

The End Of Software Engineering In The West

The Ian Drummond Memorial Lecture
UK Software Metrics Association



The End Of an Industry



This is a picture of one of the last 180 Triumph Motorcycles manufactured at Small Heath in Birmingham.

A Survivor



No Longer

Two Lost Industries

Why?

Because we failed to learn the lesson

Quality, quality and Price

Europe and the America both used the build and fix model of car manufacture.

Volkswagen used to Advertise that they shipped the spares *Before* they shipped the car

Japan

Initially Japanese cars and motorcycles

Were:

Cheap

Unreliable

Rusted

Were of poor quality

But introduced a wide range of standard features

But Then.....

Japan

Used Innovation

**Development of the two stroke
Quality – adopted the ideas of Demming
Total quality approach**

The Result:

**They built cars and motorcycles that did
not need to be fixed.**

Price

**They realised that cars and motorcycles
would be price sensitive goods**

**They continued to be innovative JIT, Lean
engineering, good management.**

Not Just Cars

Television & Radio

Tape Recorders- electronic goods generally

Cameras

Watches

Always a concentration on quality

And of Course on Price/value for money

Whither Software

Do we See similar trends in the software industry



Can we Stop it?

Possibly **BUT**

We need to be fast learners

We need to promote Quality to the forefront of our concerns

How many organisations in the UK have Quality and quality as their two most important issues?

OK if we cannot save it what can we do?

Find another career

OR

Exploit the trend

Properly manage the outsource relationship

There are a variety of relationships

In-source/outsource – on shore offshore/near shore

An Actual Conversation

“The trouble with the Indians is they build the design without questioning it.”

You mean you send them a design that does not work, they programme it and it still doesn't work?

“Yes if our programmers think the design is wrong they change it”

The programmers? And does that always work?

“Usually – though sometimes it does not do what the customers want”

Why not fix the designs first? You know review it?

“We never have time to do things properly”

A typical conversation

“We outsourced to a level 5 company and its no better”

- 👁️ What was outsourced?
- 👁️ Who is doing requirements management?
- 👁️ Who is managing the project?

It usually transpires that

1. Programme and project management is retained
2. as is requirements analysis and management,
3. coding and testing are outsourced, some design may be outsourced

Now to be at level 2 you need all PA's including project planning, project control and requirements management to be satisfied.

You have just created a level 1 organisation

What is the message

These conversations highlight:

- **Outsourcing needs to be managed**
 - You cannot just hand it over and expect it to be right
 - You and your users need to change your behaviour
- **Off Shore requires YOU to understand**
 - The culture of the off shore folks
 - Requires **YOU** to ensure the quality of your work
- **Development is an end to end process**
- **The front end of development is where the expensive mistakes are made**

A nice story

A large supermarket:

- **Was outsourcing software ADM**
- **The proposed contract promised improved productivity**
- **CEO asked the IT director**
 - What is our productivity now
 - He did not know
 - Had it measured – it was well below industry average – lower quartile
- **CEO renegotiated contract price**
 - As anyone should be able to improve on our low productivity

Client Side 1

Can you be sure:

the supplier can deliver everything you need

- **reduced cost,**
- **better quality,**
- **faster delivery,**
- **with the required functionality?**

The supplier may have a site performing well

- **can they replicate this on your site?**
- **they need robust processes in place.**

Client Side 2

If you were contracting buildings maintenance

- **you would have a service level agreement.**
- **Which you would monitor for compliance**

for software maintenance and development services.

You also need an SLA

Can you monitor an SLA?

- **drafted in terms of cost,**
- **quality,**
- **time to deliver**

based on the unit of software being delivered?

Managing Outsourcing

Managing an outsource contract requires:

- ☞ **A dedicated team within your organisation**
- ☞ **Some form of verifiable SLA**
 - ☞ You would not outsource photocopier support without a set of measurable performance requirements
 - Are photocopiers really more important than your software?
- ☞ **An SLA must have measurement included**
 - ☞ Measurement needs to be thought through
 - ☞ Should you include a benchmark?
 - ☞ Productivity alone is not sufficient
 - ☞ Nor is cost
 - ☞ Cost per unit of software delivered is better
 - ☞ But what about quality, time to deliver
 - ☞ What happens if your users keep making late changes

Outsource team

Should Include:

- **a senior manager with authority & budget**
- **someone who can monitor the SLA**
 - Can make and/or interpret any measurements
 - Understands cost implications of decisions
 - Such as compressed schedules
 - Late changes
 - Changed work profile
- **users who can make decisions**
 - priority of requirements
 - True necessity of changes

Defining Requirements

Requirements definition is very important in an outsourced environment,

whether the requirements are being developed by client or supplier.

You need testable requirements

the better the requirements the lower should be the error rate and the amount of rework caused by misunderstood requirements.

Finally

**Outsource your Problems and
someone else will nurture them for you**

Outsourcing – Will happen

**Learn to manage it and understand what can
and cannot be done,**

**that way you can improve your companies
business**

And your career prospects