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Talking about Thinking Processes for Supply Chain

Jelena Fedurko-Cohen & Humberto Baptista

12 April 2019

About this webinar

In the recent webinar The Layers of Supply Chain Synchronization, Humberto touched upon several issues regarding TP for Supply Chain. It is an interesting subject, and we have decided to look into it in more detail.

This webinar is the exchange of views and joint thinking between Humberto and Jelena.

It also presents Jelena's analysis of the Supply Chain Core Cloud – what is apparent in it and what is 'between the lines', and the discussion on the need for more precision in working with TP.

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Thank you to Humberto for raising important issues of

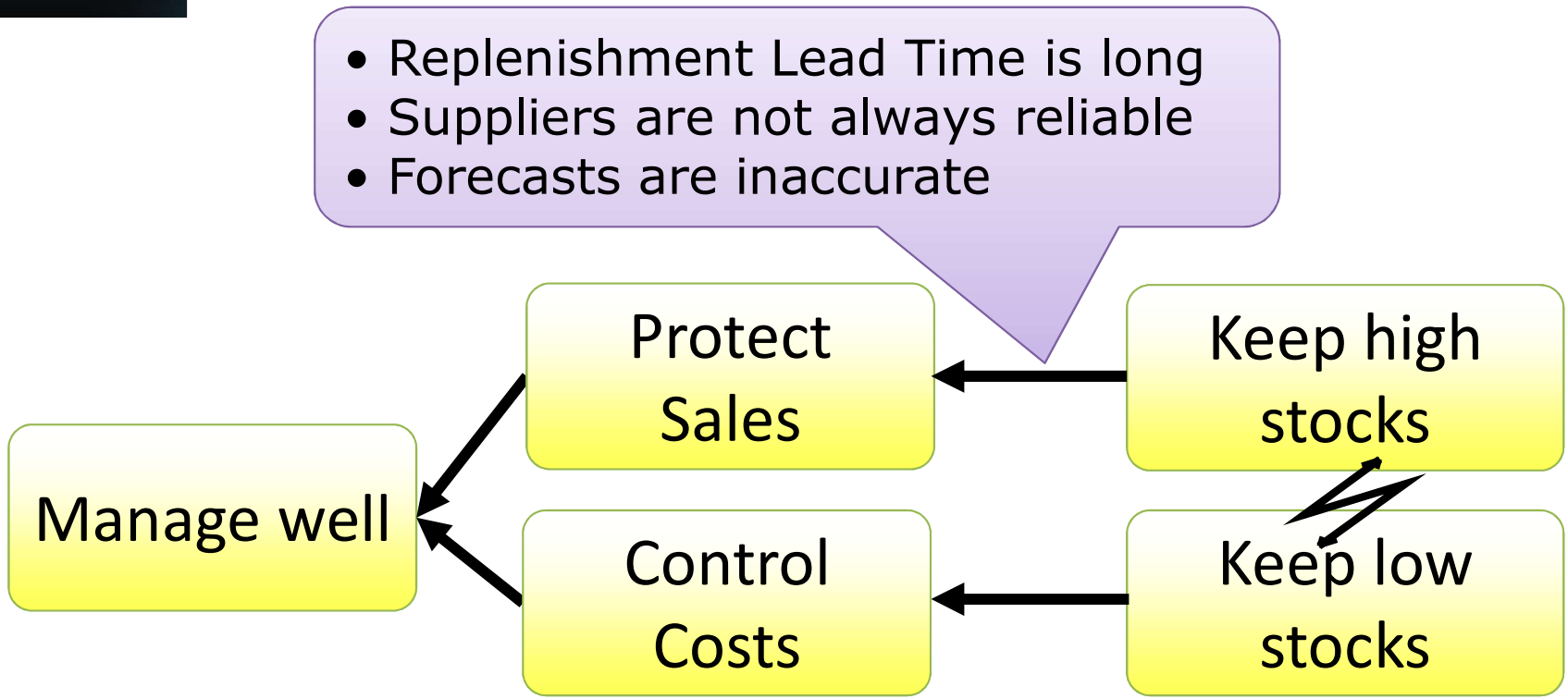
(1) the meaning and role of a Core Cloud

and

(2) the Thinking Processes for the 5 Focusing Steps

The meaning and role of a Core Cloud

Supply Chain Core Cloud

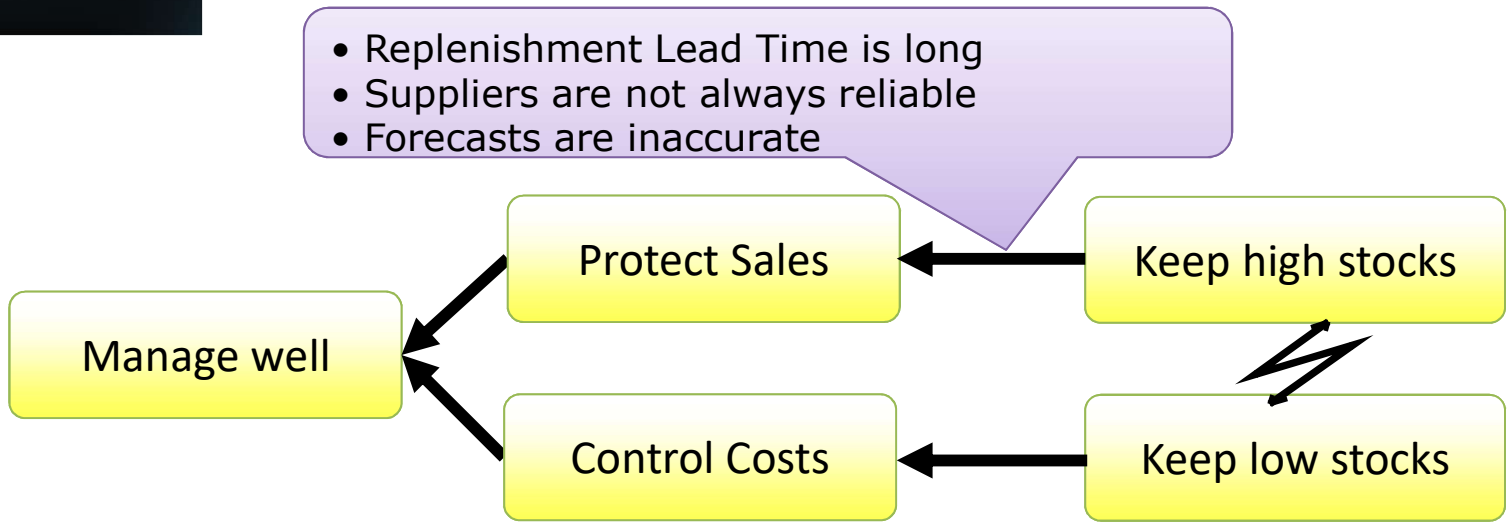


Humberto discussed this Cloud from the perspective of:

***3** assumptions to challenge? Where to start?*

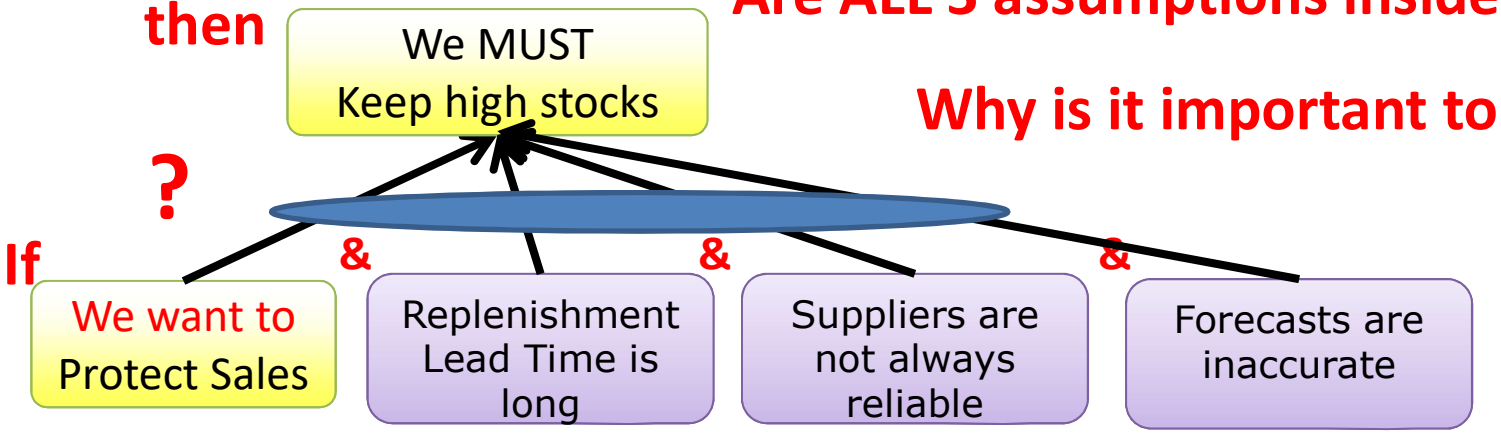
Let's look into it in more detail.

What assumptions mean in the Cloud



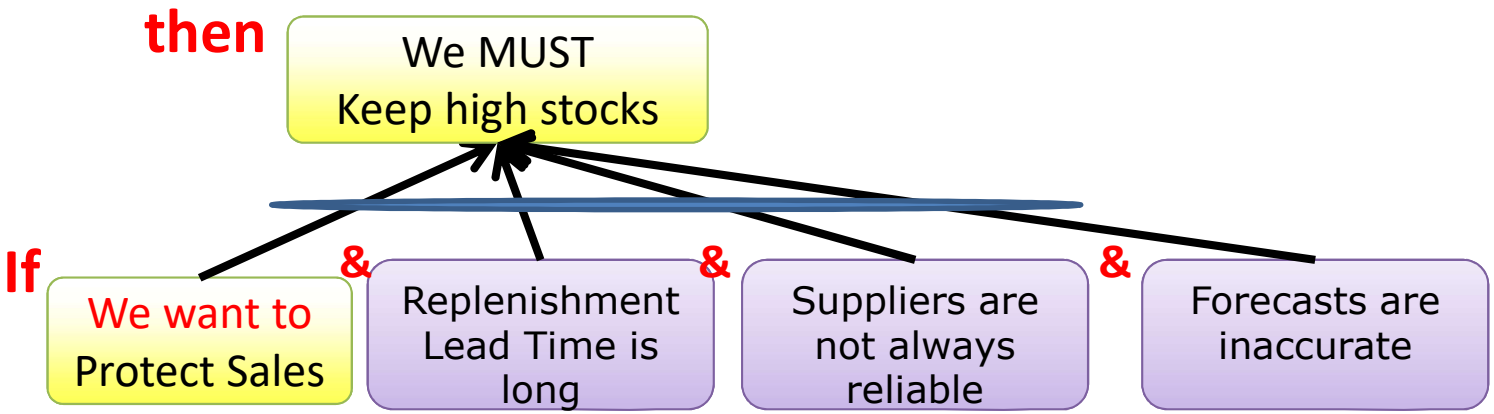
Are ALL 3 assumptions inside ONE banana?

Why is it important to know?



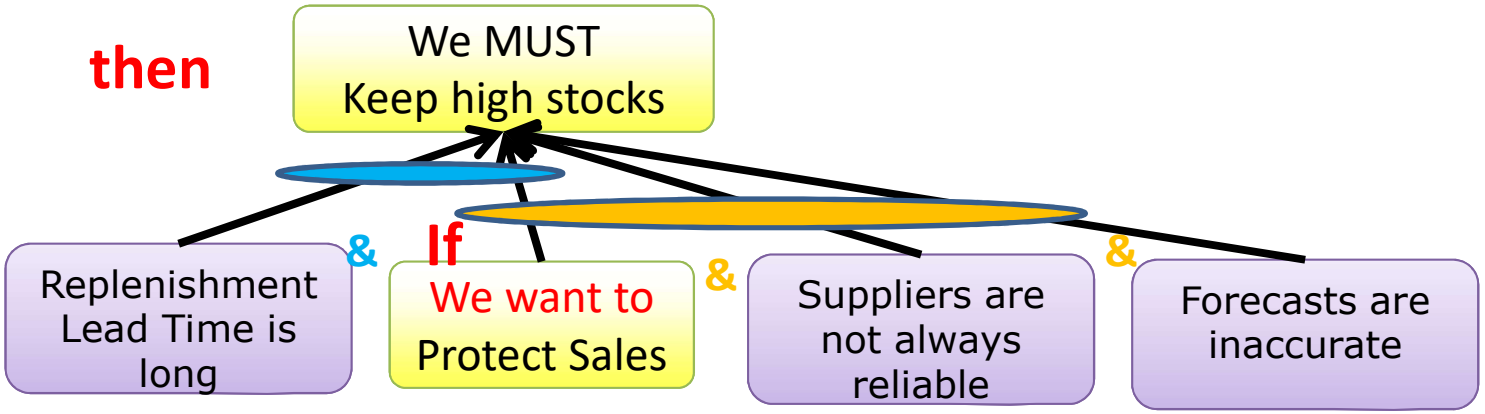
Is the logic like this?

1



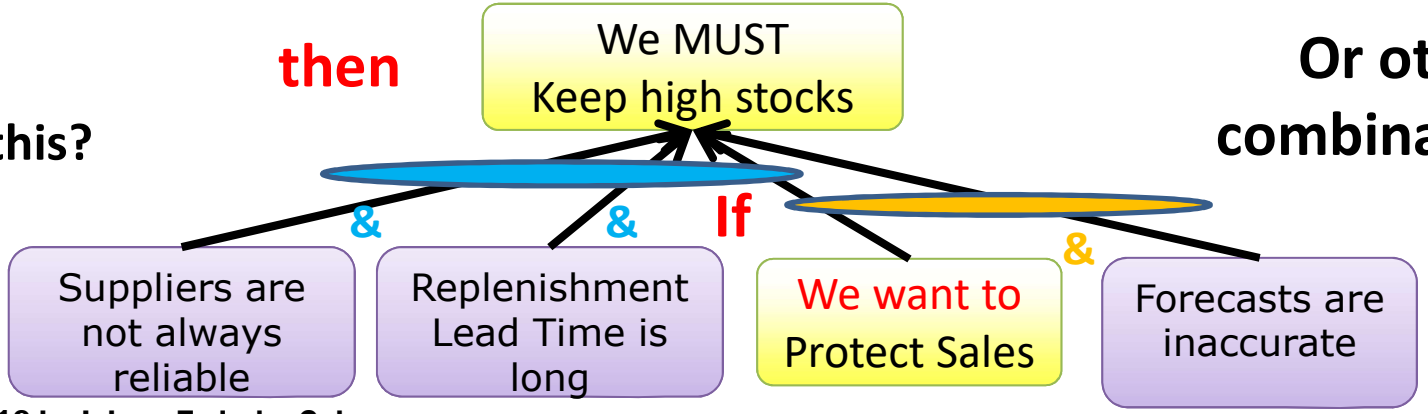
Or like this?

2



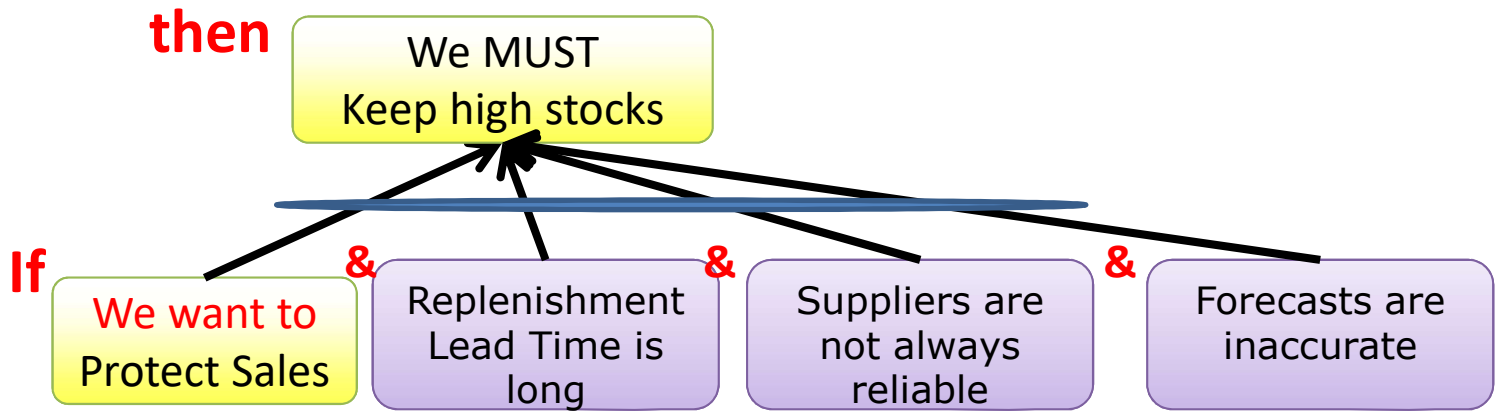
Or like this?

3



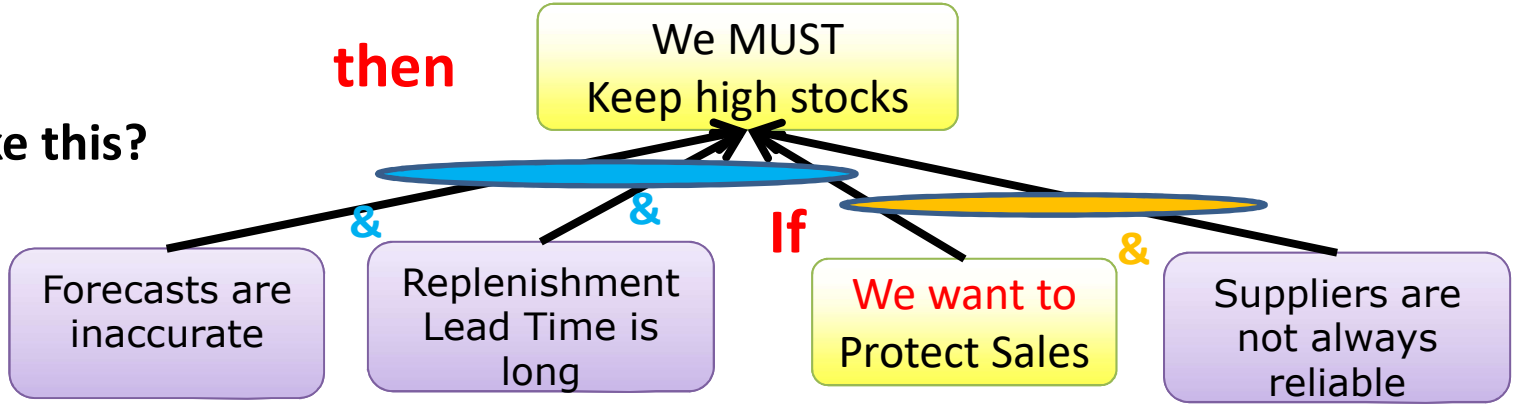
Or other combinations?

Is the logic like this?



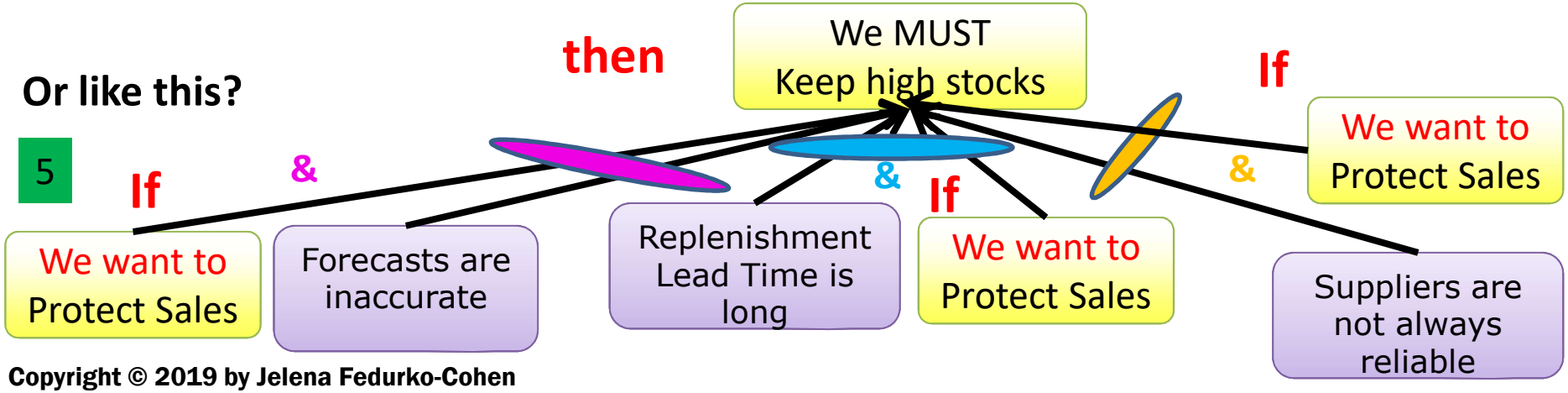
Or like this?

4

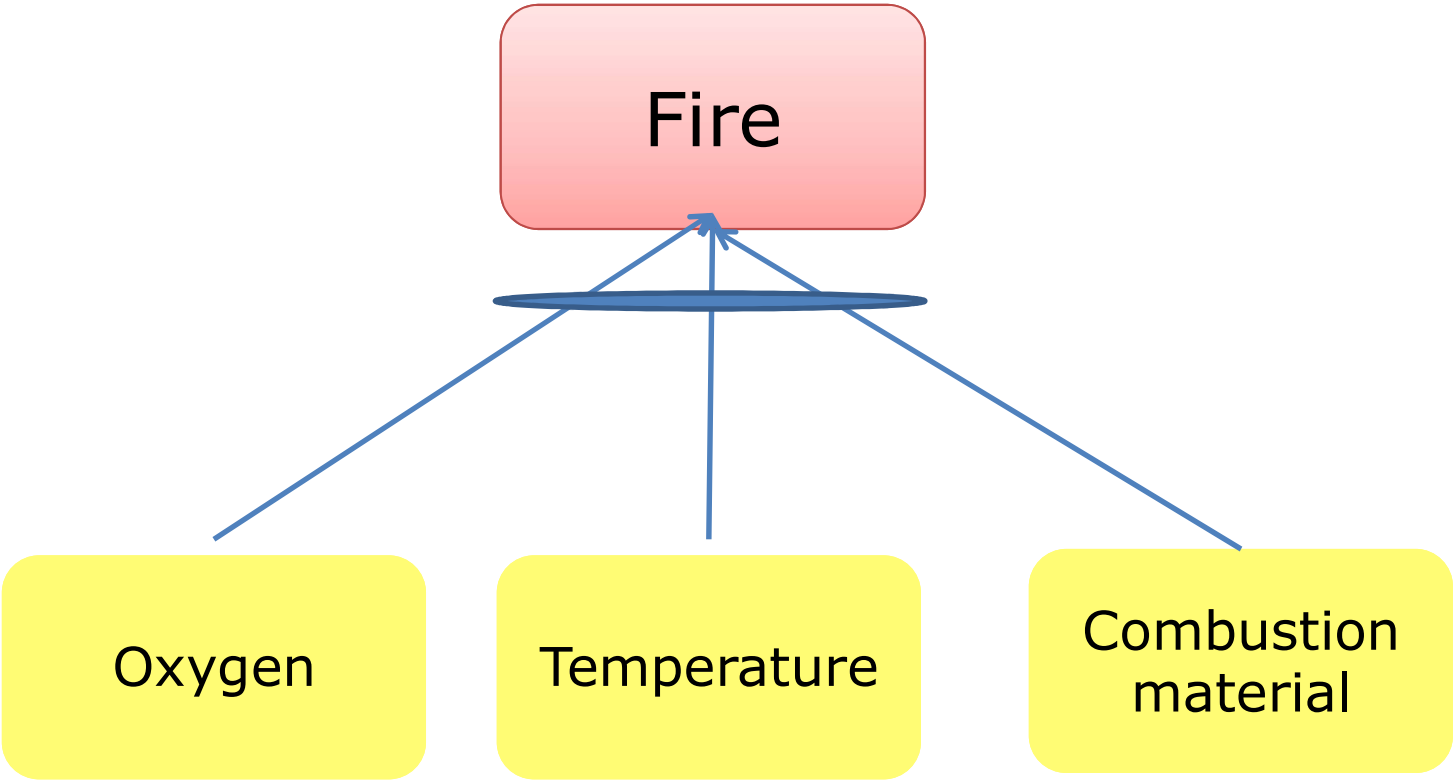


Or like this?

5



What is the meaning of the banana



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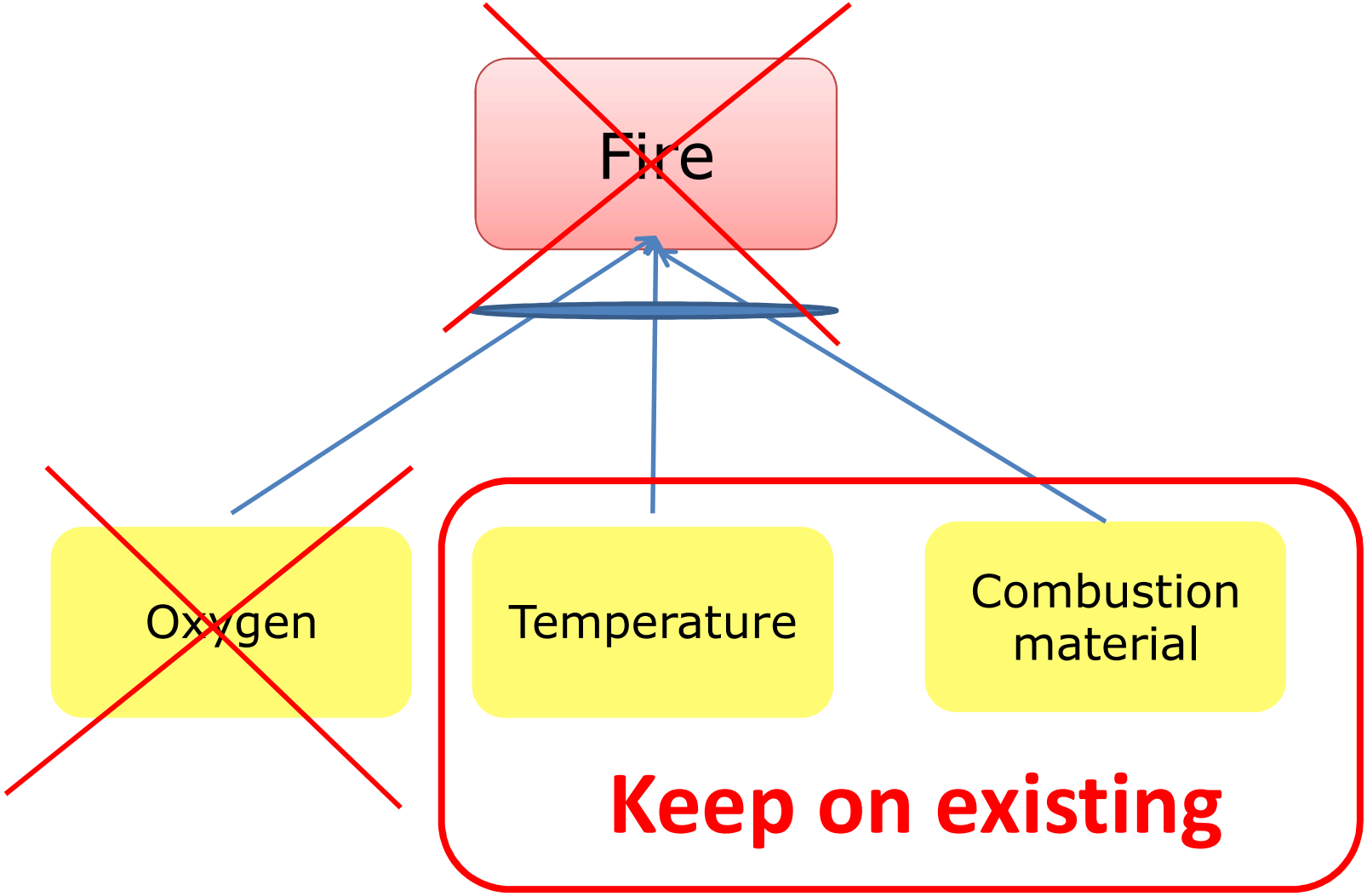

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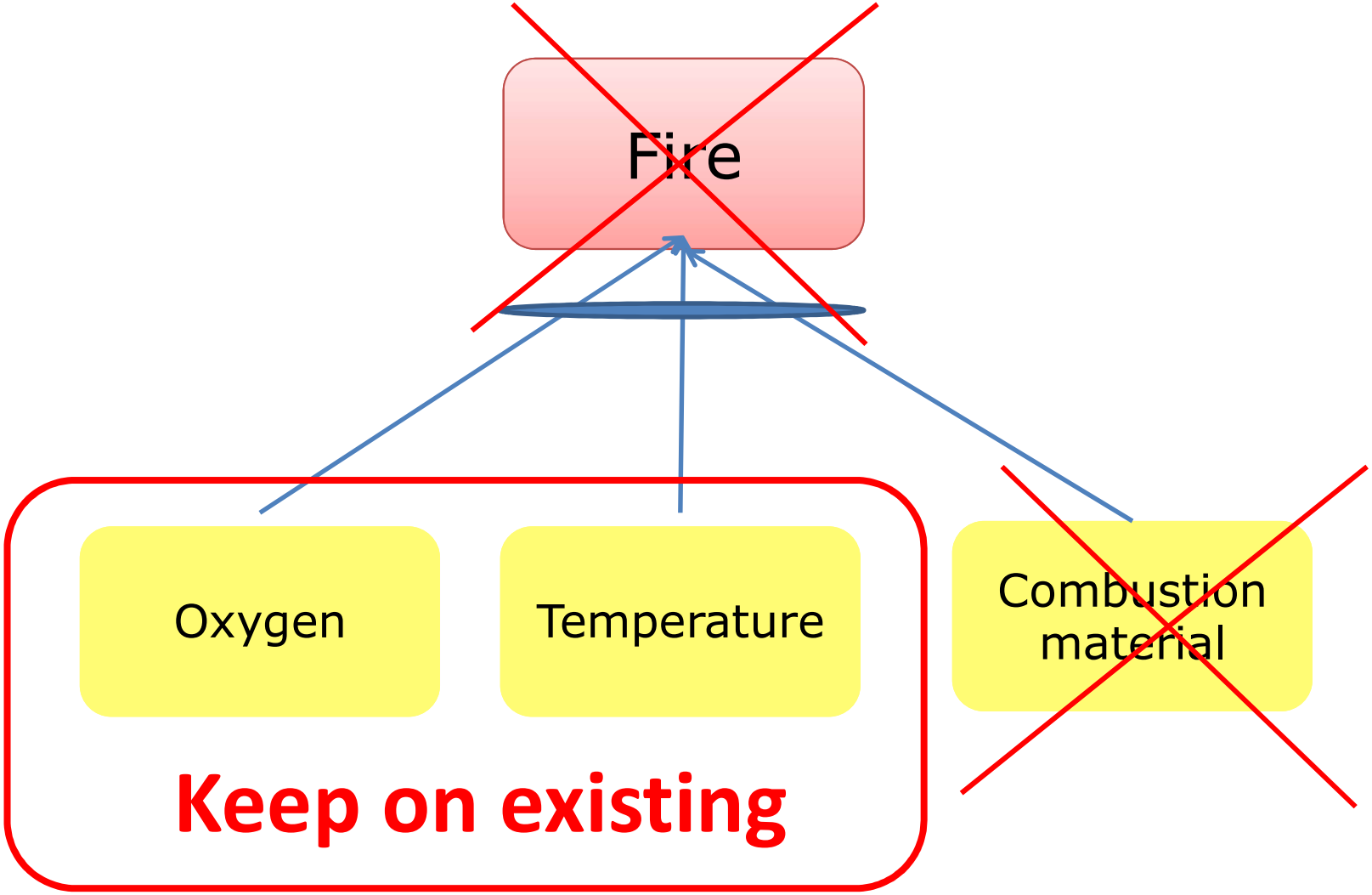
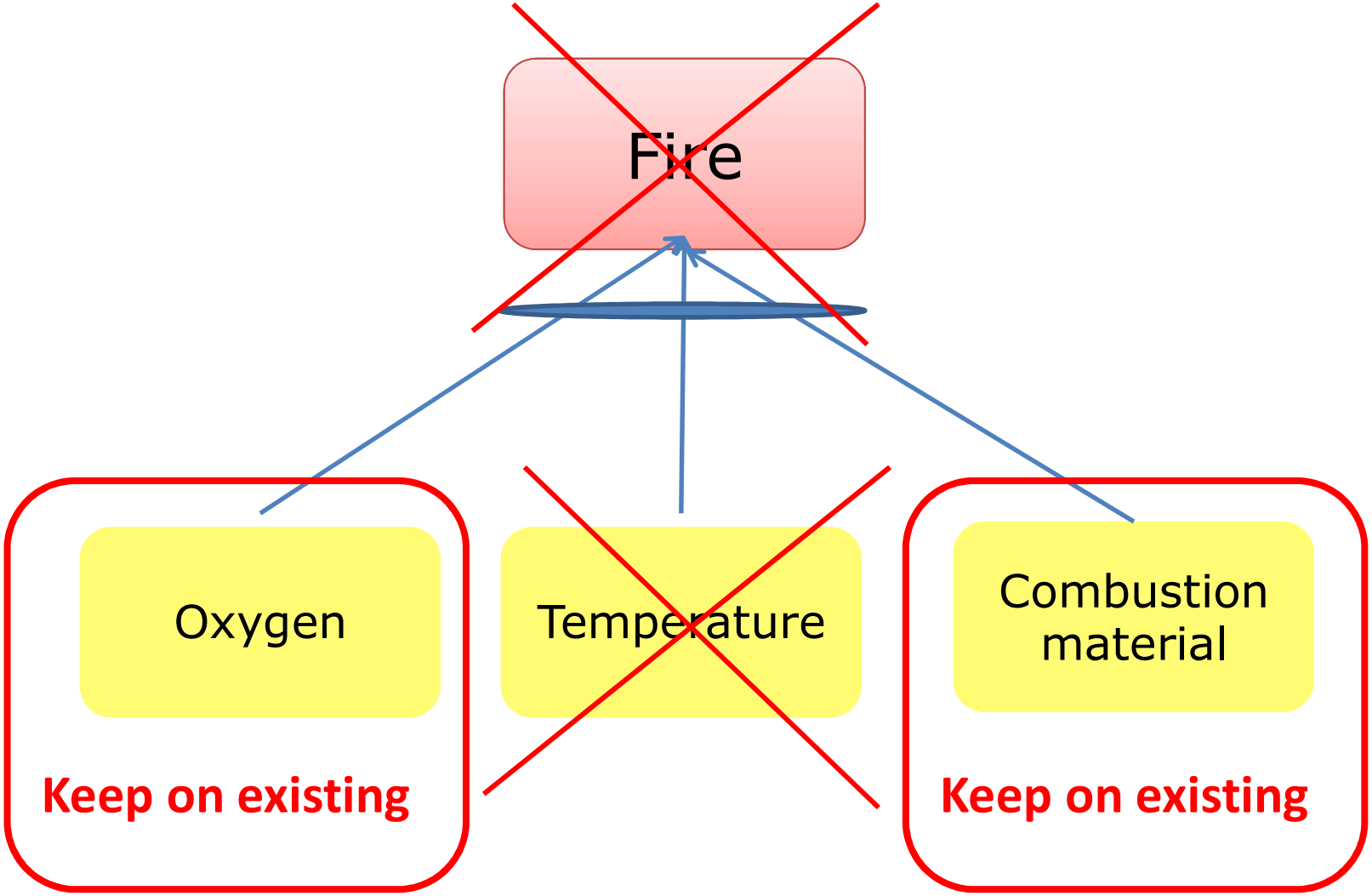
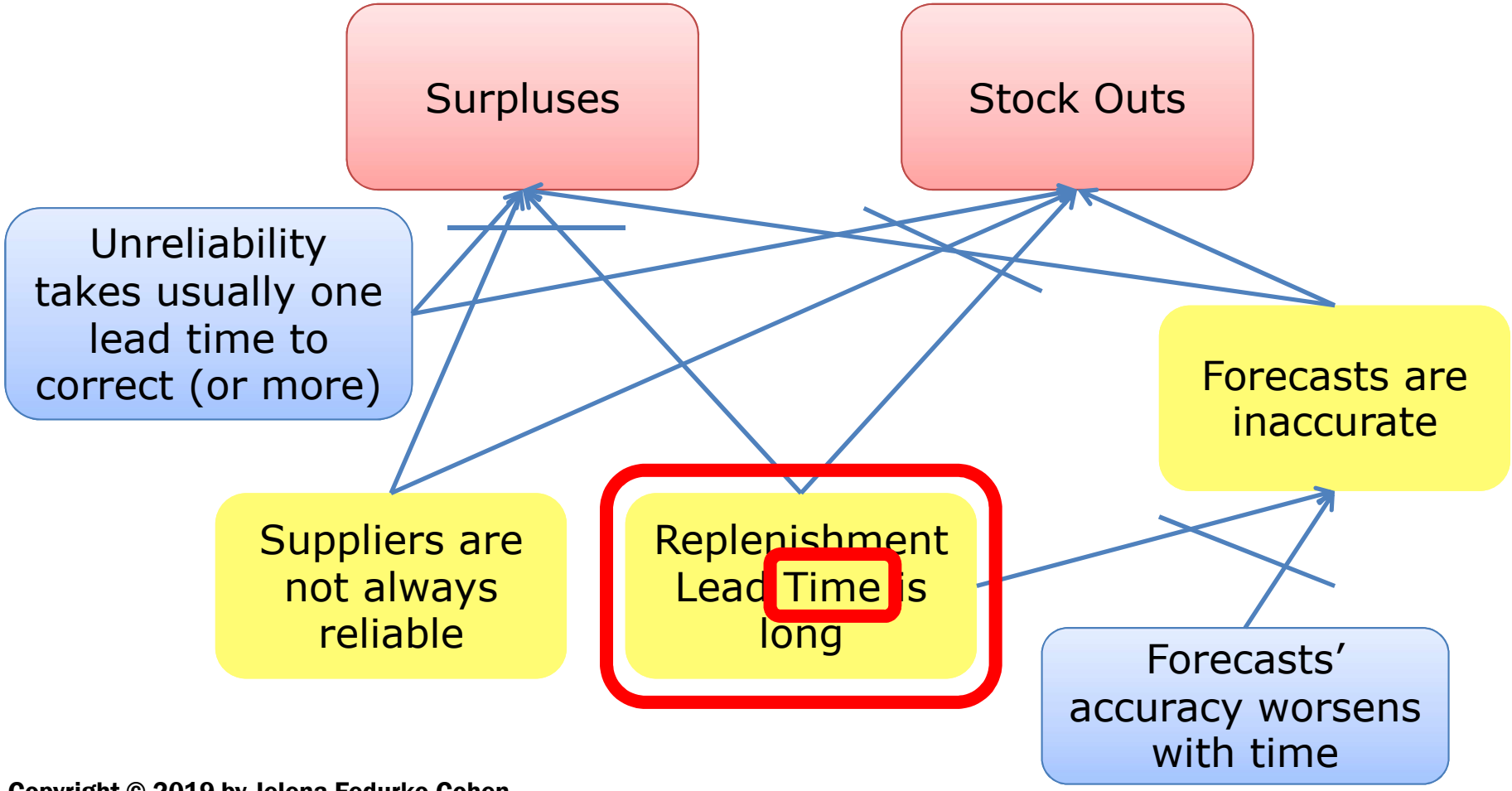


What is the meaning of the Banana



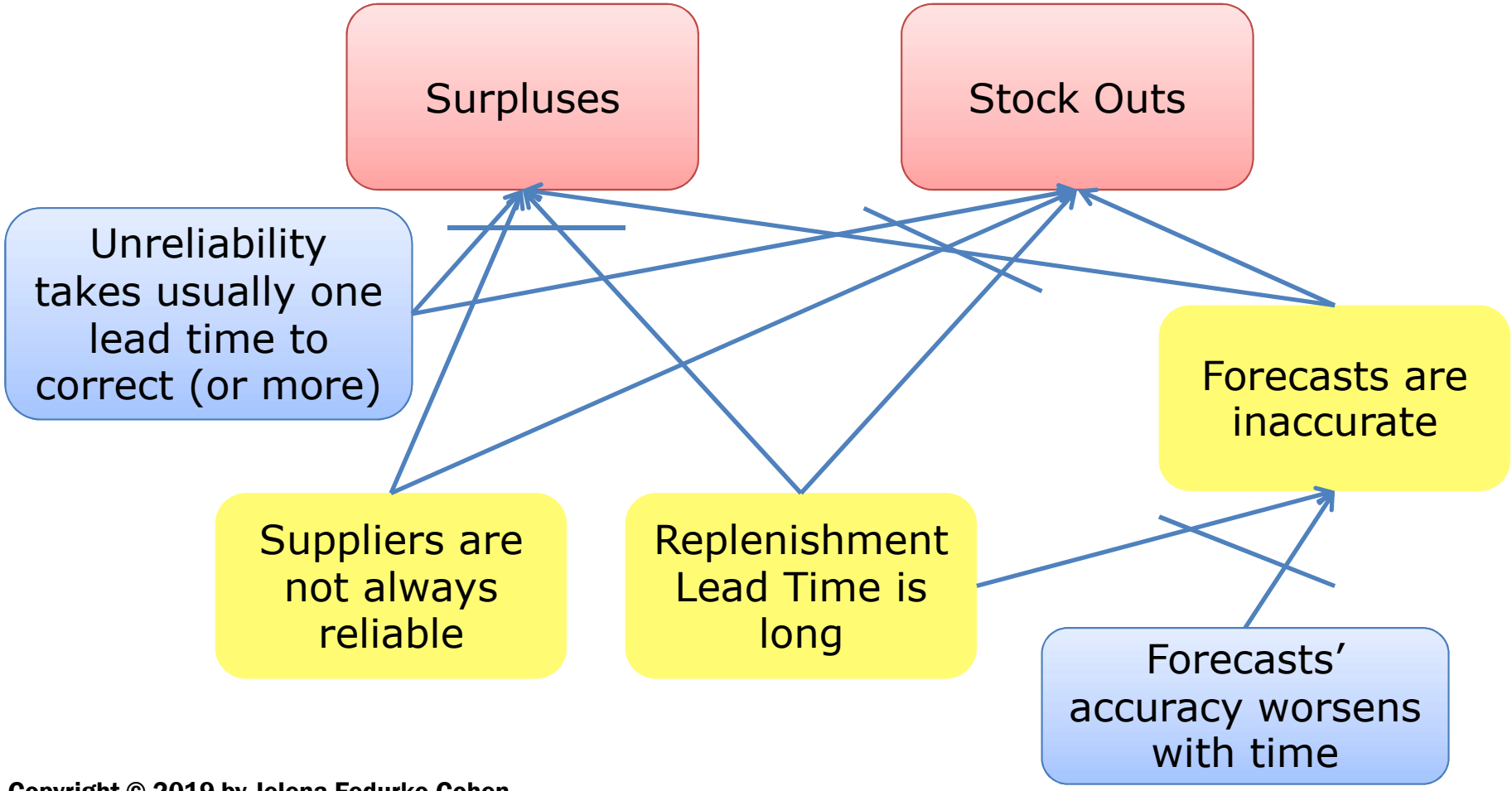
Back to Humberto's discussion of the Supply Chain Core Cloud

- **3** assumptions to challenge? Where to start?



Let's have a closer look

For simplicity, let's look at arrows leading to one Effect: Surpluses



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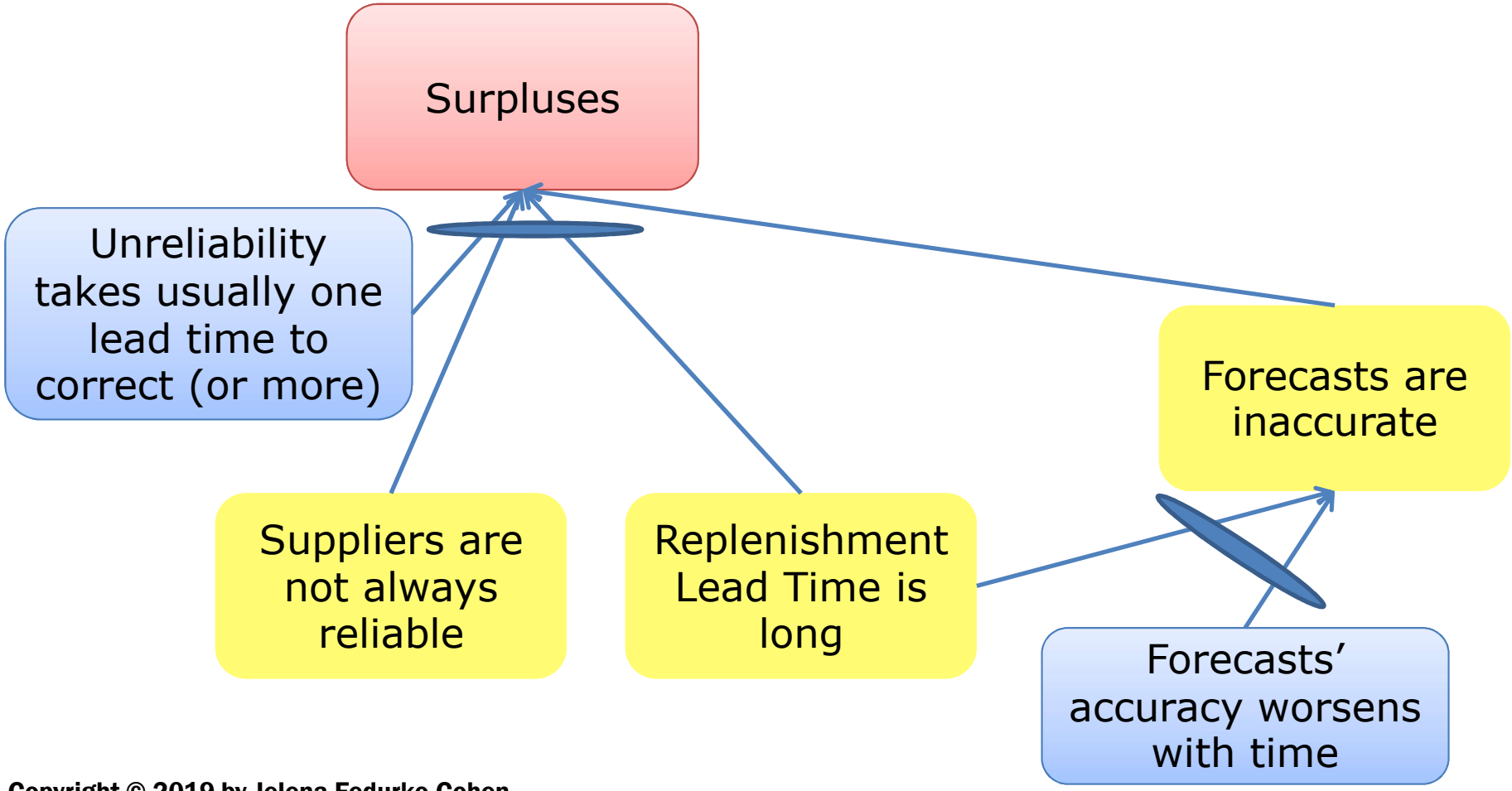
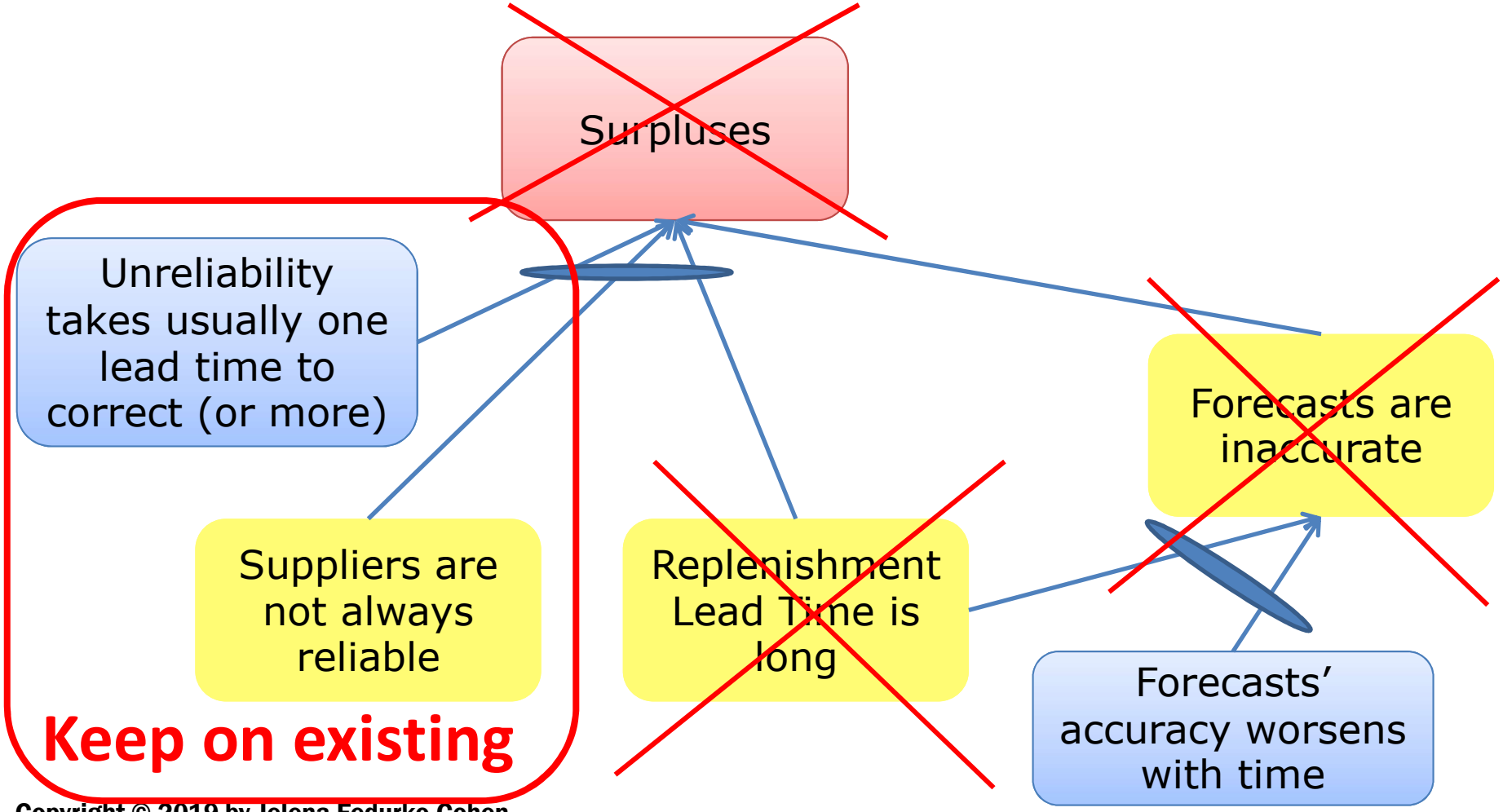
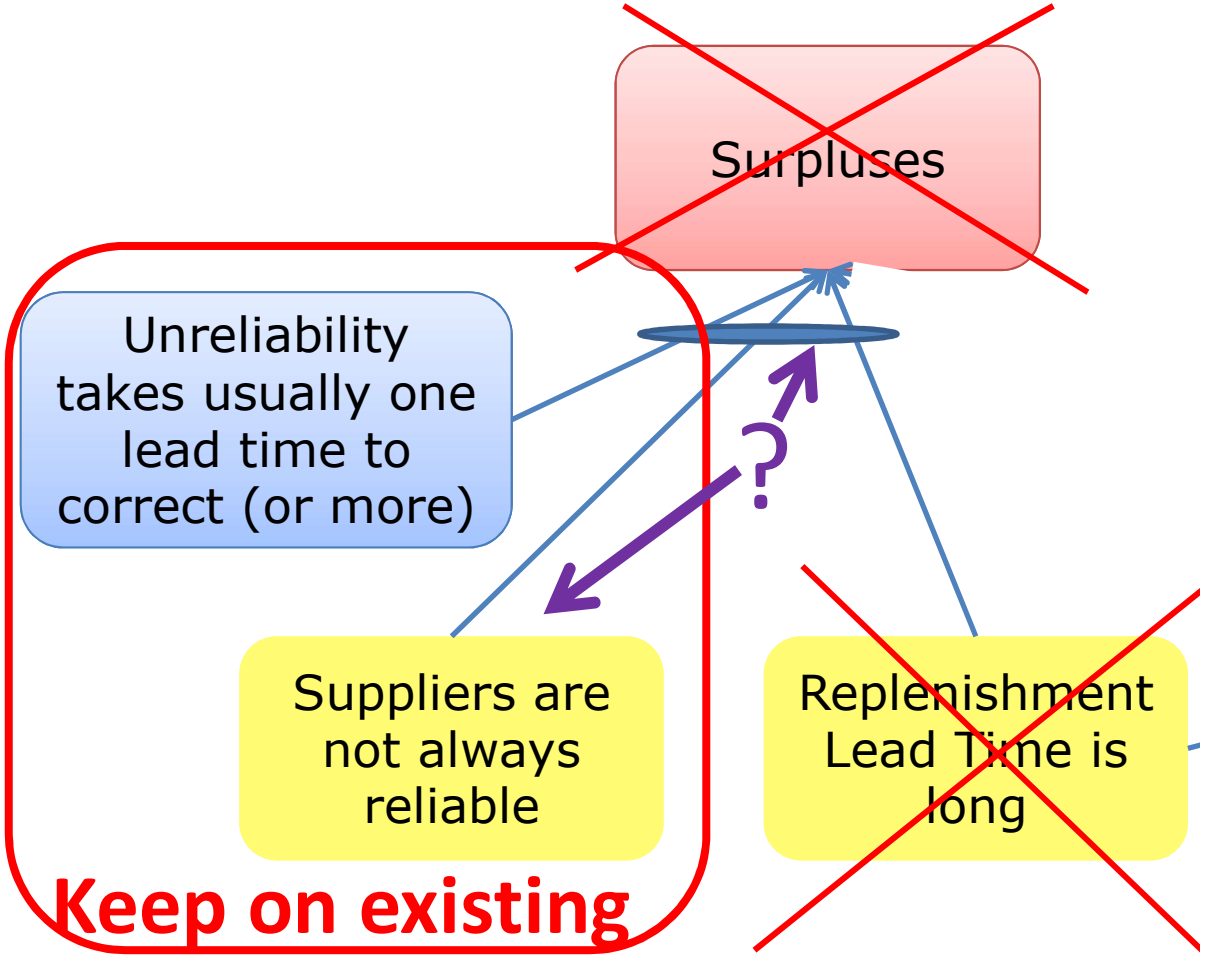


Checking the logical clusters



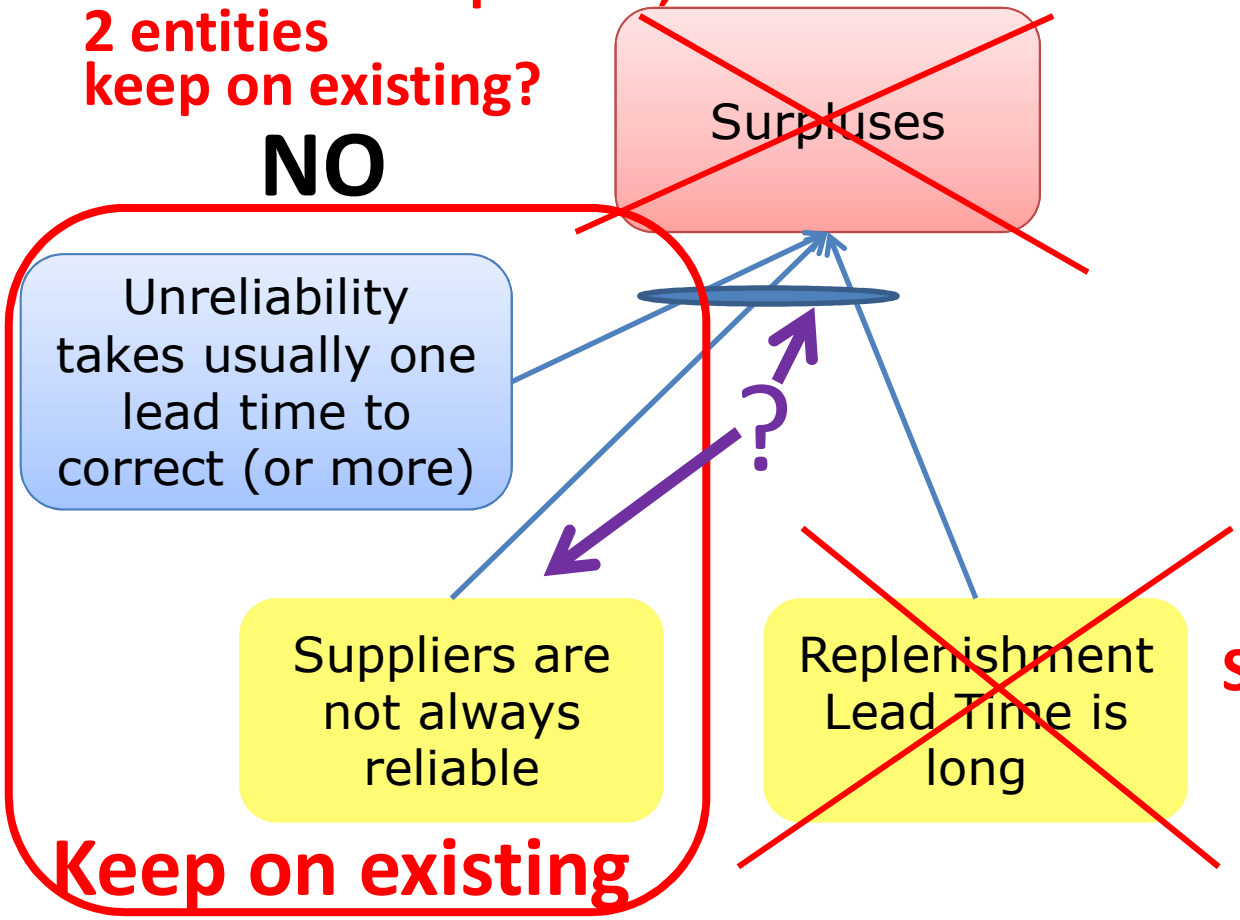
Checking the Banana – let's hide the right part of the diagram



Checking the Banana

If we "kill" the entity "Replenishment Lead Time is long", will it inevitably kill the effect "Surpluses", even if the other 2 entities keep on existing?

NO



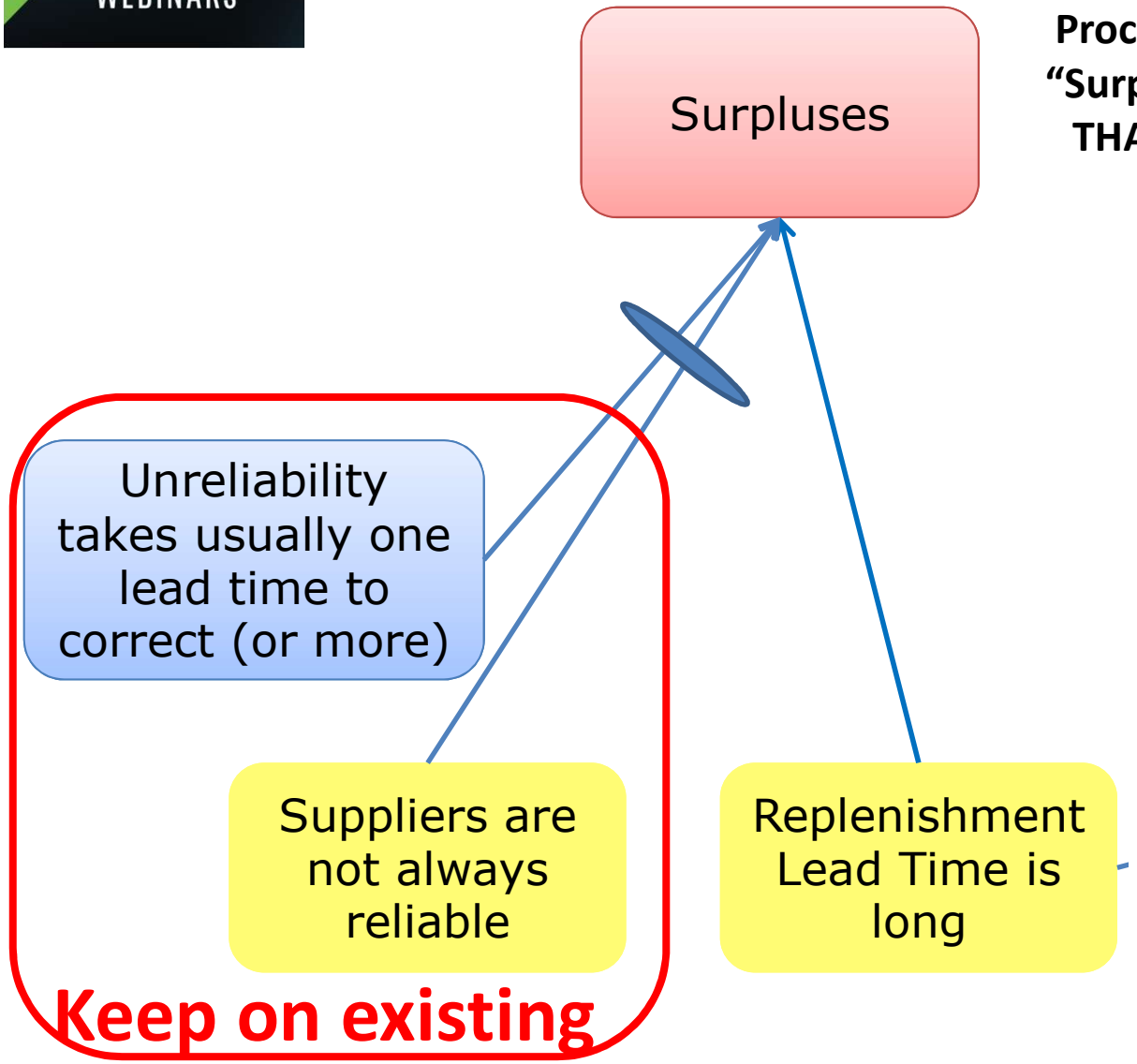
What is "Surpluses"? Simply "a lot"?

Farmers harvest potatoes or wheat only once a year and hold the stock for the whole year until the next harvest – will we call this Surplus? Or is it a necessary condition to have food until the next harvest?

Let's proceed from understanding that SURPLUSES is "HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"

Checking the Banana: Actually, this cluster becomes like this

Proceeding from understanding that "Surpluses" means "HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"

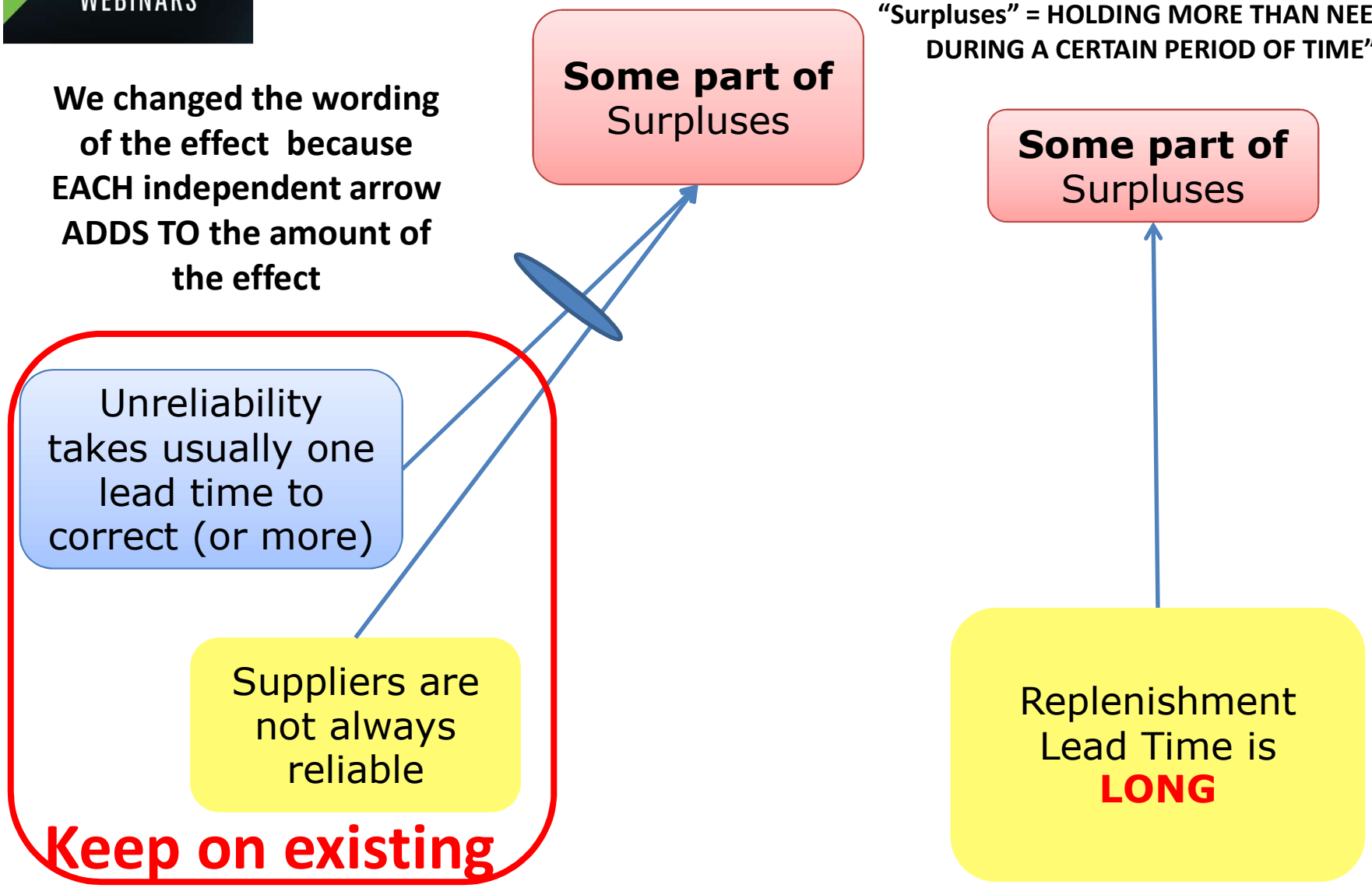


Let's move out the entity that is not inside the Banana and check it

Moving out the entity that is not inside the Banana

"Surpluses" = HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"

We changed the wording of the effect because EACH independent arrow ADDS TO the amount of the effect



Checking the entity that is not inside the Banana

"Surpluses" = HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"

~~**Some part of** Surpluses~~

In another wording it means:

~~Replenishment Lead Time is **LONG**~~

"Surpluses" = HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"

NO part of surpluses

Replenishment Lead Time is **SHORT(ER)**

"Surpluses" = HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"

Some part of Surpluses

NO part of surpluses

Let's have a careful look at each of these 2 clusters

Unreliability takes usually one lead time to correct (or more)

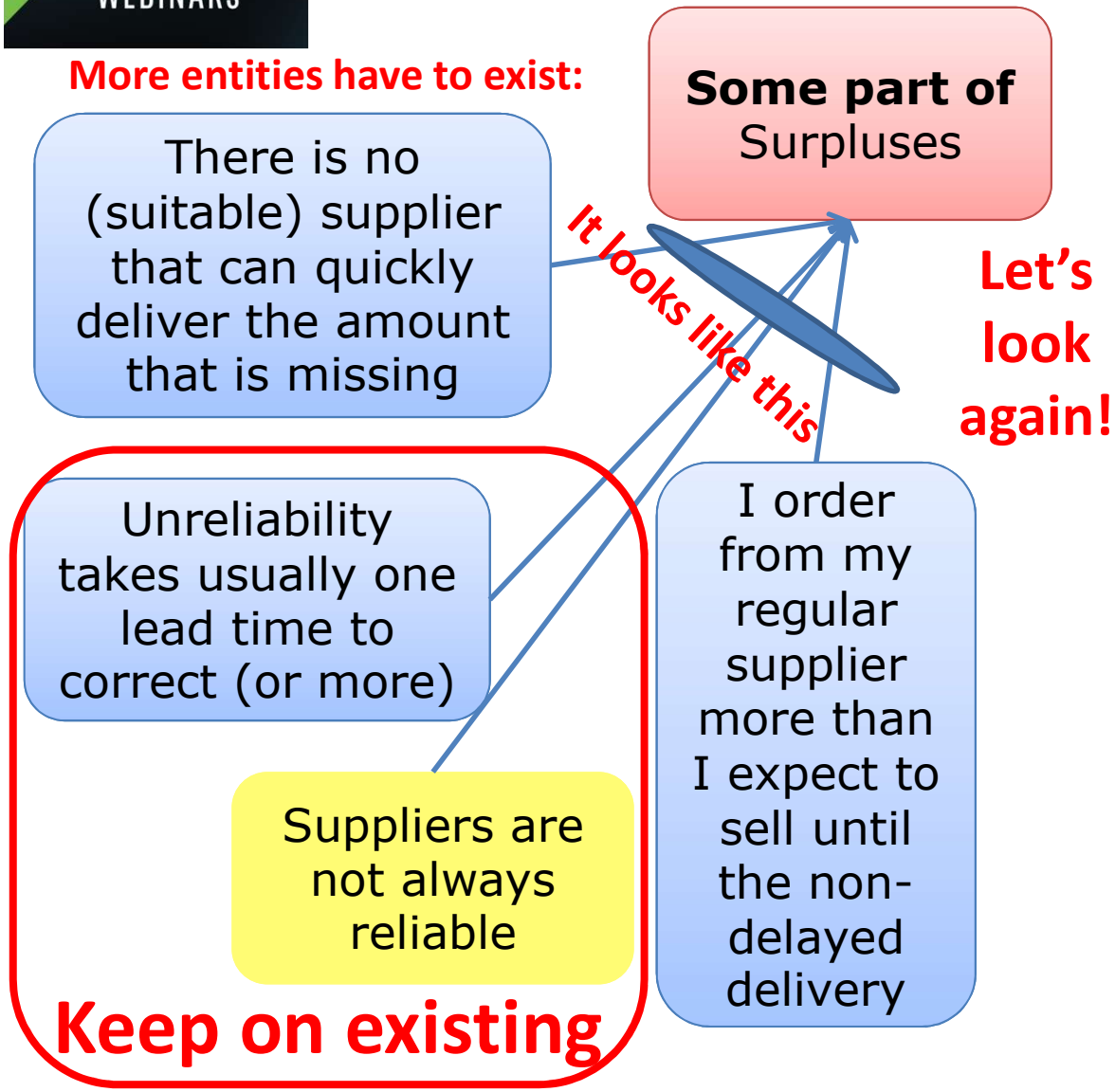
Suppliers are not always reliable

Keep on existing

Replenishment Lead Time is **SHORT(ER)**

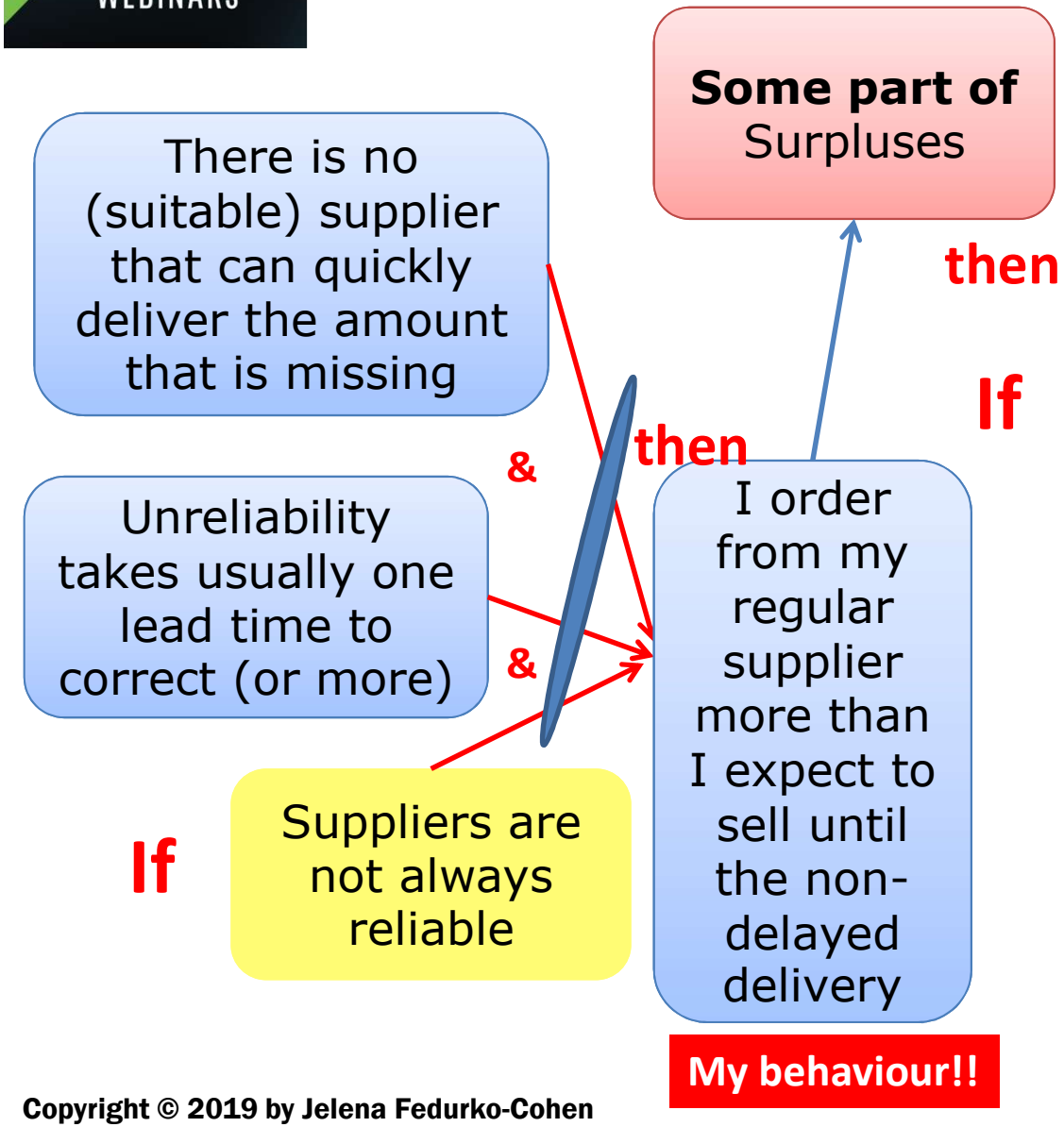
The cluster with the Banana

"Surpluses" = HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"



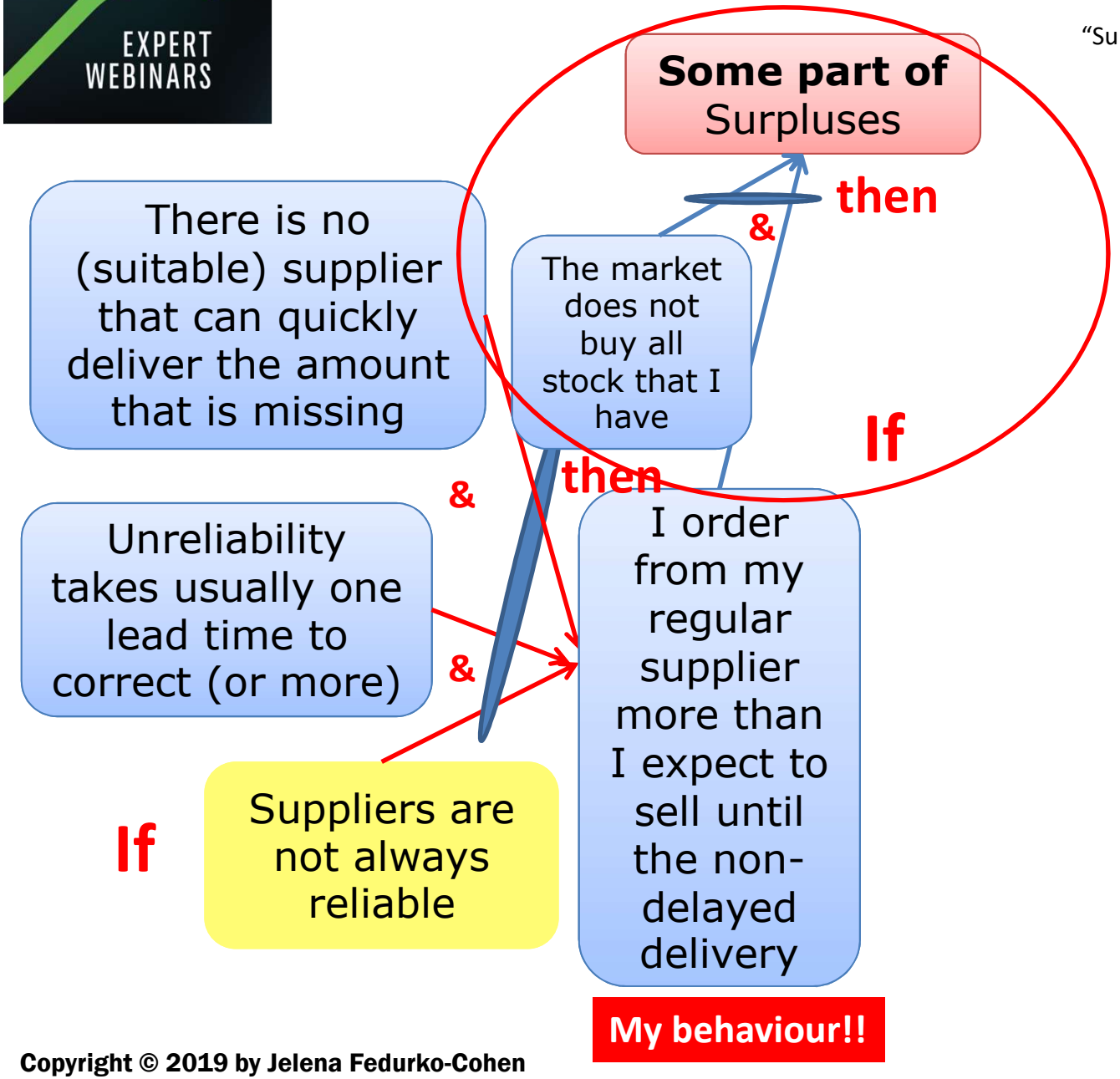
Actually, it is like this!

"Surpluses" = HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"



Still not sufficient

"Surpluses" = HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"



Let's unhide the cluster on the right

"Surpluses" = HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"

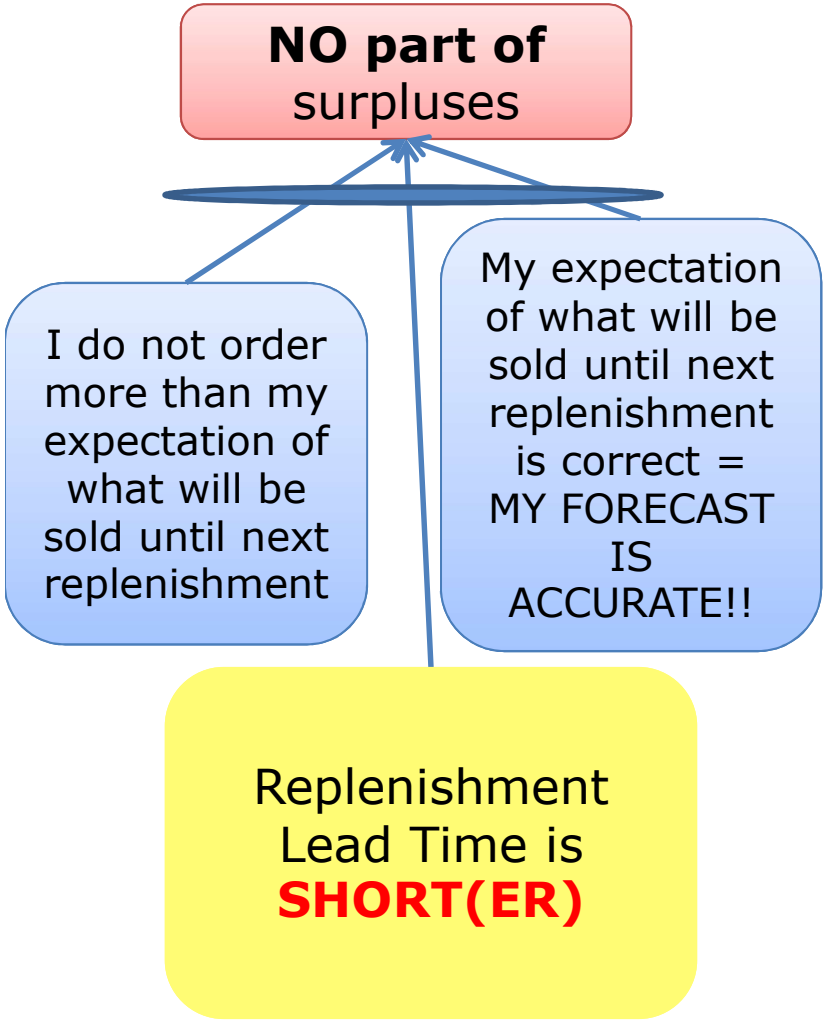
NO part of surpluses

Replenishment Lead Time is **SHORT(ER)**

Let's look at this cluster

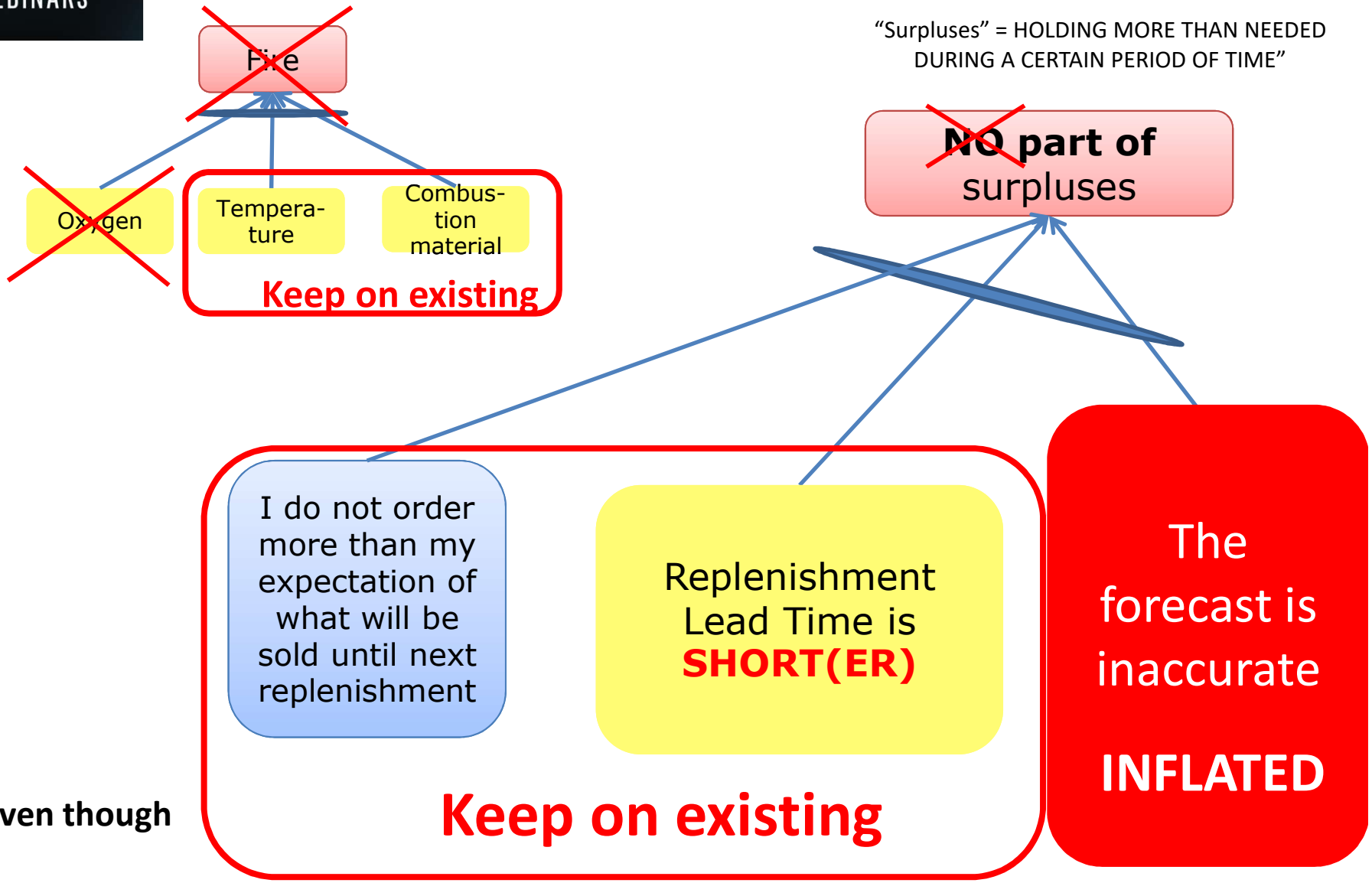
"Surpluses" = HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"

More entities have to exist:



Now, as we have the Banana, we must check it

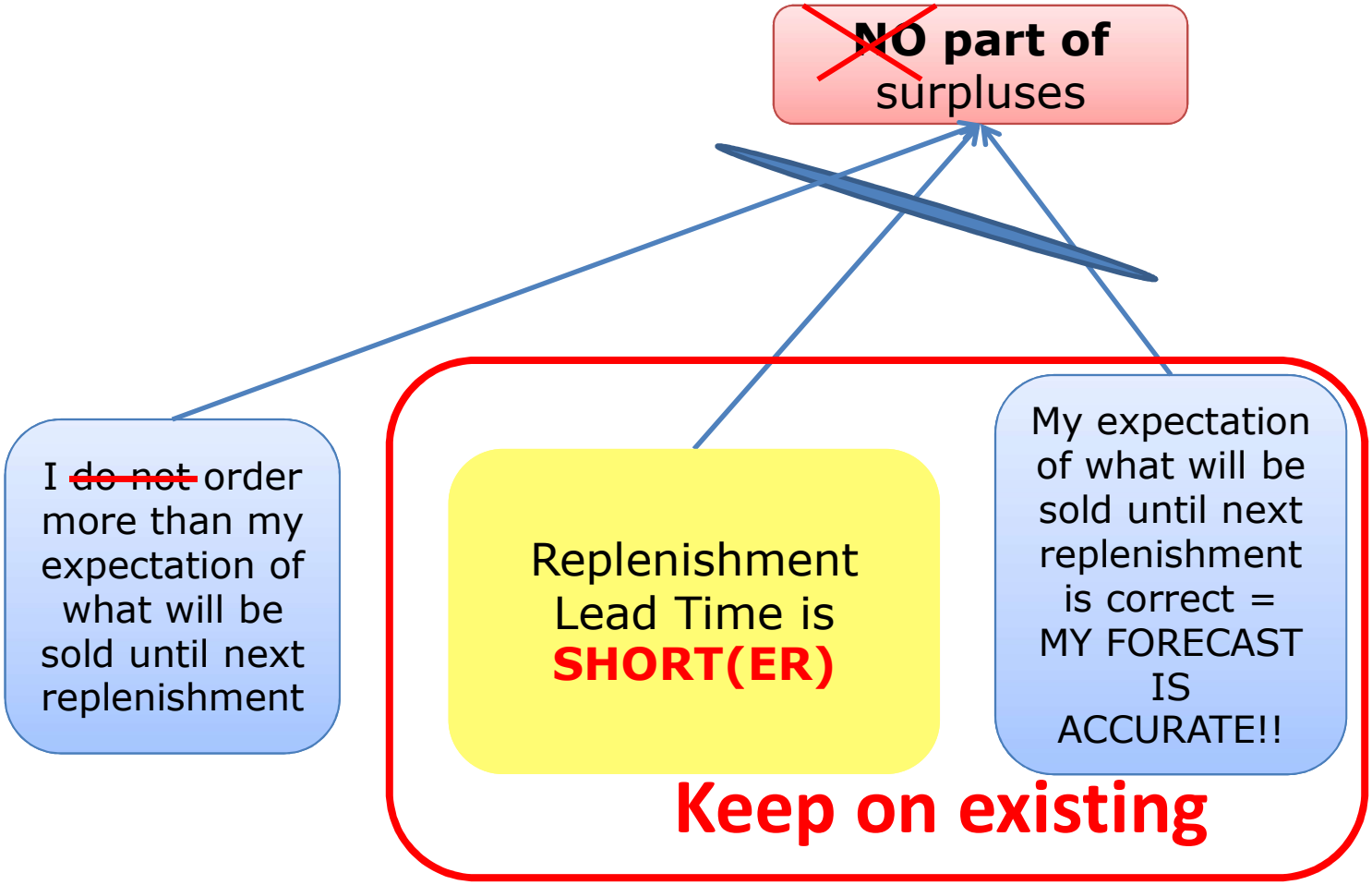
Remember how we check a Banana:



Even though

Again, checking the Banana

"Surpluses" = HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"



Again, checking the Banana

"Surpluses" = HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"

~~NO~~ **part of** surpluses

Let's have a closer look

I do not order more than my expectation of what will be sold until next replenishment

Keeps on existing

~~Replenishment Lead Time is **SHORT(ER)**~~

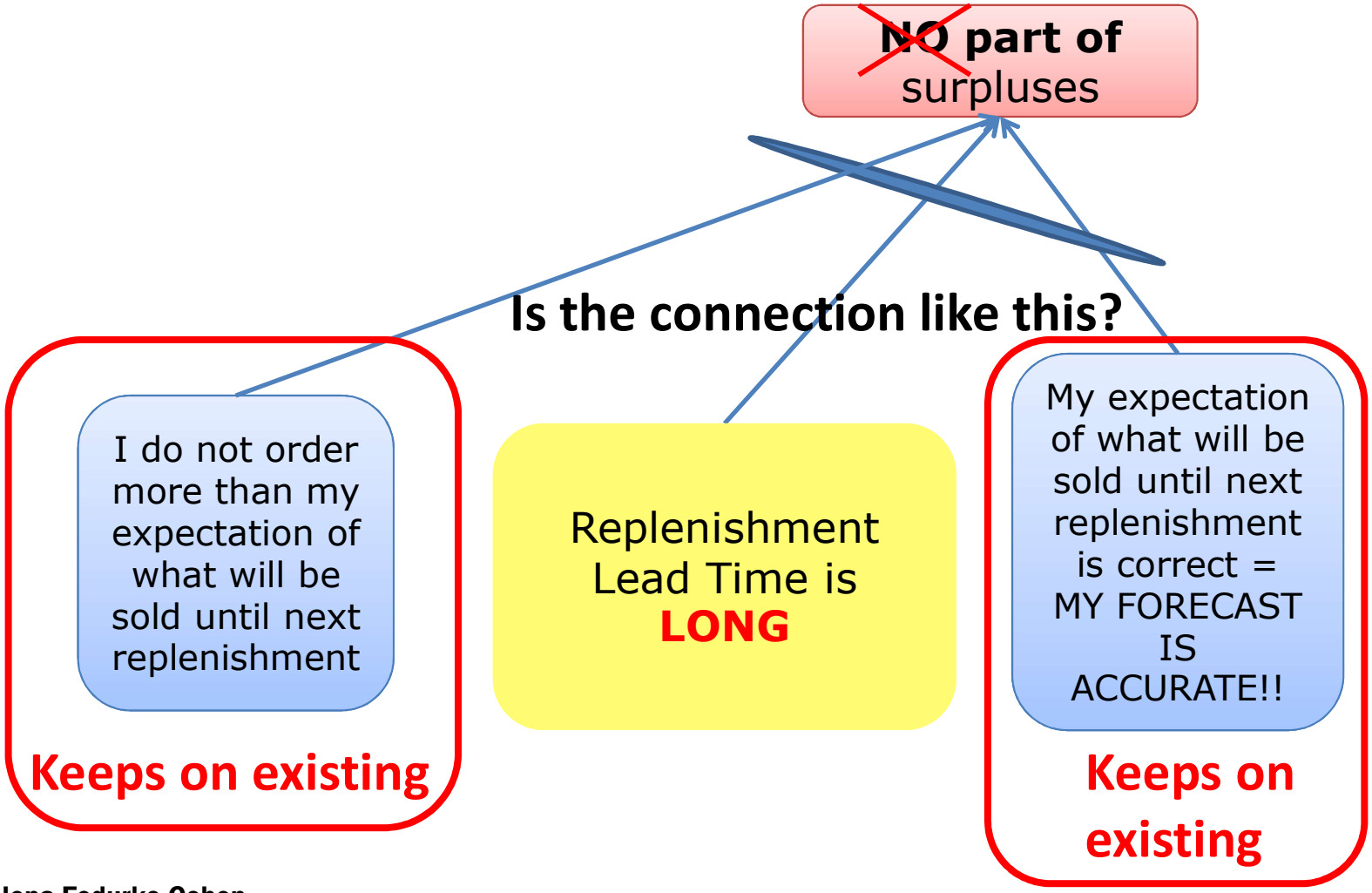
Not having "Replenishment Lead Time is short(er)" = having "Replenishment Lead Time is LONG".

My expectation of what will be sold until next replenishment is correct = MY FORECAST IS ACCURATE!!

Keeps on existing

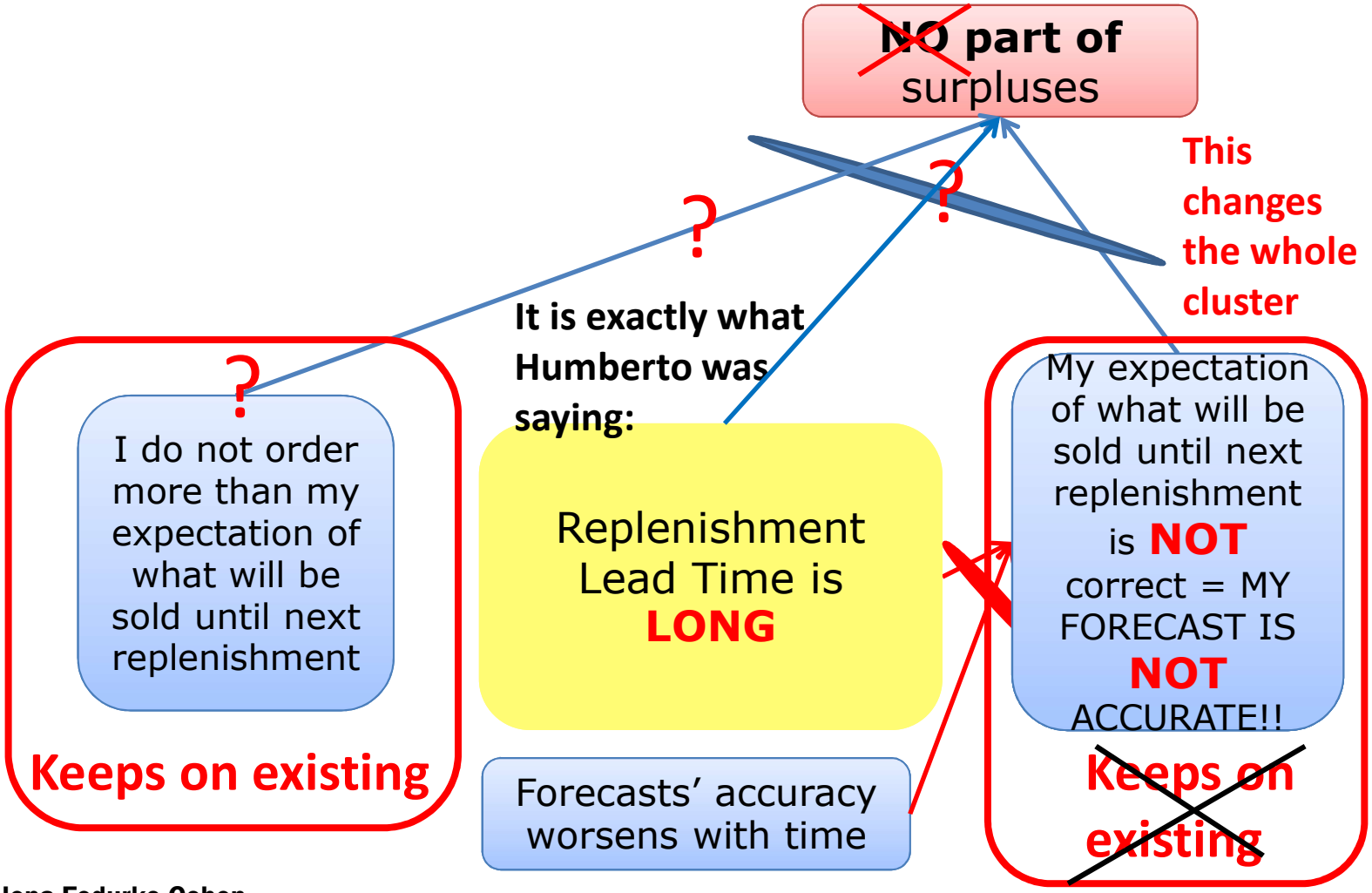
Again, checking the Banana

"Surpluses" = HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"



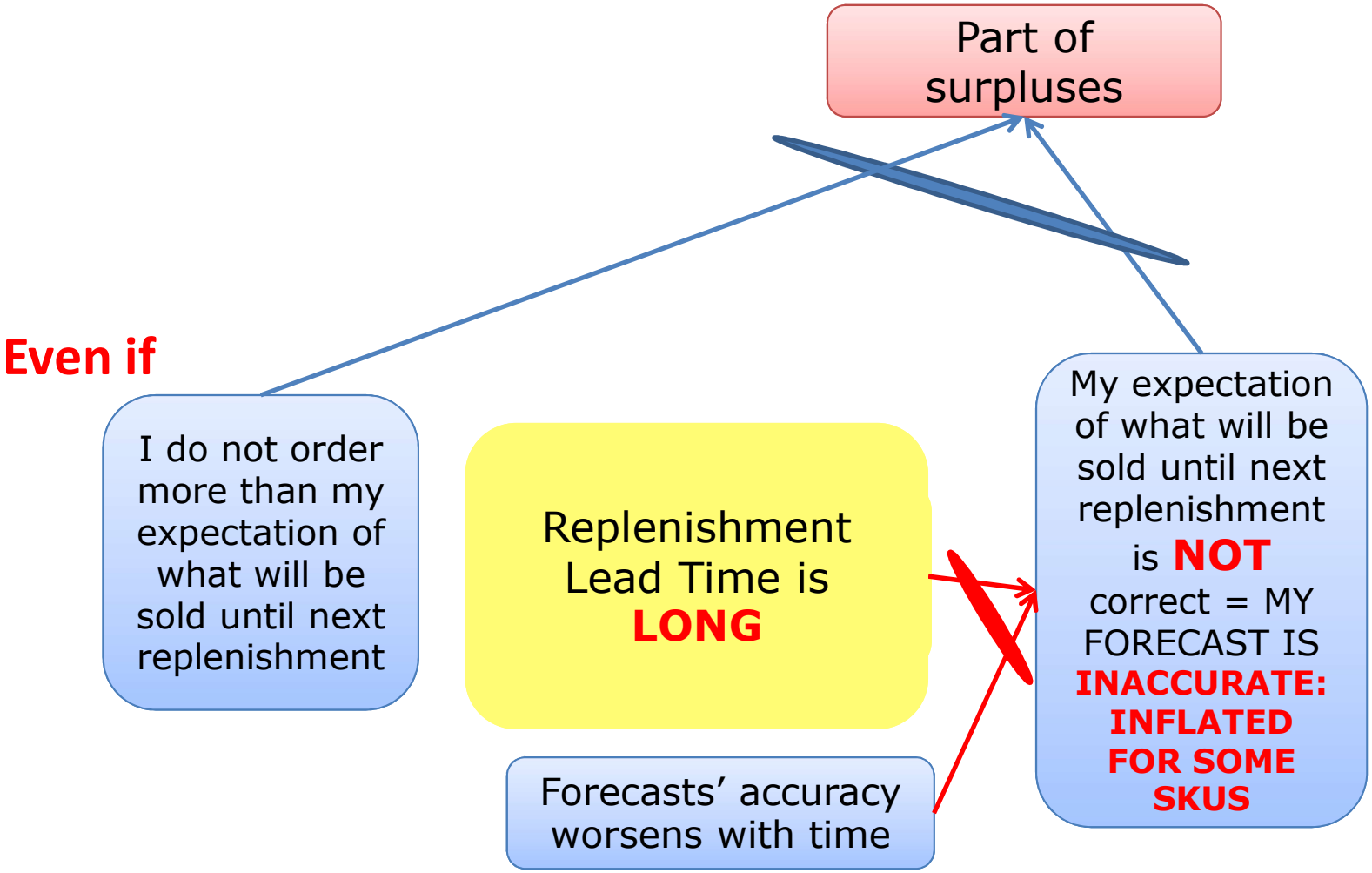
Again, checking the Banana

"Surpluses" = HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"



Again, checking the Banana

"Surpluses" = HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"



Again, checking the Banana

"Surpluses" = HOLDING MORE THAN NEEDED DURING A CERTAIN PERIOD OF TIME"

Part of surpluses

Even if

I do not order more than my expectation of what will be sold until next replenishment

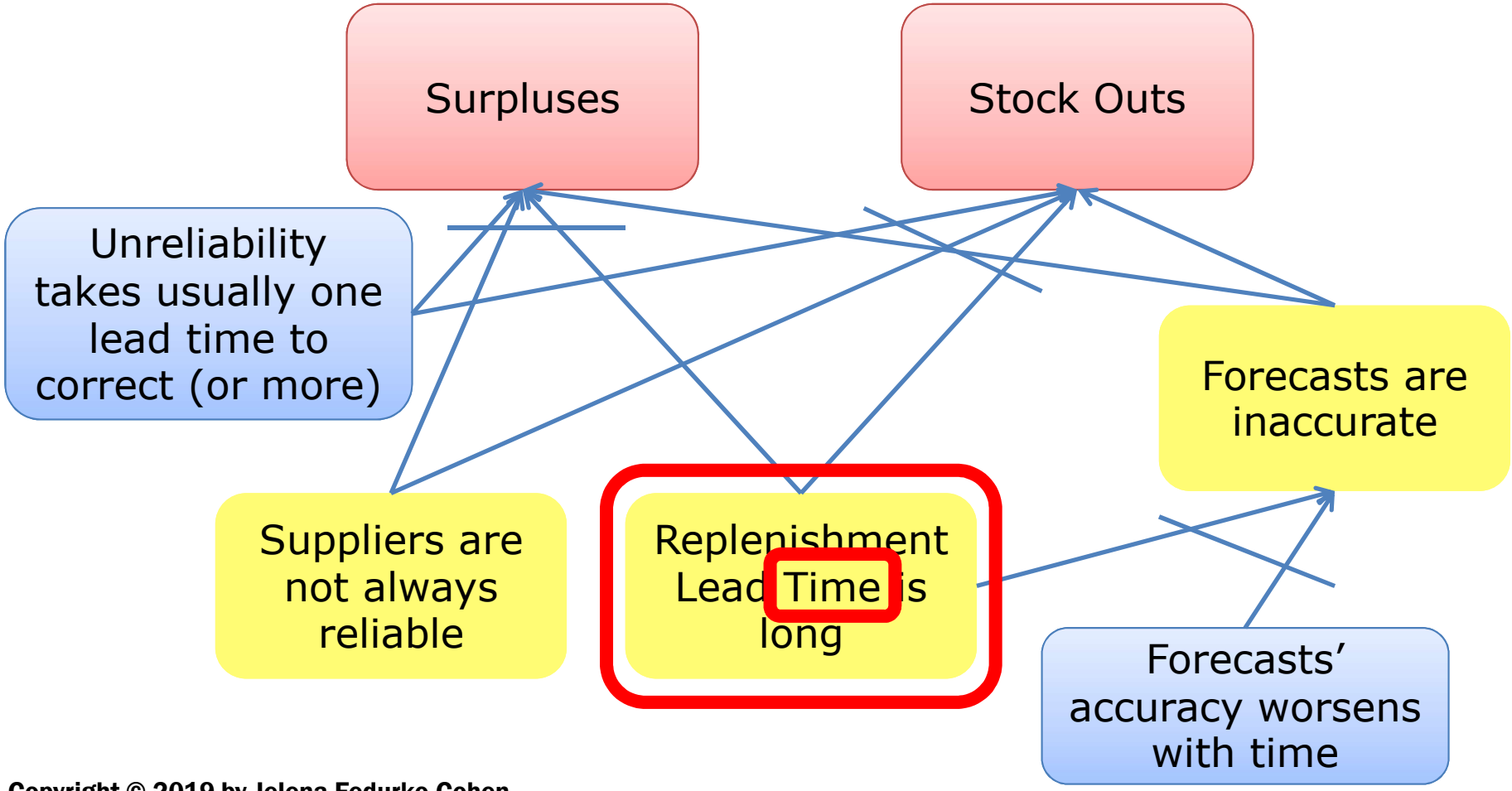
Replenishment Lead Time is **LONG**

Forecasts' accuracy worsens with time

My expectation of what will be sold until next replenishment is **NOT** correct = MY FORECAST IS **INACCURATE: INFLATED FOR SOME SKUS**

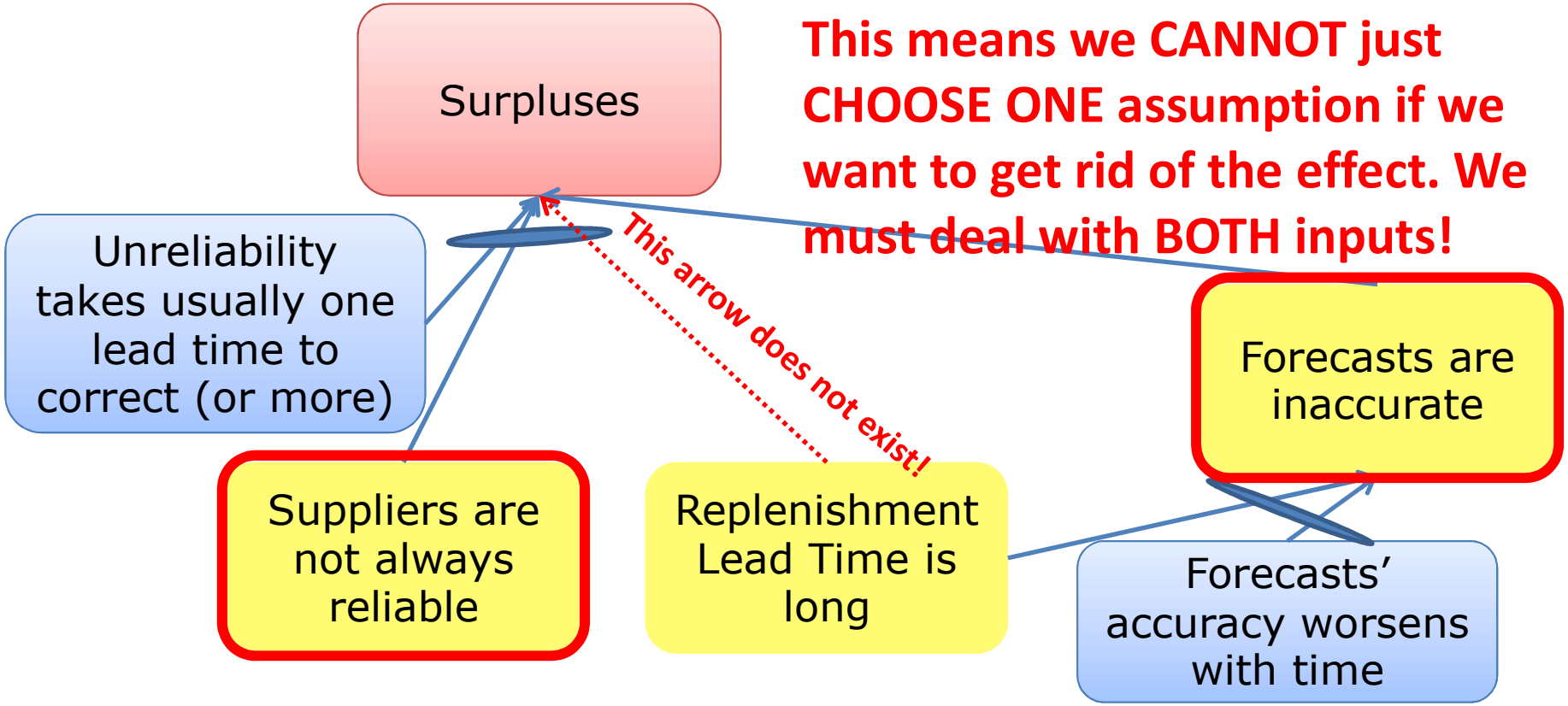
We started with:

- **3** assumptions to challenge? Where to start?



But the analysis we have made gives us a new understanding:

Replenishment Lead Time **is NOT the common entity that sits simultaneously in the cluster with "Suppliers are not always reliable" and in the cluster with "Forecasts are inaccurate".**

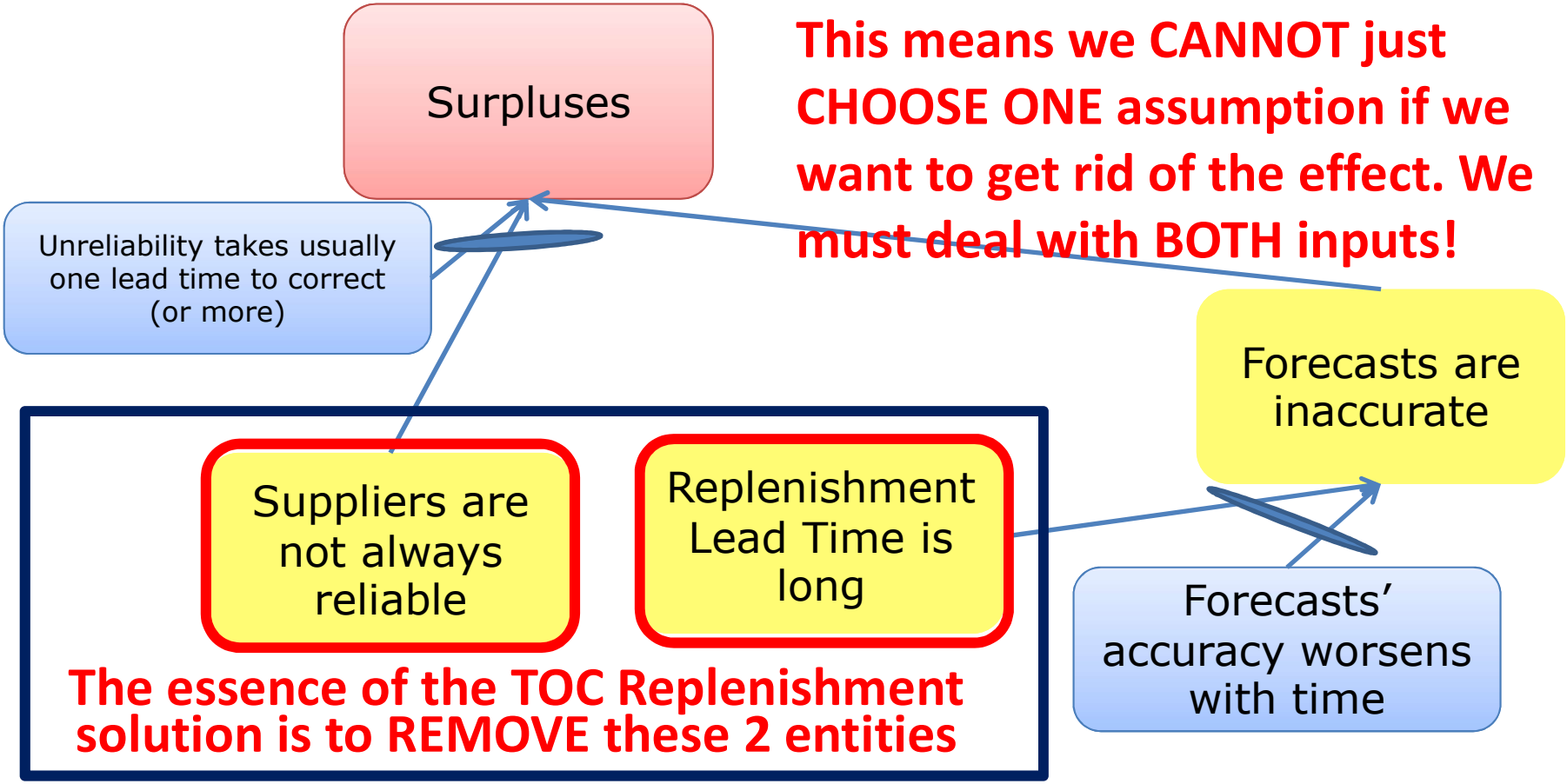


This means we CANNOT just CHOOSE ONE assumption if we want to get rid of the effect. We must deal with BOTH inputs!

We see that there are TWO independent contributors to "Surpluses".

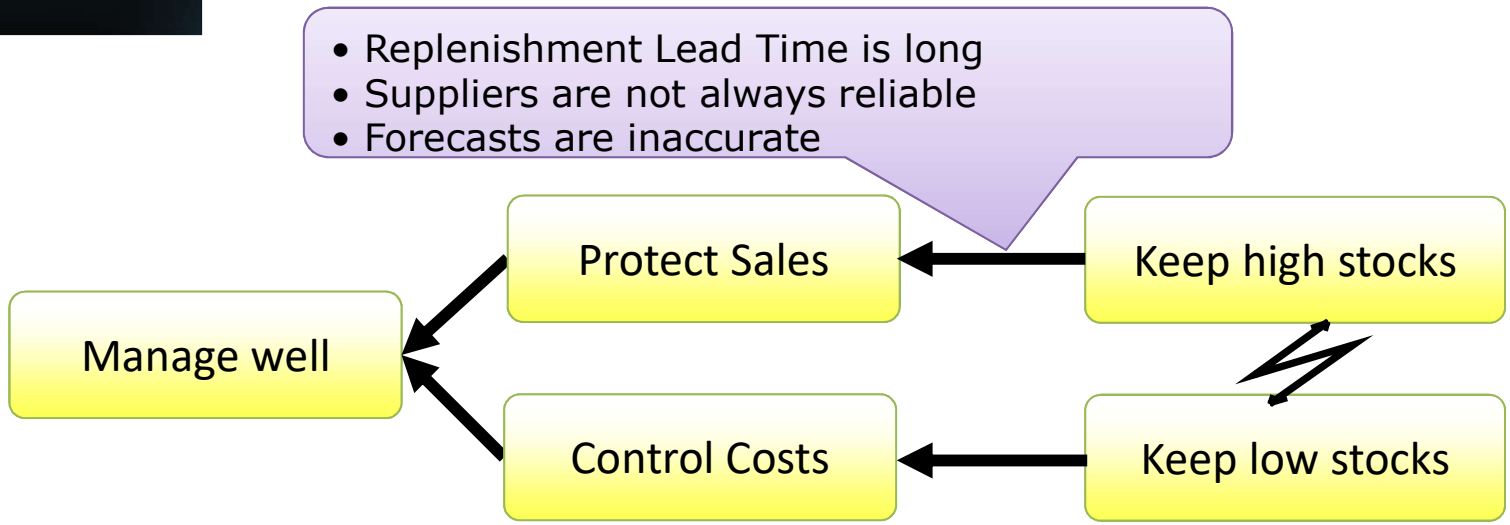
But the analysis we have made gives us a new understanding:

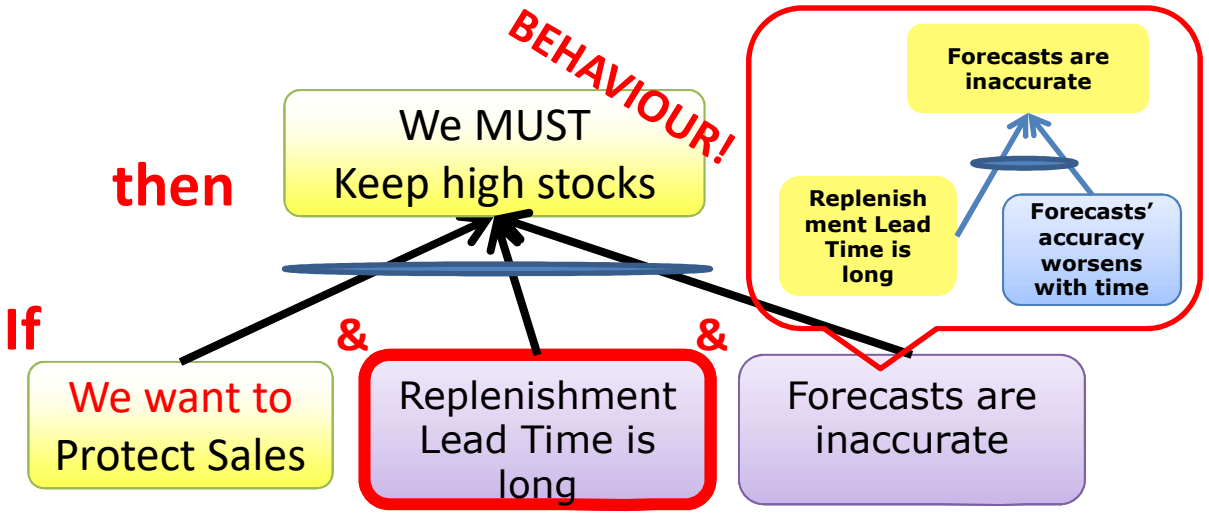
Replenishment Lead Time **is NOT the common entity that sits simultaneously in the cluster with "Suppliers are not always reliable" and in the cluster with "Forecasts are inaccurate".**



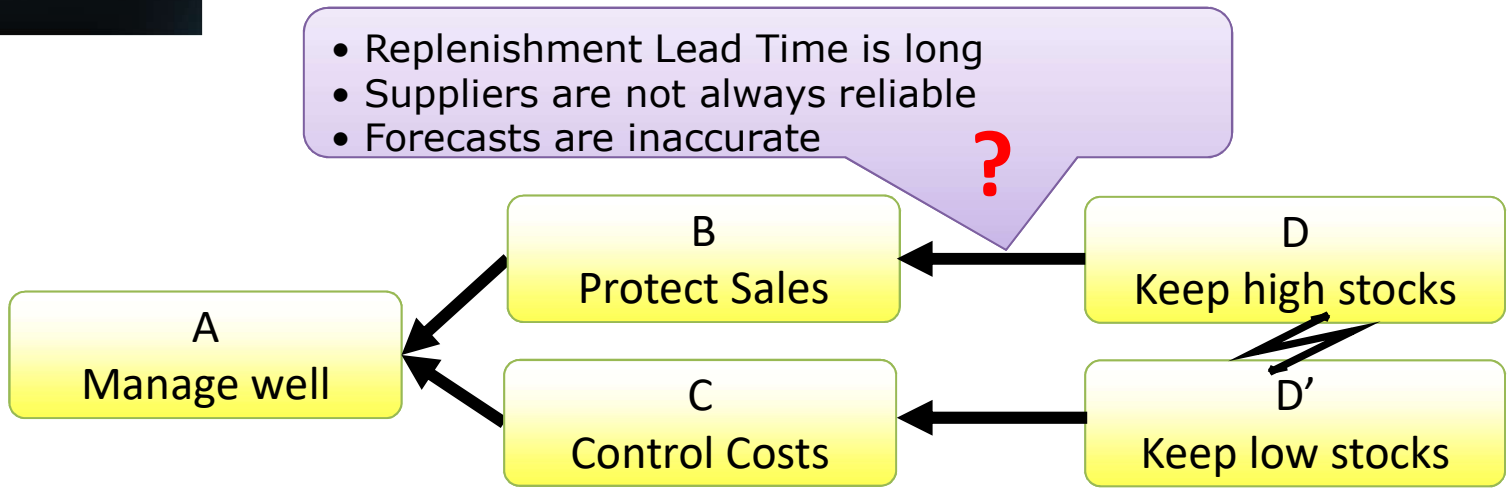
This means we CANNOT just CHOOSE ONE assumption if we want to get rid of the effect. We must deal with BOTH inputs!

Let's get back to the Core Cloud: We must deal with both clusters!

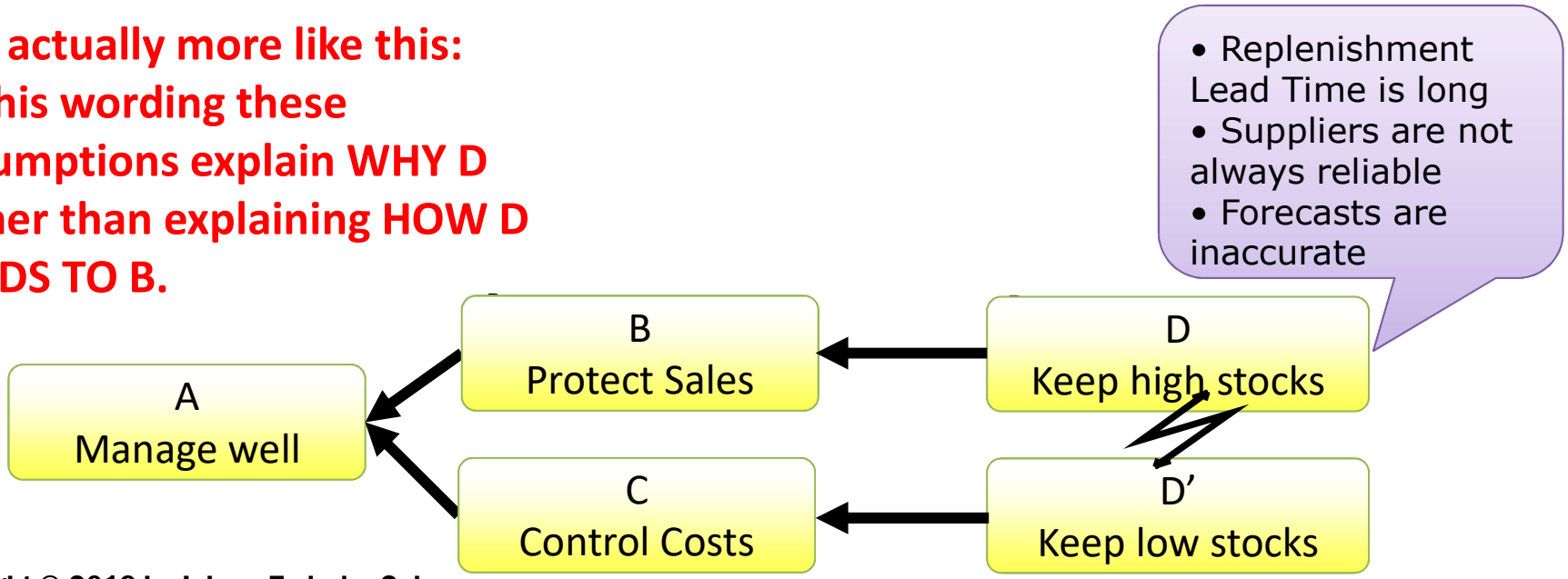




Another aspect : The assumptions must explain the arrow



It is actually more like this: In this wording these assumptions explain WHY D rather than explaining HOW D LEADS TO B.



Let's look at assumptions BD in more detail

BD1: What is not available within the customer's tolerance time is a lost sale.

Replenishment Lead Time is long **Suppliers are not always reliable**

BD2: Many customers do not come to buy with a concrete set of specifications – the more choice they see the more likely they will buy something.

Forecasts are inaccurate

Assortment & NPD

BD3:A shop/distribution center that is full of stock creates with customers a feeling of reliability and reassurance ("one can always find there something") that brings customers back, as well as new customers.

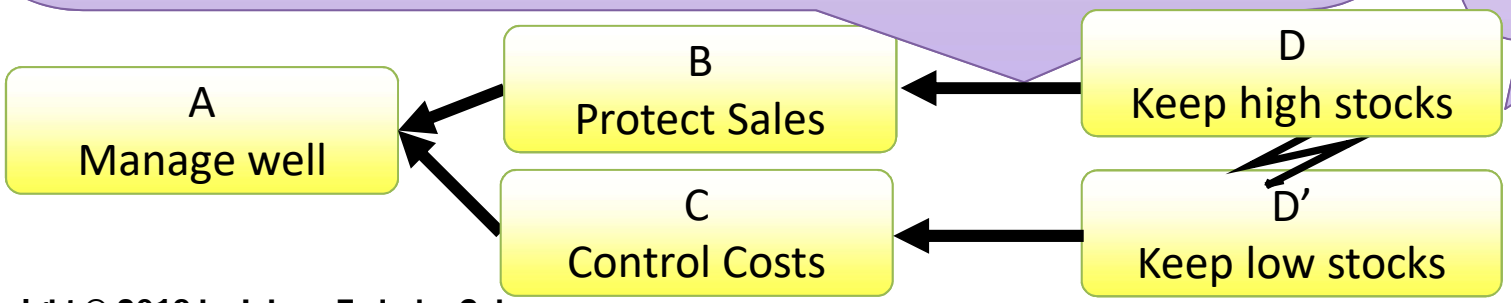
BD4: Customers can physically find what they need (display).

BD5: The stock can be sold (it is displayed, its code and price correctly entered in the system).

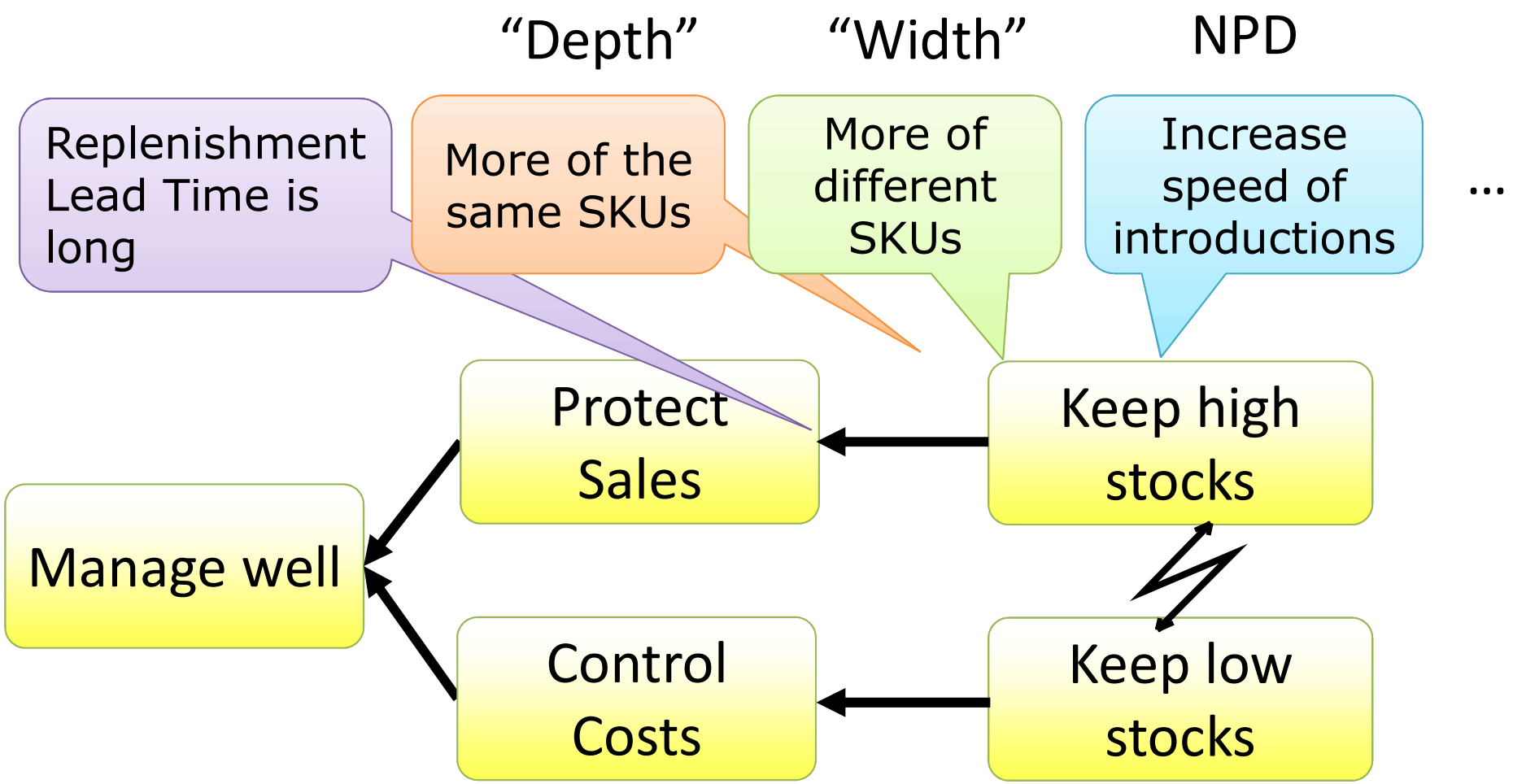
Operations & capacity

BD6: There are enough shop assistants/sales people to assist & serve the customer within the customer's tolerance time.

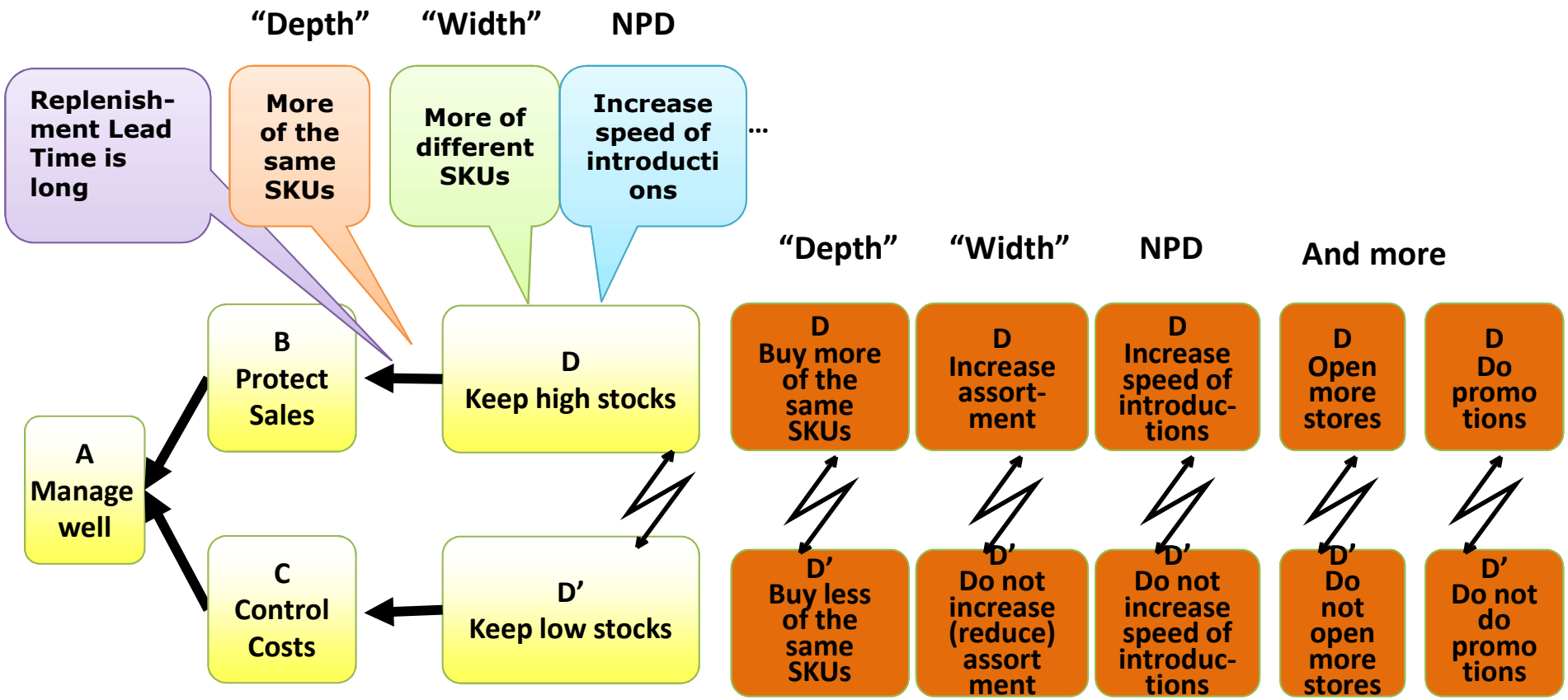
- Replenish-ment Lead Time is long
- Suppliers are not always reliable
- Forecasts are inaccurate



Humberto presented the elements of the meaning in the connection B-D it this way, which is in full agreement with the previous slide



Moreover: “Depth”, “Width” and “NPD” are embedded in D and D’ of the Core Cloud



There is more to the assumptions in this Core Cloud, the same as in any Cloud

BD1: What is not available within the customer's tolerance time is a lost sale.

Replenishment Lead Time is long **Suppliers are not always reliable**

BD2: Many customers do not come to buy with a concrete set of specifications – the more choice they see the more likely they will buy something.

Forecasts are not reliable

BD3:A shop/distribution center that is full of stock creates with customers a feeling of reliability and reassurance ("one can always find there something") that brings customers back, as well as attracts new customers.

Assortment, availability & NPD

Arguments supporting D as the means to achieve B

BD4: Customers can physically find what they need (display).

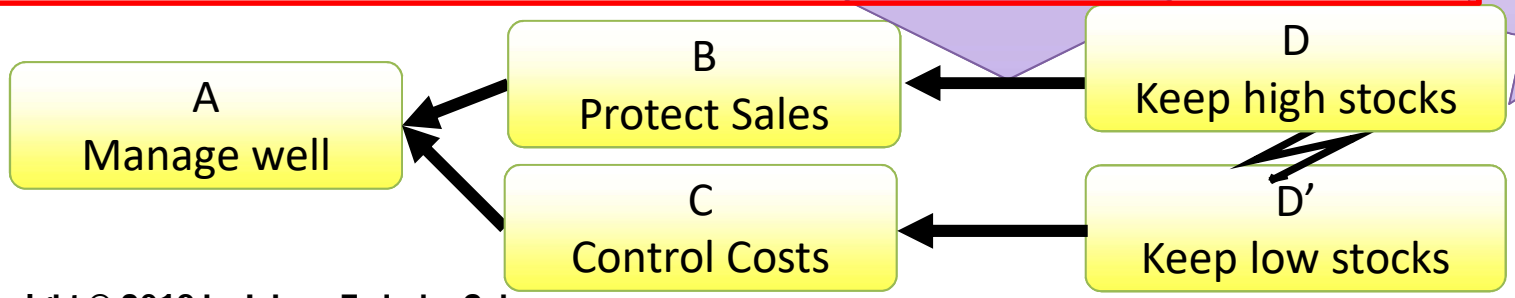
BD5: The stock can be sold – its code and price are correctly entered in the system).

BD6: There are enough shop assistants/sales people to assist & serve the customer within the customer's tolerance time.

Operations & capacity

Conditions without which D is senseless

- Replenishment Lead Time is long
- Suppliers are not always reliable
- Forecasts are inaccurate



Still more to the assumptions

External behaviour

BD1: What is not available within the customer's tolerance time is a lost sale.

Replenishment Lead Time is long

Suppliers are not always reliable

BD2: Many customers do not come to buy with a concrete set of specifications – the more choice they see the more likely they will buy something.

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BD3:A shop/distribution center that is full of stock creates with customers a feeling of reliability and reassurance ("one can always find there something") that brings customers back, as well as attracts new customers.

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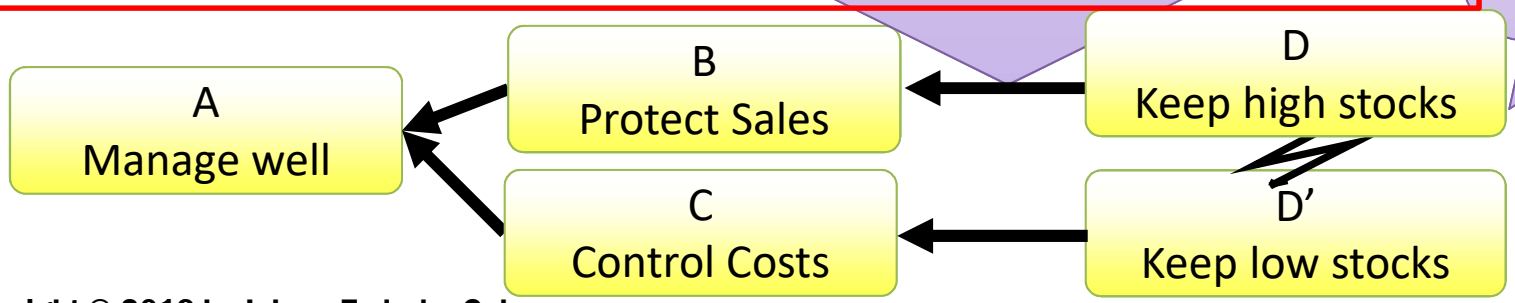
Operations & capacity

BD6: There are enough shop assistants/sales people to assist & serve the customer within the customer's tolerance time.

Conditions without which D is senseless

My system

- Replenish-ment Lead Time is long
- liers are ys
- asts are inaccurate



Why are these assumptions not mentioned in the Supply Chain Core Cloud?

BD1: What is not available within the customer's tolerance time
sale.

Replenishment Lead Time is long

Suppliers are not always

BD2: Many customers do not come to buy with a c
specifications – the more choice they see the
something.

Forecasts are not reliable

BD3:A shop/distribution center th
with customers a feeling of
("one can always find th customers
back, as well as att

Assortment, Availability & NPD

BD4: Custo they need (display).

BD5 code and price
are c system).

Operations & capacity

BD6: T ugh shop assistants/sales people to
assist & the customer within the customer's tolerance time.

Conditions without which D is senseless

My system

• Replenish-
ment Lead
Time is long
liers are
ys
asts are
inaccurate

ternal
viour

s
porting D
as the means
to achieve B

A
Manage well

B
Protect Sales

C
Control Costs

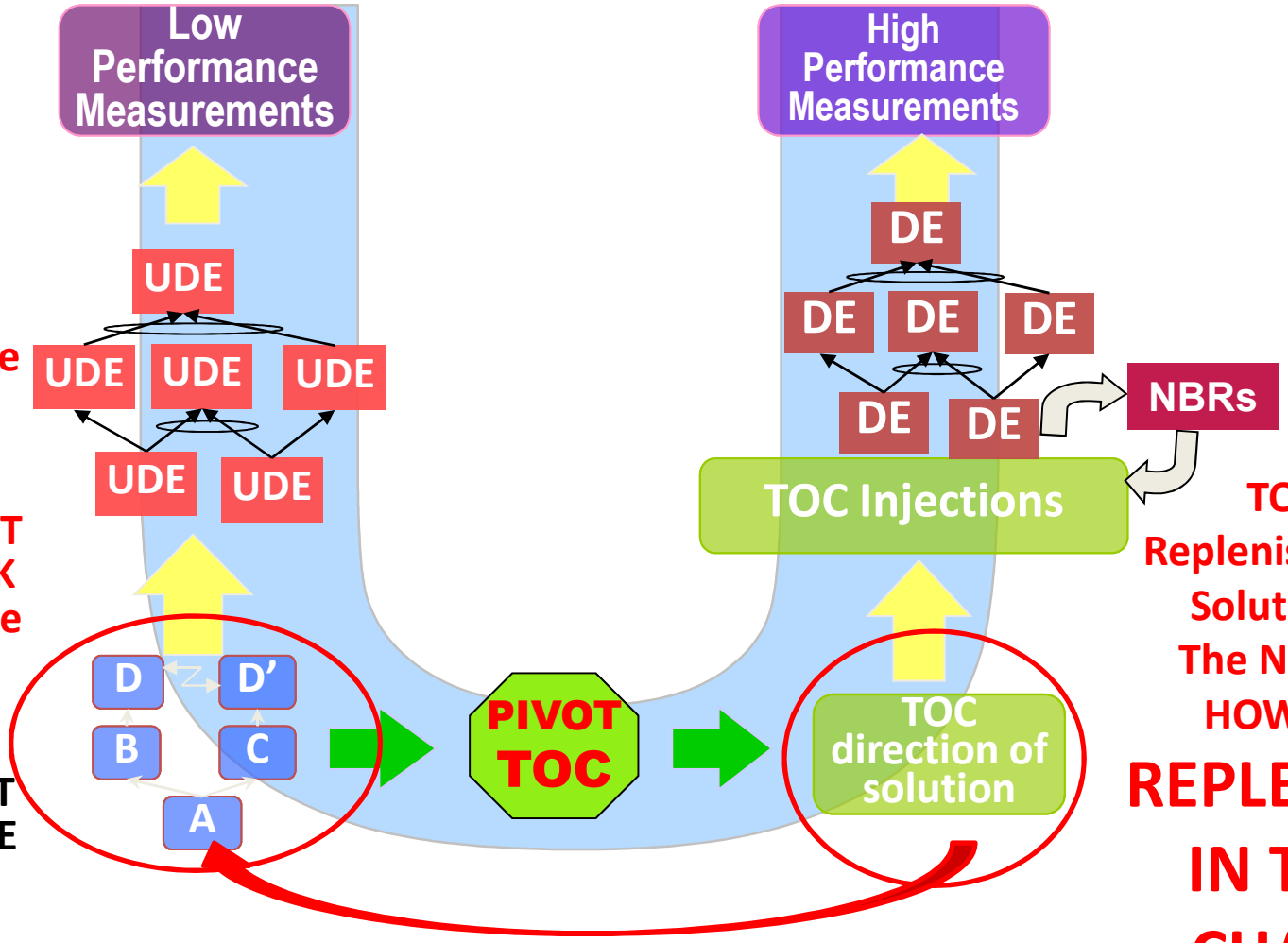
D
Keep high stocks

D'
Keep low stocks

Let's look at the U-Shape

Current Reality

Future Reality



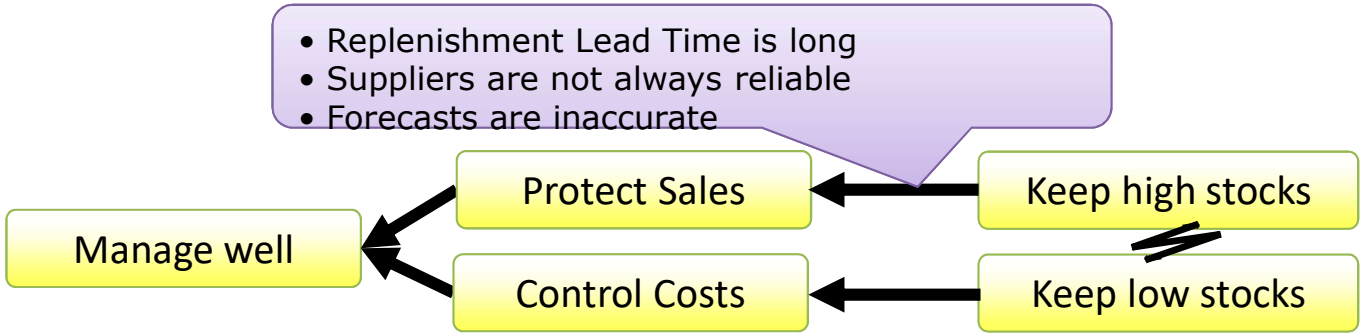
Hence – only the assumptions relevant to the topic of REPLENISHMENT FROM ONE LINK TO ANOTHER are presented.

And in the WORDING THAT ALLOWS PEOPLE TO IDENTIFY THEMSELVES WITH THE DESCRIPTION.

TOC Replenishment Solution = The NEW is HOW TO

REPLENISH IN THE CHAIN

The wording



ANY Core Cloud in the TOC Logistical Solutions is TO DEMONSTRATE and CONVINCE!

Hence, the presentation of the logic in these clouds must be easily understandable by people who are not used to logical analysis of high precision.

Such presentation of logic is NOT aimed at TOC professionals, it is aimed at helping them to help potential TOC users identify themselves with the described situation and get excited about the feasibility of removing the chronic problem by a TOC solution.