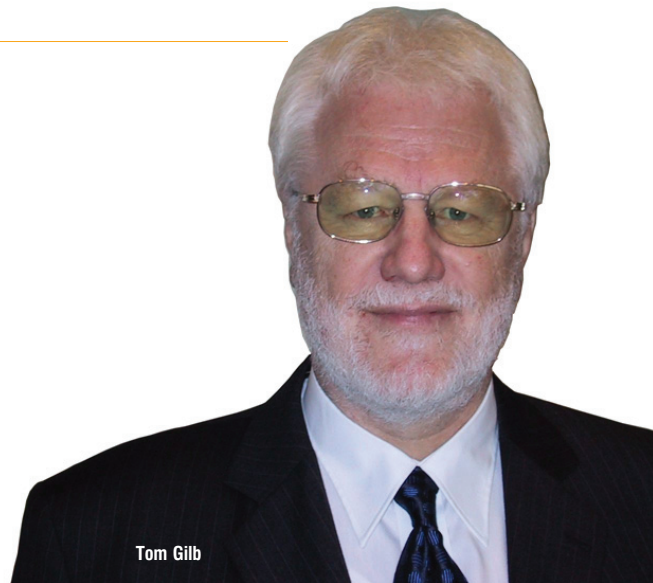


# "GREAT CHANGE CC WITH EVOLUTION"



Tom Gilb

There are very few IT consultants who are known across all continents. Tom Gilb is one of those who have an enviable reputation as a management and software guru. In an exclusive interview with 'i.t.' magazine's Malovika Rao, Gilb spoke at length, sharing his success mantra for IT projects.

A software guru, an independent consultant, thought leader, author and an inventor—Tom Gilb is all these and more. This multi-faceted man is truly global as he advises leading international companies and government agencies on software processes, and corporate management problems.

Gilb is recognised as a pioneer in software metrics and evolutionary project management; as the inventor of the planning language, Planguage, as well as the idea source for parts of the Agile and Extreme programming methods (primarily the incremental cycles). Gilb's methods have been widely adopted by many organisations such as IBM, Nokia, Ericsson, HP, Intel, Citigroup, Symbian and Philips Medical, to name a few.

Tom Gilb's association with India dates back to the early 1980s, when Tata Consultancy Services (TCS) invited him to work with them. His main message then, and now, continues to be, "Do not focus on cost; focus on superior quality."

## Simple fundamentals

The failure rate of software and systems projects, particularly large and complex ones, is recognised by the IT industry as embarrassingly high—about 50 per cent end in total failure, and another 40 per cent in partial failure! Evidently, something is dreadfully wrong with the way IT projects are managed.

We began by asking Tom about these flaws. He replied, "There's a long list, but essentially there are three main reasons for the failure of a project. First, lack of focus on the value to the customer. It is crucial to estimate the value that you intend to deliver to the customer." He says the other reason is that software teams are not motivated enough. They may write good code, but they don't develop the systems that deliver to

the stakeholders (end users of the IT product) the business-valued quality improvements for their organisations.

"I believe the focus of an IT project must be to quantify the core objectives of the customer's business and to deliver them. Many times, the IT project teams do not consider the critical qualities of the final product. For example, the user-value contribution of a project is accessible when the usability quality is high (rather than the features' quality of the IT solution). Usability is about reducing the effort people (at the customer end) put in to learn the IT application," Gilb adds. He emphasises that one main focus of the software developers should be on how to design their product to be user-friendly and cost-effective from the client's point of view.

## Evo—a dynamic method

How many projects have you seen that take months to complete, with more action visible on paper, than in tangible deliverables for the end customer? Wouldn't you rather get at least some useful improvement after a week or two instead of having to wait months for any kind of improvement? Very large projects are much too difficult and complex to manage as a single project. It's better to break the work down into more manageable chunks of work, each managed as an individual project, with its own project definition and work plan. This is the underlying principle of Evolutionary Project Management, or Evo for short.

Tom Gilb's Evo is a powerful method that has delivered results far better than conventional planning approaches. You can use Evo to deliver all types of systems and software projects, including the large and complex ones.

Gilb states, "Evo is a method of doing projects that emphasises early, repeated deliveries of results (weekly) that are valuable to the stakeholders. Evo stimulates rapid learning

for the software developer as well.” Evo deliberately chops up a project into small parts that delivers some value to the customer. Small steps are ideally between 2-5 per cent of the total project—both in terms of time and money. Justifying the small-sized steps, Gilb explains, “It’s a size that’s big enough to deliver something useful, but small enough that if you fail, you can afford the loss. So Evo drastically improves the risk profile of almost any project. With every step completed, say every week, an IT company can deliver requirements like quality, performance and functions. After about 50 steps you are done with delivering all requirements,” he adds.

The emphasis is on learning rapidly, and applying the lessons for better satisfaction of the customer, as well as improving the learning ability of the software developer to manage the project. Value is delivered much faster. “For the developer team, enthusiasm and motivation is up as they get early results and knowhow, as they are progressing,” says Gilb.

Evo has recently been cited in the journal IEEE Computer as, “Arguably the most successful project management method for complex and large projects.” It has been applied to large and small-scale software engineering tasks like aircraft engineering, telecommunications engineering, military weapons projects, organisational development projects, peace process planning, electronics system projects, and information systems projects. In addition, large-scale projects at major corporations have been ‘rescued’ using Evo. Simultaneously, other projects using conventional methods in the same working environments, failed.

## Practical concepts

Most of the time the specifications that the software designers get from the customer are not necessarily well formulated. For instance, a customer may insist on having a password facility, but what they really want is a security level quality capability, where a password may or may not be required. Gilb has a simple solution for this dilemma faced by the software professional. He says, “It is essential to identify the real customer business-value of a solution rather than technical solutions. This begins by quantifying accurately the needs of the customer rather than focusing on features or technical solutions. Help the customer focus on the top ten most critical quantified requirements, and then find the best strategies or architectures to meet them.”

For some, this early phase of the process is characterised by mastering better requirements and quality control methods. They can ease this front end process by using planning language or ‘Planguage’. Tom Gilb is credited with developing this requirement specification language that aims to eliminate the vagueness and ambiguity that infects the planning work in so many organisations.

Planguage is designed to express ideas about requirements, designs and plans. It is intended for use throughout a project

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## Key components of Evo include:

- Making frequent delivery of system changes or steps
- Small steps (ideally between 2-5 per cent of total project time and financial cost)
- Steps are delivered to stakeholders for real use, and feedback obtained from stakeholders to determine next step(s)
- Steps with highest value and benefit-to-cost ratios are given highest priority for delivery
- Feedback used “immediately” to modify future plans and requirements, and also to decide on the next step

lifecycle; for planning, problem solving, specification quality control, and result delivery to stakeholders.

Tom Gilb has published nine books, including *Principles of Software Engineering Management*, *Software Inspection*, *Competitive Engineering: A Handbook for Systems Engineering*, *Requirements Engineering*, and *Software Engineering Using Planguage*, which was published in July of 2005 (Indian Edition August 2005). More details are available on his website [www.gilb.com](http://www.gilb.com)

## Advice for IT companies

Tom Gilb strongly believes that great changes come about only through gradual evolution. Companies need to look inwards and gradually change the manner of approaching solutions. He has some valuable tips on how IT companies can improve their credibility in the eyes of the customers. “They could offer competitive bids based on value actually delivered, giving low risks for their customers. The IT companies need to learn early and often (weekly) about actual delivery of business value and costs,” he says.

He finds that most solutions (designs, architectures, strategies) are not at all seriously evaluated to grasp their real multiple quality and cost attributes. Gilb suggests, “IT companies must focus their corporate energy to deliver measurable results and not primarily focus on processes (like CMMI). They must have long-range objectives that are injected across every strata of the company so that people are motivated.”

Gilb advises Indian companies to focus on making superior quality IT products and services rather than focusing on the cost advantage they have over some other countries, which is fast disappearing. Referring to the CMMI level certification that most Indian companies root for, he says, “CMMI levels are just frameworks, whether you get good or bad results depends on the techniques you are plugging in to that framework. Many companies are investing a lot of energy in getting certified; instead, they must focus on having a superior set of processes for doing projects. You could revamp your current processes by using any of my methods, like Planguage and Evo.”

Gilb warns that India could lose out while facing stiff competition from China, if it doesn’t mature its processes and doesn’t focus on value delivery. He concludes enthusiastically, “I offer my ‘weapons’ to every country. If India applies my advice best, nothing can stop it from being a winner!” We are keeping our fingers crossed!

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