ECHOES OF
THEORY OF CONSTRAINTS

A collection of stories, articles and white papers related to the
__Theory of Constraints (TOC)__ from leading TOC experts and academics

Collected and Presented by Rajeev Athavale

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VOLUME 2

The Echoes of Theory of Constraints (TOC) - Volume 2

A collection of stories, articles and white papers related to the Theory of Constraints from leading TOC experts and academics

Rajeev Athavale

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Contents

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This book is dedicated to

DR. Eliyahu Goldratt

"I smile and start to count on my fingers,

One, people are good.

Two, every conflict can be removed.

Three, every situation, no matter how complex it initially looks, is exceedingly simple.

Four, every situation can be substantially improved; even the sky is not the limit.

Five, every person can reach a full life.

Six, there is always a win-win solution.

Shall I continue to count?"

Preface

I am very happy to present this eBook "Echoes of TOC" to you. Let me take this opportunity to share with you my thoughts about this eBook:

Why this eBook? What inspired me to think of it?

On the other day, I was searching something on my computer. I was looking for an excellent story about how measurements drive behaviors. My impression was that my folders are well-organized and I will easily find the article and the story that I was looking for.

However, to my dismay, I could not find it - even today, while I remember the story, I don't know which article carried it.

This was quite upsetting.

The silver-lining was that, during the process of searching, I discovered many good articles that I downloaded over the years and I felt good about it.

It took me down the memory lane. It all started, as it happened with several people, I accidentally came across the book "The Goal", and it changed my life. Like everybody else, I went through the other books written by Dr. Goldratt. As you know, most of his books are in story form.

Then I wanted something that tells me in detail what TOC is and how to go about it. So I started searching on the net and I came across many websites, white papers and articles. I downloaded many of them, from time to time and studied them.

During this process, I did not realize when I become passionate about TOC. I changed my career and got into TOC fully.

Training programs, books, videos etc. are great sources for learning TOC. However, it is difficult to go through them again and again. No doubt, that they build the knowledge. Getting practical experience helps to capitalize on it. But it is the articles, stories and white papers that help to sustain and enhance the knowledge so gathered. It is like learning from somebody else's experience.

So, I downloaded many articles and stored them safely on my hard disk. Even today I refer to them and enjoy reading them again and again.

Although I have a treasure of articles, there were occasions when I could not locate a specific article or some story or some example on my computer; so I searched for it again on the net and in many cases, I could not find it.

I realized that I have spent huge amount of time on the net to reach these articles and if I don't preserve them systematically, I am going to lose them.

So I was asking this question to myself: What am I going to do about it? Do I want every other individual to hunt for them to gain better understanding of TOC? But then it requires lot of time and patience.

More than ever, I felt the need to preserve and make available valuable TOC related creations. Over the last thirty years or so, many TOC experts have published several excellent creations on

their websites, blogs, Newsletters, Books etc. They are all scattered. There is a risk that with the passage of time, we may lose these creations and with them we deny opportunity to people, to understand well, many TOC concepts.

I started thinking. Had these articles not been there, my learning about TOC would have remained incomplete. Even today, I feel like referring to them. The chances are, with the passage of time, these wonderful creations may get lost on the net. Even today, they are not easily reachable since they are all spread across the net. They are hiding in numerous websites, Blogs, Newsletters, Wikipedia, books etc.

When I come across new articles from time to time (though they were written many years ago, but I discovered them now), I realize that there is a huge hidden wealth of TOC knowledge. Somebody needs to bring it out.

It would be worthwhile bringing them together in a form of a book, preferably an eBook.

So I decided that I am going to do something about it. I will collect all such articles and publish them in the form of eBook.

So the germ for this eBook got inserted in my mind.

The Journey

So I got started.

I gathered the articles that I had. I made a list of authors who wrote them. I also made a list of authors who I believed could contribute.

However, one question was bugging my mind.

Why would authors allow me to use their articles?

Am I going to buy the rights from them? If I want to buy the rights, then many authors may not want to sell, it is difficult to set a price and it could mean some investment from my side. I have zero experience in such deals. After all I am not a professional publisher.

If I want them for free, I need to find an answer to the question: Why would they allow me to use their articles free of charge?

One thing came to my mind. Most of these authors have expressed gratitude towards Dr. Goldratt. So I had a feeling that if somehow I could use their articles in some way to promote the cause of TOC, perhaps the authors will gladly agree.

But how? I was restless.

Then an idea came to my mind: What if I share the major part of the royalty to one of the trusts created by Dr. Goldratt or his associates? Eureka! The authors may agree since most of them have expressed a sense of gratitude towards Dr. Goldratt, so hopefully, they would not mind if a fair percentage of royalty is shared with any of the trusts created for promoting TOC.

But do the trusts need money? I decided to try with one of them. I approached Carol Ptak of Goldratt Foundation with the proposal. And fortunately, she agreed! She agreed to receive money on behalf of Goldratt Foundation!

I agreed with Goldratt Foundation that out of royalties that will be due out of the sale of this eBook, after deducting the charges levied by the website, I will share 70% of the royalty with

Goldratt Foundation. By the way, I have chosen www.leanpub.com for publishing this eBook and their current charges are 10% of the selling price plus USD 0.50.

So I got a good reason to put forward to authors for requesting for their contributions. I was wondering whether there are some more good reasons for them to contribute and I discovered a few:

1. It is a nice way to pay tribute to Dr. Goldratt.
2. Their creations are preserved for a longer period of time.
3. Such eBooks may enable them to reach more and more people.
4. By way of contributing to the eBook, their creations are used to help people understand TOC better.
5. Their one-page information will be included in the eBook. It may help them in some way.
6. They will receive a free complimentary copy of the eBook where their creations are published.

With these things in place, I decided to go all out.

I used the places where most TOC people flock. Places like Linkedin Discussion Groups and Yahoo TOC sites. I wrote there and appealed to people.

I wrote to the authors whose articles I already had and asked for their permission. I also wrote to many of my Linkedin contacts and requested them to contribute with their creations.

I patiently followed up and most authors obliged. Many others wanted to contribute, but could not keep the desired timeline. Few bowed out for some reason or the other.

Articles started flowing in and I got buried under them!

My initial expectation was that I will have about 40-50 articles, I will choose some of them and will produce an eBook of about 150 pages.

To my surprise, I received more than 100 articles! Out of that, I shortlisted 80 articles which I believed to be a "MUST" for the eBook.

Then I had another problem. If I were to process all 80 articles, it would take huge amount of time. Also, it would be an eBook having about 500 pages! Too much to read. So I decided to break them in two volumes of 40 articles each.

It was not only the volume that bothered me. My problem was how I am going to organize the eBook so that it is an easy read for people.

Since I was not expecting so many articles, I started grouping them based on the various TOC topics, as and when they came in. Some topics had many articles, some had fewer.

So I thought that I will put some topics in Volume one and the remaining in Volume two. But then the question was: Is this a onetime activity that I am doing? Will I not want to come out with Volume 3, if this idea appealed to the people? Have I really captured all the articles that are worth preserving? Do I mean that no new articles will ever be written?

There was only one answer: "NO".

In that case, it is obvious that I cannot group them topic wise and let the topics spill over multiple volumes.

But then, how do I organize the articles? The answer depends upon what I want.

What do I want?

I know what I want, but I must take the pain to verbalize it.

I want people to read this eBook. But the question is: Who is my target audience?

I thought over it and my answer was:

I expect different categories of people to read and refer to this eBook.

There are TOC experts who would want to read, refer and give pointers to their clients for reading.

There are TOC Enthusiasts who would want to read and enjoy the articles.

There are managers and implementers who would read this book to strengthen their concepts and reinforce what they learned in the past.

There are fresh MBAs who are learning TOC and would want to benefit by learning from somebody else's experience.

There are trainers who would want to benefit by telling the stories that they will find in this eBook.

All these categories of people should find this eBook interesting to read. It needs to be sequenced in such a way that every time they refer to this eBook, they should find something interesting. The eBook need not be read in sequence. People may look at the Table of Contents and would choose what they want to read today depending on their mood at that time.

So you will find a basket of articles, full of variety sprinkled across the eBook. There are serious articles, there are short stories and there are crispy dialogues.

If you open the eBook every day, you should be quickly able to choose a different variety of writing styles and topics. And this is precisely how the eBook is organized.

I want some nice stories – short and crispy, that convey one or more TOC related point.

I want something easy to read and understand for the range of novice to TOC to experienced TOC people.

I also want some thought-provoking writings that illustrate some finer TOC points. What I am aspiring that the eBook should have an eclectic mix of styles.

I want some apparently insignificant details that may not be very explicit in the TOC BOK, but that if overlooked, could have a very negative impact on a TOC implementation.

I want short as well as some long-running articles.

I want the stuff that would interest everybody.

I want to make TOC more understandable, reference able and quotable to different people – TOC Experts / Consultants, Aspiring TOC Practitioners, Internal TOC Practitioners (i.e. business improvement people), TOC enthusiasts, Academicians in Management field, Business people, Managers and MBA/other students.

There should be something for everyone. It should not be focused only on one segment. At any given point of time, many people will be there in different knowledge category ranging from "Heard something nice about TOC" to "TOC Experts". People will keep moving up this ladder. This eBook should serve them as a walking stick as they climb the knowledge ladder.

The eBook should give either "some food for thought" or "a thrilling experience" or some kind of enlightenment that provokes thinking and probably some action.

It should be an eBook to be read along with a cup of coffee – an easy read (Call it taking a few bytes of TOC Cake or get a taste of TOC or have some TOC Nuggets or TOC Chips!) – go through an article or two at a time, may be skip few and then come back and continue reading. Revisit some articles again and again. Refer them to others. Discuss with friends and colleagues. Ask questions - Why and why not?

Let people read an article a day, take it like a daily dose of TOC-tonic and then go to their work with added energy.

People should be able to identify a "Take Away" almost every day by reading say one article every morning and ponder over it during the day. One should get an insight into the wonderland of TOC. The eBook should demonstrate "The Logic and the Magic" of TOC in a simplified way and in small doses.

This eBook should become a "must have" in the world of TOC.

There are many things that are happening to make TOC the mainstream to run businesses. Perhaps, this eBook could serve that purpose in a small way. Probably, it should help to sustain "TOC Thinking" and help people to keep away from falling back to their "old habits".

By reading this eBook, the word "TOC" should "Echo" in people's mind and reflect in their actions. It should be a great source of energy for the people who breathe, eat, walk and sleep TOC.

My Team

Initially, when I was struggling with the idea, I was lucky to have an Advisory Board consisting of Jim Bowles, Mike Dinham, Rudi Burkhard and Philip Marris.

Jim and Mike had helped me with my previous eBooks. The idea got kicked off with Rudi in one of his Linkedin discussions. Philip is my Linkedin friend for a long time.

After I got started, various authors joined me by granting their permission for the articles and by sharing other articles. The team grew rapidly in a short period of time. Today, I am in the company of 28 authors!

Thereafter, the conversion work started and I was on a team that could be described as:

I had a little tea party

Yesterday afternoon at three.

It was very small three guests in all

Just I, Myself and Me.

Myself ate all the sandwiches

Whilst I drank the tea.

It was also I who ate the Pie

And passed the cake to me.

What a wonderful team!

I converted all 40 articles and checked them. At the end of it, I was getting tired. There were many small but important things to do and I was running out of my patience.

Suddenly, help came out of the blue!

Gary Bartlett not only helped me to verbalize my intuition about this eBook but also offered to help me in carrying out my pending tasks. He was willing to help with almost all of them!

Justin Roff-Marsh also offered some help.

Dr. Alan Barnard, on his own, created four cover designs for this eBook and gave them to me on platter.

What a relief!

It was not only a relief from work but also gave me energy to run the last mile.

I have no words to thank these people for offering help. A nice gesture. I will remain indebted to them.

I will be failing in my duty if I don't write about the generosity of the authors who willingly shared their articles and helped me to enrich the contents of this eBook. It is their kindness that this eBook is seeing the light of the day.

I am also thankful to www.leanpub.com for creating such a wonderful publishing site.

And here is this collection ready for you. Enjoy "Echoes of TOC"!

Rajeev Athavale

GOLDRATT FOUNDATION

Carol Ptak

Growth – Stability - Harmony

Overview

The Dr. Eliyahu M Goldratt Foundation is a non-profit organization organized exclusively for charitable and educational purposes to fund fellowships and grants to innovate practical applications and broaden the advancement of knowledge of the Theory of Constraints (TOC). Dr. Goldratt's life goal was to teach the world to think and to make TOC the main way to manage organizations.

The Goal

The Foundation wants to increase the awareness of TOC potential, increase the credibility of the TOC processes and generate excitement about TOC through new, significant successes. The process of on-going improvement is best served when TOC extends its application into new domains, improves its implementation methods, simplifies its tools, widens its applicability, deepens the understanding of TOC principles and applies its tools to achieve important social goals.

History and Board of Directors

The Goldratt Foundation was founded in 2011 during the TOCICO (Theory of Constraints International Certification Organization) as a way to ensure that new TOC knowledge would continue to be developed and this knowledge would be applied to create a difference. The foundation was the vision of Sanjeev Gupta, CEO of Realization Software. Realization donated $54,000 to initially fund the work of the foundation. Elwood City Forge made a large donation in 2012 in appreciation for what TOC has done for their company. The balance of the funding has come from small individual donations. The TOCICO provides all administrative support as a donation to the foundation.

Currently the Goldratt Foundation is chaired by Rami Goldratt (Dr. Goldratt's son). The chair elect is Dr. James Holt of Washington State University. Other members of the board include Alex Knight, Christoph Lenhartz (current chair of the TOCICO) and Dr. Alan Barnard. The board is responsible for identifying the types of projects to be funded. In 2012, the focus was on the development of new TOC knowledge. There were many submissions and the final winner selected at the TOCICO 2012 conference was Dr. Boaz Ronen, Dr. Shimeon Pass and Dr. Shany Karmy for their application of TOC to the Justice System in Israel. The visibility provided to this work through the foundation afforded Dr. Ronen the opportunity to travel to Lithuania and describe the solution that worked so well in Israel to all the justices in Lithuania including the chief justice.

About the 2013 Goldratt Foundation Scholarship Fund

The Foundation recognizes that significant financial limitations can limit or block some innovative development of the TOC body of knowledge or delay applying TOC in social, educational, and other humanitarian areas. The Dr. Eliyahu M. Goldratt Foundation provides grants to accelerate projects that have demonstrated expertise, desire and opportunity to apply the Theory of Constraints. These grants are provided to encourage continual development, ease of implementations and expand TOC into new areas. The grants are awarded annually in areas of high interest to the TOC community. Applications that use TOC to improve and extend other proven (non-TOC) solutions, to support social goals or to address significant development of current TOC proven solutions are encouraged. The applications received include the application of TOC to address gang violence in Mexico, teaching critical thinking tools to school children in the Philippines, development of leadership in Peru, TOC education on TV in Israel, and intervention in non-performing educational systems in Israel.

Supporting the Goldratt Foundation

The Goldratt Foundation would like to thank the developers of this eBook for the donation of the book proceeds. The foundation has not reviewed and does not endorse any of the concepts or writings in the book. If you are interested in making a donation to the foundation please go to www.tocico.org website or click https://tocico.site-ym.com/donations/donate.asp?id=4949. There you can make a general donation or a donation specific to a project.

Agile and Critical Chain

Rob Newbold

Introduction

Nowadays, agile software development techniques routinely bring a number of important benefits to software development organizations. By focusing on frequent iterations (short-term code releases), the cycle time for certain key aspects of development is shortened. This shortens distance between developers, who are creating code and features (along with bugs); and customers, who need working applications to solve real-world problems. Rapid communication (e.g. through co-location) allows faster responses to changing situations. Intermediate releases can even be delivered to customers to provide critical features more quickly.

Some say that agile is fundamentally at odds with critical chain scheduling because they incorporate fundamentally different approaches to planning. With agile, the emphasis is on flexibility and – well – agility. Things change. You prioritize features and plan iterations, understanding that plans may shift at any time with shifts in risks, business needs, customer requirements, and technology. With critical chain you create longer-term activity networks that are, typically, resource loaded.

Boehm and Turner make a strong distinction between plan-driven and agile methods. This implies a full-blown conflict: do you plan, or are you agile? The authors present ideas for creating a balance between agility and discipline, which sounds like a good idea but also raises suspicions of compromise. I suggest that the reality is not "either-or." There are no conflicts between critical chain planning and agile, but there are myths. I'll talk about a couple of myths and suggest an approach for using critical chain scheduling in an agile world.

Product Development Projects

Eli Schragenheim

Guidelines for assessing the potential of a new products and the planning of various features in a project

Abstract

There are three problematic decision-areas in project management where TOC should have a major influence:

1. How to choose a project?
2. How to choose the specific features for a given project.
3. How to manage the project timeline and execution?

Currently TOC has developed a detailed technique only for the third area. In the first part of this paper the scope that TOC should be developing in the future is discussed, especially issues that belong to the first two categories.

In part 2, the paper presents some guidelines for assessing the value of new technology. This issue is an important part of the first category of critical decisions in project management for organizations that develop new products or new technologies. The paper will be based on the six questions about the value of new technology developed by Dr. Goldratt (see "Necessary but not Sufficient"). Beyond assessing the value, the guidelines could lead to better focusing on developing the right features (category 2 of the critical decision areas), and should have a lot of impact on the marketing of the new products based on the new technology.

The six questions lead to the analysis and reduction of the current limitation, the new technology identifies the current policies and behaviors that help to overcome the limitation and the future policies and behaviors required to produce the most value. The author expands the scope of the six questions to the development of new products.

Part 3 deals with the question of whether to include in the initial planning of a project all the features to be included in the project. The paper suggests making a clear distinction between must-have features, which without even one of them there is no value to the project, and the nice-to-have features. The paper suggests delaying the decision about which nice-to-have features to include to the latest time within the project itself that still allows the inclusion of the considered feature.

Sales forecasts: hocus-pocus with a dollar sign!

Justin Roff-Marsh

The problem

The emergence of *cargo cults* on some Pacific Islands after World War II is an amusing and oft-repeated story.

The relatively primitive lifestyles of these islanders were interrupted by Japanese aircraft dropping large supplies of clothing, medicine, canned food and tents to support the Japanese war effort.

Some of these supplies were shared with islanders, in exchange for their assistance.

After the war, when planes and their valuable cargos disappeared, some islanders took to imitating the *rituals* they'd observed the Japanese performing. They carved headphones from wood and wore them while sitting in fabricated control towers. And they waved landing signals while standing on abandoned runways.

I've noticed the emergence of a similar *cargo cult* in organizations in recent years particularly those organizations that sell *major* products and services.

Sales departments have observed a rapid evolution in the performance of their organizations' operations departments. They've seen outputs increase by orders of magnitude. And they've seen quality and on-time performance improve by similar degrees.

Of course, sales departments have also observed that these performance improvements have been accompanied by an increase in the usage of mathematics in operations - and, particularly, an increase in the role of statistics.

Sales departments have taken to imitating these *rituals* - in the hope that they will have a similar effect on the performance of their departments. Increasingly, we're seeing mathematical models, sophisticated databases and business intelligence tools being applied in the pursuit of greater (or more consistent) sales results.

Systemic TOC

Gary Bartlett

My story

I stumbled on Critical Chain in 1997. It blew my mind! I read everything I could on TOC. Did a Jonah Programme. Applied TOC to everything. I'm sure you had a similar experience!

I thought that TOC was the solution to everything, but when I set up a TOC management consultancy, I found that the TOC Thinking Processes were beyond the reach of the average corporate exec.

So I set about simplifying them to make them more accessible – both as methods and as insight communicators. In the process, I came across other methodologies, like Systems Dynamics and Systems Thinking; TRIZ and ASIT; NLP and Tony Robbins; Lateral Thinking and Creative Thinking.

At first I tried to integrate simplified versions of them into a single method, but this made the method complex, demanding and inaccessible once again!

One day it dawned on me that the methods have more in common than in difference. They follow the same basic pattern and focus on slightly different perspectives of the same fundamental reality.

This led me to wonder if similarity is invisible, in general, unless you're specifically looking for it. Imagine my surprise when I discovered - as I hope you do now - that there is similarity eveywhere, hidden in plain sight: but you will only see it if you look for it!

The Corporate Team and The Theory Of Constraints

By Tony Rizzo

Everyone, it seems, agrees that teamwork is a good idea. Certainly, the owners and coaches of athletic teams believe it. And, undoubtedly, so do many of America's corporate executives and managers. People are more effective when they function as a team than when they behave as a collection of isolated individuals. Teamwork is a very desirable behavior among individuals with a common goal.

But what about corporations? If teamwork is a terrific idea with individuals, is it not a good idea when it comes to organizations? After all, aren't corporations really nothing more than teams of organizations? According to the Theory of Constraints, they are. The sales department can make a sale, but without the cooperation of the distribution department the customer would never get the product. Without the collaboration of manufacturing there would be no product to sell. Without the timely contribution of engineering, manufacturing would have nothing to build. So, yes, teamwork among the organizations that form a corporation is not only desirable, it is an absolutely necessary condition for success.

But, if there are similarities between, say, professional sports teams and corporations, then there are also differences. In the case of the corporate team, no one is on the bench. There are no extra team members. The corporate team includes only those organizations that are absolutely necessary for the corporation to compete successfully. For example, there is no second sales organization waiting for its chance to enter the competition. There is no back-up manufacturing plant warming up as it waits to enter the market. The competitive corporate team includes only the organizations that are necessary and sufficient for the corporation to compete successfully, because the cost of having replacements would be an unbearable burden for the rest of the team.

Is this a problem?

The Negative Consequences of a Conventional Supply Chain

Henry F. Camp

"We can't solve problems by using the same kind of thinking we used when we created them."

– Albert Einstein

Introduction

This paper explores the cause and effect relationship between problems that exist in modern supply chains. More than that, the fact that these negatives actually spring from a single misunderstanding in our thinking is revealed. Then, to provide focus and shed light on the relative importance of these issues, an example is given that quantifies their financial impact. Knowing the central cause and having a strong incentive does not yet guarantee that we are on a path out of the woods. Since most people follow "the rules" without seriously questioning them, we must think deeply about how to gain buy-in in order to permanently change for the better.

A list of Evils

If you ask people in lots of companies, your ears will tune into a perpetual refrain. Different people in diverse industries use various words but, conceptually, the meaning is consistent. The following list is comprised of some of the most common.

- *Not Enough Profits*
- *Not Enough Time in the Day*
- *Disposals*
- *Carrying Costs*
- *Shortages*
- *Costs Too High*
- *Inventory Promotion Sales*
- *Plant Rescheduling*
- *Returns*
- *Too Little Cash*
- *Operations Disrupted*
- *Surpluses …*

The Problem with Making Choices

Ted Hutchin

Over the past twenty one years I have worked with many people, in all manner of organizations with all manner of problems and issues, to help them resolve those issues and move them forward using the Theory of Constraints (TOC) approach. It might be reasonable to think that they were all very different, thus allowing me the opportunity to use the full range of the TOC Thinking Processes (TOC/TP) to best advantage, but you would be wrong! It was the recognition of this that led me to write my book *"The Right Choice – Using Theory of Constraints for Effective Leadership"* where I describe the process that can often help people to make better choices – but I am getting ahead of myself!

What my time researching the book showed was that many times the ability of people to help their organization, their team or indeed themselves move towards the goal almost always came down to their ability to make *the right choice.*

What exactly do I mean by that? Well….almost all of the people I worked with were trying to work their way out of problems and issues – some were personal, some were related to the team they were working in, some were related to the organization they were working in, and some were a combination of all three!

All were asking the question **"Can we make the right choice?"** but alas, the answer was usually **"Not really"**!

OK, so what to do?

Well, if you are faced with having to make a choice in your life, with your team or for your organization, how are you going to approach it? Some people put off the time to make the choice; they would say "Come back when I have more control" or "I can't deal with what you have to offer right now, come back later."

The Project Management Top Ten

Martin Powell

The Top 10 Erroneous Paradigms *of Project Management*

1. *Culture and behaviors are the cause of poor project management results and must be fixed first*
2. *The sooner we start the sooner we will finish*
   a. *Start projects as soon as they are "awarded/assigned"*
   b. *Tasks - when you are missing one of several inputs for a task, the best course of action is to proceed as far as you can immediately*
3. *Multitasking is the most efficient use of resources*
4. *People can determine the right priorities for a project from their local view*
5. *The more detailed and the precise the project plan the easier it is to control*
6. *Including safety at a task level is the best way to protect a project*
7. *We are not allowed enough safety to cover for all the uncertainties*
8. *% complete is the best estimate of the progress of a task [task content and task duration are equivalents]*
9. *The most effective way to synchronize execution is through many meetings*
10. *Sponsorship of change is the main thing that we need from senior management*

Role of the Transition Period In TOC implementations

Eli Schragenheim

Introduction

In several of my courses in TOC in Production for consultants, I've used a fictional case-study concerning the implementation phase of simplified-drum-buffer-rope (SDBR) at a manufacturing company. The participants had to respond to the description of the current state of the implementation as if they were the TOC consultants for that company. The relevant facts were that the company had started to implement SDBR two months before, including choking the release of orders. Due-date performance went up, but both the plant manager and the production managers were concerned that several of the work centers were sometimes out of work for several days. The question I asked the participants was how would they handle the concern?

All the participants answered that they would explain to the managers that this is a normal occurrence, due to the fact that those work centers are not the capacity constraint resource (CCR).

Then I asked the participants "are you sure?"

This question quite surprised the participants. From their perspective, such an effect is absolutely expected. Those work centers definitely have excess capacity, so why should an effect that they have several days without work surprise anybody? Why should this possibility be considered to be a problem in the implementation?

To Forecast or Not to Forecast

Rudolf Burkhard

The question is when should I forecast and when am I better off not to?

Man has Always used Forecasts

Maybe Adam and Eve did not. After all God made sure of plenty in the Garden of Eden.

However, as soon as God threw them out of his garden Adam and Eve discovered a problem. They were forced to hunt and forage for food in order to survive. It seems almost certain that when Adam and Eve had killed and foraged enough for a period of time they would relax and rest, safe in the knowledge (a forecast?) that their food would last long enough. Not only this, they also had to learn where their prey would likely be and when fruit and vegetable would be available for them to pick. They soon became experienced and used their experience to forecast and plan their future activities.

As time passed life became more and more complex as people specialized into different jobs – the farmer, the wheelwright, the carpenter etc. They all became dependent upon each other and they all needed to understand their neighbours needs and requirements – a forecast of demand. Men tried to sell their goods in exchange for money or for other goods they might need for their business or private life. Very early on man suffered from surpluses and shortages. Even then, before statistics and computers people were forecasting – the desire for a crystal ball was born very early!

Today we of course still rely on forecasts to decide on many things – including what to produce or ship to a distribution warehouse NOW. We also need forecasts to determine what we need to buy to meet the demands of next year – especially when there are long lead-times involved.

For all of us the question, "What should I do NOW?" is a question that comes up many times every day. Some are easy to answer because whatever we decide to do does not matter, but very often the decision has significant implications if we make the wrong one. This question would not exist would we know what the future holds.

What to do now?

Stefan van Aalst and Chris Hans Dirks

Applying steps 0 – 3 of the Focusing Steps

The Situation

Picture yourself a business unit in a large company. Not a big business unit, but still responsible for putting new products into the market. That is, to create and invent the IT/TI facilities to implement the ideas of the customer — other business units. The creation and invention of those IT/TI facilities is done managed through projects.

To do so, a number of highly skilled resources are available. Yet, like in any business unit the capacity of these resources is limited. Especially after the large reorganization that took place a month ago. Not only resulting in a significant number of job losses, but also putting a stop on expanding resources for at least the coming six months. Suppose that after this reorganization you are put into the position of the business unit manager and it is up to you to make a difference. The objective given to you is simple: increase the speed at which the projects go through your business unit, increase the number of projects per year, and stay within a certain profit level to do so. The rest is all up to you.

Usually a new guy on the block is allowed to make changes, but you are even luckier. Due to the reorganization, the business unit is still out of balance thus making changes is therefore even easier. In other words, you can change just about anything you want in how your business unit is organized, operating, and managed. As long as all the projects given to you flow nicely through your business unit.

You have a clear vision of how the projects must flow through the business unit. You feel that with good project business cases (including project networks) and Single-Tasking the productivity of the business unit will be much higher.

The above vision is formed out of your experience and understanding of projects. From experience you know what happens if projects are 'dumped' into an organization without a good project business case. Quite often the wrong deliverables turn up, or things were not done that needed to be done at least weeks ago. Also you have now come to the conclusion that Multi-Tasking is a real killer — not only increases Multi-Tasking the lead-time of projects, it reduces the quality, makes it much more difficult to manage, and puts the whole business unit in a constant state of unnecessary stress and emergency.

But — there is always a "but" of course — how to make it happen?