# Flexibility AND Reliability

*The company's competitive advantage is '**total**' flexibility – they react immediately to new customer request (from existing and from new clients); however, reliability of projects already underway suffers.*

## Flexibility and Reliability

Flexibility is desirable because immediate response to a client's (and a potential client's) urgent needs is a good way to gain customers or it is a necessary tactic if competitors do the same. The need to be flexible is to maintain or gain market share.

Reliability (due date reliability) is also very desirable. Customers reward suppliers that are reliable (on-time, within budget and with all promised specifications delivered). Reliability maintains customer loyalty or builds up loyalty rapidly with new clients.

Both flexibility AND reliability are equally valid and (probably) equally important to any (project) business. The common belief is that both are not possible together, so companies compromise and do their best to get sufficient of both.

The compromise situation is uncomfortable because often either flexibility or reliability or both are insufficient and can jeopardize the business – customers are not totally satisfied. If clients are satisfied enough, it means competition is in the same boat – all competitors perform approximately equally.

The company has an opportunity – near perfect flexibility **AND** near perfect reliability together would be a powerful competitive advantage. In most companies management has a conflict – to choose between flexibility and reliability or select a compromise that jeopardizes both flexibility and reliability.

## The Flexibility ⇔ Reliability Conflict

The paragraph below shows how the following conflict diagram should be read. The Flexibility ⇔ Reliability conflict is a model for the others. The first 2 bullet points describe the upper side of the conflict diagram; the 2 bullet points after the graphic describe the lower part of the conflict.

If delivery delays (including compromising on scope) cause clients significant damage to their business operations and if the lack of immediate response to urgent requirements is similarly damaging to clients – then the conflict below is very real. The company is between a rock and a hard lace.

The ability to achieve both flexibility and reliability to the extent no significant competitor can; would be a very significant competitive advantage.

The conflict description:

- If we want to "manage our project business successfully" (A), then we must "gain new and maintain existing clients"; <u>BECAUSE</u> 1.) "In our business success means we achieve profitable growth" (B); and/or 2.) "New business is the lifeblood of our company."
- If we need to "gain new and maintain existing clients" (B); then we must respond to client requests immediately" (D); <u>BECAUSE</u> 1.) "Urgent requirements are not rare"; 2.) "Clients give business to suppliers that respond quickly"; 3.) "Delays caused by responding to urgent demands do not jeopardize existing business": 4.) "Clients are used to delays"; 5.) "To deliver projects late (or incomplete) is common practice".
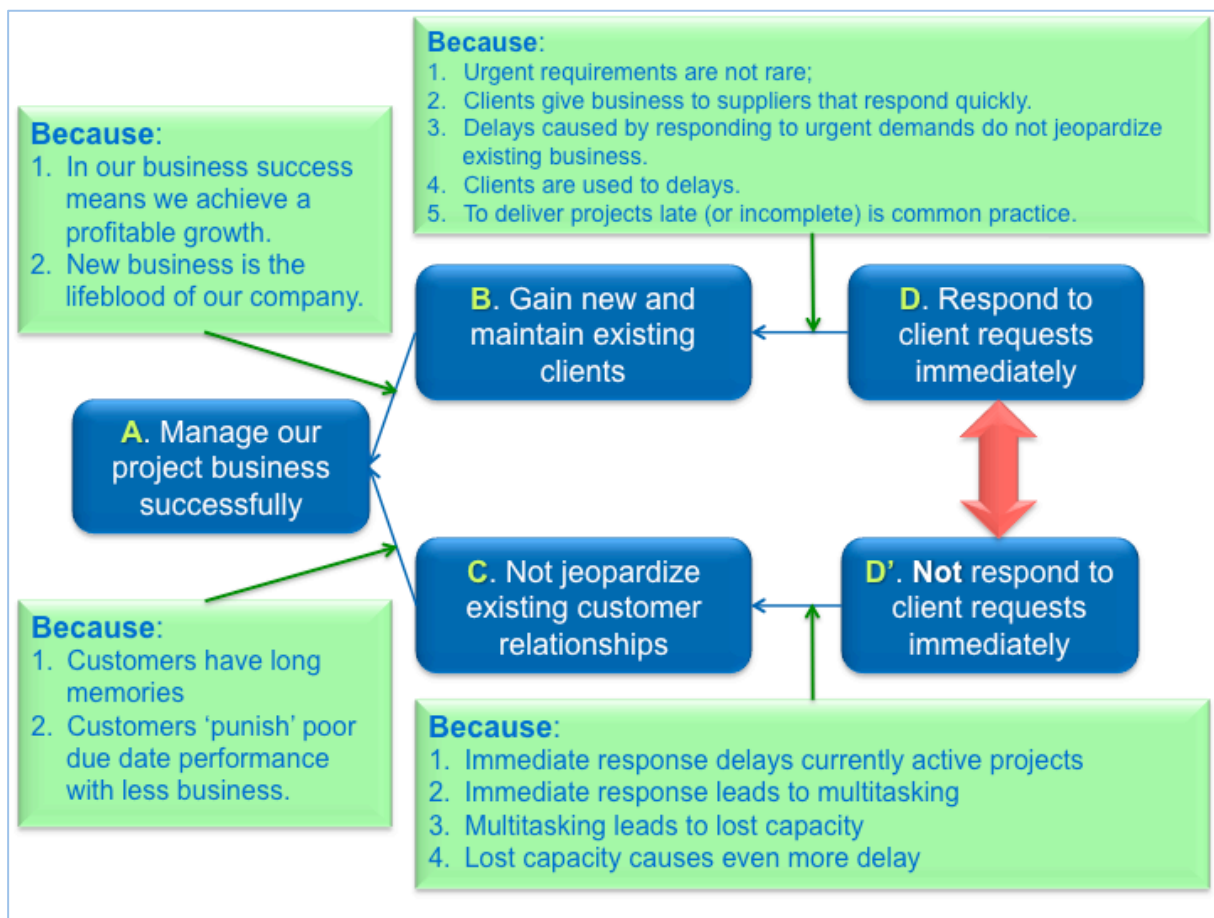


- If we want to "manage our project business successfully" (A), then we "must not jeopardize our existing customer relationships" (C); <u>BECAUSE</u>: "Customers have long memories"; "Customers 'punish' poor due date performance with less business".
- If we need to "**not** jeopardize existing customer relationships"; (C) then "we must NOT respond to client requests immediately"; (D') <u>BECAUSE</u>: 1.) "Immediate response delays currently active projects" 2.) "Immediate response leads to multitasking"; 3.) "Multitasking leads to lost capacity"; 4.) "Lost capacity causes even more delay".
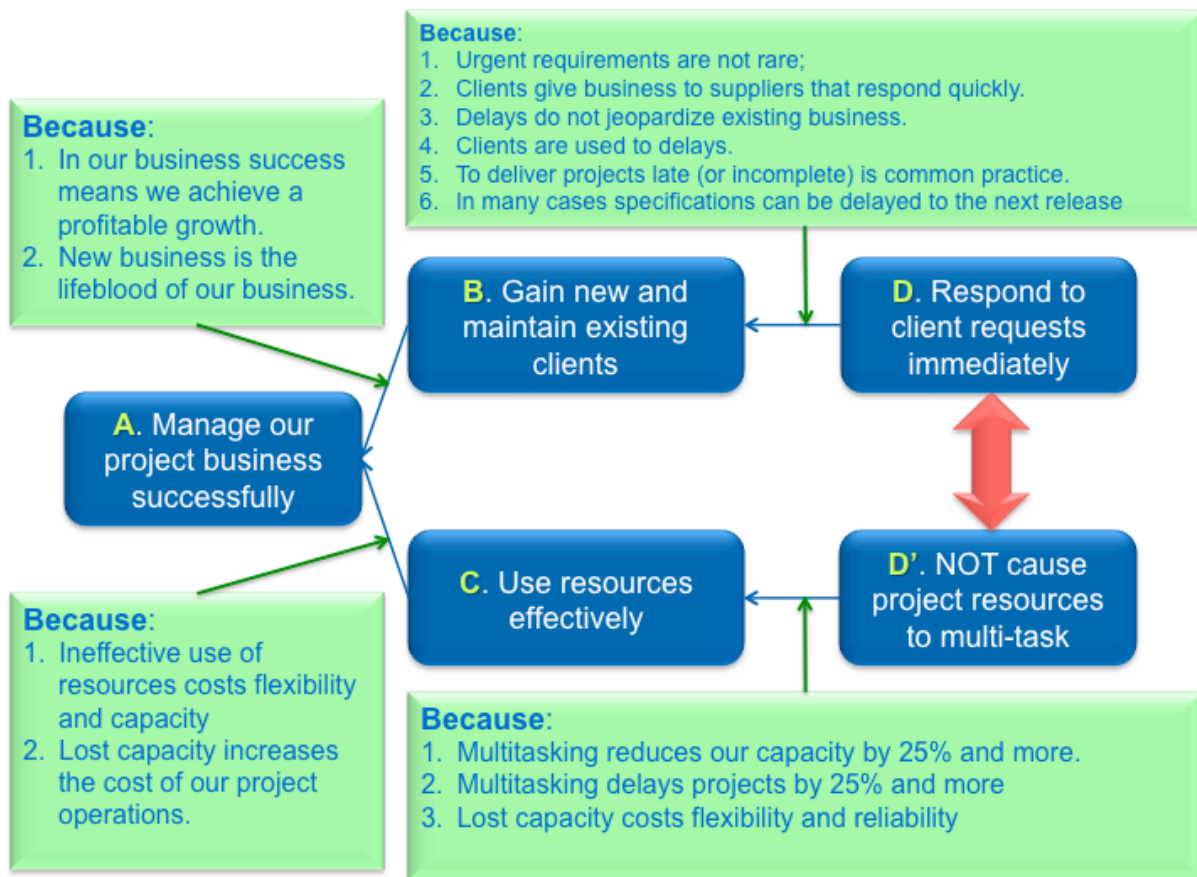
If an organisation can do significantly more with its existing resources, the capacity created could be used as a buffer in order to reserve the capacity necessary for urgent demands. The difficulty may be how to organise and manage such a concept. Reserved capacity should not be wasted if no urgent demand arrives on the scene.

Companies have 'created' 50 – 100% capacity (without adding resources) in their project organisations and used this capacity to respond more quickly and to produce more.

## The Flexibility ⇔ Effectiveness Conflict

A task should always be finished before something new is started is a rule when implementing Critical Chain project management. This rule gives the impression that flexibility must be compromised. If flexibility is desirable then it would seem that Critical Chain is less flexible than conventional project management.

The conflict is shown in the graphic below and is read in the same way as the earlier conflict.

**Because:**
1. Urgent requirements are not rare;
2. Clients give business to suppliers that respond quickly.
3. Delays do not jeopardize existing business.
4. Clients are used to delays.
5. To deliver projects late (or incomplete) is common practice.
6. In many cases specifications can be delayed to the next release

**Because:**
1. In our business success means we achieve a profitable growth.
2. New business is the lifeblood of our business.

**B.** Gain new and maintain existing clients

**D.** Respond to client requests immediately

**A.** Manage our project business successfully

**C.** Use resources effectively

**D'.** NOT cause project resources to multi-task

**Because:**
1. Ineffective use of resources costs flexibility and capacity
2. Lost capacity increases the cost of our project operations.

**Because:**
1. Multitasking reduces our capacity by 25% and more.
2. Multitasking delays projects by 25% and more
3. Lost capacity costs flexibility and reliability

The impact of not multi-tasking has been shown in many other environments. The ability to minimize multi-tasking has cased project environments to identify 50 – 100% capacity that seemingly was not available. How this capacity is actually used depends on the strategies of the particular business. This

additional capacity can be used for greater flexibility while guaranteeing near perfect reliability or more projects can be delivered.

The company can follow the rule of no multitasking most of the time because the time remaining until a task is complete is often short enough. Otherwise the urgent task will cost some project buffer, but usually this is not a real risk of delay for existing projects. Buffer management will in any case indicate when projects are in danger of missing due dates.

If an immediate response is essential then this can be done, of course. This kind of immediate intervention can be minimized through the added capacity found with Critical Chain.

The test will be whether or not an immediate response is truly needed. In most environments an immediate (this very second) response is not needed.

Critical Chain recommends minimizing multi-tasking (eliminate 'bad' multi-tasking is the way the rule is expressed) but explicitly states that **GOOD multitasking** is allowed and it exists.
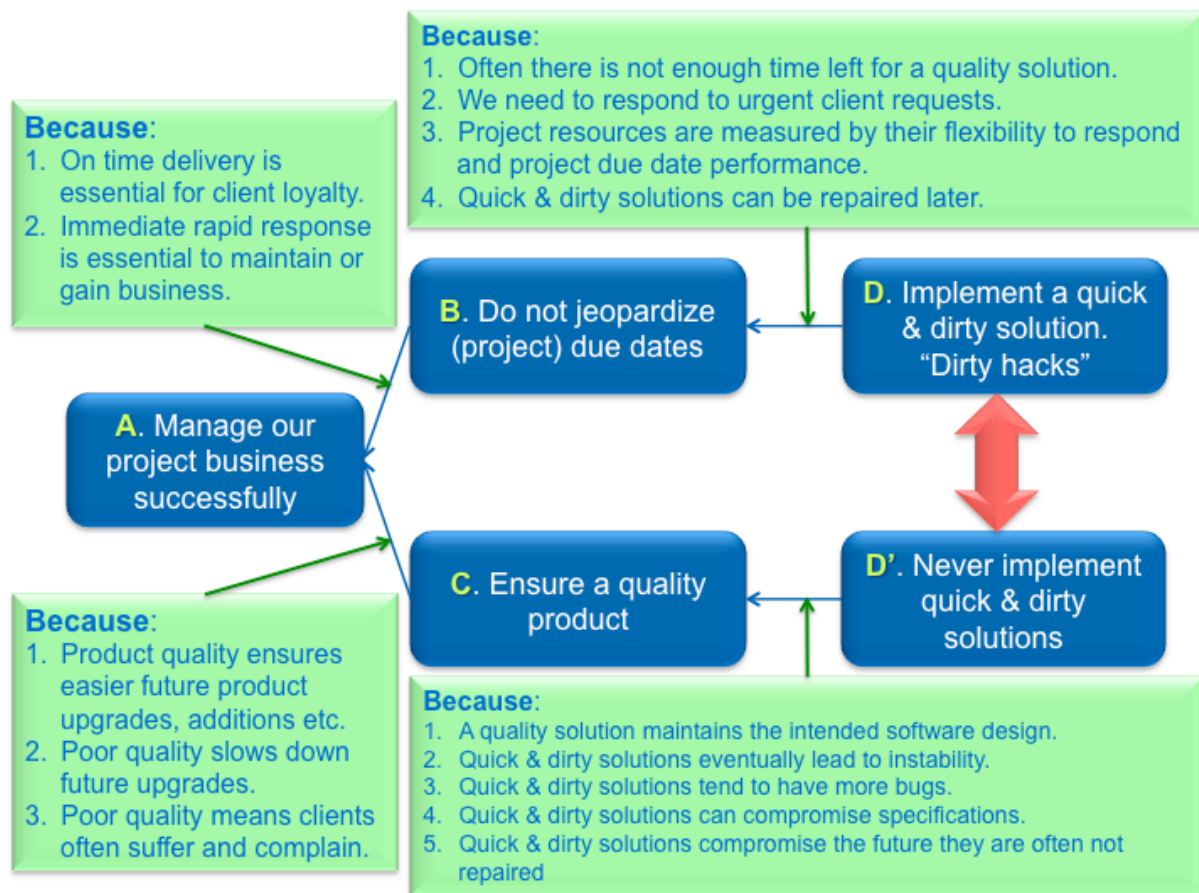
## Implement Quick & Dirty Solutions or NOT

It happens that pressure to meet a due date causes an organisation to choose a 'quick and dirty' solution in order to deliver the product on time. The consequences can be that the chosen solution has bugs and that the architecture of the product (especially with software) is compromised causing future enhancements and upgrades to take (much) longer. Product stability does not improve either.

The organisation finds itself in the conflict shown below. The organisation needs to ensure product quality the customers due date is also very important. The compromise is to implement a quick and dirty solution to deliver on time and then correct the lack of quality later. New priorities then often prevent correction leading to an ever-worsening situation. Software development starts to take longer and longer as existing quick and dirty solutions need to be considered whenever an enhancement or upgrade is made. With longer development times the pressure for quick and dirty solutions increases-we have a vicious circle that deteriorates performance.

It is of course possible to postpone an enhancement or upgrade until the next release. However this too is not really acceptable – the company can slowly and inexorably get further and further behind its competitors.

It is entirely possible that competitors have exactly the same problems as our company and employ the same compromises for their solution. If this is the case then our company is fortunate – it is not losing competitive advantage. Nevertheless an opportunity for a significant competitive advantage is lost.

The reliability, speed and capacity developed with Critical Chain makes it possible to solve this conflict – there should be little or no need for quick and dirty solutions.

**Because:**
1. On time delivery is essential for client loyalty.
2. Immediate rapid response is essential to maintain or gain business.

**Because:**
1. Often there is not enough time left for a quality solution.
2. We need to respond to urgent client requests.
3. Project resources are measured by their flexibility to respond and project due date performance.
4. Quick & dirty solutions can be repaired later.

**B. Do not jeopardize (project) due dates**

**D. Implement a quick & dirty solution. "Dirty hacks"**

**A. Manage our project business successfully**

**C. Ensure a quality product**

**D'. Never implement quick & dirty solutions**

**Because:**
1. Product quality ensures easier future product upgrades, additions etc.
2. Poor quality slows down future upgrades.
3. Poor quality means clients often suffer and complain.

**Because:**
1. A quality solution maintains the intended software design.
2. Quick & dirty solutions eventually lead to instability.
3. Quick & dirty solutions tend to have more bugs.
4. Quick & dirty solutions can compromise specifications.
5. Quick & dirty solutions compromise the future they are often not repaired

## Critical Chain

Critical Chain is a solution for a company such as the one described. The combination of reliability, speed and re-found capacity is a powerful combination that will allow the company to achieve the necessary flexibility, the reliability it needs to ensure customer loyalty and to always delivery a quality product with no need for quick and dirty solutions. The capacity that is discovered with Critical Chain provides the buffer needed to achieve all 3 targets – flexibility or speed, reliability and quality. There may even be capacity to do additional projects beyond the capability of the organisation today.

## Path Forward

1. Senior management must understand that while Critical Chain limits the amount of multitasking its does NOT stop what is known as **good multitasking**.
2. VISTEM and the client perform an analysis of the situation at the client and develop the concept for the solution. Necessary conditions the solution must meet are: 1. Flexibility; 2. Reliability; 3. Product Quality (no quick and dirty solutions); 4. Capacity to enable the first three priorities and still give the opportunity for more projects – without compromise.

3.  The concept is presented to senior management together with a project proposal. This should be done in a 2-hour presentation. The outcome of this presentation should be the request for VISTEM to collect the necessary data in order to make an improvement proposal.
4.  The proposal is presented to senior management for their approval
5.  Implementation of the project – significant results can be expected within 6-9 months.