An Executive Guide to Reducing the Business Risk of IT

2003

White Paper

_t_plan

The Corporate Standard for Information Management

Executive Summary

This report provides a guide for executives faced with reducing the business risk associated with IT for their organisation. Significant sources of IT business risk are identified and their potential impact is explored from a variety of viewpoints; insurance, regulation, security and executive. The report provides a range of case information to demonstrate the effects of poor IT risk management, and the benefits achievable by implementing effective IT risk management practices. This report finds that the "best practice" approach adds value to IT and other business assets by:

→ Enabling early identification of technical and business risks and issues
→ Empowering executives with measurability, auditability and accountability
→ Improving process and service levels
→ Improving stakeholder reputation
→ Reducing exposure to business and IT risk

As the role played by technology in achieving business goals and objectives becomes ever more critical, so too have the associated risks and potential for serious business impact. The partners, stakeholders, suppliers and customers of a company are increasingly inter-connected by this technology resulting in exposure to greater levels of business risk than ever before.

Studies contained in this report show that only 7 out of 25 businesses survive more than 2 years after electronic data loss

Many software development projects frequently fail to deliver reliable and secure systems on time and within budget, threatening the crucial bond of trust developed between companies of the connected economy. Far too often these failures stem from organisations overlooking or failing to deal adequately with the business risks associated with IT.

> " There are many ways to manage IT risk. However, companies that choose to ignore IT risk are, in essence, choosing to accept it, and over time this will have a severe impact not only on a company's bottom line, but also on its reputation in the marketplace. "

Jamie Ross, Risk Management and Assurance Solutions, Ernst & Young. December 2000

→ In 1995, of 250,000 attacks on the US Defence Dept., 65% were successful, 400 were detected, and only 20 were reported. Seven years later, the online user base has grown exponentially, as have associated risks.

→ In January 2002, after over 3,000 'back-doors' are found in IT systems and Microsoft systems are identified as higher risk by insurers, Bill Gates announces that Microsoft will shut down software production for the month of February to allow its 7,000 software developers to focus efforts on security, rather than new product features.

The Problem with Risk

> " When the dotcom boom turned to bust late last year banks stopped trumpeting their Internet spending. But shareholders are still paying for online ventures many have tried to forget about.
>
> This week Bank of Ireland became the latest to conclude that stand-alone Internet banking was unpopular with customers. It folded its F Sharp offshore web bank back into its mainstream operations, at a cost of several million pounds. "

Financial Times, October 24, 2001

The business risks associated with IT are large, expensive and frequently overlooked. As the business world moves ever closer to total reliance on IT, these risks are increasing at an accelerated rate.

Whether due to failure to maintain web site security from outside intrusions or to ensure the privacy of the data provided from their various stakeholders (shareholders, personnel, business partners and consumers), IT risk is becoming one of the most critical and overlooked elements in today's constantly changing global economy. Over recent years companies that have failed to effectively manage IT risk issues have experienced severe damage to their reputations, especially with consumers, and have seen a negative or disasterous impact to the bottom line, balance sheet and market valuation.

→ Researchers McGladrey and Pullen estimate that 43% of businesses who lose electronically held data never re-open, and 29% close within two years. *Source: SafeOnline.com*

→ 100% of business applications and systems software have been found to have errors, vulnerabilities and security risks

Email has become the most common carrier of a variety of IT risks. It can be used to plant a virus in a system, to plant 'spy-ware', or even to block or crash an entire web site via a mass Denial Of Service attack. Email also creates internally generated risk, allowing personnel to easily release information about the business or even its customers that may be highly sensitive, which creates a raft of Data Protection and litigation risks.

According to research from the UK Department of Trade and Industry (DTI) 88% of UK businesses use email, which means 88% of UK businesses are exposed to high risks.

According to the "Changing the way we work" study published in July 2001, sponsored by Intel and carried out by Benchmark Research Ltd;

→ Most people (87%) agree that the business functions will become increasingly engaged in IT strategy in general during the future

→ This involvement includes both a greater board room focus (83%) and a more significant role for the Finance function (74%)

Business Risk of IT: The Insurers View

The insurance industry broadly defines IT risks as the risks associated with the use of computers, networks, the Internet and email. The generic term is Digital Risk. According to specialist insurers these digital risks are not covered under standard policies because:

➡ Standard policies usually only cover tangible property, such as hardware, or at best software products, but frequently exclude data - the memory and identity of modern organisations

➡ Standard policies are usually restricted by geographical area, the Internet and email are global and therefore often excluded

➡ Since Y2K, many standard policies now exclude digital risk

Despite the wide publicity and high profile attached to the business and digital risks associated with the Y2K 'bug', many organisations still support practices that fall short of minimum recommendations.

In 2000 Benchmark Research Ltd carried out a survey of UK businesses and found that four out of ten did not plan to test their IT projects before launch.

In the past, when IT users were almost exclusively internal personnel, the risks associated with IT error or failure could be controlled to a lesser or greater degree. However, with the advent of the Internet the user can now be anyone who interacts with the organisation, and risks can be passed from one organisation to another globally - and to their respective customers - increasing litigation risk exponentially in seconds.

With increasing regulation across many industries, executives must now consider risk in terms of business, professional and personal liabilities.

> " All companies with a significant web presence should consider taking out cyberliability insurance or trying to extend their business interuption policies," says Richard Lister, a partner at international law firm Freshfields Brukhaus Deringer.
>
> "Companies need to check the small print of computer policies, though. Some do not cover business interuption and only insure against the physical replacement of computers and software. "

Financial Times, September 3, 2001

Business Risk of IT: The Regulatory View

In 1999 the Turnbull Report was published by the Institute of Chartered Accountants in England and Wales (ICAEW). The Report advises that a company's operational risk should be treated equally as serious as financial risks, and ultimately should be regulated.

The Turnbull Report is targeted at publicly quoted companies with the aim of improving reporting for investors to more accurately assess operational business risk. However, it's findings show that adoption of formal controls can improve the way an organisation does business in a number of ways:

→ Influence change control
→ Enable asset exploitation
→ Quantify quality problems
→ Regulate project management
→ Improve process and service levels

While the Turnbull Report points to many factors that influence operational risks, it concludes that by far the largest single contributor to increased risk is the implementation of IT projects.

The problem will often boil down to lack of time, budget and/or personnel to complete all the tests required for a system to be fully validated. This is the case in almost all IT projects as possible scenarios are often not identified, let alone tested.

→ It is unachievable to test IT systems exhaustively in a finite time, with limited resource and limited budget
→ It is impossible to assess risk without identifying and defining the threats

This creates a situation where it must be decided what and when to test, and what to leave out of testing. Often the decision is taken based on instinct, occasionally by setting basic criteria, and rarely by assessing the risk involved.

According to RiskCenter.com, risk can often be indicated by uncertainty about a situation. Risk is the possibility of loss, damage, or any undesirable event.

> " Cambridge University will on Friday publish a damning report on a computer system forecast to cost £4.3m ($6.2m) that was an "unmitigated disaster" when it went live.
>
> Two seperate but equally scathing reports outline the problems with CAPSA, which was so bad that the integrity of the university's accounting system was in doubt and its legal responsibilities were placed at significant risk.
>
> When implementation began, a failure to sort out who did what "contributed to a nose dive in morale which was, in any case, not high to start with. "

Financial Times, Friday November 2, 2001

Business Risk of IT: The Security View

When considering business risks associated with IT, most executives will immediately think of security and the risk of unauthorised intrusion.

With ever-greater access to systems via communications networks, and over 3,000 'back-doors' into the most popular systems (Microsoft, Unix, Linux), executives have much to be concerned about.

With around 90% of computers using Microsoft operating systems and software, most without knowledge of 'patch' fixes for bugs and 'back-doors', the global propagation of viruses and hacking utilities is staggeringly fast.

> 66 It is clear that the quality of software design and testing in the past does not measure up to the needs of the present or the future. I challenge the leaders in the software industry, especially in the wake of the physical attacks on this nation, to establish new standards of software quality, as well as effective methods to reduce the impact of current vulnerabilities. 99

John Gilligan, USAF Deputy CIO, 2001

Despite many well-publicised virus and hacker attacks over recent years, most organisations appear to have adopted the Ostrich (AKA: head-in-sand) methodology for dealing with the problem.

→ 60% of organisations have suffered a security breach in the past 2 years

→ Only 14% of organisations have a formal IT security policy

→ The cost of a single security breach could be over £100,000 (source: Information Security Breaches Survey)

→ Fraud in online transactions is 12 times higher than it is in the physical world (source: Gartner Group Survey)

However, security can be a much greater threat internally. In the pre-Internet years, it was widely publicised and accepted that circa 80% of security risk came from internal threats; poor procedures, poor systems, poor physical security and disgruntled or criminal personnel.

There is significant evidence to suggest that this threat ratio between internal (80%) and external (20%) security breach has been reversed by the online revolution.

According to research from the IT insurance industry, 32% of risk stems from employee error. With no guarantee of recovery and the growth of risks from the online world, the range of threats and liabilities are thousands of times greater than at any other time in business history.

Business Risk of IT: The Executive View

Understanding the risks associated with carrying on business in the technical age is becoming a crucial skill in business survival and growth.

As can be seen from high IT related business failure rates, what may at first appear a good business proposition can quickly turn into a significant business risk and cost liability.

Executives must focus on ensuring that the tools and systems developed to support corporate strategy are fit for purpose, reliable, and secure.

For most organisations it will be 'small bore' problems that impact the business, increasing risk, or turning risk into reality. These are the most common problems to affect most IT projects within an enterprise.

These relatively small problems are characterised as hard to find, but easy to fix. Correction of these problems is therefore expensive due to the effort involved in finding them. The costs of correction can be further compounded as the correction itself can cause another seemingly unrelated problem to occur.

In order to answer the question "When is the system ready to go live?", executives must be able to assess the risks associated with launching a system in any given state.

In the Internet age, new business initiatives, or simply updated systems, can cause corporate mayhem while random attacks can create instant business disasters on a global scale, destroying shareholder value and undermining entire industries.

Increasingly management is exposed to professional and personal risk as the world in general becomes ever more litigious.

Management require a clear, pragmatic, and proven approach to risk reduction to 'Insure and Assure' business, project and personal success.

> 66 Trading in stock index futures and other derivatives on the Tokyo Stock Exchange (TSE) will return to normal on Tuesday, as a glitch in the computer system that suspended trading on Monday has been repaired, TSE officials said.
>
> The TSE suspended trading in all five types of derivatives - stock index futures and options, stock certificate options, bond futures and bond futures options - when a computer problem disabled telecommunications between the bourse and 204 financial institutions including banks and brokerages. The bourse became aware of the problem shortly after 7 a.m.
>
> Only 3,788 trading units took place on the September Tokyo Stock Price Index (TOPIX) futures contract Monday, although its final trading day is Thursday. The number is less than half the usual trades conducted before a final day. 99

September 10th 2001, Kyodo News via Comtex

How can risks be defined?

When assessing risk it is important to keep in mind:

→ Where is the risk?
→ What are the threats?
→ When are the threats applicable?
→ Who is affected by the threats?

In order to assess if a system has an acceptable level of risk prior to launch, the exit (acceptance) criteria must first be established for the system. As anyone who has commissioned or managed an IT project will know, this is much easier said than done.

As established earlier, no system is ever 100% defect free on launch. The purpose of testing is to find these defects in order that they can be corrected. However, if testing is applied at the end of the development cycle many problems can be 'built into the system' that will need to be found and corrected.

Finding problems after development is a high risk, costly and time-consuming strategy. In contrast, faults found early in the testing process are the least costly to correct, generally under 20% of the cost of correcting the same error post implementation.

As demonstrated by the practices and methods first developed by Demming; to control and reduce risk while managing cost requires that quality assurance - testing - be applied at the earliest possible stage. The Demming 'quality circle' methodology requires that each 'component' meet its quality criteria prior to that component being released to the next phase.

Software testing and risk control is much the same, but with the added complexity of significant and/or frequent change to either the component specification, the system specification, and even the requirements. Change can be driven by new regulation being announced part way through development, changes in business environment, client/user demands, and by advances or limitations in the technology itself. The biggest influence on IT strategy and change is sales and marketing.

"Influence of different job functions on e-business strategy" - Benchmark Research Ltd
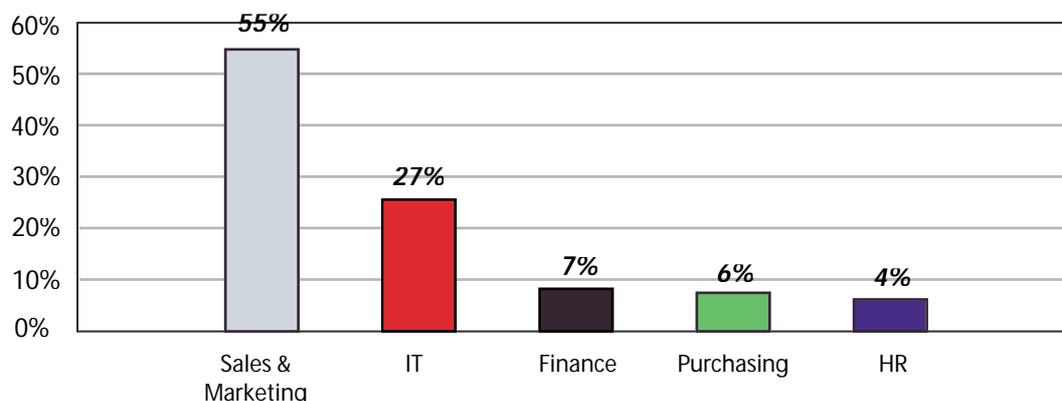
How can risks be defined?

It is logical that IT change is largely driven by customer facing functions. A major element of IT today is e-Business, which deals with customer communications and marketing. However, these business functions are often the most exposed to change. New methods of packaging and promoting the business, new services, customer support, even production changes can be driven from sales and marketing via customer complaint or request.

The fact that business requirements, which impact and drive IT specifications, are often subject to change increases risk for business executives and IT project managers.

The 'fixed' nature of the Demming method therefore does not apply so well to IT and business quality control as a method of risk reduction. Flexibility is needed to facilitate, control and maximise required changes for the benefit of the business.

In order to control quality and reduce risk, while maintaining flexibility, an organisation must be able to track the impact of change as the project progresses.

This means that the quality control applied to the component must be linked to the quality control applied to the entire system, specifically linking to the requirements, and must cope with either top-down or bottom-up drivers.

A significant proportion of risk can be avoided by management pro-actively planning for and dealing with threats, rather than fire-fighting problems as they occur. In order to achieve successful business IT risk control, management needs to adopt and/or adapt a proven holistic measurement program, and implement the tools to support and deliver the benefits it enables;

→ Unambiguous communication throughout the organisation and its IT resources (internal/external)

→ Early identification of technical or business risks and issues

→ Impact analysis and trade-off comparisons of business decisions

→ Tracking and audit of processes, projects, and products against business objectives

→ Business case justification and validation with quantifiable data

An example of the Risk side of the "V" model *(see end of report for full details of "V" model)*
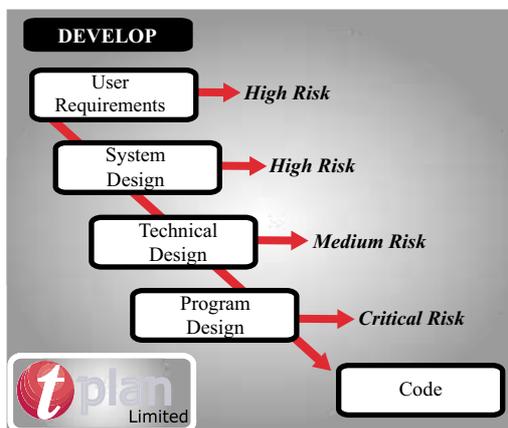
V Model Schematic, Copyright (C) 2002, T-Plan Ltd

By allocating business risk to each functional area of the system, or component within the system, project managers can prioritise testing effort in proportion to the associated risk. In this way risks can be defined, measured, monitored, controlled and reduced to acceptable levels.

Appreciating the methods outlined here is a beginning, implementing them without the use of field-proven tools is expensive and operationally unachievable for most organisations.

Good Process Management Accommodates Change

By applying structure and control to IT, the data it holds and the processes it supports, management can identify, value, leverage and communicate with stakeholders based on accurate assessment of valuable business assets.

→ Identify and quantify business risks

→ Accurately assess the impact of change on business assets

→ Capture and leverage business knowledge and IP

→ Measure and audit IT and business process performance

> " For quoted companies, bridging the gap between balance sheet net assets and stock market value would be an extremely useful expansion of shareholder information. Simply identifying unrecorded intangible assets and indicating their value would be a major step in the right direction. "

John Coombe, Finance Director, GlaxoWellcome. June 2000

Process Management Tools

Process management tools that focus on IT have largely grown out of the software quality assurance and software testing industries. Given their focus on processes for test, audit, validation and compliance, it is not surprising these industries are leading the way with process management tools.

There are few process management tools that do not lock the business into a range of 'sub-tools' and services that are integrated and supplied from a single organisation, or its approved 'agent'. It can be argued that a single source supplier has benefits. However, it can also be argued that the business will not always get the best 'sub-tools' or services for the job.

Ovum, the independent research group specialising in analysis of IT quality assurance tools and processes, stress the importance of linking business requirements and process to the QA and testing of IT systems. Yet many of the QA process management tools focus on IT and stop short of business requirements.

What is required is a process management tool that is flexible, accommodating other processes and tools, while being structured and consistent with best practice recommendations.

Case Study - Telstra

PlanIT is the Australian distributor of the T-Plan suite of products. The following case study outlines the rationale behind Telstra's decision to acquire T-Plan from PlanIT, the method by which the product was implemented and the benefits that have been realised. Telstra granted PlanIT permission for the public use of this Client Story in January 2001.

With an increasing reliance on technological solutions, Telstra implemented T-Plan to assist with the effective management of their testing within certain projects. T-Plan was chosen because it was able to store and support traceability of business requirements, rules and test cases for all stages of testing and the test teams and was considered to be the best product fit to automate the preferred Telstra testing methodology. The introduction of T-Plan also demonstrated appreciable cost savings on the testing effort.

> " T-Plan is a great asset and adds value from a management point of view. The tool's greatest value is the fact that it provides traceability back to requirements. "

Murray Ranking, Testing Manager, Telstra OnAir

Key Benefits

→ Faster 'Time to Market' - re-usable test cases improved testing productivity by up to 30%

→ Demonstrated considerable cost savings on the testing effort and resource requirements

→ Improved quality of the product released through the use of a standardised structured approach to testing

→ Able to support ALL levels of testing from Unit and String through to Business Process

→ Able to support differing project types from client server through to web and e-commerce

→ Scalability - able to support single user projects through to multiple user projects

→ Provides management with quantitative data on which to make critical project management decisions

With competition steadily on the increase, the Telstra OnAir Business Unit determined to focus on key growth opportunities in mobile telecommunications such as; expanding digital GSM coverage MobileNet, introducing innovative products and services such as data and information services MessageBank, Easycall, Call Waiting, Call Forward and rolling out the CDMA mobile network.

Expanding technology requirements to underpin this growth were key and the testing of these technological developments became an imperative. In October 1997 the MICA Project, a part of the OnAir Business Unit determined a requirement for a Test Management tool to enable them to increase the speed, efficiency and quality of their testing effort. After an extensive tool selection and evaluation process they implemented T-Plan, which they subsequently used to plan, document and manage all aspects of the software testing process.

Case Study - Telstra

T-Plan is a Test Planning, Design and Process Management tool which supports a structured requirements based approach to testing. It is utilised during test analysis, design, scheduling and execution phases for all levels of testing from Unit & String through to Application and Business Process Testing. T-Plan was chosen by Telstra for a number of reasons:

→ Ability to store and support traceability of business requirements, rules and test cases for the test teams

→ Test analysts could use T-Plan at the start of the development lifecycle during static testing of user requirement documentation

→ T-Plan can be applied to producing tests at all levels of a system development; acceptance tests, system tests, integration tests, module tests and unit tests

→ T-Plan could provide a return on investment through demonstrating considerable cost savings

> " T-Plan fully supports a structured approach to test planning and design, it has actually helped us to consolidate process improvements introduced to a number of projects. "

Daniel Tour, Team Leader, Test Consultancy Team, BP&I

The implementation of T-Plan added such significant value to the project that a decision was taken to roll-out the T-Plan method and tool across other Customer Partnership Units. T-Plan is now the Standard Operating Equipment (SOE) favoured product within Telstra for Test Planning Management and Repository for NT Server & desktop platforms and is now used on over sixty diverse projects within Telstra from Core Billing to OnAir - mobiles, data, Internet and e-commerce applications.

In addition to the T-Plan roll-out, Telstra also embarked upon an extensive Testing Training Program. This provided all testing personnel with the requisite skills to ensure that previous experiences and best practice within Telstra were utilised in providing a tool solution that integrated seamlessly with endorsed Telstra testing practices and processes.

Underpinning the successful implementation of any software product is user training and support. T-Plan's Australian distributor PlanIT, was in a unique position to provide training in the T-Plan product suite and also support testers in a test education career progression. A training programme was developed for Telstra, involving the training of over 350 staff and was implemented to standardise the use of practical test processes within Telstra to ensure that all applications are tested in a comprehensive and structured manner.

Case Study - Telstra

Following several project specific training courses PlanIT tailored a Telstra specific program to explain how the decomposition of the testing process into key activities enables test analysts, programmers, developers and business analysts alike to thoroughly exercise test requirements and determine fitness for purpose. The key learning points of the program were:

→ Implementation of a structured approach to testing

→ Functional decomposition and risk analysis of the system under test

→ Definition and prioritisation of test conditions

→ Effective test scripting techniques

→ Interpretation of test metrics

→ Problem management

> " A testing programme was devised for all UPS A/P's and Testers within Telstra. It showed how other organisations did testing and maybe how we could test in the future. It also showed us that a structured approach with traceability and accountability is the way to go when testing software. "

Michael Dawes - Release Manager - Rating & Finance Development - Telstra Core Billing & DboR

The creation of a T-Plan Support Centre was an initiative undertaken by Telstra to assist with on-going test process improvement within the organisation. Specific objectives of the TPSC are to reduce the cost of testing and to increase the speed of software delivery. This is being achieved through:

→ Reducing redundancy and improving productivity in test activities by ensuring best-fit implementation models for T-Plan across Telstra projects

→ Increasing effectiveness of tool usage by leveraging T-Plan usage best practices across Telstra

→ Transferring expert product knowledge from PlanIT consultants to Telstra staff

→ Reducing turn-around times for problem resolution by providing a focal point for T-Plan support in-house to Telstra

→ Facilitating the analysis of testing practices with an emphasis on risk analysis, thereby reducing non-critical testing and increasing speed to market

> " T-Plan is a sophisticated tool-set that provides significant benefits to projects committed to implementing mature testing processes, and then introducing a tool that supports those processes. PlanIT provided two consultants who helped us set up the T-Plan Support Centre focussing on the correct introduction of the tool and making sure that users always had a place to go if they ever needed help. I've no doubt that this saved months of work by correcting problems before they even occurred. "

Chris Warren, Team Leader, I &ES Tools, Telstra Business Unit Service Provision

The T-Plan Process Management Solution

T-Plan was designed as a process management tool from the outset. It has continued to prove itself at high profile client sites such as the International Securities Market Association (ISMA).

> 66 The introduction of a testing methodology and process across the product range is proving 99 itself by saving time and resources.

Over the years T-Plan tools have been adopted by many City institutions, the UK Government, utility companies, Telco's and other leading organisations in the UK and abroad who are committed to measuring, managing and assuring the high quality of core assets inherent in IT, know-how, and efficient business process.

> 66 T-Plan is fully consistent with Ovum's Test Management philosophy.
>
> If you need to introduce more order structure and visibility into your testing process, you will welcome the T-Plan method and tool. 99

Ovum Evaluates: Software Testing Tools 2000

As can be seen from the extracts and statements from respected sources quoted in this set of three papers (see page 21 for content summary of set), corporate governance and IT governance are one and the same. Information management is crucial to the survival and success of the organisation, knowledge is an asset.

In 2003 the law will begin to force companies to report on organisational risks and intangible assets. Effective processes, and the management tools to leverage the information they provide, are urgently required to ensure management have, and can prove the credibility of, the information they will be responsible for accurately reporting.

Copyright (C) 2002, T-Plan Ltd
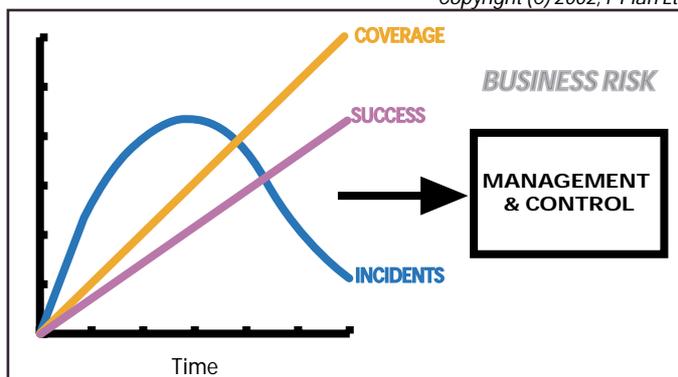
Most sources estimate IT risk as between 50% to 70% of the risks faced by businesses as we move deeper into the new economy - the IT revolution. If this is the case, T-Plan tools are well positioned to help organisations remove a significant element of business risk while; complying with new regulations, implementing best practice, improving productivity and reducing costs.

It's hardly surprising that Ovum and many of the world's leading businesses rate T-Plan as the pre-eminent QA/test process management tool.

Conclusions

Software Quality Management (SQM) is a relatively new term to most executive management, many may not even be aware of the scale of the problem.

The examples of IT disaster selected for this report were drawn from over 50 major incidents reported on various SQM web sites during the months of September and October 2001. These disasters consistently demonstrate:

Lack of access to effective quality assurance processes and tools, and the management information they provide at user, management and board level, is a high-cost and high-risk business strategy.

After 11th September 2001, John Gilligan, the US Air Force's deputy CIO, with the security threats posed by weak and poor quality IT, was driven to publicly state:

> " It is clear that the quality of software design and testing in the past does not measure up to the needs of the present or the future," Gilligan said. "I challenge the leaders in the software industry, especially in the wake of the physical attacks on this nation, to establish new standards of software quality, as well as effective methods to reduce the impact of current vulnerabilities. "

This report concludes that, with senior management commitment to measurable quality, a structured approach to quality assurance can make a significant difference to development, implementation, integration, upgrade and maintenance of small and large scale IT business assets; improving the overall performance of the business, its systems and processes, while reducing the costs of achieving higher performance.

In order to achieve these significant business benefits and rise to Mr. Gilligan's challenge; business, political and other leaders need to make a commitment to best practice.

→ Investing in proven processes and efficient tools

→ Understanding the costs and risks associated with change and IT

→ Building on best practice by fostering a culture of continual process improvement

→ Leveraging the business QA/test data assets to provide repeated and consistent business value across back and front office business systems and processes

T-Plan QA Management Solutions

T-Plan has gained its expert knowledge of software quality assurance and test management since 1984. The T-Plan tools, incorporating the 'V' Model management process, are delivering results in over 100 blue chip clients worldwide. We are able to provide a comprehensive range of testing related services to support clients in test management and test execution.

The services comprise:

→ Creation of Test Strategies and Test Plans

→ Implementation of formal test processes and methodologies

→ Implementation of test automation

→ QA Management Tools installation

→ QA Management Tools implementation within a project/s

→ Review of current practices

→ QA Management Tools customisation

→ QA Management Tools upgrades

→ QA Management Tools conversions

> " If you need to introduce more order, structure and visibility into your testing process, you will welcome the T-Plan method and tool. "

Ovum Evaluates,
Software Testing Tools, 2000

T-Plan QA Management Tools

T-Plan QA Management Tools may be obtained direct from T-Plan, or via a network of T-Plan authorised professional quality assurance partners operating in most regions throughout the world.

The QA Management Tools comprise:

T-Plan Professional allows you to manage every aspect of the testing process, providing a consistent and structured approach to testing at the project and corporate level.	**T-Plan Professional** — A Corporate Standard for Testing
T-Plan Administrator provides a centralised point from which to administer an entire T-Plan Professional enterprise/workflow.	**T-Plan Administrator** — Centralized Administration for your Enterprise
T-Plan IMS — The Leading Defect Tracking Solution	Errors or queries found before or during the Test Execution can be logged and tracked throughout the Testing Lifecycle in T-Plan Incident Manager.
T-Plan Web IMS — The Leading Web Incident Manager	Errors or queries found throughout the whole lifecycle of the project can be logged and tracked remotely using the Web version of the T-Plan Incident Manager QA tool.

IT Quality Assurance

The T-Plan suite of quality management tools has been designed to address the business and IT risk and quality assurance issues identified in this report.

It enables senior management to accurately identify, assess, manage and control the business, operational and IT risks; from design through to implementation and ongoing use or maintenance of the business systems.

> 66 T-Plan is one of a few testing tools that start at the beginning of the development lifecycle. 99

Ovum Evaluates: Software Testing Tools, 2000

T-Plan Benefits

→ Captures the knowledge base of the business, establishing a risk benchmark

→ Facilitates best practice process, compliance, and validation throughout the enterprise

→ Empowers executives with measurability, auditability, and accountability

→ Improves user confidence, trust and efficiency

Insurance

Using T-Plan reduces costs and risks associated with Digital Risk insurance. It enables businesses to prove and validate their digital risk exposure, and it enables underwriters to accurately assess, monitor and audit digital risks.

T-Plan helps organisations and executives reduce exposure to:

→ 3rd party liability

→ 1st party losses

→ Crime

→ Product or service failure

→ Business interruption

Executive Features & Benefits Summary of T-Plan

The T-Plan product features and associated benefits are presented segmented into three groups:

➡ *IT and Operations Management*

➡ *Project and Personnel Management*

➡ *Business and Financial Management*

IT and Operations Management

Feature	Benefit
Insurable Risk	Reduced exposure to business recovery risk. Reduced exposure to underwriting risk. Reduced Premiums. Reduced Data Protection risk exposure. Reduced 3rd party risks.
Assurable Risk	Reduced exposure to business risk. Improved stakeholder reputation. Quantifiable and accountable IT and business development. Reduced liabilities. Defined and measurable IT/IP data assets and associated risks.

Project and Personnel Management

| Feature	Benefit
Clarity and Visibility	Improved communications throughout project and system life cycles. Reduced ambiguity and error. Improved user trust and confidence. Quantifiable performance and accountability.
Structure and Framework	Proven method incorporating best practice. Knowledge capture and continuous process improvement. Reduced user training and error. Enables "What if" project change and business risk analysis. Reduced user training and error. Validates regulatory and business rule compliance.

Executive Features & Benefits Summary of T-Plan

IT and Operations Management

Feature	Benefit
Incorporates the 'V' Model	Robust and proven process. Enables business managers, and other project personnel, to track impacts of technical changes against business requirements. Provides structure, control and auditability to quality assurance.
Field Proven since 1990	Robust tool and utility set. Proven platform, environment, and application independence. Intuitive and easy to use interface for all levels of user.
Most Highly Rated Tool Globally Rated by Ovum Ltd, an independent specialist evaluation consultancy	Widely accepted and used by professional QA and test personnel. Supported in three time zones. Broad range of interfaces to industry leading IT tools; from requirements management test execution to maintenance, supporting the entire life cycle of the asset.
Independent Management Tool	T-Plan Ltd ownership is not associated with test execution tools, or other QA tools. It incorporates direct links to leading third party tools and incorporates open interfaces for other tools to be linked easily. The T-Plan products are complimented by an independent professional user group, chaired by the Bank of England.

The 'V' Model

Test Process Management (TPM) is concerned with controlling all the testing activities and the automated support tools used in a project, within a dedicated management environment. TPM is based upon a professionally recognised industry standard - 'The V-Model', which supports each stage of the system development life cycle.
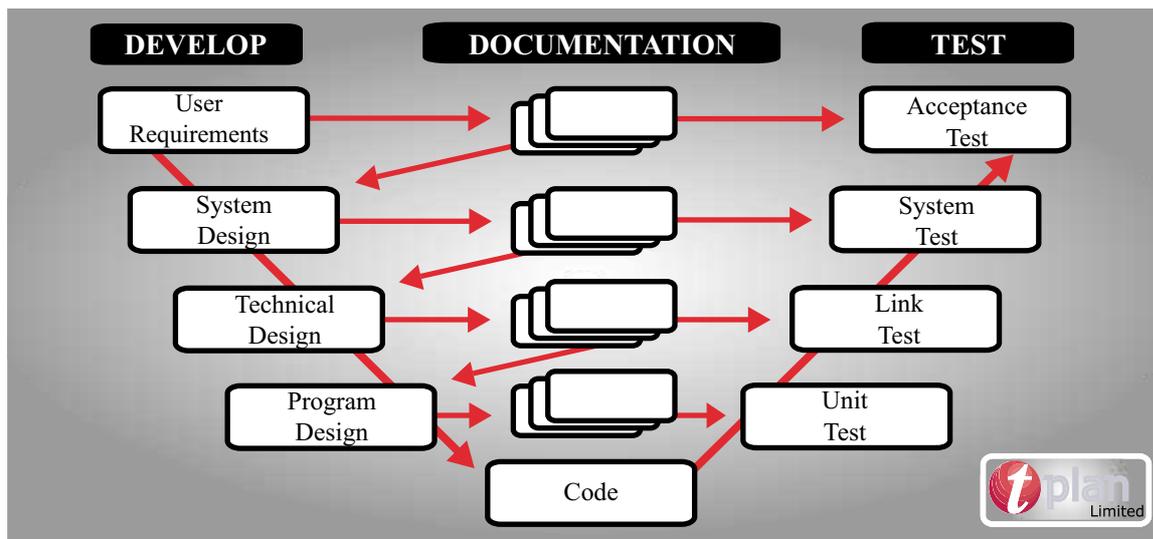
V Model Schematic, Copyright (C) 2002, T-Plan Ltd

As can be seen from the diagram, the 'V' model is constructed with each component being interdependent with the next. This structure enables changes to be cross-referenced throughout the system, allowing impacts of change to be assessed before the change is implemented.

The objective is to ensure every element in the system is validated at the earliest possible stage, to the quality criteria set out by the business managers, providing a comprehensive and measurable audit trail of the systems actual capabilities.

The benefits of this level of control and management over quality assurance are compounded when changes are introduced. With a manual system, checking the impact of even minor changes is complex, time consuming, and prone to human error. With T-Plan this is a simple 'what if' function of reporting impacts of the proposed changes at both technical and business levels, allowing the risk of potential error / fault correction to be identified, together with potential for 'knock-on' or efficiency costs to the business.

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Additional papers available in this "Executive Guide To" series:

➡ An Executive Guide To: Managing IT Costs

➡ An Executive Guide To: Building Regulation into IT and Process

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