Which industries are best at collaborative working?

Organisations are learning from the film industry that collaboration works. It's pragmatic, it spawns ideas and it can even save time, writes Dave Madden

Film making is now invariably a complex series of creative, technical and financial collaborations.

Twenty-five to thirty-five years? Six feet tall? Male? Some martial arts experience? You could be the next Batman.

How do I know this? It's just one of the roles on offer at the unfortunately named Shootingpeople.org, a network of independent film collaborators.

Film making has been an increasingly collaborative process since the demise of the studio system 50 years ago, and in an age of Computer Supported Cooperative Work (CSCW), of internet driven hyper-specialisation, film making is now invariably a complex series of creative, technical and financial collaborations.

In fact Shootingpeople is just one of dozens of internet-based services built for film-making communities: Crews TV (for freelance film crews), Mandy (production jobs hub), Plotbot (a tool for scriptwriters to work together), IndieGoGo and Kickstarter (crowd-funding for film makers) ... the list is virtually endless, and endlessly virtual.

Where film goes, the advertising industry is rarely far behind, and this is true of internet-based collaboration too.

Tongal is a social media platform that, in essence, crowd-sources TV ads and videos through collaborative contests. Founded in California in 2008, Tongal members have generated creative content for brands from Braun to The Beach Boys.

> Collaborative technologies brought together 50 geographically dispersed suppliers to create a successful new car.

From movies to manufacturing

Film and advertising have a natural freelance element and specialisation that lends itself to collaboration. But there are signs that more conventional businesses and production processes are being influenced by CSCW too.

The application of social media systems is changing the way some technology firms function internally.

Dassault Systèmes, a French software firm, has allowed customers to actually take part in their production process. It has created an online virtual environment in which employees, suppliers and consumers can work together to turn new ideas into reality. It even provides lifelike manikins on which to try out new things. The way products might fail, how they could be fixed and how they can be taken apart for disposal can also be modelled with the system.

Then there's the more traditional environment of car manufacturing. Next year should see the launch of The StreetScooter. It's not actually a scooter at all, but a $7,000 German electronic car. DHL has already ordered 3,500 of them – but what's most interesting about the vehicle is how it came to be designed and made.

More ideas in less time

It's the product of collaboration between some 50 specialist parts suppliers, technology companies and software developers. Geographically dispersed, they used product lifecycle management and CAD software as a substitute for the everyday coordination of a large, integrated company. The project uses the Windchill product development suite from PTC.

Unusually, instead of one manufacturer dictating its designs to suppliers, all the companies had equal status, and could provide input. They were also all involved in the collaboration from the start, which is quite foreign to conventional manufacturing models.

The StreetScooter and its novel design and production process are the brainchild of Professor Achim Kampker, of Aachen University.

Each of the collaborators on the project were organised into a lead engineering group (LEG), made up of experts in each of the vehicle's components. "Everyone is on a par with each other. Everyone can bring in ideas to radically try whatever makes sense," said Kampker, and one result of this collaborative process was that, perhaps counter-intuitively, the first physical prototype of the car was built in "12 months rather than 12 years".

The collaborative method in the StreetScooter's production is echoed in the car's design. It is a modular vehicle, with parts that can be added, removed and reused. Even the batteries are leased separately so that fleets don't have to deal with maintenance.

The StreetScooter collaboration model has a long way to go to overturn the global car-manufacturing orthodoxy, but that is precisely what is happening in another fiercely competitive and famously discreet industry, pharmaceuticals.

A deathly cocktail of R&D costs, research failures and collapsing control of drug revenue streams is forcing big pharma to change its business culture in quite dramatic ways – and seek collaborative ventures not just with academia and biotech, but with its historical enemies.

When enemies become friends

One of the most compelling examples of this new order is the EU's $2.4 billion research programme, the Innovative Medicines Initiative, IMI.

So far, 37 IMI projects are up and running, with €600 million committed by industry. Those involve 350 researchers from 19 companies and 500 researchers from academia. In addition, four regulatory bodies and seven learned societies are involved.

"The main mission is to address bottlenecks in pharma R&D: for example, knowledge fragmentation, insufficient understanding of diseases, lack of biomarkers," Michael Goldman, executive director of IMI told delegates at the Euroscience Open Forum in Dublin last month.

Goldman said it's important to stress that all the research is precompetitive. "This is non-competitive research on activities in which pharma companies that are normally strongly competitive agree to mutualise efforts and share risks," he said.

Another key principle of IMI is that more than one pharma company must be involved in each project and that external partners are chosen through competitive, peer-reviewed calls. "The pharma companies and their partners work together in an environment of open collaboration and open innovation, so there is a flow of knowledge between companies and partners," Goldman said.

As a result, the boundaries of precompetitive research are moving and extending. An example is in collaborations to run late-stage clinical trials, as in NewDrugs4BadBugs, which is developing new treatments for antibiotic-resistant infections. Both GlaxoSmithKline and AstraZeneca are putting in Phase II compounds to be advanced through further trials by the collaboration.

New technology and new economic pressures are making companies think again about how they operate, and breeding a new climate of collaboration.

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Have you seen this?

The idea of teams working together across continents used to be fantasy. Not anymore, says Andrew Small, vice president for unified communications at BT Global Services

Unified communications marks the start of a new era. Before unified communications there was a piecemeal approach that just coped with each new technological development as it came along. Now BT One can pull it all together.

I'm in charge of BT One and I know that once you've seen them in action, you want to use them all the time.

I remember discussing a project with someone from Cisco, and he said he needed to talk to someone in his office about it. In the old days that could mean you were stalled for a day or more waiting for the answer. Instead he opened his laptop and got the person on the end of a high definition video call. It was like an instant meeting that I could take part in as well, and we solved the problem straight away.

It was better than a phone call, as I could join in instead of just listening to one half of a conversation. The video quality is now so good in high definition that I could see the person clearly and pick up on their body language. And it was so speedy and easy to do.

That's where technology has brought us. It's making new ways of working possible.

The growth of a global workforce

I'll give you another example from my own work. I needed a product manager for one of our key unified communications products and I realised that the best person I'd talked to about it was based in Singapore. Previously I'd have thought that their location would have made it impossible to link them up with our development team in the US and our marketing team in the UK. But now it's possible.

The team use instant messaging (IM) and online presence to check each other's availability. They have audio conferences, and telepresence ones for larger group meetings of six or more. And they can work together over the web by sharing documents during a call.

If I'm in the middle of an IM session with someone – using Microsoft Lync or Cisco Jabber, for example – I can press a button to offer them the chance to see my screen. They just click to accept and we can both work on a document or presentation together.

And the team learns to deal with the problems that time zone differences cause by working on the move or taking an early or late call from home. The old divide between work and free-time is being eroded – people are just adapting to managing their own time.

Show it's easy and people will do it

We're focusing on making unified communications simpler and more convenient. And that's not about adding more products, but about making it all easier to use. So we're extending these products to people's own devices. If you were using an iPad I could send you a web address for Cisco's collaboration area, Webex, with a log-in and a password, and we could share a screen that way. Or you could download a Jabber app from the app store.

At BT we work with technology partners like Cisco, Microsoft and Avaya, who provide the 'middle bit', and we make it all connect. So if you're working on an iPad, you'll need to connect to a network and a cloud, and out to me on another network.

We also know our customers have a mixture of technology, so we work with whatever they have. It'd be too expensive and confusing to rip it out and start again.

So how to spread the word about unified communications? Well, people are getting used to the benefits of products like Skype and FaceTime in their home lives, and they want to use them at work too. So we know the word will get out there.

In the meantime, I'm just thinking about an app that will display a tidy home office behind me on the screen for when I video-call my team.