Throughput Accounting Knowledge Work

Agile Center of Excellence Managers, Project Managers & Agile Coaches

"In most companies, the prevailing Mental Model is that the more you improve anywhere the better the resulting performance. In fact, this idea is so widespread that improvement initiatives will be fired at everywhere there is some targetable action in the process. This kind of behaviour only leads to the creation of permanent layers of overhead costs that are permanent in nature, invisible to the analytical eye and irreversible by even the most astute."
Daniel Doiron from the book 'Tame Your WorkFlow'

This **Throughput Accounting** course focuses on invisible work that we encounter in agile Project management, marketing, software engineering, sales, communication etc. Your current decision-making process will always be optimal if you aim directly at the constraint of your systems – which dictate throughput – and leveraging the teachings of Throughput Accounting in your daily life. Hitting the constraint by happenstance or consistently is the difference between witnessing dismal results or never being a day late and a penny short.

This class will align the pendulum on agile project execution with modern thinking, trace a new perimeter and draw a few lines in the sand regarding how we can make money in Knowledge Work while abiding to the agile tenants of motivation, social engineering and behavior alignment.

Throughput Accounting is a lot of things:
- an accounting system,
- a financial application,
- an improvement initiative – POOGI – **P**rocess of **O**n-**G**oing **I**mprovements and,
- most importantly, the decision-making arm of Dr Eli Goldratt's Theory of Constraints.

Deep understanding of causality and the 5 Focusing Steps is essential in being successful with Throughput Accounting.

This class focuses on adopting new mental models and letting go of cognitive biases. It is inspired by Pattern Theory and will not change the way you work with concepts such as scaling or classical management tactics such as new roles, responsibilities, responsibilities, artefacts, ceremonies, principles, values, maturity models, frameworks, methods etc.

Is this for you?

- Are you constantly building consensus on your way to reach decisions? (Once you are aware of the constraint in your system, unanimity-based decision making is more agile and is easily reached)

- Are you aware that costs away from the constraint are often time not relevant? (In this class, you will discover how to apply the 5 Focusing Steps of the Theory of Constraints to the constraints in the Work Flow, Work Process and Work Execution.)

- Conventional accounting and Lean try to optimize flow by leveling capacity, which is a costly proposition and based on flawed mental models. (This is a costly and flawed mental model. In this course, you will see that reducing WIP is the only way to enable flow and will discover how to instrument your boards accordingly!)

- Are you dreaming of the day when all employees will think alike and make the right decisions all the time? (Throughput Accounting is a system's approach that leads to decentralized and autonomous decision making. Understanding causality and Inherent Simplicity when making decisions at the product, team, project or division level is a great advantage and allows you to compete on the time axis)

- Are you spending money on Continuous Improvement initiatives and seeing your fixed costs explode with little to show for? (Improving the system away from the constraint will create additional and permanent layers of costs that will never go away.)

What will you learn? Day One

How do the great thinkers (Ford, Ohno and Goldratt) treat inventory? As a liability, not an asset! Inventory is simply an asset in all traditional accounting models. Ford, Toyota and the Theory of Constraints think otherwise. The 5 Focusing Steps are foundational to Throughput Accounting and will occupy a lot of space on this course. They consist of 1) Identifying, 2) Exploiting, 3) Subordinating, 4) Elevating the constraint with of course the fifth step being to not let inertia become the constraint by not revisiting the first four steps regularly as the constraint may have moved.

When and How to apply Wait Time and Touch Time strategies on your path to Hyper Performance and enhanced Operational Throughput: Changing the way we work – Touch Time - before having reduced Wait Time and Multi Tasking in our Work Process to a maximum is a costly proposition. Using Little's law as a driver towards more operational throughput and divulging the paradox between those who use Little's law in a probabilistic context (STOCHASTIC - QUEUING THEORY) or a Theory of Constraints approach (DETERMINISTIC- OPERATIONS MANAGEMENT). Since Knowledge Work is invisible, how do we exploit the constraint without seeing it? That is the question! Throughput Accounting principles will be explained as they are essential to take us away form the cognitive biases of traditional accounting's flawed mental models that are deeply rooted in the fabric of society.

Decide Where and How to Improve: Wait Time and Touch Time reductions have both limitations and risks. In this section we will explore when to act on a non-constraint (maybe to elevate the constraint?). This section will also present two models to teach you HOW to go about your improvement initiatives. Using the Improvement Model of your liking is great and learning how to use it at the constraint will guarantee success after success!

Constraints in Knowledge Work – The Jungle, The Jeep & The Journey Metaphor: There are three constraints in Knowledge Work and they are related to the 'Work Flow - Things that come towards us', 'Work Process – The way we do things around here' and 'Work Execution - Things that happen'. As a first in Knowledge Work, you will learn on to apply the 5 Focusing Steps and learn how to deal and address Common Cause and Special Cause variation.

Throughput Accounting: Culture, Complexity, Decision Making and Focus: Culture is a reflection of a company's system. And accounting systems are the most far reaching of all. See how Throughput Accounting brings a lot to culture: unanimity-based decision making, alignment; Unity of Purpose; decentralized decision making. **Complexity** in the details or complexity in causality between the time a decision is made and its impact on performance? **Decision Making** and Inherent Simplicity go hand in hand with mastery of the 12 decision making principles of Throughput Accounting. **Focus** on cost cutting can never go below zero, but there are no limits to growth. Throughput Accounting has an expansionary outlook on economic activity and never considers cost cutting.

How to leverage your Lead Time distribution in order to build and execute an Agile Project plan with CCPM (Critical Chain Project Management) from the Theory of Constraint: This section is directly linked to the execution of the work that was originally planned. It leverages your lead time distribution to transform it into a CCPM plan in just a few minutes. All of the support to conduct daily meetings with the necessary staggering up to date information is provided.

This section encompasses all of the management by exception signals as illustrated in the table below:

Signal & Purpose	Data Structure	Color
CCPM Buffer (Consumption Buffer implied) To signal the need to finish work as we are eating the CCPM consumption buffer too fast.	Vector[1] – Displacement, Force, Speed. One dimension. Bi directional	Green, Yellow, Red – similar wo WIP ageing but can go from one to color to the next and back repeatedly
WIP Ageing Buffer To signal the need to	Vector – Displacement, Force, Speed. One dimension. Uni directional	Green, Yellow, Red – similar to CCPM Buffer but cannot step back from red, to yellow, or green in most cases

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[1] A vector is a quantity that has both a magnitude and a direction. In our case, the direction is the distinguishing factor and behaves in an analog like manner (think of a mercury filled thermometer) as the buffer go in one direction and retract in the other. Except for the case of the WIP Ageing Buffer in most case.

finish a work item		
DBR Buffer To signal the need for replenishment.	Scalar[2] – Discrete units of work – Quantity. One dimension. Bi directional.	Yellow, Red, Black
DBR Queue To fill with work the 'Waiting for' semi column of the constraint just below the DBR Buffer	Queue – To stack work right below the DBR Buffer. One dimension. Uni directional	Green
Buffer Burn Rate Indicator of lateness to the CCPM Plan To render on a relative scale all projects irrespective of size, budget, timeline, scope etc. to facilitate decision making among an unlimited number of projects	A Coefficient (scalar) The ratio between two time-based unit of measure. (Buffer consumption and Project Completion). Yields multiple results. Two dimension and relative scale with numerous collisions possible as we have seen in chapter 3.	Green, Red – no Yellow Depending of relative value to '1' Color Yellow is not needed. See chapter 3 on social engineering
CCPM Rope[3] (NEW) It shows you when the optimal time to start a project comes about when the we are forging ahead faster than planned	A Date (scalar) The revised end date of the current project to connect with the staggering functionality	Blue It is a date trigger. When shall we start a new project next?

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[2] A scalar (or a scalar quantity) is a discrete unit of measure. Colors can be used as such units of measure of magnitude in our case. The colors describe the magnitude which is the only characteristic of a scalar.

[3] This is a new management by exception signal and uses the color blue. It has a counter balancing effect when the CCPM indicators are doing too well. It is a sign to hurry up for what is up next in the pipeline. An illustration of this signal and its impact on staggering can be found in Appendix E

Expressions such as 'where the rubber meets the road' and 'hitting the ground running' find their true significance here.

Let science takes its course.

Minting Money: There is nothing in the agile space that shows you how to make money and how to recognize the impact of costs on the bottom line. This class section will show you how to design the cash engine taking into consideration the following topics:

- Setup costs
- Coordination and transaction costs
- Inspection costs
- Waste
- Free products
- Negative covariance to decrease overall risk

We will discuss how to manage SLACK (and WIP) in a way that transpires all the way to down to the bottom line.

We will also address execution risk and understand that the way we make money is directly linked to the speed that work flows through the constraint. This is what we call the Throughput Rate.

What will you learn? Day Two

I am often reminded of this story where a clerk asked this simple question to the CEO of the company as he gave a great inspirational speech at the yearly retreat.

Her question sounded something like this:

''But what do I do on a daily basis in my position?''

The CEO was left speechless.

Day two focusses on operational matters and decentralized decision making. It builds on the foundation of day one. It deals with causality, the most important attribute of Throughput Accounting: when you make a

decision, there has to be little time between the enactment and the effects. There can also be no doubt as to what caused the change.

We also connect here the 3 basic foundations of management accounting, which Throughput Accounting falls under:

- Control
- Motivation
- Behavior Alignment

The principles from Donald Reinertsen's book: Second Generation Lean Product Development have been reviewed in my book with the collaboration of Dr John Ricketts, whom Dr Goldratt considered his work at IBM as the most comprehensive undertaking of Throughput Accounting ever.

Essentially, all 175 principles still apply today. A few do not fit and this will be an entertaining section.

We will also address the following content from Mr Reinertsen and apply it to Throughput Accounting:

- Principle V11: ''Buffers trade money for variability reduction''
- ''In Knowledge-Work, Common Causes have a greater impact than in manufacturing. Therefore, Common Causes should be taken into consideration, especially for finding improvement opportunities.''
- ''Cadence is the use of a regular, predictable rhythm within a process. This rhythm transforms unpredictable events into predictable events. It plays an important role in preventing variability from accumulating in a sequential process.''
- Cadence can be used with or without synchronisation
- Synchronisation can be used with or without cadences
- It is best to use both cadence and synchronisation

We will expose here the many unjustified 'importations' that Agile took from Lean Manufacturing and will expose them and find remedial actions, especially when it comes to Special and Common Cause.

When discussing money, few mind the **Color of Money** and this is a mistake. There is brown money and there is green money. What is your PMO using? What are you burning on your way to improving yourself? Is there a link between the kind of money you use and the 5 Focusing Steps?

The **Cognitive Biases** that Cost Accounting bestows on corporate managerial thinking is considerable. In this section, we will slowly climb the hill and explore 20 such accounting biases that Dr Goldratt recognized, identified and aimed to eliminate with new thinking. Understanding these biases is needed to be able to mold the accounting systems of your company to a more agile mindset.

Your **PMO – Project Management Office** – is central to your agile eco system. They are the gatekeepers of the metrics farm. To that respect who is right?

> Dr Goldratt: "Tell me how you measure me and I will tell you how I behave. If you measure me in an illogical way, do not complain about illogical behavior."

> Goodhart's Law: When a measure becomes a target, it ceases to be a good measure.

We will also address the transformation steps your PMO needs to take in order to enable a **Management by Exception** operating model that is rich in visualisation for the execution of the work that was planned.

Since we are bound to talk accounting here, we will explore how Capex and Opex work in mysterious ways and why one of these two approaches is a 'factor' in death march IT projects. Other project accounting topics will be covered regarding budgeting, costing, and project metrics.

At the **Portfolio level**, new tools are available to cut into the costs of managing several projects in parallel. At the portfolio level, the cost of decision-making defeats the purpose of decision-making. We will describe a solution that will allow you to compare on a relative scale, projects of different scope, timeline, budget in order for you to have a clear view as to who should attend the 'heavy to prepare' portfolio ceremonies and who should keep on progressing toward their goal.

This highly visual tool – the Buffer Fever Chart - will also support decision-making in detecting system overload, labor liquidity and other important topics.

Operating Expenses as Leverage is the penultimate section of day two.

Over the years, the accounting profession has forgotten the power of fixed costs on performance by ignoring the immense power of capacity. With their focus on cutting or leveling capacity to drive profits, this leverage lies unexploited.

We will cover the difference between what drives expansion/production versus what triggers growth/productivity. In order to increase your Throughput by a factor of 5, there is a cheap and fast way using Throughput Accounting. The traditional manner of buying 5 companies of similar size and multiplying by five your asset base, your Operating Expenses etc. is a bland, costly and linear approach. It is always used but should never be the answer.

Flow as described by Mihaly Csikszentmihalyi targets the individual as the unit of measure. At the **Social Engineering** level, what can we do to manage the flow state of our teams? How can we apply and tweak project execution to properly 'sense and adapt' and 'sense and respond'?

Pre requisites

Knowledge of agility and flow is nice to have. Note that some basic accounting topics will be covered out of necessity.

What you get

- Practical, ready to use knowledge that will make an impact on the way you work and achieve results immediately.
- Course Material.
- My new book: Seeing Money Clearly
- 14 PDUs

Policies

- This course has a duration of 14 hours
- Attendee substitutions are allowed anytime until the start of the course
- The organizer reserves the right to cancel courses or to change venue within a reasonable distance
- Refunds are provided as follows: 30 days or more, 100%; 15 days or more, 50%

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