# Structured Idea Management as a Value-Adding Process

*Lucy Rowbotham and Nils Bohlin*

In the book *Product Juggernauts,*[1] Jean-Philippe Deschamps and Ranganath Nayak make a compelling argument for building and managing a world-class product creation process as a critical component of becoming a high-performance business. The process they outline begins with ideas. Many companies, however, do not address the generation and management of good product ideas as an explicit process; rather, ideas tend to „float" around the organization, acquiring currency in proportion to the personal and political power of the champions who promote them. In this article, we outline a rational, objective, and highly productive approach that we call Structured Idea Management (SIM). By adopting an SIM process, a team can move quickly from raw ideas to structured and integrated concepts, whether for new products, new processes, or new ways of working. Furthermore, SIM also provides the levels of internal commitment and confidence necessary to ensure that concepts are taken forward and capitalized on. SIM has been applied successfully to a wide range of topics, including beverage packaging, a cosmetic dispenser, yogurt packaging, a beer dispenser, an electrical hair care product, lubricant applications, a household care product, polymer applications, a vending machine, a telecommunications product, a tamper evident pack manufacturing machine, an electrical switch, missile defense measures, and personal hygiene products.
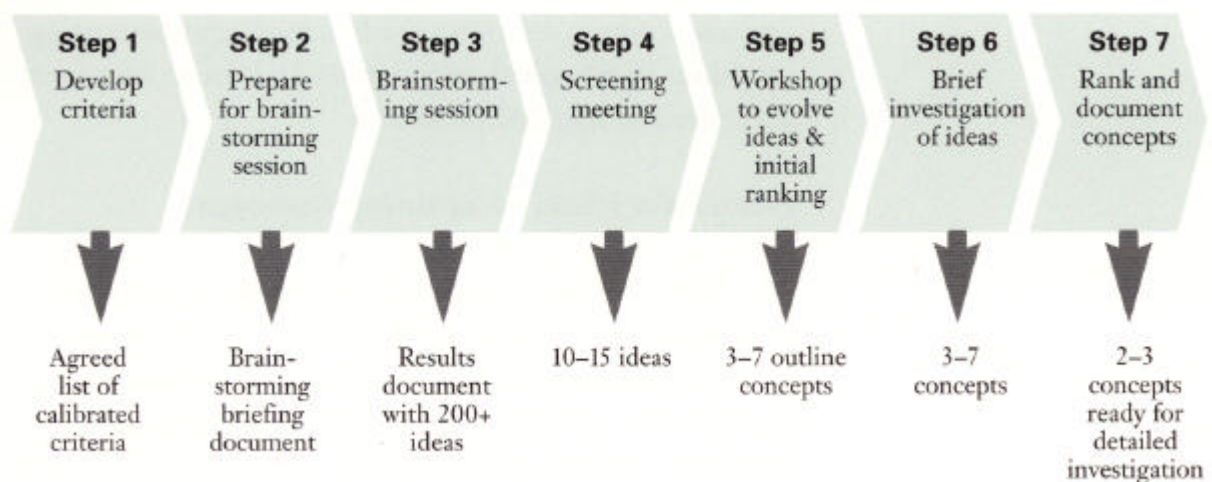
## From Raw Ideas to Winning Concepts

The SIM process consists of seven steps, which must be carried out in sequence (Exhibit 1). To illustrate how the process works, we will use the product creation process conducted recently by Anchor Foods Limited (Anchor) and Cambridge Consultants Limited (CCL). Anchor, which is already highly successful in the butter, aerosol cream, and cheese markets, approached CCL for assistance in identifying a fourth product area. The two firms formed a joint team and proceeded together through the seven steps described below.

**Step 1. Development of Criteria.** The first step is to clarify the objectives of the concept generation process by developing criteria against which success or failure can be judged. We enhance this criteria development by using familiar concepts to „calibrate" the criteria. For the criteria and their calibration to be really useful, members of the team that sets the criteria should include those responsible for making the go/no-go decision after completion of Step 7, those responsible for implementing the outcome, and those with past experience of the company's new product developments. Anchor's team fulfilled all three requirements by including the product manager who would be responsible for the product area up to and beyond the initial product launch; directors and senior managers, responsible for Marketing, Operations, and R&D, who would provide the resources necessary for implementation; and the brand support manager from the proposed advertising company (Saatchi and Saatchi). Given the multimillion dollar investment necessary for development and launch, a day or two's effort expended by these managers was both timely and invaluable. Anchor got it right by involving the right people at the right time – and continuing to do so throughout the process.

**Exhibit 1**

**The Structured Idea Management Process**



| Step 1 | Step 2 | Step 3 | Step 4 | Step 5 | Step 6 | Step 7 |
|---|---|---|---|---|---|---|
| Develop criteria | Prepare for brain-storming session | Brainstorm-ing session | Screening meeting | Workshop to evolve ideas & initial ranking | Brief investigation of ideas | Rank and document concepts |
| Agreed list of calibrated criteria | Brain-storming briefing document | Results document with 200+ ideas | 10–15 ideas | 3–7 outline concepts | 3–7 concepts | 2–3 concepts ready for detailed investigation |

Criteria fall into two sets: screening criteria and ranking criteria.

• *Screening criteria* represent performance thresholds for an acceptable idea. They are used after the brainstorming phase of the process to eliminate inadequate ideas. Generally, they should constrain the overall performance of the final product or service, not the route by which that performance is achieved (although genuine route constraints should be acknowledged if they exist). For example, the Anchor/CCL team specified the following screening criteria for Anchor's new product: it should be based on a sustainable core product proposition; in addition, it should be a chilled product (i.e., one that uses Anchor's existing distribution channels).

• *Ranking criteria* are used to compare the relative performance of concepts in terms of both attractiveness and fit. Each criterion is then weighed. For example, for Anchor, „attractiveness" ranking criteria included the product's ability to meet consumer needs or desires, its uniqueness, and a hospitable competitive environment, which were given weights of 25 percent, 15 percent and 10 percent, respectively. „Fit" ranking criteria included the concept's fit with the Anchor brand, degree of use of Anchor's parent company's technology or raw material, and fit with Anchor's retailers, with weights of 30 percent, 10 percent, and 5 percent. In Step 5, concepts are scored on a scale of 1-5 against each ranking criterion.

This type of scoring method is widely used, but the apparently arbitrary use of numbers can cause ranking participants to think „What does a 3.5 mean anyway? Aren't we just wasting our time assigning meaningless numbers?" We overcome this major drawback by calibrating the criteria to give meaning to the numbers.

To calibrate both screening and ranking criteria, teams can use a variety of benchmarks, including competitors' products, recently launched products, and recently rejected concepts – in short, any concepts for which an opinion has been widely formed. The calibration involves documenting the current opinion, applying the criteria to the test concepts, and then comparing the ranking result with the team's „gut feel" on how the concepts should perform. The team then identifies any anomalies and seeks the reasons for them. Often a criterion is incorrectly weighted or missing altogether. After correcting the anomalies, the team uses final concept scores to define the minimal scores a concept must earn to be judged successful.

**Step 2. Preparation for Brainstorming.** This step includes choosing the team, writing a brainstorming brief, and arranging logistics.

Choosing the right people for the brainstorming team is vital. It is important to put together people who can work as a team, so that everyone can give their best. If participants are chosen strictly because of their position in the hierarchy, their past association with the problem, or the fact that it's politically unwise to leave them out, colleagues may feel unable to contribute on equal terms. Alternatively, some people are so good at brainstorming that they dominate, preventing others from contributing. It may be better to interview such people beforehand and use their ideas as seeds, rather than including them in the brainstorming. The best brainstormers are those who can listen as well as talk; can express their ideas confidently and concisely (i.e., in no more than 3 or 4 sentences); have a knack of transferring knowledge gained in solving one problem to another; and have experience relevant to the objective. However, brainstormers should be considered as a team, not just in isolation, with the potential interactions taken into account. Perhaps surprisingly, given the popular image of brainstorming, a group of introverted people can perform as well as a group of extroverts, as long as the latter are excluded and the environment is conducive. Thought should be given to potential roles within the group; for example, it has been found worthwhile to include an „off-the-wall" thinker whose ideas may rarely prove worthwhile, but who acts as a catalyst to others. Other possible roles are that of „distiller" – someone who, in the process of building on an idea, can capture the essence of a previously expressed idea more clearly – and an „archivist" – „How about that technology we developed back in '86?" – to ensure that the team doesn't end up reinventing the wheel.

The brainstorming brief must be concise but as comprehensive as possible, specifying only minimal constraints on the scope of thinking. An incomplete brief can ruin a brainstorming session, as participants often can't assimilate the new information on the spot. The brief should be issued one week before the session. Any earlier, it's unlikely to be read, whereas any later the participant has little chance for „bathtime" thinking, which helps to build confidence and get the brain-storming off to a relaxed start.

People often underestimate the importance of getting the logistics right. The environment should be comfortable, pleasant, and stimulating, with refreshments available. Typically, the session lasts three hours, with frequent breaks.

**Step 3. The Brainstorming Session.** The brain-storming technique, in which criticism and comment are strictly banned, has been widely described and practiced. Essentially, it's an ad hoc, shotgun approach to generating ideas. *You* cannot predict exactly where each shot will land, only its general direction and, from experience, the area over which it will spread. Nor can you expect the shot to land in ordered clumps, representing the required product concepts. What you will produce is a fairly even scattering of ideas. Some of

them may be related and may, with some effort, be capable of being assembled into concepts.

These „concept fragments" can be more valuable than complete concepts. If someone produces a complete concept in a brainstorming session, the chances are that he or she has spent some time before the session assembling the pieces, or that the concept represents only a minor change from what already exists. When a brainstormer comes up with something really new, he or she is unlikely to be able to describe all the key aspects in the first round. More likely, someone else's ideas may become valuable additions. Intuitively, we may think it desirable to prompt the brainstormer to come up with the remaining pieces. Indeed, brain-storming sessions often degenerate after the first few tries, as comments, questions, or criticism are allowed to creep in, simply because the participants are trying to find all the pieces in one attempt. But prompting of any kind gets in the way of the brainstorming process, which works best when something similar to word association is taking place. The conscious critical mind is left on one side while new, organic links are being made, almost without thinking, to generate the next idea. The SIM process accepts the chaotic shotgun blast and allows the fragments (or „ideas" as opposed to concepts) to lie for a while, so that people can build up familiarity with the whole set and then start to fit one fragment with another.

Brainstorming as part of SIM should begin with a warm-up session involving creative game-playing to establish a mood in which unfettered, imaginative thinking can flourish. Throughout the session, the team leader introduces new information and challenges to stimulate better and better ideas. Care is taken not to interfere with the natural flow of ideas, but rather to expand upon them, to get a wider sample of what is available.

The pace of the brainstorming varies (Exhibit 2). Typically in the first hour the „obvious" ideas are put forward, normally at very high speed. In the second hour, the pace slows a little and new, more innovative ideas are put forward. The third hour tends to be even slower, with pulses of high speed, as participants revisit earlier themes, suggest unusual combinations of ideas, and come up with totally new lines of thought. In this last hour they often show a greater depth of understanding of the problem and its implications. It is important to exploit this understanding by involving participants in subsequent meetings where possible.

A sign of success is a team that feels physically exhausted but happy at the end of the brainstorming. For example, after participating in a brainstorming session one evening, several doctors said that they had suffered from disturbed sleep. One said: „I found this very enjoyable and stimulating – someone should have warned *me* I wouldn't be able to sleep afterward." Another commented: „I woke at 3 a.m. that night with my head spinning with ideas. Is it the technique or the coffee?"

**Exhibit 2**

**The Output from Three Hours of Brainstorming**
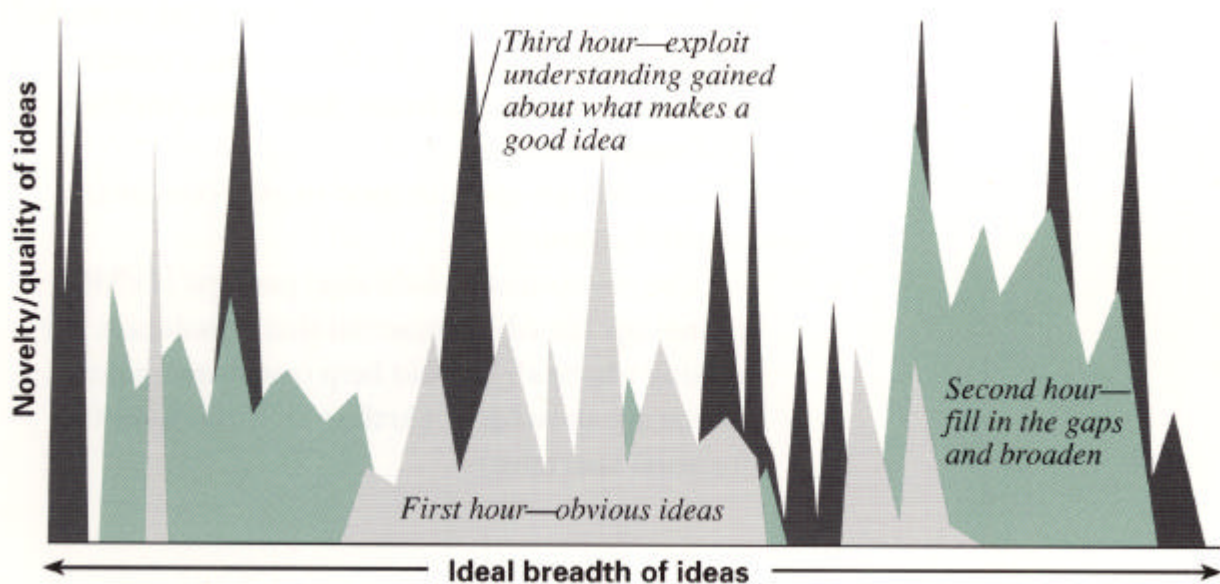


Directly after the brainstorming, all ideas are documented and sent to all participants, who are asked to choose their favorite five to ten and to comment on their choices. They are also invited to comment on any they don't like.

For example, in the Anchor project, several of the participants linked together the following snack ideas and gave their own interpretation of what it might entail.

• A grilled cheese sandwich, using fresh bread, nicely sealed, with a raised Anchor emblem that turns brown in toasting

• An innovative, savory cheese product

– „potentially tasty, but needs innovative packaging to make it quick and easy, use microwave susceptor technology (a metallic layer in the pack to brown microwaved food)" (CCL packaging specialist)

– „flavor and naturalness ensured by Anchor endorsement" (Anchor Marketing manager)

• A cheese version of a Pop Tart™ (cooked, extruded pastry with sweet filling, to be warmed in a toaster)

– „Who would want to eat that?" (An Anchor/ **CCL** team member)

• Glazing of high spots in food to give convincing microwave browning

– „Use encapsulated food dye, perhaps HPMC technology [an edible material that dissolves in the cooking process]? Would help overcome major microwave drawback" (Arthur D. Little food formulation specialist)

These comments are typically brief and useful, because they emerge after participants have been exposed to a wide range of ideas. (The two Anchor brainstorming sessions, for example, generated more than 600 distinct ideas.) Those choices and comments are incorporated into the next step, the screening meeting. This ensures that good ideas are not accidentally rejected by a screening team who did not fully understand them.

**Step 4. The Screening Meeting.** In this step, each idea is assessed to see if it fails any of the criteria identified in Step 1. Note that we use the word „fail" rather than „meet." It would be unreasonable to expect a new, still-undeveloped idea to meet every criterion. What we look for in the screening meeting is any reason why the incorporation of this idea into a concept would cause the concept to be rejected. At the same time, we use the discipline imposed by testing against the criteria to gain more familiarity with the ideas and to start to assemble ideas together, into groups of both similar ideas and partial concepts. For example:

• The cheese ideas were linked together to form a healthy, chilled, hand-held snack involving fresh cheese and uncooked dough. It was not known at this point what the product would look like or how it would be served.

• Anchor is known for being innovative (e.g., aerosol cream and spreadable butter), and it was thought that the microwave, in combination with an innovative pack using susceptor technology, would exploit the increasing trend for convenience in a way that was compatible with the Anchor brand.

• Anchor is known for producing delicious food. Several of the ideas generated in the brainstorming involved a combination of wet and dry food (such as dry breakfast cereal containing a liquid yogurt or cream center) and were thought to be a particularly attractive route to providing deliciousness.

These partial concepts, as well as many others, were assembled by a team of four: the Anchor technical product development manager, a food formulation specialist from Anchor's parent company, a CCL packaging specialist, and the Saatchi and Saatchi brand support manager.

In screening sessions, every idea must be given sufficient „air time." In practice, this means that at the start of the session the facilitator must demonstrate that he or she will treat all ideas respectfully. As a result, screening sessions often begin very slowly as participants „test" the facilitator by offering views on all ideas. Once they feel confident of even-handed treatment, they are generally happy to restrict themselves to giving evidence only when they have it, and the process can speed up. Often a group can screen five to ten times as many ideas in the second half-hour as in the first.

**Step 5. The Evolution Workshop and Initial Ranking.** The fifth step involves feeding the larger fragments into a workshop, while keeping in view all the other ideas that were not rejected, with the aim of incorporating them where possible. About six people, chosen for their skills in implementation as well as creativity, assess a list of 10 to 15 ideas. During this step we can use the „prompts" that are so counterproductive during brainstorming. Keeping in mind screening and ranking criteria, participants are asked to list the benefits of each idea, the drawbacks, and ways of overcoming the drawbacks. They also address subsidiary questions, such as, „How are we going to manufacture it?"

Listing the benefits first may make it apparent to participants that some benefits are worth fighting for. Often, ways of overcoming the drawbacks come flooding forth. Only now, as participants flesh out the fragments, do the concepts become really visible. Some of the cheese ideas were combined with the microwave/susceptor pack ideas to produce a chilled, healthy, convenience food – essentially a hand-held snack – which can be prepared in the microwave rather than under the grill or in the toaster (distancing it from the Cheese Pop Tart idea that was so unattractive) and eaten in the hand. The technical problem of thermal runaway was raised (pure cheese heated

in a microwave tends to explode!) but the Anchor team had held a parallel workshop with their New Zealand Research Institute and it was clear that they had sufficient specialist ingredients knowledge to get round the problem and produce a delicious filling.

The SIM process is still organic, despite the formal agenda. Often only 3 or 4 out of the original 10 or 15 ideas emerge in a recognizable form. Some fragments are merged with others, some are partly disassembled and reassembled with new pieces, and some undergo radical reshaping, somehow keeping the same interfaces between pieces but looking totally different in outline. Some pieces are scavenged from the „didn't fail" list, while others appear suddenly, as if they had been in someone's back pocket all along, yet no one is surprised, as by now the team members have a good picture of what is and is not appropriate. For example, a CCL packaging engineer suggested the use of an HPMC film to separate wet and dry layers. This film could be adapted to disintegrate in the microwave and had only recently been approved for food use by the FDA. It became clear that this could provide the hand-held snack with a crisp outer surface, in combination with a moist center.

Participants then subject the outline concepts produced to an initial ranking, using the criteria defined in Step 1. Typically, the top five are then taken forward to Step 6. In our example, the concepts taken forward included a new butter format, a dessert equivalent of a chocolate snack bar, an innovative milk drink, and a breakfast cereal. Rejected concepts included a natural baby food convenience product, which was a poor fit with Anchor's skills and made only limited use of Anchor's parent company's raw material, and a cappuccino product, which faced a highly inhospitable competitive environment.

**Step 6. A Brief Investigation of Ideas.** Each idea is assigned to one individual for investigation within a specified period, e.g. two days. The objective of this task is to assess the concept's feasibility and then, where necessary, to modify the concept to improve its feasibility, without losing the benefits identified in the workshop. For example, it was originally envisaged that the hand-held snack would be presented in a simple vacuum pack. It became clear, however, that a more complex clamshell pack with overwrap would be necessary to ensure that steam could escape during micro-waving to retain product crispness. In addition it was found that achieving a suitable shelf life was unlikely with bread dough, yet achievable with a pastry equivalent. The latter route was seen to be attractive to Anchor due to the availability of their relevant formu lation expertise.

**Step 7. Final Ranking.** The team leader collates the results of the investigation and presents them to the ranking team, which then assesses the concepts against the initial criteria and produces a final ranking. Typically, the highest-ranking one to three concepts are taken forward for a technical and marketing feasibility study. In our example, the ranking meeting involved the same people who had calibrated the criteria. It was clear by the end of the ranking that the hand-held snack should be pursued. Indeed, there was almost a feeling of anticlimax as everyone present felt that it was the obvious choice. But it was obvious only because everyone was using the same basis for their decision, and everyone had taken the same evidence into account. Indeed, a mischievous onlooker might have tried to cause havoc by mentioning that, on the face of it, the hand-held snack was remarkably similar to the Cheese Pop Tart idea that had been unreservedly dismissed as being untenable when being considered as a calibration test concept in Step 1. But the Cheese Pop Tart and the final hand-held snack concept are as alike as chalk and cheese, the latter having been evolved, with some Saatchi and Saatchi prompting, to give it consumer appeal while exploiting the best that Anchor could offer. This was confirmed by a consumer test involving 200 shoppers who indicated that the concept appeal was significantly higher than any other concept that Anchor had previously tested.

The team buy-in achieved by the SIM process was such that the development work on the concept started within two weeks of the ranking meeting. Within a couple of months, Anchor achieved a chilled product conveniently packaged so that, when microwaved, the pack splits to reveal a warm, crisp pastry, containing wonderfully molten cheese, that can be eaten neatly and conveniently.

### Implementing Structured Idea Management

The Structured Idea Management process outlined above is a highly effective way to generate a stream of strong concepts for development. It's also an exhilarating experience for the participants, and once implemented by one department, it tends to spread through an organization by word of mouth. However, it does require training, coaching, and considerable self-discipline. The SIM process relies on attention to detail: if you get each stage right, you maximize the probability of achieving good results.

It's particularly important not to take shortcuts. In one case we were asked to produce some manufacturing concepts in nine days. The temptation to cut corners was enormous, especially since an attractive concept had already been identified. The team was sure that a better solution was unlikely, but because the level of investment required was high, everyone thought it best to look for alternatives „just in case." Four days into a highly compressed SIM process, the original concept was „on the cutting room floor," totally superseded by new ideas that had emerged in the brainstorming. This was not because the first concept was impractical – it would have worked well – but because others were even better. Nobody had suspected their existence because the

original concept had stood head and shoulders above the initial set identified.

It's also essential to ensure commitment. Without commitment, people won't contribute the perspiration necessary to make a new product concept truly fly. Companies often forget this, appointing a product champion to take an idea through to development only long after the idea has been chosen as „the best there is." Ideally, the team that will take the idea through to fruition should be involved in its identification. This means that every idea must be documented, however „silly" it may initially appear.

The benefit of egalitarian treatment of ideas was demonstrated during a recent CCL project to identify a new form of packaging. At CCL, we hold brainstorming sessions frequently. Regular brainstorming participants have noted that a set of three „old chestnut" ideas (out of the hundreds produced each time) seem to come up in every session, regardless of topic. The set changes only after the idea has been successfully applied. For the last few years, the set has included a bandolier. The experienced brainstormers tend to clap or cheer when one of these old chestnuts makes its appearance. Nonetheless, when the bandolier came up in the recent packaging session, it was, as usual, properly documented and subjected to screening, etc. To everyone's surprise, it emerged the winner and is now the basis of a million-dollar development program.

## Conclusion

SIM provides a cost-effective way of generating concepts, but, it also does more. It exploits the collective intelligence of an organization and thus can produce concepts that make the most of a company's capabilities. Rather than merely incremental improvement, it creates real step change – which in turn becomes the defendable product differentiation that is so important in today's highly competitive markets. The Anchor hand-held snack fits well with the firm's brand, uses key Anchor raw ingredients, makes good use of Anchor's formulation expertise, and exploits Anchor's existing distribution chain, yet is new to Anchor and to its markets. If your company could benefit from a similarly well-suited new product concept, you may find Structured Idea Management particularly helpful.

[1] *Jean-Philippe Deschamps and P. Ranganath Nayak,* Product Juggernauts – How Companies Mobilize to Generate a Stream of Market Winners*, Harvard Business Press, 1995.*

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