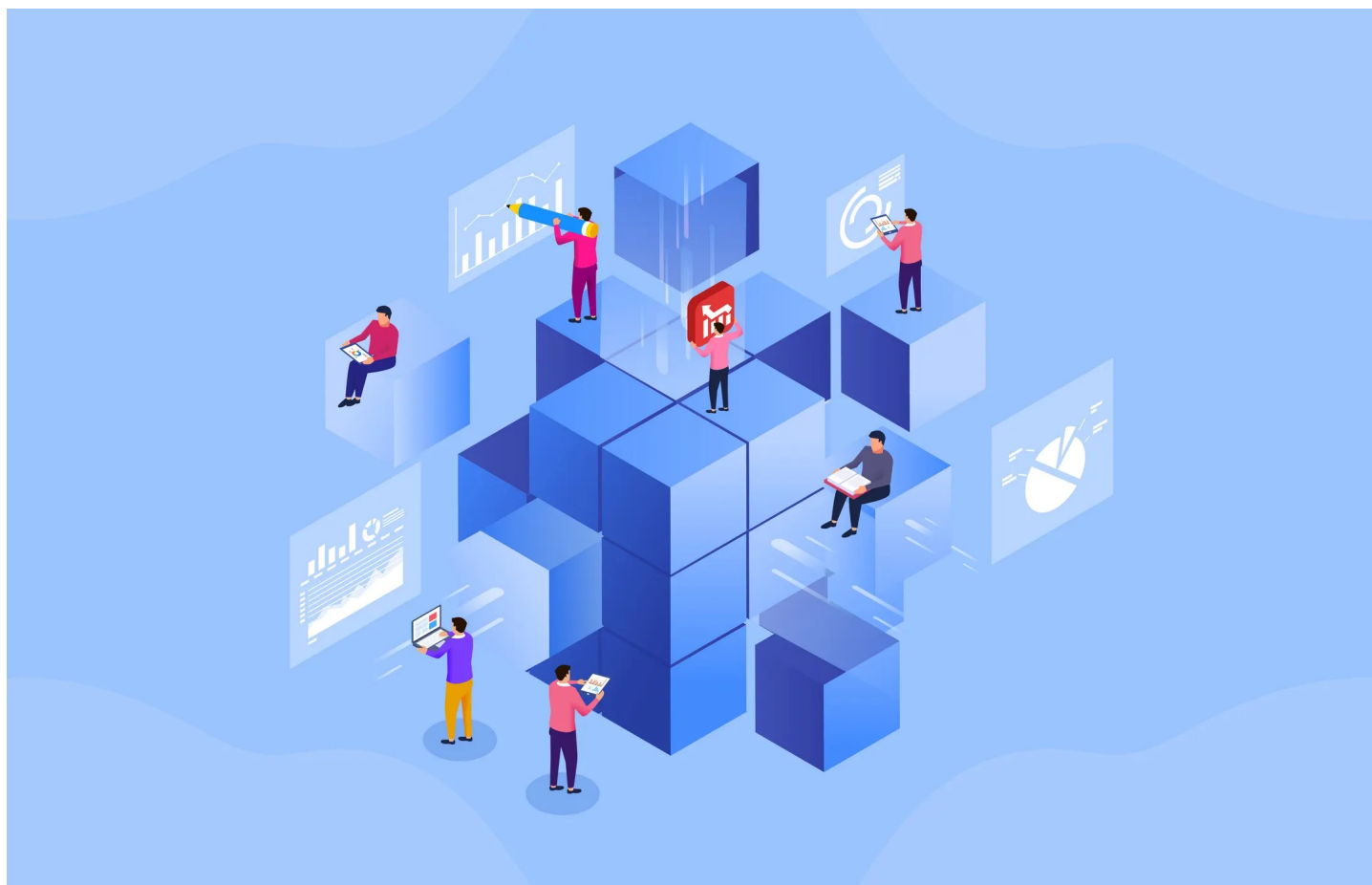
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Business process rationalization enables seizing the business opportunities

According to Terrence Brown, the respected KTH professor in Technology-Based Entrepreneurship, you can't cut costs to create business growth. The normative statement among strategy, growth, and innovation researchers is exactly what

Brown claims. However, there are exceptions to the general “rules” and they are always interesting. Here is one. It is my own story.

In this text, I will explain how a rationalization focus enabled Ericsson to grow its business and market share in the 1990s.

I worked at the multi-national telecommunications company Ericsson between 1989 and 2007. In the first years, I became an AXE software support specialist traveling around the globe upgrading telephone exchanges in live operation. I soon became an expert in the field, went into methodology and process management, and made a career. As a middle manager, in 1996 I switched to pursue various intrapreneurial projects full-time. By 1999 I changed completely and went into business development, the mobile internet business, management consulting, service product management, and pricing management. After 2007 I worked with Management Consulting.

Between 1992 and 1998 I, amongst other things, led three major improvement ventures all of which concerned the same well-defined business process.

Therefore, these ventures can be used to indicate the effect of different improvement approaches.

At first, we carried out a radical improvement work with the conceptual idea of a configuration product (1992–1994),

followed by an incremental improvement work according to TQM — lean thinking (1995–1997),

and last another radical improvement work according to BPR (1996–1998).

I will now describe these phases (A-C) with the different improvement approaches, from my own personal view as the leader in a STAR(E) manner, Situation, Task, Action, Result, Effect, to exemplify how a rationalization focus can enable business growth.

A. Ericsson case — Radical improvement work with configuration product 1992–1997

A. Part 1 — Invention 1992–1993

A1. Situation

The telecom market was in a state of deregulation. The number of customers to Ericsson was about to increase dramatically, from one customer per country, usually, the state-owned telecom operator, to up to about six privately-owned customers, telecom operators having or planning their own networks. In fact, the market exploded due to deregulation.

Each operator in each country had very specific, but briefly described, requirements on the system software as they all wanted to differentiate themselves on their market. Ericsson's processes were adapted to state-owned operators sending 40 binders with specifications. Suddenly, startups sent a one-pager asking for the system making them the most growth and profit. This entailed changes in product management. But other business process changes were even more demanding.

Ericsson's software system had hundreds of function blocks and thousands of parameters and data configuration possibilities. Every new application system had to be verified on all levels and in all details before delivery to the customer. Ericsson realized that with the current way of working it would become impossible to serve all customers, keep the market share, and stay competitive on the market. If it didn't do anything, it would be a disaster for the company. There were many ideas, they had all been tried and all of them had severe drawbacks. Nobody could see a solution.

A1. Task

The core problem was how to become much, much more productive while still being able to adapt and tailor the system to each customer's needs and wants. This really required outside-of-the-box thinking. The task was to solve how to produce and maintain tailored software systems using a standardized core system. The best solution lead was to do this using the same kind of methods as for system upgrades for systems in live operation. This was immensely complex. I became involved in the management team to crack the code. System upgrade was my responsibility. This was my task.

A1. Action

The complete improvement work was performed by different small teams at various functions of the company, in a loose network. It was a "garage work" with no special budget and no project leader. If it had been a formal project it would have failed on the doorstep. That was the culture. Everyone involved was working with this in

parallel to their normal work. There was excellent cooperation between product management and software system supply.

How did we do it?

What we did was to think completely differently. Simplified and conceptually, we created a configuration product that we called GAS, Global Application System. This differed from the earlier failed Product Line approaches in that all customer selections had been made, all parameters set and all data defined, just as if it had been a customer-adapted system. The GAS was an adapted product for a fictive customer and was well tested.

Then, to create a MAS, Market Application System, for a particular customer, we handled the changes, the delta, and this way an adapted system upgrade methodology could be used. By focusing on only the deltas, meant less adaptation work and much less testing. Other tricks were to use different product views, controlled modularity, and value analysis. Of course, we made sure this approach didn't cause any negative side effects elsewhere.

A1. Result

It took some years, but the result was awesome and in fact, truly amazing. This major improvement work became a success. Lead-time decreased instantly and permanently from, on average, 12 weeks to 6 weeks, and costs were reduced from, on average, 2 880 man-hours to 720 man-hours or about 250 MSEK in yearly permanent savings, just for the production part, at the organizational unit in focus, called AAA, where this change developed. And then in addition to that, the maintenance part gave similar figures. Then, the change was implemented at the other organizational units as well, gaining the same benefits there, which I show in sections A2 and A3 — Innovation and Deployment.

A1. Effect

While big markets such as Great Britain had large allocated Ericsson resources and actually were slow to deregulate, the markets in Asia, Africa, and Latin America (AAA) had not and were not. The effect of the GAS/MAS concept was that Ericsson-AAA managed to serve all customers, keep the market share, and stay competitive on the market.

The rationalization radically increased the production capacity and this meant that Ericsson could take on all the new players induced by the deregulation and accept

their orders.

The use of configuration products with reduced specification work and the refined production and test methodology reduced the lead time and meant that all customers got deliveries faster and could be competitive sooner on their market.

A2. Part 2 — Innovation 1994

A2. Situation

Our successful improvement work at the AAA unit got attention from other units within Ericsson who also wanted to gain the benefits. It also got attention from top management (I got a nice letter from the Ericsson CEO). But, this was a complex solution and documentation was rudimentary.

A2. Task

While still improving the GAS/MAS concept and using it successfully for all our customers at the AAA markets, the task was to propagate the concept also to other units. Somebody needed to drive and support the change process. It wouldn't happen by itself. A group was assigned to drive the implementation of the improvement work at Ericsson in all "silos". I got the drive and took on the challenge to lead this informally, as an intrapreneur and innovator.

A2. Action

We documented the concept, and we performed internal marketing activities. We described the criteria for successful implementation and enduring business benefits. We cooperated with many people in other units. We used the GAS/MAS concept for different types of AXE exchanges (local switch, transit, international, OPS, etc). This took about a year.

A2. Result

We provided useful and pedagogical documentation. We transformed the mindset of leading people at other internal units and prepared the way for industrialization.

A2. Effect

Ericsson AAA grew and improved delivery precision while all Ericsson AAA fixed-line public telecommunications customers enjoyed the benefits. The remaining parts of Ericsson Telecom got prepared for change.

A3. Part 3 — Deployment 1995–1997

A3. Situation

Some units in Stockholm used the GAS/MAS concept. However, all of Ericsson globally wanted and needed to gain the benefits. There was also a need for

improved product management and solution configuration.

A3. Task

The task was to ensure the whole company globally would gain the effects, the utility, and the value. A big project was needed and somebody had to make this happen. I took on this task.

A3. Action

I went up to a high manager and presented. I asked for resources and the best project manager I knew of and got him. The PLGAS project was formed. It industrialized and implemented the GAS/MAS concept and improved adjacent processes.

A3. Result

15 years later the new innovative concept was still valid and used globally within Ericsson.

A3. Effect

All Ericsson customers for fixed-line public telecommunications could enjoy radically reduced lead times for software, a value for them. With a great product and good supply and service processes, Ericsson could grow faster than the market.

B. Ericsson case — Incremental improvement work 1995–1997

B. Situation

Ericsson had introduced process management and the turn had now come to implement TQM, Total Quality Management, also in the software processes. TQM was then the trend or norm for quality work, just like LEAN has been lately (and these two concepts are in their core in fact very similar; they both build upon:

- a) doing right the first time
- b) add value to the customer without any waste
- c) continuous incremental improvements.

B. Task

My task was to build a unit to implement TQM in the supply and implementation processes, especially the system software production process. I already had management experience and experience building an organizational unit from scratch.

B. Action

Employ staff and start producing results!

B. Result

In two years, the software production process came down from 6 weeks for 3 FTE (Full Time Employees) to 5 weeks for 2 FTE, or from 720 man-hours to 400 man-hours. A quick break-even. This was the same process that we earlier rationalized from, on average, 12 weeks lead time with 6 FTE to 6 weeks lead time with 3 FTE, by the GAS/MAS concept. We also introduced global process management.

B. Effect

All global Ericsson units for fixed-line public telecommunications could enjoy best-practice operations.

C. Ericsson case — Radical improvement work with BPR 1996–1998

C. Situation

I had previously made this process come down from, on average, 12 weeks for 6 FTE, down to 6 weeks for 3 FTE, and with continuous incremental improvements down to, on average, 5 weeks for 2 FTE. In my own analysis, now was time to eliminate all of this work. It was still important. Although the fixed public telecom market had started to decline somewhat, there was a large volume demand for new customer adapted AXE system software packages, and the software production process was implemented and in operation in many markets worldwide. At the same time, competent telecom staff was needed for new areas. The software production process was still extremely complex and still required lots of resources and skills despite thorough work with continuous incremental improvements and new tools.

C. Task

As a middle manager, I had the vision of a press of a button instead of 5 weeks of hard work for 2 FTE. What we needed was not incremental improvements, what we needed was breakthrough improvements, some innovation of the business process. I assigned myself this task.

I had some ideas and I made an initial study on how this could happen. I made a business case. I went to the VP with this and asked for an initial budget of only 7 MSEK to do this. I felt confident I could make it. He said there was no money in the budget, but the market units would pay, so we flew in all the guys for a meeting, where he made them all agree to finance my project. I got the assignment to execute.

C. Action

I initiated, established, and secured a business process development project within customized software production. I re-engineered the business process using Hammer's Business Process Re-engineering (BPR) ideas. The first thing I did was to standardize the interfaces to adjacent processes. Then, after re-engineering the whole process, I planned the replacement of test plants by simulators, followed by the writing of requirements for the development of specially designed IT-support systems for automatization of the process. Actually, I specified the automatization of the management of the process — with error handling and service recovery (today we call this *process orchestration*). There were a lot of really tough technical issues to handle and problems to solve. Actually, this was an extremely complex and technically challenging undertaking. I employed a clever technical guy and hired a senior and very experienced project manager to manage the actual work together with me. While doing other things I supervised or actively monitored the work (as a steering group member) for a few years.

C. Result

Progress was slow at the start but we managed eventually to achieve not really one press of a button, but four (and only half a day lead time). It meant permanent net savings for Ericsson of at least 125 MSEK/year. Customers could benefit from almost instant delivery time for customized complex software systems instead of a waiting time of 1 1/2 months. This solution was in use until 2013 when it became obsolete due to product change.

C. Effect

The staff of global Ericsson units for fixed-line public telecommunications could be competence-wise transformed into new technologies. Ericsson could still profit from the old AXE proprietary system, to generate cash for investments in new technology, to stay competitive in the technical frontline, a prerequisite for growth.

Summary

Ericsson's pertinacious and successful three-phase process rationalization with a focus on radically

- reducing cost in one large and complex bottleneck business process, from, on average, 2 880 man-hours to 4 man-hours, corresponding to savings of between 250–500 MSEK per year,
- reducing lead time of this process from 12 weeks to 4 hours — please note that this particular business process was very well-defined and had the same starting

value object and the same ending value object, and gave the same customer value, over all of the years,

by using a series of three completely different improvement approaches

- out-of-the-box product handling using configuration products
- continuous improvement à la Lean/TQM
- Business Process Re-engineering (BPR) with automatization using simulated test environments

which led to

- improved customer delivery times
- improved quality and production value for the customer
- an increased production capacity by 4–6 times (during the first two phases A & B where this meant the most)
- freed resources and skilled technical staff made available for new technology ventures
- the disappearance of boring test jobs

which in turn enabled and gave the following Ericsson business benefits of

- being able to take on new customers and accept new orders
- better customer relationships
- increased turnover and business growth (for sure in relative terms)
- increased market share

Conclusion

Terrence Brown was wrong ;-)

Without the cost-cutting and the BPR approach, Ericsson wouldn't have managed the market demands and grown its fixed telecom business during the 1990s. The deregulation of the telecom market was fast and there was no time to build resources, regardless of readiness with dynamic capabilities.

There is a need to innovate the business processes, also by rationalization, to be able to seize the business opportunities.

I claim that Ericsson saved a billion SEK and at the same time increased the revenues even more, by the innovation and the rationalization of this internal business process. However, this can hardly be proven in accounting. Also, in a large organization like Ericsson, it is not possible to formally prove the causality between results and effects.

I am the only person that worked with all three phases. I don't think there is one single person that fully understands what happened, but me. No one in the management team back then fully understood how much we managed to squeeze the process or what that led to. There is nothing else written or published about these improvement ventures, apart from the text you are reading right now. I wish to mention that this is one of the business development journeys that I am most proud of in my professional career. It doesn't matter I never got credit for the effects and business benefits, or even some of the results. That is not important. I know what I did.

What is important now is to learn from how we performed the various process efficiency improvements, and to understand what kind of results and effects they might give in other cases. That's why I wrote this article.

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