

Commercivity: Oh no, it's a brainstorm!

By Rod Fountain and Peter Childs

Cast of characters:

Johnnie Moore – you have already heard some of Johnnie's thoughts in the opening chapters. He is a writer and open space facilitator who works with big companies to help them access the strengths and desires of their workforce.

Roger Neill – he is director of the Centre for Creativity in Professional Practice at City University, London, and a former director of Saatchi & Saatchi.

B V Pradeep – he is Vice President Asia, Unilever Plc, Consumer and Market Insight.

Jaroslav Cir – he also works for Unilever at the sharp end of marketing consumer brands in Prague.

Bob Pinkett – he is a partner at the engineering consultancy Peter Brett Associates.

Dan O'Donoghue – he is the worldwide strategic planning director at advertising agency Publicis Worldwide.

Dr Carlos Zwikker – he is senior director with responsibility for marketing strategy and intelligence in the lifestyle incubator at Philips in Holland.

Dr Tim Bradshaw – he is head of the innovation, science & technology group in the Economics and Enterprise Directorate at the CBI in London.

Ed Smith – he is a cricketer turned writer and former captain of Middlesex and an England international.

Hugh Baker – he is head of operational architecture at Barclays in London.

John Kearon – he is the CEO of on-line market research company Brain Juicer plc.

Kieron Monahan – he is Global Strategy Director at advertising agency Lowe Worldwide.

Lionel Lopez – he is former risk director at Barclays UK Retail Bank and now works for Standard Chartered in Singapore.

Paul Feldman – he is chief technology officer at Barclaycard.

Lisa Ohlin – she is the former global head of insight at Cadbury's.

Marc Lewis – he is a mobile technology entrepreneur and is re-launching the School of Communication Arts in London in 2010.

Lucian Camp – he is chairman of London-based financial marketing agency Tangible Financial.

Ideas occur to human beings, on average, ten times a day. That's about 65 billion ideas a day. Enough, you might think, to provide for all of our needs and wants. Except that most of these ideas are not captured anywhere. Of those that are, only a microscopic number are acted upon and, of those, an even tinier number are acted upon in such a way as to create ultimate value. To shorten the odds a little, ambitious growing businesses are active in research and development and use a variety of creativity tools and techniques. Brainstorming is perhaps the best known, used by more than 70 per cent of business leaders as the main driver of ideas in their organisations.

Rod: Brainstorming may be the best known of the creativity techniques we have chosen to highlight in this book, but I suspect it is also the least loved. A lot of people in business think it is a waste of time that never yields any 'decent' ideas. Why is this?

Peter: It is no different from any other creativity technique in that you are unlikely to get much of value out of it unless you manage it properly. Used with skill and discipline brainstorming remains one of the most useful techniques for squeezing valuable and practical creativity out of mixed discipline groups.

Rod: Then we must put the bad press down to the fact that most people abuse this technique – in effect they get what they deserve?

Peter: Well it is safe to assume that a significant proportion are not using it to its full potential. A lot of experienced managers also know that luck and randomness play a part in idea generation and they are very open to the fact that many of the most productive ideas will come to them from outside their business, regardless of how much money they spend internally on creativity. This is one of the reasons why creativity techniques in general are not as well exploited as they could be. In this book, even as we are giving you suggestions for how to generate ideas, we do not believe there is only one way to do things. Any technique used with skill will help you improve your internal commercivity.

Rod: In a brainstorm the emphasis is on quantity and not quality of ideas, but a lot of our contributors think there really isn't a problem with the generation of ideas. Dr Tim Bradshaw of the CBI says his members in the regions around the UK are always fed up by the fact the regional development agencies will give you money to help you generate ideas but nothing to help you follow them through. He says that, in any event, very few SMEs complain of problems generating ideas.

Peter: Very few people admit to difficulties coming up with ideas, but this is not really the issue. We are looking for ways of getting those ideas focussed on a problem or issue in such a way they can be taken forward positively.

Rod: Yes I can understand that without some process for understanding what to do with ideas, where would you start from? If you are a company of 100 people and they have an average of ten ideas a day each, that's 1,000 ideas every single day you could be getting the benefit of – 22,000 a month – just from your own people! Of course, you're far too busy to manage such a deluge, even if you know many of the ideas would be potentially valuable.

Peter: If the ideas are just flying around at random then you have absolutely no chance of getting any value from them as a business. You will not be able to manage anything remotely close to commercivity. Whereas if you took a brainstorming approach you would be getting these ideas focussed on solving a stated problem, followed by a de-brief at which you would identify ideas or aspects of the ideas generated that should be explored further. A typical outcome is that aspects of a few of the concepts generated could be combined to form a solution to the design need that gives a better overall solution than any one of the individual concepts from the original brainstorming session.

Rod: Author and change agent Seth Godin thinks what's missing isn't the ideas it's the will to implement them. But surely if the idea is good enough then people will want to implement them. I think creativity in commerce counts only if you can create customers and profit, and that means you have to bring your idea successfully to market. Ideas for their own sake are worthless to you, so it's probably not worth the bother of collecting them unless you have a way of doing something with them.

Peter (shocked and dismayed): It's always worth collecting ideas! Just because you have no immediate use for them, or at least you can't see one at this precise moment, does not make the ideas useless to you. It is a big challenge for managers or facilitators to coax creative ideas out of people, precisely because most people internally reject ideas that seem crazy or reckless or plain daft. But you are never going to get to a breakthrough idea by focussing on any single idea in isolation, or by rejecting things that seem absurd at first hearing.

Roger Neill: I think brainstorming is a fabulous way for people to get rid of all those yes buts for a while. The purpose is to get people to dream. But on its own it produces nothing. The second half of the process is to turn whacky ideas into functioning reality – things you can implement. Having a problem solving focus coupled with brainstorming is essential. You also need an owner.

Peter: In fact there are quite a few rules to follow if brainstorming is to be more than a simple free-wheeling event where people turn to each other and share ideas. During a brainstorming session criticism, evaluation or judging an idea is forbidden. This encourages people to come up with and offer ideas without fear of criticism, ridicule or judgment. This is an important aspect of brainstorming. When sharing an idea it needs to be recognised that a person is sharing something intimate, a set of thoughts from within their mind. Respect for this is important. In a critical environment the majority of people are less likely to offer ideas, or at least will limit the ideas they

offer to ones that they have evaluated and think reasonable. This reduces the potential of the session. There have been many ideas that at first airing may seem unviable but with the benefit of attention from the collective mind of a group in a brainstorming session can be built upon, improving the viability of the thought. If the original idea is not shared this is not possible.

Rod: It is very hard not to make comments about other people's ideas, critical or otherwise, when you are in the midst of a fast-moving session.

Peter: True. Criticism is a fundamental part of many of our developed and learnt thought processes. Some of us have great difficulty in suspending our critical natures during idea generation sessions. Many offices and organisations stumble forward in the midst of a cut-and-thrust, competitive and often highly critical working environment. In such an environment it is common to find staff reluctant to share their ideas for fear they will be stamped on or someone else will take the credit. Put downs include lines like 'it's been done before', and 'it'll never work!' Or someone will invoke the 'not invented here' syndrome and suggest the boss will never go with the idea. These scenarios are common place and but there are strategies to avoid them. One of the best is to explain the rationale and rules of brainstorming prior to the session. This can be achieved by a pre-meeting to define these for the participants, either by getting all the relevant parties together or by using a web-based conference link. Or you could send a memo to all of the participants summarising the key rules and perhaps including notes providing more detailed rules for brainstorming and explanation of the principles. One tactic that can help people adapt their normal behaviour is to avoid saying 'but that won't work because...' and instead say 'yes and another possibility is ...'

Rod: Easier said than done I fear. There are a lot of things that can go wrong. John Kearon, who is a highly experienced researcher, feels strongly that most brainstorms are a waste of time.

John Kearon: I used to run an innovation company called Brand Genetics but I stopped it because I felt I was in the entertainment business rather than the innovation business. We would do endless brainstorming with clients who were not very creative and we practised and tried to share with them the best creative thinking teaching techniques we had come across. But in the end it wasn't really about inventing great ideas that could change the market; it was really about inventing the next flavour of something. In the end you would invent all these things and clients would get very excited – almost thrilled - about them but they would never launch them. At the time I got a bit upset about it but in hindsight it is completely obvious why – in the big bodies corporate the antibodies come out and attack anything that might undermine their own business. It is very natural. It is almost a biological reaction in its own right.

Rod: That is not an attack on brainstorming per se.

John: What we have found empirically when it comes to creativity is let the creatives create. There are not many creatives in big companies and yet big companies insist on doing brainstorming again and again and again and this is one of the most futile wastes of time I have come across. Brainstorming is a wonderful way to get teams to

bond it just happens to be woeful for generating really good ideas, mainly because you have averagely creative people sitting in the room and they will produce averagely creative ideas however long they sit in the room. And so we are unapologetically elitist when it comes to letting the creatives create. We have invented a simple creativity test which we have validated on a sample of 5,000 people that shows you really are able to separate the highly creative consumers from the also-rans.

Rod: Your test uses remote association puzzles in which you have to find the one word that connects three other words.

John: Yes, the theory is that creativity is not about knowing a lot about a little it is about being able to connect the dots and have the ability to connect things that are not normally connected. Comedians are good at this: connecting things that are not normally connected to make an odd, funny connection.

Carlos Zwikker: Not everybody is as creative so don't challenge them on that aspect. Use strengths. I think it is true that everyone can be creative but in everyday life how much time are you going to dedicate to becoming more creative. Look at the pressures on everybody. I am not going out there to try to squeeze the spark of creativity out of people. Either it's there or it's not. It is the same as a call for more entrepreneurship. Sorry but entrepreneurship is more of a DNA thing. You can't just come out of university and expect to be an entrepreneur.

Kieron Monahan: All of the best creative ideas are routed in reality. I am not a fan of crazy ideas. There is no point in coming up with just anything. I hate brainstorming but there is a way of using the wisdom of crowds effectively if the conditions are right. Harvard has done some research showing that when you brief people together but then send them away to come up with ideas on their own before coming back to the group to discuss them further, and then send them away again to work on them further, their ideas are clearly better. They are not influenced by the group except in the most positive way.

Lucian Camp: It is a completely false hope that you can get a bunch of people together from the receptionist and the studio and the finance department and expect them to come up with anything. In the end my experience is that either with a sounding board or debating partner you have to sit with a blank sheet of paper until your brain hurts. You still need to do it in a fairly disciplined way. It is very unlikely that someone will solve a creative problem unless they feel they own it. You have to feel it is down to you. We often draft people in from elsewhere in the company to help out when we are in trouble on a job but they tend to come in the next morning and say sorry I haven't come up with anything. Well that's no bloody good! If you don't own a creative problem you are very unlikely to solve it. Overwhelmingly they are solved by people who knew it was down to them to solve them.

Lisa Ohlin: Quite often the bit that gets cut out is the thinking part at the beginning that can save so much time at the end. Ideas come internally and externally, but how they are invited, received, understood and managed is critical to their ultimate value. The thing about brainstorming is it's easy to come up with a lot of ideas quickly and you have something to show for your effort. But insight takes a little longer.

Peter: Rule-breaking and wacky ideas are welcome in brainstorming. It is the rule-breaker who might discover the short cut in a journey by doing something normally forbidden. Although such behaviour might rightly be frowned upon, in some contexts, the possibilities revealed may provide useful information that had not previously been considered. In idea generation the concept of rule-breaking and boundary shifting are useful and to be encouraged. Similarly wacky ideas should be welcome. Some suggestions can make the whole team crack up in laughter and still be amusing several days later. Whether these ideas have merit in terms of the task to be resolved will be determined at the evaluation phase. Nevertheless it is wacky ideas that can make the session fun, provide a temporary focus and reduce self-editing that encourages other people to offer their ideas.

Rod: The least you can say about brainstorming is that people hold strong opinions on it. They are all highly experienced people working directly in the area of creativity and innovation, yet they are full of angst about the value of brainstorming. Not all of our interviewees were so keen to attack it though.

Lionel Lopez: I will define myself as someone who likes to try new thinking but to do that I need the stimulation of other people which I think everyone is capable of as long as they don't fear saying something stupid. There is no special profile of person to create the concept. In the second phase people need to think about the process and that requires intelligence. To generate ideas you need to think out of the box and bounce ideas between each other and this should not be constrained. But when people have thought about that and you are on to the next phase which is how do we make it happen, now it has to be more constrained and constructive and you need a different type of person to do that.

Rod: So you are happy for anyone in the business to contribute to your brainstorms. How do you get them to relax and participate freely?

Lionel: By showing them how much I love them. I tell you it has a big effect. I am quite provocative. I try to push the debate. I throw up an idea and I like people to think about it out of the box. You need to have admiration for people who work for you and mutual respect; and that every idea counts. The risk attached to human capital is hugely important. It is all about the people. They are the only ones who can make the difference. I have seen people at Barclays who have been there 30 years but have no passion and no motivation and talking to them and maybe putting them into a new job and talking to them and challenging them you can have a new person. If you can get someone's confidence then it is a different game. My role as a leader is to make sure people like what they are doing and are excited by it because if they are they are going to do a good job. And then they will be rewarded for that.

Peter: There is a lot of very stimulating comment here and I want to try to put some of it in perspective. It's worth repeating that there is no one right answer to improving commercivity, but there are some simple rules worth following that should help you get a better result, particularly when you are using creative techniques like brainstorming. Alex Osborn, who invented brainstorming in 1953, thought it was important that in approaching a creative problem we 'should give imagination priority over judgement and let it roam around our objective. We might even make a

conscious effort to think up the wildest ideas that could possibly apply.’ The emphasis in brainstorming on quantity increases the number of alternative solutions and hence the potential for a viable and worthwhile end-result. To achieve this it is necessary to prepare carefully for a brainstorming session. Work needs to be undertaken to understand the task or problem to be solved. This is compatible with the need to ensure that the task can be understood in simple terms ensuring that our limited short term memory is not occupied by multiple facets of the problem. By freeing up our short term memory we enhance our ability to access potential ideas from our long term memory. In addition participants need to be forewarned of the task to enable them to develop and rehearse sharing of these ideas prior to a session. Necessary preparation prior to the session by the organiser also includes booking facilities, determining appropriate participants and distribution of the brief.

Rod: Is there an ideal number of participants and who should they be?

Peter: At its basic level brainstorming involves a multi-disciplinary group meeting together to propose and generate ideas to solve a stated problem – in a short period of time. Ideally there should be no more than ten people involved, but research has demonstrated that brainstorming can be used for both individual and group efforts. An interesting and fruitful approach is to generate the core idea by yourself and, subsequently, to leave the development phase to the others. Individual brainstorming can generate a different spectrum of ideas than a group session, but often with less efficiency, because individuals can get diverted into applying mental effort to problems that they are not able to solve. An individual sometimes has the advantage of being able to explore ideas without being worried about wasting time or being criticised by someone else and without being dominated by other members of a group. Group brainstorming tends to develop ideas in greater depth than individual brainstorming but sometimes produces a smaller number of ideas because time is used to develop ideas in depth rather than to generate them. Moderate people in the session can be repressed, suppressed or overwhelmed by the more noisy or senior people in the group. In most groups there tend to be two kinds of people: intuitive/flexible people, and strict/logical people. The first category refers to creative thinkers, who tend to be more fruitful in the initial phase. The second group refers to critical thinkers, who are useful in discussing and advancing the feasibility of the ideas generated.

Rod: What should the group dynamics be?

Peter: The ideal brainstorming group should be derived from diverse disciplines and backgrounds and include experts and non-experts. For example a group looking at new marketing ideas could comprise a customer, someone from manufacturing, an engineer, a receptionist as well as staff from the marketing department. A brainstorming group for the design of a new product could comprise a chemist, a materials specialist, a manufacturing and a mechanical engineer, a personnel manager and a legal representative as well as a product designer. While this ideal is preferable, practical realities may serve to act against the formation of interdisciplinary groups and sessions can still be productive comprising a more limited set of people. But all participants in a session need to regard each other as equals. If a participant feels or is made to feel that their opinion is not as valid as someone else’s then they are less likely to be able to contribute effectively. Alternatively if an individual feels their

status means that their ideas are more significant than other peoples' then it is possible they will draw attention to themselves and become the focus of the group and thereby inhibit the creative potential of the group. Encouraging collegiality within a group is important, because just as we tend to be more open and honest with friends and relations, we are more likely to talk to people in an open manner if we view each other as equal colleagues. Thus, for the purpose of a brainstorming session, if a person is normally used to having their view prevail in the workplace, then this privilege needs to be temporarily surrendered. Similarly if a person is used to withholding a view or idea or keeping silent then again this privilege needs to be abandoned for the brainstorming session.

Rod: There is a lot of pressure on the organiser or facilitator to get the structure of the session right.

Peter: Facilitation is a fundamental part of brainstorming and many other creative methods. In the absence of facilitation groups can readily revert to critical and judgemental behaviours that normally inhibits productive generative activity. The skill set associated with a facilitator normally includes good interpersonal skills, an understanding of fluent and flexible thinking, the ability to understand concepts, paraphrase them and identify analogies and metaphors. A facilitator need not necessarily be an expert or even have any other than a passing understanding of the subject concerned. This does not prevent an expert from being a facilitator but the expert needs to moderate any critical behaviour to allow and encourage all the participants to contribute effectively. An analogy can be made between a facilitator and a steward. The facilitator's role is to help the ideas inherently present in a group come to life and flourish. Famous examples of facilitators include Robert Oppenheimer who facilitated the Manhattan Project despite his own in-ability to do the detailed thinking for the individual tasks necessary for the project to be completed.

Rod: It is easy to see why so many companies fail to get the most from brainstorming when the job of facilitator is so onerous.

Peter: There is no way round this. Preparation is absolutely key. Facilitation serves the purpose of giving a structure to a session, guiding attention to a particular focus and re-assurance to the team as appropriate that the process is safe. If brainstorming becomes a natural part of your organisation's process, it is possible that a high level of structured facilitation, as I am describing, is not necessary. Many practitioners in business and say the design community are regular users of brainstorming and a session may involve covering all surfaces with paper, providing each member with marker pens and post-its and a fairly unstructured process involving a combination of activities with participants sometimes working with post-its, sketching, producing lists on their own and sometimes clustered in groups collectively suggesting ideas.

Rod: Encouraging people to devote their limited time to any task is a challenge with all projects, let alone brainstorming. I think you may be underestimating the difficulty for people in business in trying to do this right.

Dan O'Donoghue: The process of creativity is incredibly difficult. To put the amount of effort in these days is very difficult. It is the hardest thing in the world to be simple: it takes time to be simple. Maybe getting to 'what is the idea' is becoming

impossible now for managers because you tend to sound like the guy in a meeting who is saying 'it seems as if we haven't got an agreement on anything yet' when everyone else wants to go to the bar! All you are trying to do is actually understand what the idea is.

Lisa Ohlin: Cadburys has tried to simplify this bit by creating a formula for people to use in order to get the insight. But this just doesn't work. People find it hard to take time out to think about this. This can really make the difference but it is not about taking a formula and adding one and one and one. If it were so simple then everyone could do it but actually it is hard work and requires brain power and a number of people coming from different angles and making connections because people work in different ways.

Kieron Monahan: Your job is to create the environment that allows the people within your business that might have ideas to be able to bring them forward waving an idea flag. If the idea proves to be not that good then don't chastise them for it because coming up with a truly good idea is very hard. There will be certain types of people within your company that are a bit renegade, open to ideas, who probably don't have a huge amount of interest in bureaucracy and structures and hierarchies they just have an idea and want to see it made.

Peter: A lot of things in business are hard and facilitation may be one of them. But if you understand the importance of commercivity then you are going to have to crack this. There are simple tactics that can be deployed, for example to get people to put in some meaningful time on the problem at hand. For example you could require all participants to submit say three ideas at the start of a session as an entry ticket to be allowed in to the session. If experience of a particular group suggests that production of ideas may be limited then an idea quota can be stated to encourage the quantity of ideas - say 100 or 200 ideas. This can encourage the group to suggest many ideas. The value of goal setting in idea generation is supported by the study by Wegge and Haslam in 2005.

Rod: We've all been in brainstorming sessions that are not run along anything like these lines. Perhaps the boss speaks first and sets the agenda with some statement that every idea needs to be sensible – and preferably patentable - or the organiser decides to let everyone speak in turn so you end up waiting ten minutes to get your precious idea out. Or worse, you all go on an awayday and spend the brainstorming session recovering from a hangover or pretending to write everything down to avoid eye contact with the boss!

Peter: Yes I recognise this! Some facilitators chose to implement brainstorming in such a way that further reduces its effectiveness such as dominating the session, suggesting too many of their own ideas and thereby possibly intimidating the participants, dismissing a particular direction of thought process and suggestions too early with implied criticism of the ideas, favouring comments from certain individuals only and failing to encourage wider participation.

Rod: So if they are behaving this badly themselves they are hardly likely to be able to control other unruly elements within the group!

Peter: Dealing with inappropriate behaviour in a brainstorming session is sometimes a challenge to the best and most experienced of facilitators. Examples of challenging behaviour will cover the spectrum of personnel issues, from practical jokes, mockery, hijacking of agendas to jibes at managers and bullying. Brainstorming sessions can exacerbate issues as the flow of ideas can encourage expression of sometimes unrelated issues. It may be necessary for a facilitator to request that the participants focus on the particular subject area concerned. In planning a session it is worthwhile to explore the size of the challenge being addressed and sub-dividing the issue if necessary. It is also worthwhile managing expectations of a brainstorming session. This can be achieved by appropriate briefing reminding participants that the session should provoke many ideas some of which may be able to be taken forward for further development. You will no doubt recall from your school, teaching experiences, youth groups or meetings experience that it is quite rare for everyone in a group to do exactly as asked! Indeed the very nature of brainstorming activity with its embracing of divergent thinking can encourage some individuals towards certain behaviours that can disrupt a session. Normally gentle persuasion from the facilitator is sufficient to help groups form, focus and work towards a flow of ideas.

Rod: Sometimes the whole process of writing on flip charts and fiddling with Post-it notes can also distract attention from the main business of coming up with ideas. What is the best way for a facilitator to run a brainstorming session to give it the best chance of success?

Peter: Although we tend to think of brainstorming as one technique, it is really more of a generic term for a number of techniques that have been developed embedding the principles of deferment of judgement and quantity breeds quality. Some of these are group based involving direct verbal interactions between those present, others are silent - brainwriting - methods and some are hybrids. The flipchart technique is the most commonly known one but it is the poor relation of brainstorming as it does not encourage simultaneous contributions and therefore does not fully embrace the power of the collective mind. It should be employed with some caution but it can serve as a good entry activity to a brainstorming session, for example to explore which are the important areas of a problem. The group can 'flip-chart' brainstorm these for several minutes. Following this a more structured brainstorming technique such as post-its, grid or alphabet can be employed which encourages simultaneous mental activity and contribution to the task for all the participants.

Rod: Give us the essential truths about using flip-chart brainstorming properly.

Peter: Make sure the brief is properly defined in an easily accessible manner and distribute this to participants in advance of the session. Make sure everyone is familiar with the rules of brainstorming in advance and decide what your stance is going to be on the issue of any intellectual property rights that may emerge. During a brainstorming session many ideas can be generated and shared, some of which may be the result of prior consideration over many years. Others may be sparked as a result of the interactions within the session itself. Options for dealing with these include Chatham House rules, where there is no attribution to an individual for anything said in the meeting; direct attribution, where the initials of the originator are captured alongside the idea; equal attribution, where any IPR award is divided equally between all participants; and company retention of IPR. Make sure the room you plan to use

has a flip chart, whiteboard or equivalent and relevant markers. When the group arrives make sure they can all see the board clearly and remind them of the brief. The facilitator then invites solutions to the brief for a set period of time. Either the facilitator or someone they nominate records the suggestions as they are made either on the flip chart or other media. If the participants are unknown to the scribe then badges or name tags can be worn to help speed up the process of recording.

Rod: What happens if ideas aren't really flowing freely?

Peter: The period of time taken for a flip chart session can be until the frequency of ideas being suggested begins to reduce or until it drops to an uncomfortable level for the group. At this point the facilitator can either suggest it is time to review the material suggested or alternatively use a warm-up, group exercise or series of props to re-invigorate the group prior to another session using the flip chart to record ideas. Groups tend to be quite capable of determining when it is time to move on. Once a sufficient quantity of ideas have been generated, by say two or three, ten to twenty minute sessions, then the ideas can be collected and participants invited to review the material to see if additional ideas are inspired by for instance a combination of two or more of the suggestions.

Rod: OK, so you end the session with a number of ideas in various stages of detail. Then what?

Peter: Then you enter the evaluation phase which is, of course, an essential part of the decision making process associated with idea generation. You may have a hundred or more ideas and you are going to need to filter them. You should do this as soon after the session as possible while people still remember what they are about and while you have the attention of the group. The fastest product development, detailed design and idea implementation teams cannot get going until decisions have been taken about which idea or ideas to follow up. A quasi-objective technique is recommended for evaluation. These range from use of a voting system, say using dots, to an evaluation matrix.

Rod: This is where I think I begin to lose a little faith. Voting systems are bound to favour the most obvious and practical ideas and are likely to filter out things that sound a little crazy but might be the basis of a breakthrough idea. How do you avoid this?

Peter: Voting systems can be sophisticated or simple. In a simple system each person may have a limited number of votes, say ten which they are allowed to issue with one or more votes per idea they wish to see considered further. Such voting systems can result in the loss of ideas unless some prior ordering and filtering of ideas has already occurred during the facilitated session. If for example a large number of minor variations on a particular idea have been recorded as separate concepts then it is possible that votes will be shared between these and when votes are summed a rarer, but possibly weaker concept, may receive more votes. In order to overcome this potential problem, it is necessary for the facilitator and group to review the ideas generated and group similar ideas together. In this case fewer ideas are put forward to the evaluation phase, making the task easier to handle and avoiding dilution of votes. Votes can be implemented by issuing each person with a set number of dots. The

participants are asked to assign their dots to any ideas they consider to be the best ideas for resolving the task. Dots can be assigned with one per idea or in multiple numbers with a participant giving all of their dots or vote to an individual idea. A variation on this is to limit the magnitude of a participant's vote for an individual idea to a maximum of one or two dots. Alternatively participants can be given a range of colours of dots, representing traffic lights, with red, amber and green. Each colour symbolises whether the idea is viable and a 'go', caution and consideration 'amber' or no and 'stop', red. The dots provide a quick visual indication of where the team think attention should be focussed and can be quickly counted or assessed to see which ideas are favoured.

Rod: What other methods of evaluation are there?

Peter: Another method of evaluation is the use of tabular evaluation matrices as illustrated in our tables. These consist of a series of criteria against which the concepts must be marked. The importance of the criteria can be weighted, if appropriate, and the most suitable concept is identified as the one with the highest overall mark. This method provides a structured technique of evaluation and makes it more difficult for individuals within a team to push their own ideas for irrational reasons. The outcome is a quasi-quantitative measure of the merits of a specific idea and ranking of concepts. In the second table four different concepts for a pallet moving device are being considered. The evaluation criteria considered important here are safety, positional accuracy, ease of control, ease of manufacture and durability. These criteria have been weighted with positional accuracy of the pallet-moving device deemed the most important. The scores are given with a maximum of ten. The marks in the columns for the weighted scores have been summed and the totals are given at the bottom of the table. The highest weighted score is for the linkage mechanism in this example, and this concept should therefore be selected and developed.

Peter's generic example of an evaluation matrix

		CONCEPTS					
		Concept A		Concept B		Concept N	
SELECTION CRITERIA	Weight	Rating	Weighted score	Rating	Weighted score	Rating	Weighted score
Aspect 1	Percentage importance of aspect 1	Mark out of 10 for Aspect 1 of Concept A	Rating × weight for aspect 1 of concept A	Mark out of 10 for Aspect 1 of Concept B	Rating × weight for aspect 1 of concept B	Mark out of 10 for Aspect 1 of Concept N	Rating × weight for aspect 1 of concept N
Aspect 2	Percentage importance of aspect 2	Mark out of 10 for Aspect 2 of	Rating × weight for aspect 2 of	Mark out of 10 for Aspect 2 of	Rating × weight for aspect 2 of	Mark out of 10 for Aspect 2 of	Rating × weight for aspect 2 of

		Concept A	concept A	Concept B	concept B	Concept N	concept N
...							
Aspect n	Percentage importance of aspect n	Mark out of 10 for Aspect n of Concept A	Rating × weight for aspect n of concept A	Mark out of 10 for Aspect n of Concept B	Rating × weight for aspect n of concept B	Mark out of 10 for Aspect n of Concept N	Rating × weight for aspect n of concept N
Total weighted score			Sum of weighted scores		Sum of weighted scores		Sum of weighted scores
Ranking							

Peter's specific example for the evaluation of a pallet-moving device

		Concepts							
		Hydraulic mechanism		Cable hoist		Linkage mechanism		Rack and pinion	
Selection criteria	Weight	Rating	Weighted score	Rating	Weighted Score	Rating	Weighted Score	Rating	Weighted Score
Safety	20%	2	0.4	3	0.6	4	0.8	2	0.4
Positional accuracy	35%	6	2.1	5	1.75	7	2.45	6	2.1
Ease of control	10%	6	0.6	5	0.5	7	0.7	6	0.6
Ease of manufacture	20%	7	1.4	8	1.6	5	1.0	6	1.2
Durability	15%	7	1.05	6	0.9	5	0.75	6	0.9
Total Score		5.55		5.35		5.7		5.2	
Rank		2		3		1		4	
Continue?		No		No		Develop		No	

Rod: You mentioned that flip-chart brainstorming was not the best method. What methods are better?

Peter: There are lots of them and I'll take you through a few of my favourites, starting with Post-its, which are widely used in brainstorming. They provide a simple way to record an idea and then order or collect similar ideas together. Participants write one idea per Post-it for a fixed period of time and then these are displayed on the wall. The facilitator then leads a session in which ideas are clustered into different groups or categories. These can be captured by a digital camera. The review may provoke discussion and the facilitator can decide whether a further round of Post-it or other technique is appropriate. This type of brainstorming has the advantage of allowing people to think on their own and avoid some of the group intimidation often

associated with the use of flip charts. It is also much easier to work with the ideas once they are known. Then there is alphabet brainstorming where participants are invited to work through the alphabet, sequentially letter by letter, suggesting a few ideas for each letter that are relevant to the problem at hand. Once a few ideas beginning with the letter A have been suggested and recorded the group then moves on to consider a few ideas beginning with the letter B and so on to Z. Alphabet brainstorming serves to encourage consideration of ideas across a wide range of possibilities. At the end of an alphabet brainstorming session, which might take about 45 minutes to an hour, the group will typically have between 75 and 150 ideas. It is a good method to help a group to widen their horizons and develop a large range of options to explore.

Rod: This sounds incredibly simplistic.

Peter: It is simple but not simplistic. You need to be careful about how you introduce this to a group because most of us gave up doing alphabet sequencing in primary school and it is possible that some members of a group may ridicule or resent an approach based on such a simple concept. To overcome this you must explain the rationale for the technique and how the ideas generated will be evaluated. But this technique still embodies a weakness of flip-chart brainstorming which is that one person's thoughts interrupt another's, in a serial manner. This can be overcome by one of a number of techniques based on parallel activity, such as brainwriting. The participants are grouped in a circle say around a large table and each is given blank cards and invited to record their ideas on these with one idea per card. As each member in the group generates ideas, silently, they then pass them in one direction, say to the right, in the group. The intent of the cards is to serve the purpose of stimulation of ideas. On receipt of a card a participant reads it to see if it inspires an idea. Each participant can then write down the idea inspired by the stimulus and then pass this new card on to the right. Within a few minutes of a brainwriting session several idea cards will normally be going around the group. After about 20 minutes all the cards generated can be collected and the facilitator can sort them with guidance from the group into different categories of ideas with a generic title given to each category. The ideas can then be scored.

Rod: OK so people are encouraged to build upon the ideas of others rather than just dream up something themselves.

Peter: Yes and there are many variants on this theme. For example instead of passing the cards around the table they can be placed in the centre of the table in an 'idea pool'. Each time a participant requires a stimulus they can exchange the card they are working on with a card selected from those that have been completed and placed in the centre and then use this to inspire or trigger ideas. The grid technique takes this further and is particularly useful for encouraging collective idea generation with effective outcomes. In this technique each person in the group is given a grid, say a piece of A4 paper divided into nine rectangles. The facilitator then explains the brief and invites the participants to develop three potential, partial or full solutions to the problem, one in each sector of the first row. The solutions developed need not fully resolve the problem and can be simply ideas that seem relevant. The solutions can be portrayed using a mixture of sketches and words. Once a row with three part-solutions has been completed the participant places their sheet of paper in the middle of the

group. Another group member, if they have also finished their row, can then pick up a set of solutions that they have not been working on and commence developing solutions in the next row of the grid, based on the ideas developed by the previous person. The method has many similarities with the game Pictionary. In essence, once the participants are working with a set of ideas partially developed by someone else, each person is able to blend at least two sets of thoughts, their own and those of the previous contributor. The grid method allows the participants time to think at their own pace and is good at enabling those who are more reticent about participating to contribute.

Rod: All these variations have people sitting around tables and therefore seem a little static. Can they be adapted to get people more active?

Peter: Yes, there is a variation called gallery technique in which ideas are recorded on say flip chart sheets arranged around the session environment. Each participant starts with access to a flip chart sheet and records their initial ideas on this in words, symbols or sketches. They then spend 10 or 15 minutes moving around the session environment looking at other people's ideas and making notes on ideas stimulated by seeing other people's suggestions. Following this each person then returns to their original flip-chart sheet and is invited to add to or refine their original ideas. Or it is possible to combine elements of brainstorming and brainwriting in something called the clustering technique. In this participants are asked to produce a set number of ideas, say eight, and write these down on individual cards. The facilitator then collects the cards and shuffles the pack, prior to randomly distributing three cards to each member of the session. If any member receives back their own cards they are asked to exchange these with another from the pack of remaining cards. Each person is then asked to order the cards in their hand in order of preference. The facilitator spreads the remaining cards on a table face up so that the ideas can be seen. The participants are then asked to exchange the cards that they do not like with the ones on the table. A few minutes can be allowed for this. Following this, cards can be exchanged with each other and each participant must exchange at least one card. The participants in the session are then asked to form clusters. Any number of people can be in a single cluster but they are not allowed to retain more than three cards in their cluster. The clusters are then asked to prepare and then present in a creative way their ideas to the group. For example the presentation may take the form of an advert, a sales pitch, a song or a poem. The value of clustering is more in its team-building capacity than in the quantity or quality of the ideas generated. Nevertheless it can provide a useful digression within an overall idea generation strategy or process in order to ensure good group dynamics and engagement in other creative methods.

Rod: This seems to be taking us backwards rather, and plays to those critics who think brainstorming can never be much more than a team building exercise. It also sounds complicated for the modest end result on offer.

Peter: The point is there are many different methods of generating ideas that can be used with many different groups of people. They are all tools for the skilled manager or facilitator to use depending on the circumstances. There are two other techniques I want to tell you about: KJ brainstorming, and storyboarding. To take KJ first, Gruber's research on creativity in 1988 indicates that when we are thinking about an issue and attempting to resolve a problem slight shifts of perspective occur throughout

the process, when we identify a nuance, a shade of meaning or subtlety of perception. Many collective shifts over a period of time combine to create a major shift of perception which can enable us to tackle the problem effectively. Gruber notes that a number of acclaimed geniuses are sensitive to nuances, particularly those associated with certain themes. Brainstorming sessions can generate large quantities of ideas many of which contain varied nuances and shades of meaning. Some brainstorming techniques are reductionist with ideas being set aside to enable the group to concentrate on fewer ideas. Some creative people, by comparison, will allow ideas to develop from the collective nuances. Jiro Kawakita developed a brainstorming technique which encourages an idea to shape itself according to facts and nuances. The technique is known popularly as KJ brainstorming although its full name in Japanese is kami-kire ho which can be translated as scrap paper technique as participants originally wrote their ideas down on bits of scrap paper. There are two phases of activity in KJ brainstorming: understanding the problem and solving the problem.

Rod: This doesn't sound dissimilar to the phases in all types of brainstorming.

Peter: This is different. In KJ brainstorming The facilitator describes the general area of concern, such as sales, cost of manufacture, distribution, competition or technical challenge, and each person in the group writes down facts relating to the area of concern on index cards. The aim is to get everyone thinking about factual elements relevant to the problem. Then the facilitator collects all the cards and then distributes them so noone receives back their own cards. The facilitator then reads out the content of one of the cards and participants are asked to find cards within their packs that relate to this theme and read these out aloud to confirm their association. In this way a sub-set of related cards is accumulated and collected by the facilitator. Once a sub-set has been formed, the group is then asked to give it a name. The name needs to reflect the essence of the sub-set, be compatible with the facts from which it was generated, not be too general and should not be a simple aggregation of factual elements. Once a name for the sub-set has been developed, this is recorded and the sub-set put to one side. The group then continues with another card being read out, and a suitable sub-set name defined in the same way. This process is repeated until all the cards belong to a sub-set and all the factual elements relating to the problem have been collected into one theme or another. The group then examines all of the names for the sub-sets, with the aim of developing an all inclusive statement or name for the collection of sub-set names that reflects the total essence of the problem. Provided the naming of the sub-sets has been appropriately carried out, the final set should include the essence of all of the facts previously identified in the sub-sets. The name for the collection of sub-sets should represent a consensus understanding of the problem. Kawakita proposed that developing a common understanding of the problem is important in order to encourage group ownership and responsibility in solving a problem.

Rod: This sounds like a ton of work just to define the problem.

Peter: It is, but it is necessary in order to set up the problem solving phase. The facilitator distributes cards and asks the participants to write their ideas for potential solutions on the cards with one idea per card. Participants can suggest as many ideas as they wish with a typical goal of producing 100 cards or more within the group. The

facilitator then collects the completed cards, redistributes them, and reads out one of the cards. Participants examine their cards to see if any of them relate to the theme of the card that has been read out. If they do then they read out their card, to confirm its relevance, and the facilitator collects the card. This process is continued until all cards related to this theme have been collected into a sub-set, which is then given a name. As with the problem definition process, the name needs to reflect the essence of the sub-set. This process is repeated until all of the cards belong to one sub-set or another. The names of all of the sub-sets are then examined in order to develop a title that encompasses the essence of the previously suggested solutions. The facilitator then asks the group 'what is the essence of the properties and characteristics that are indispensable to these ideas.' This question should provoke a number of ideas. The facilitator can prompt the participants for additional ideas and graphically depict these to make it easier to understand the ideas and their relationships to each other. The aim is to build a visual conceptual picture. The process has much in common with approaches adopted by individuals in their development of a solution to a challenge and it has been found to be extremely effective in generating solutions within project teams.

Rod: This is about really getting to grips with the essence of the problem and then doing the same for the requirements of any solution, which makes a lot of sense to me. However, I just can't imagine many managers getting to grips with the process without a great deal of training. I have trouble visualising this technique in day-to-day use.

Peter: It does take training and it is not easy but the results can be very valuable. There is another technique, storyboarding, which may be easier to pick up. This involves laying out or displaying information that is linked together in some way in order to form a unifying structure. The technique is derived from Walt Disney's process for displaying the scenes in an animation. In storyboarding a sequence of thoughts is revealed visually to both the originator and other participants. Storyboarding can be implemented in many ways. Typically a topic is defined and this is pinned to a wall. A brainstorming session is then held to explore the purpose of pursuing a particular topic. The ideas arising from this are then examined in order to identify the major issues, attributes or solution categories. Each of these are written on a sheet of paper or card and arranged on the wall in a sequence that best tells the story. It is generally found helpful to include a miscellaneous header as one of the cards as this enables ideas that do not fit readily within other categories in the subsequent brainstorming session. With the principal headers in a sequence on the wall, the group participants are invited to consider each header and brainstorm ideas, solutions and thoughts. These are recorded on cards or post-its and arranged under the relevant header. During the session the participants should be encouraged to think broadly and consider a wide range of ideas no matter how practical or impractical they appear. Typically once a session gets going participants will tend to become immersed in the problem, filling in cards relevant to different headers and moving throughout the conceptual space posting ideas under the relevant header. During the session the facilitator can encourage the participants to review other peoples' cards to see if these inspire additional ideas. As ideas accumulate it may be necessary to add further headers. The process can continue until the group generates sufficient ideas or time is called. The storyboard can be left up over a period of days or weeks and the participants invited to add further ideas as they arise. Such an incubation period is

useful to allow participants to access their long-term memory for potential solutions and for cross-fertilisation of ideas between the various participants. A range of media can be used for a story board from blank walls with tape or sticky stuff to purpose-made cork boards or chalk boards. Alternatively story boards can be developed in electronic media. Photographs or screen dumps of the material can be taken in order to capture the data and allow it to be examined in the future. This technique is particularly flexible and adaptable. Applications are diverse from connecting themes in animation and creative writing to system design for processes.

Rod: To be able to use these techniques in your business most people will need to be very convinced of the value of commercivity. I sense they are probably a bridge too far for most people.

Peter: I don't think so. Some of our interviewees have already talked a lot about the difficulty of getting to the heart of the issue and really trying to understand the depth of the idea that could solve it.

Lisa Ohlin: I think Cadburys' Insight programme falls down on idea clarity. The concept of Insight is fascinating. It is an extension of market research. Cadburys sends a lot of people on training courses about it so you could argue that a lot of people know about it but then what happens is people go back to their business units and don't really know how to implement it or how to use it. A lot of people tend to stick to observations. They look at what people are doing and they have an idea about what their competitors are doing but they are not very good at putting one and one together and making three.

Kieron Monahan: A good creative idea reduces massive amounts of complexity into a single simple to understand concept in which all of that complexity can find a role within and makes all the complex stuff easy to understand. It's like an egg-timer. You start with complexity then discard most of the things in order to get to the crux of the problem and that's what you use to generate the creative idea, and then the complexity beneath this can be accommodated.

Rod: I still think some simplification of the methodology would be helpful to most business people. I remember having a short list of words and phrases pinned to my office wall to remind me to look at things in alternative ways – such as 'make it bigger', or 'combine this idea with another one'. This worked well for me and was very simple.

Peter: I think you are describing something known as SCAMPER, which was also started by Alex Osborn and then developed by Bob Eberle. The acronym stands for: Substitute, Combine, Adapt, Magnify/Minify/Modify, Put to other uses, Eliminate, Reverse/Rearrange. Each letter can be used to remind us of a word or phrase and this can be used to inspire and provoke ideas related to that phrase or word. SCAMPER can be particularly useful when we feel stuck or uninspired and employed to get ideas flowing or to provoke thinking from another perspective. Some possible provocations for SCAMPER are given in the following list.

Peter's quick list of provocations to use with SCAMPER

Substitute	<p>What might you use instead? What can be done instead? Who else? Can the rules be altered? Alternative materials? Another place? Other processes or procedures? Another approach?</p>
Combine	<p>What ideas can be combined? What materials can be combined? What methods can be combined? What procedures or tasks can be combined? What functions can be combined? What can be blended? What can be synthesised? What can be mixed? Can an assortment fulfil the requirements?</p>
Adapt	<p>What might be changed? What might be used in a different way? How can this be adapted for different customers? What other ideas does this suggest? What else is like this? What can be copied to produce this? Who could be emulated? What different contexts can this concept be applied to? What ideas from other disciplines can be applied?</p>
Magnify / Modify	<p>Can the idea or object be scaled? What can be made larger? What can be made smaller? Can it be multiplied? Can the colour be changed? Can the shape or/and form be changed? Can the sound be altered? Can the scent be changed? What changes can be made elsewhere in the system?</p>
Put to other uses	<p>What else can it be used for?</p>
Eliminate	<p>What can be omitted? Can it be divided? Can it be separated? What can be trimmed? What can we do without? Can it be streamlined to reduce losses? Can it be miniaturised? Can something be subtracted? Can something be deleted or removed? What is unnecessary?</p>

Reverse / Rearrange	What can be made opposite. What can be mirrored? Can it be turned inside out? Can roles be reversed? What are the negatives? What can be restructured?
---------------------	---

SCAMPER can be applied to almost any domain. We do this almost instinctively in addressing an issue. In 2007 Kevin Byron researched artists and found the following:

- In his Shed-boat-shed exhibit Simon Starling used substitution of one form for another.
- Andy Warhol famously combined together silk screen printing, then a relatively new mass production technology, with images of Hollywood icons.
- In his art Andy Goldsworthy tends to adapt a form to fit the context. A wall for example is made to meander through a wooded scene producing interest in the view.
- Claes Oldenburg specialises in placing huge embodiments of familiar objects in public spaces.
- Dan Flavin's work involves transformation of one parameter into another. In some of his work lights function together as art.
- Anne Truitt's art and sculpture is characterised by minimalism with the features stripped to eliminate distracting form and detail.
- In Andrew Wyeth's works, the subject of the painting looks away rather than facing us.

Rod: I think SCAMPER is great because it seems to avoid the temptation to over-complicate what should be something quite simple – coming up with ideas to solve a particular problem. Surely we have got to keep it simple if we want large numbers of people to take it up?

Peter: Simple is preferable and in essence most of the techniques we have been discussing are simple. Brainstorming in its modern systematic and disciplined form for producing ideas in a group originated from Alex Osborn's formulation of the technique in 1941. He was an advertising executive, working in Buffalo, New York, and recognised the advantages of creating an un-inhibiting environment for encouraging imaginative ideas. Such notions are not necessarily new. Honest open collaboration has been recognised as effective throughout civilisation from Socrates and his colleagues engaging in group dialogue, talking about issues until an understanding is developed, to the ground-breaking physicists who engaged in open discussions at the start of the 20th Century. A form of brainstorming has been practiced by Hindu religious teachers for centuries, called Prai-Barshana, meaning 'outside yourself' and 'question' respectively, the process involves gaining a perspective and examining the issues.

Rod: I am fascinated by the fact we seem to have so many ways of trying to squeeze creative ideas out of ourselves and others and yet most innovation seems to be incremental, with breakthrough ideas very rare.

Peter: There is an inevitable element of chance associated with brainstorming and there are on-going efforts to try to improve the process. As imperfect as it may be, it is nonetheless incredibly valuable to most organisations. Out of a hundred ideas generated in a brainstorming session, maybe only a few of these will survive the initial idea filter for further consideration, but a project team can typically still recall the buzz of the session several days later. There is an on-going motivating influence on individuals and on a project team. At the very least a brainstorming session is an opportunity to impress your colleagues – and yourself - with the quantity and depth of your ideas!