



# TECHNOLOGY BUDGETING IN THE NEW WORLD

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# Abstract

This is a practical paper for CIOs and their senior finance colleagues. It will show:

1. How recent events have caused a change in Financial Markets Technology risks
2. Why you must rebalance your budgets now:
  - o Ensure integrity of your current services in unique circumstances
  - o Work to simplify and reduce risks as well as medium term costs
  - o New products and services are essential for growth and must use new budgeting techniques
3. Practical help in achieving these objectives

## Background

The world has changed forever and so has the way in which technology needs to be deployed and managed.

This creates a unique challenge for boards and CIOs as they consider how to deploy financial resources to ensure risks are mitigated, services are provided with quality **AND** the business develops new markets for growth.



# Why IT \$ spend must be rebalanced

The rapid speed of change that was caused by the recent epidemic has had several key consequences

- The immediate need to home-base all technology staff created an unprecedented load on access to systems through pre-existing connectivity. Going forward, financial institution CIOs will be measured on the speed at which they can home deploy without loss of momentum and this requires a refocus of funds towards connectivity, security and Cloud based systems.
- Home-based employees have varying levels of equipment, network access and quality of conditions for work. Organizations must consider how their disaster recovery plans ensure their employees receive quality of care based on their individual circumstances and that appropriate tools are provided for them to perform a quality job.
- The rapid and dramatic increase in volumes as well as volatility caused processing difficulties for many major organizations with manual work arounds being all but impossible to complete during the processing windows of the markets. This will require that systems are analyzed and adapted to meet maximum capacities at short notice and that they are able to deal with the level of volatility seen during March and April of 2020.
- The introduction of new products at high volume has been difficult for several institutions to handle. I refer in particular to the needed government support programs which require a high speed of delivery in order to maintain a go-forward economy. Criticism of processing times in several countries occurred as this has led to the closure of otherwise viable businesses. However it is difficult, albeit essential, to build new capability with home-based teams.
- Major regulatory changes have been pushed back such as FRTB and SIMM. Other programs for new builds and functionality can also be delayed. This in turn should provide some level of relief for technology organizations, if it were not for the fact that these programs are large in nature, already contracted and in full flight. A completely new way of providing budgets for change work must be used in order for such relief to be realized as and when needed.
- Platform production support must continue to operate within agreed service levels. However, this can prove difficult with home-based deployment, in particular where such requirements are multi-country and take place over differing time-zones. SLAs must be adapted between partner organizations to account for this new dynamic irrespective of location.
- Finally, the world must continue to turn, and economy be generated. Financial markets are not only essential, but they must produce products that are suitable for future conditions as well as within the bounds of regulation. This requires the implementation of not only agile techniques, but flexible home-based teams working on projects with a high level of collaboration and in circumstances where requirements can change very quickly.

Traditionally during financial planning, these seven major items have not been deeply considered. However now they must be, and it is not easy: it is not easy because budgets are traditional, we have always done them this way and the starting point is usually last year.

Not anymore!

# 1. How to budget for the new world

First things first - the starting point is different. Forget last year and the year before. In fact forget anything that is after the great depression of the 1930s. Oh, wait a minute, forget anything before that too because we were not living in a computerized world then.

My point is that there is no point, no point at all of reference for the budgets that need to be re-drafted for 2020 and drawn up for 2021 – 2023. We need to start again from scratch and answer the question: “What really matters now ?”

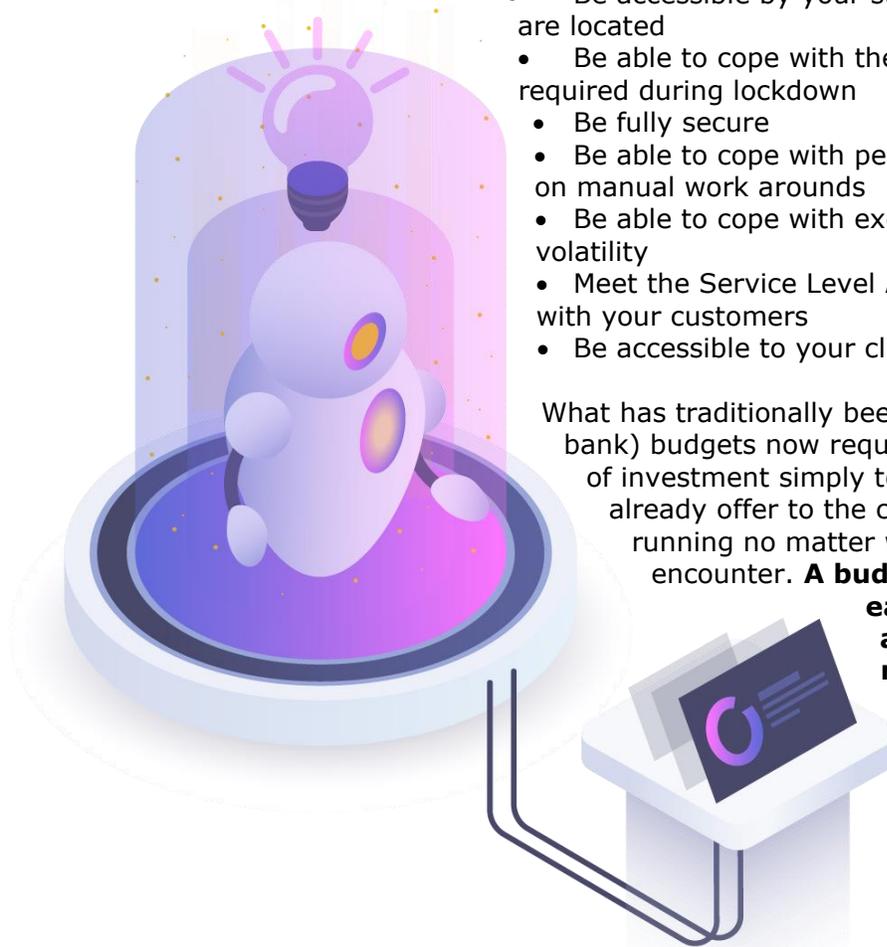
## What we have today must keep running

This is not as simple as approving the hardware, software and system support costs. What we have today is not a technology platform but delivery of essential services to a now frightened client base. The new BAU must:

- Be accessible by your staff no matter where they are located
- Be able to cope with the volume of access required during lockdown
  - Be fully secure
  - Be able to cope with peak volumes and not rely on manual work arounds
  - Be able to cope with exceptionally high levels of volatility
  - Meet the Service Level Agreements you have with your customers
  - Be accessible to your clients

What has traditionally been called RTB (Run the bank) budgets now require a one off higher level of investment simply to guarantee that what we already offer to the client base is able to keep running no matter what conditions we encounter. **A budget must be set against**

**each one of these items and a senior staff member assigned to ensure the needed work is completed within a one-year period.**



# **Essential Risk Reduction**

This first phase of budget is needed to ensure the new baseline is met. However organizations must consider how to reduce the complexity of their operations. This in turn will improve speed and guarantee robustness, as well as provide a better platform for growth.

A portfolio review needs to take place of the hardware, operating systems, architecture and applications to see where the following essential elements can be applied:

## **Cloud**

Being able to move applications on to the cloud will reduce the complexity of the connectivity challenges during times of remote work. Institutions will be responsible for policy, but the technical domain of access and security will become that of the Cloud provider. This ease of accessibility enables production support and product release to take place more seamlessly with a multi-location strategy. Additionally, Clouds can be scaled up and down as per the need without requiring on-site presence.

## **Microservices**

Developing code that has its inputs and outputs religiously defined means that code can be changed without system wide testing or major interaction with multiple parties. This ensures changes are far easier and cheaper to do and also lend themselves better to home-working environments.

## **Build to test**

Building code into automated testing scripts will enable testing to be performed and monitored remotely at a far lower cost and higher rate of throughput.

Budgets must be allocated to improving and simplifying the portfolio of hardware and software that the organization runs, focusing on business delivery to the client. This second phase requires substantial support from the board room to push through and obtain the needed advantages. A senior director should be appointed for this change and a budget set firstly for review then for full approval of the improvement budget against each of these three categories.

# New products and services must be built

A new means of budgeting needs to meet the requirement to provide new products and services at lower cost, shorter timeframes and with the ability to change requirements at short notice whilst the project is in flight. This seems all but impossible, however the technique already exists and is being deployed by several banks.

Traditional change budgets have focused on projects with defined functionality and timelines. This is easy to measure and therefore calculate returns. However it offers limited and costly adaptation. The measure of an institution's IT capability is no longer time and cost to deployment but rather the full profit and loss of the business. It is the client outcome that is important, not the method and style of individual projects. This is respected when we look at digital transformation in all its forms, but in particular with agile based deliveries. How do these work ?

Agile methods are not based on business requirement documents, defined build times and testing before production. Rather they are based on user stories, squads, sprints and constant deployment of valuable changes into production as soon as they become available. What does all that mean ?

## User Story

Rather than a business requirements document written by a business analyst, reviewed by several people and then signed off for development, a **user story**, is a brief description of what feature a user wants and why. They are more like a conversation and in fact can be written by users themselves or their managers. This "just enough" approach provides a very simple way to describe smaller pieces of functionality that will add value. Over time the many user stories written will turn into a substantial system.

## Squads

A project manager, two business analysts, eight programmers, an architect, testing staff and quality assurance people are all needed for projects, right? No longer, not with agile. Instead of large teams of this nature, agile methods use **squads** which are rounded in nature. They will always include a business focused person called the Product Owner and can be typically between five and twelve people depending on the size of the work they are to undertake. Several squads are deployed in the same organization and using agile methods with microservices on the cloud they can develop multiple parts of the same system without conflicting with each other. A squad receives a user story and is responsible for deploying that story into production. Their combined skill set provides all that is needed for the delivery. Indeed they will constantly receive and deploy new stories as they are written.

## Sprints

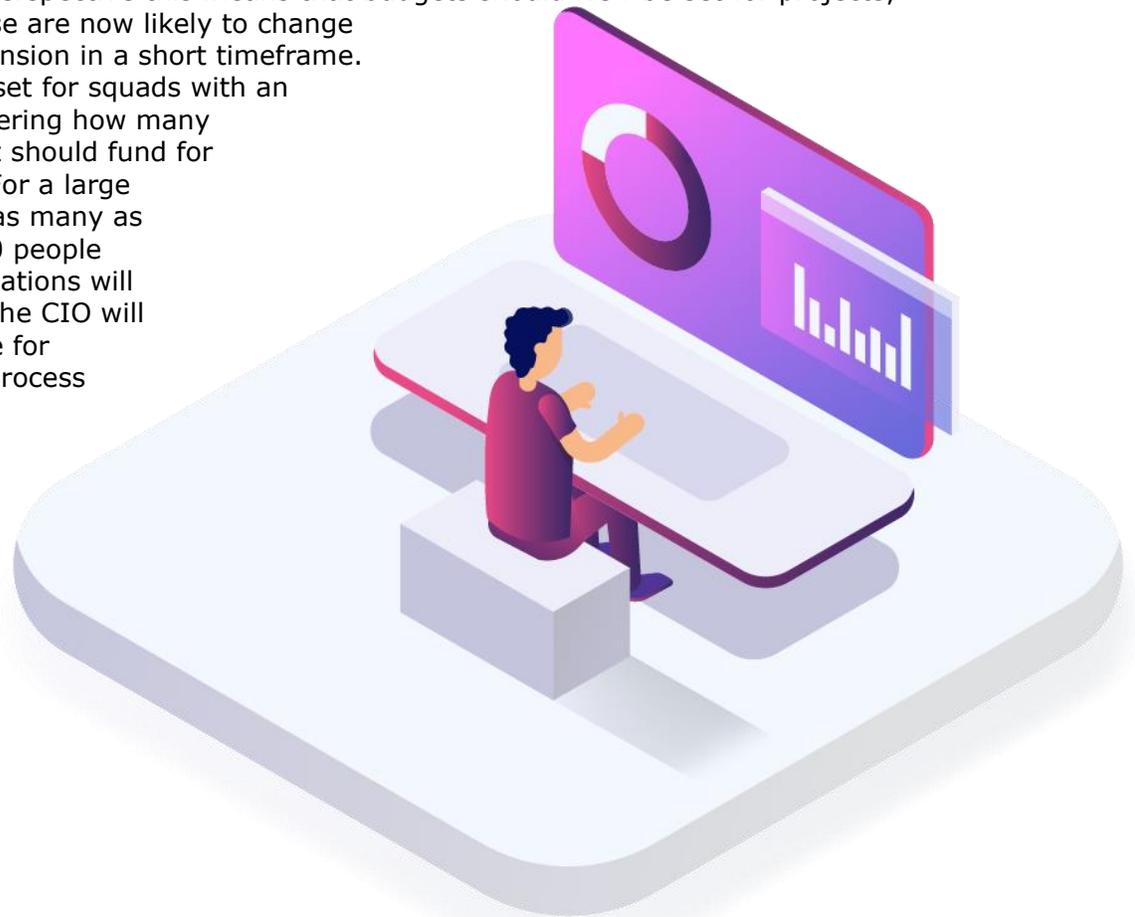
**Sprints** are exactly what they seem. Short bursts of development, usually in about 2-week cycles, where squads deliver user stories into production. How many stories is set as a target at the beginning of the sprint. However things may change and it is fully permissible to allow some stories to be delayed to the next sprint or indeed to permit a new story into a sprint whilst it is in flight. The important thing with sprints is to respect the duration of the sprint for the squad but allow the functionality to be flexible. This all but eliminates costly change control and allows the organization to adapt very quickly to changing circumstances.

## Constant Deployment

**Constant Deployment** can be achieved using the DevOps method of continual integration and continual deployment. This paper will not enter into the technicalities except to say that such a method ensures the organization gets the very earliest possible benefit from technology builds. Ensuring a rapid rate of return for technology spend will be essential in the new world.

From a budgeting perspective this means that budgets should NOT be set for projects, in particular as these are now likely to change in priority and dimension in a short timeframe.

Budgets should be set for squads with an organization considering how many squads it believes it should fund for the financial year. For a large bank this could be as many as 200 – 300 of 6 – 10 people each. Other organizations will scale accordingly. The CIO will be held accountable for ensuring he has a process for the appropriate approval of user stories at a rate and quality sufficient to keep the squads fully occupied for the year.



## 2. The Re-Budget Matrix

*This matrix provides a guide for the immediate, mid-term and 2021 budgeting process.*

<u>Imperative</u>	<u>Value</u>	<u>One off</u>
Existing Hardware and software license costs		No (but can reduce)
Existing production support people costs		No
Review and improve connectivity for existing systems		Yes
Review and improve capacity/performance for volume		Yes
Review and improve performance for volatility		Yes
Review and improve remote access security		Yes
Ensure SLAs can be met via multi-remote workers		Yes
Review and improve customer access		Yes
Perform a hardware and software portfolio review		Yes
Identify systems for Cloud migration and access		Yes
Invest in moving critical systems to the cloud		Yes
Decommission on premises systems		Yes
Set up auto-testing and microservices capabilities		No
Budget for Agile (DevOps) Squads 2021		No

### 3. Where can CPQi help

**NOW**

We provide program expertise for critical first work

**2020**

We are highly skilled at portfolio review  
We are Cloud experts with many years of experience  
We are DevOps specialists throughout the Americas

**20/21**

We have ex. CIOs who can prepare your budgets and defense  
We are renowned DevOps specialists  
Our tool set is unique in supporting home-based DevOps teams

**For CPQi case studies and further information please  
email us at [info@cpqi.com](mailto:info@cpqi.com)**



## ABOUT CPQi

With a focus on digital transformation, predictive technology, DevOps and cloud migration, we provide managed services, including building, implementing, & supporting financial markets systems for leading American economies.

CPQi operates in all major economies throughout the Americas

To find out more, visit us at <https://cpqi.com>