THE
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Business Performance Through Innovation and Branding… done Strategically
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Quality from the Fuzzy Front End

Getting It Right, from the Very Beginning

Gary Lundquist – The *Accelerator*

Quality is a tough business. When we do our job perfectly, no one notices. When we let down just a bit, people don't congratulate us on our 98% success; they complain bitterly about the other 2%.

As hard as that may be, we really don't take quality far enough. In the domain of innovation (new product development), we rarely apply quality standards to ideation and proposals. At the other end, we rarely extend quality to measure our relationships with customers, allies, media, and stock analysts.

Quality is a matter of perspective. Quality has a different meaning to an innovation manager than to a manufacturing manager. The project manager sees a bigger picture of the product, from ideation to retirement years later. And a VP of Innovation sees even more – a whole portfolio of innovations in various stages of development and market maturity. To that VP, quality in every step ensures high return on investment. A high quality "No." decision can be as valuable as a successful high quality prototype.

How do we address all these stakeholders and their expectations? In particular, how do we address issues that depend on factors other than our innovations? Factors over which we have no control?

And how do we apply those quality criteria from the very beginning, at ideation or concept stages? What can we do at ideation time to help ensure complete project scope, minimal rework, optimal time to launch, rapid market penetration, and high customer satisfaction?

The method proposed here integrates and applies three proven tools: Innovation quality, innovation branding, and innovation visioning, all driven by the combination of customer satisfaction and corporate profitability.

The *Accelerator*

Gary Lundquist accelerates innovation and branding by engineering businesses, products, strategies, and launches. With a suite of collaborative pre-planning processes called Rich Visioning™, he helps management and project teams create durable wealth through consistent increase in the win-win value of relationships with customers, investors, and allies. .

Innovation Quality
Tool 1

We can make products perfectly, yet find they don't sell. Before the turn of the 20th century, buggy whips were standard accessories. As the automobile took over, perfect quality could not convince a car driver to buy a whip.

If quality is not value, then what is value? Very simply put, *value is the sum of benefits that result when the innovation is used to meet customer needs*. Poor quality clearly hurts value, yet perfect quality cannot guarantee value.

A complete concept of quality must thus include a focus on value. Indeed, end-user satisfaction may be the very best definition of both value and quality. Fortunately, we can estimate the potential value of innovations even at the stage of embryonic ideas.

Once we include value as a criterion for quality, we uncover a range of factors to consider. Way back in 1987, Garvin (HBR, Nov-Dec, 1987, p101) expanded our view of quality beyond the statistical. His "Competing on the Eight Dimensions of Quality" included operating characteristics, features, reliability, durability, consistency, serviceability, aesthetics, and intangibles.

Today, quality of innovation has yet broader meaning and impact. In particular, we have two perspectives: Fitness for use by the company to create revenues, and fitness for use by customers to meet needs. Expanding those two together leads to the concepts in the box. Quality begins with the underlying science and engineering, and extends all the way to brand equity as representative of durable company-customer relationships.

Innovation quality is measured by both durable usability *and* durable corporate financial performance. That is, innovation quality has a distinctly win-win nature. When company and customer both win, the buyer-seller relationship continues, ensuring both revenues to produce new products and value/quality to justify new purchases.

This broad view of quality may be intriguing, yet how can we possibly set specs at all these levels when the innovation is still a fuzzy idea not yet prototyped?

Again, the key will be integrating this view of quality with a marketing-based innovation vision . But first, we need to consider an unexpected factor… the innovation brand.

Innovation Quality

Implementation Quality: From idea through release
(About the company and its processes)
- Science – Theory, experiments, validations
- Engineering – Analysis, design, systems integration
- Materials – Product and packaging
- Manufacturing – Construction methods, processes
- Statistical quality – Consistent match to standards

Performance Quality: In use over time
(About the innovation and how it works)
- Operating characteristics – e.g., speed, accuracy
- Flexibility – Range of application conditions
- Reliability – Extent of failure-free operation
- Durability – Amount of use before replacement
- Robustness – Operation under extreme operating conditions

Match-up Quality: Meeting needs over time
(About the product-user interface)
- Feature set – Match to customer needs
- Usability – Match to customer operational environments
- Serviceability – Match to customer support requirements
- Preference – Match against competitive offerings
- Timeliness – Match to market readiness

Perceived Quality: Delivering value over time
(About customers and competition)
- Capabilities – What customers can do with the product
- Benefits – The value of having and using it
- Uniqueness – Reasons for preference over alternatives
- Intangibles – Image or brand associated with it
- Aesthetics – The elegance or beauty of it

Relationship Quality: Sustaining market leadership
(About the company-customer relationship)
- Win-Win – Value received for value given, over time
- Loyalty – Durable preference for specific products
- Market Share – % of possible customer relationships
- Customer Satisfaction – Measured by ongoing purchases
- Brand equity – The only durable source of corporate wealth

Brands and Value Promises
Tool 2

Contrary to popular opinion, a brand is *not* the combination of name, logo, slogan, and maybe a jingle. Those all represent the brand, and all of those are owned by the company.

Brands are owned by markets. Brands live in minds. A brand is a *value promise accepted by target markets and mentally attached to a product or company name, logo, and/or slogan*. A "value promise" in turn, is "*a commitment by a business to deliver specific value to specific customers over time*. Of course, value as the sum of benefits is always measured against the cost of our product, and that ratio is measured against similar ratios of alternative products. A brand is market acceptance of a visible promise to deliver certain *competitive* value over time.

We will develop an example value promise below.

For now, consider the concept of value promise in light of the five levels and 25 aspects of quality stated above. Let your mind consider, for a moment, the impact of having a value promise drive all 25 aspects. Can science be driven by a value promise? Absolutely. Manufacturing? Serviceability? Aesthetics? Of course. Customer loyalty? Market share? Even easier to confirm.

Indeed, the value promise is so central that we can state a new business mantra:

Value promises jumpstart innovation!

Think about that simple statement for a moment.

Instead of using our fuzzy, embryonic idea to define an innovation, let's use it to define a value promise, then design and build an innovation that will honor that promise at five levels and 25 aspects of quality.

Consider the ultimate quality of an innovation that honors a bold value promise in 25 ways essential to the ongoing market relationship we call a brand.

Marketing-Based Innovation Visioning™

Tool 3

Imagine for a moment. You've been contracted to build a bridge. What is your first step? Start buying steel and rivets? Not likely.

No, you'd do homework first. You'd *accelerate* development by taking time to engineer your bridge. You'd develop a rich, detailed vision of the finished span, then lay out a plan for turning vision into reality. You'd speed overall construction with a foundation of logical decision-making homework.

Turning ideas into wealth takes the same conscious decision making at levels of companies, markets, products, and implementation. Visions, in turn, result from well designed decision processes. We grow ideas into concepts that inform plans that engage projects that drive implementation. Building such visions amounts to logical, engineering-like homework to be done before building bridges to customers and investors.

Visioning asks and answers questions core to business success. Visioning discovers and tests assumptions, enabling conscious decisions. Visioning finds both strengths and weaknesses, delivering leverage. Visioning makes critical decisions, putting us in control.

Well designed visioning is both strategic and value driven. It looks at core questions from a range of viewpoints, then synthesizes results. Innovation visions address both value to customers (justifying purchases now) and returns to the company.

Now, imagine writing a business plan or strategic plan. Develop a brief mental list of all the decisions the plan will present. Then ask yourself: When and where will all those decisions will be made? Who will be involved? What process will be used? How will we judge the quality of results?

Planning summarizes decisions. What we need is a "pre-planning" process for identifying the right questions to ask, then making high quality decisions. Our engineering approach to innovation visioning is the solution.

Strategic pre-planning is to business as engineering is to architecture.

Logical homework to do before planning or acting.

Definition of Innovation

(Process) Development of ideas into products in use, for the first time anywhere, that create compelling value for customers.

(Result) A valuable product not previously available that meets needs not previously met.

(For "product", also read at least: Product, service, process, strategy, business model, and business. For "product in use" also read at least "service in use", "process in application", "strategy in action," "business in service," etc.)

Pre-planning *accelerates* planning
accelerates performance.

As a natural result of answering the right questions, strategic pre-planning delivers powerful, multi-faceted, fully formed *value promises* as the core of brands. The value promise, in turn, can be used to drive innovation strategy and tactics, from ideation through launch to ultimate product retirement.

Since such application is rare, early branding delivers competitive advantage to innovation teams and their ideas. Even just thoughtful naming improves the odds of funding and champion development.

We gain strategic perspective, thus avoiding waste and tactical floundering. We see beyond development, manufacturing, and launch to ultimate customer satisfaction. We can balance tradeoffs because we know our goals for return on investment.

With powerful visions, our message is always clear, whether marketing ideas for funding or selling products into markets. We can leverage every opportunity to capture the minds of customers, partners, industry analysts, and the media.

The Right Questions

Decisions are relatively easy. The real trick is knowing what questions to ask and how to ask them. To fully succeed, we need to know how to develop truly useful answers, synthesize results, and build consensus around those results.

Fifteen years of experience and research in innovation have led to questions organized in eight dimensions, as diagrammed below. Each dimension is multi-faceted, with a range of core questions plus additional probes to ensure quality of answers.

To get a feel for strategic pre-planning, let's work an example from a powerful source of innovation... Texaco's Bellaire Research Lab in Houston (now Texaco-Chevron).

When oil companies produce oil from wells, water also comes up. The % water in an oil production stream, or "watercut," is diagnostic of the health of

individual wells and whole oil fields. Then current systems tended to give false readings when the cut was very high. Many methods only measured water cut every few days or weeks.

In the late 1980's, Texaco researchers had an idea – use gigahertz-frequency microwaves to measure water cut. Measurement would be continuous and highly accurate, solving two major problems of then current systems. The system would be more expensive, yet some applications could justify the higher cost.

By 1991, they had a prototype and wanted to license it. I helped them develop a strong, positive, durable, marketable vision, and in so doing, helped them see the true value of their invention.

Short Keys: Three short keys – name, class, and slogan – open minds to other information about an innovation. Texaco named its system the Texaco Microwave Watercut Monitor, then used the acronym, TMWM. Try saying either name or acronym out loud. Not easy, is it? Acronyms are the least successful naming convention. Late in the analysis, the team chose: StarCut™. The new name caught on in the industry within a few months of first public use.

The "functional class" is the market arena in which a product competes. StarCut's class was obvious – Water Cut Monitor. Putting name and class together began to create a personality for the technology. Knowing the class identifies competitors, even for a fuzzy idea. If the class has no competitors, the idea already has market leadership.

Short Description: Stating functionality in a few words turns out to be remarkably difficult. When such a statement is developed, however, there is often an "aha!" response that delights technical teams. This team chose:

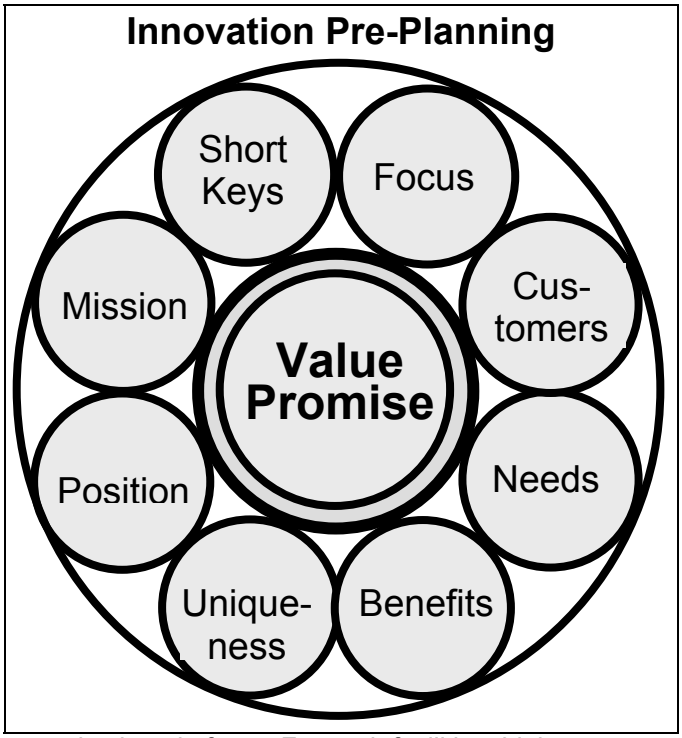
StarCut transmits
10 gigahertz microwave energy
through an oil production stream
to continually measure, analyze, and report on
fluid composition.

Quality requirements were building up. The team's view of its potential product was expanding.

Customers: The range of markets for StarCut was very broad – literally any situation in which a two-component fluid must be measured for ratios of components. We tightened it up to:

Oilfield operators worldwide
who need accurate measurement
of water cut in production streams
at remote or unattended sites.

StarCut's primary market became ocean-bottom production facility where a large number of wells blend produce fluids into one pipeline to a surface



production platform. For such facilities, higher costs were more than justified.

Purchase decisions would be made by production managers influenced by four distinct professionals:

Facilities engineers: Design both monitor and data flow into facility systems.

Production engineers: Operate and manage the monitor.

Reservoir engineers: Use the data to make production decisions.

R&D staff: Evaluate new technology.

From a quality point of view, knowing this mix of users immediately implies high complexity of requirements. Technical performance is just one. For subsea applications below a couple hundred feet, for instance, maintenance would be done by remote operated vehicles. The team had done nothing at all to engineer for ROV access.

Needs and Benefits: Here we get into value. Value is the sum of benefits, and benefits are results of meeting needs. Analysis begins with needs, then derives benefits by considering the negative consequences of not meeting the needs.

The team identified and prioritized needs as follows.

Diagnostics at each well

Diagnostics for the oil field as a system

Confidence – accuracy, no false alarms

Continuous data – reliability

Automation – minimize manpower requirements

Requirements for diagnostics implied predictive capabilities. StarCut delivered data, not interpretations. Still, time-to-delivery of watercut data became a measurable quality factor.

The four distinct customers and their management saw value differently. Top benefits were ordered for overall importance:

Better decisions – Production engineers, management
Faster response time – Production engineers
Lower risk – Production engineers, management
Confidence in data quality – Reservoir engineers, R&D, management
Effectiveness in remote environments – All
Lower total cost – Facilities/production engineers

Note that the benefits list didn't mention the innovation itself. Benefits are always about the customers, never about the product. Value accumulates as the innovation is used to meet needs. Basically, StarCut delivers:

Better production decisions, based on confidence in data, that lower risk and speed response to reservoir behavior, even in remote environments.

Quality of StarCut thus included confidence in business decisions. Every feature and function was fine tuned for absolutely reliable performance, because decisions based on StarCut data could impact billions of dollars in revenues.

As a side note, pre-planning also impacts the quality of marketing. Benefits lists are the first choice of ways to organize marketing presentations. Benefits are the best way to customize messages for specific target audiences. Quality of innovation always includes quality of marketing.

Uniqueness: StarCut addressed a well known problem and thus entered a crowded field of watercut monitors. All of them enabled production decisions, though perhaps not with the accuracy of StarCut. To compete, we identified competitive factors and rated each competitor on each factor.

The team had stressed the importance of measuring 0-100% water cut, yet Texaco did not have distinct advantage in that factor. Texaco excelled in ability to work in a range of salinity and in variable salinity, yet customers didn't rank those as critical.

However, every class of customer put operational effectiveness high on their lists. Facilities engineers want simplicity; production engineers want quick, easy answers; and reservoir engineers want answers that make physical sense over a broad range of reservoir behavior. Even better, Texaco rated very well against competitors in that grouped category.

StarCut also had clear advantage in simplicity of operation. Auto-calibration, remote operation ability, and ease of testing further improved Texaco's position.

That is, the early focus on 0-100% water cut was important, yet far from the only operational quality desired by customers. Investigating the competitive situation informed the team of quality factors not previously considered.

Desired Perceptions: To manage perceptions, begin with what the market believes now, then ask how we want our innovation to be perceived. Then boil that second list down to a "position statement" that can become a lens to focus everything said and done about the product. Texaco's statement for StarCut was:

StarCut is the world's only field-proven microwave watercut monitor that provides reliably accurate measurements of 0-100% water cut in the presence of gas, salinity, crude type, fluid temperature, and flow rate, even in subsea and other hostile environments.

The concept of field-proven was new with this perspective. Quality in the lab would not be good enough. Facilities engineers, in particular, would not justify StarCut until they could see operations reports of *robust* effectiveness in real world conditions.

Mission: With a strong feel for the larger justification for StarCut, the team developed a mission statement for the innovation itself.

The mission of StarCut is to enable proactive-oil production decisions through operationally effective measurements of water cut and other fluid properties of oil production streams.

This mission is both value driven and quality driven. Value is correct decisions, made in the right time frame. Quality is operational effectiveness that delivers data that enables decisions. The mission is a commitment by the team to deliver specific value and quality to specific customers.

Brand: As mentioned earlier, a brand is a value promise attached to a name, logo, and slogan. This visioning approach also adds the functional class. With a complete innovation vision, the value promise becomes apparent. This, then, is the desired brand, what Texaco hoped the market would believe.

StarCut™

Water Cut Monitor

Field-proven, operationally efficient microwave water cut for timely, confident production decisions, even from remote fields in hostile environments

The Microwave Measurement

Take a moment to capture the breadth of the value promise. Consider the technical and operational requirements implied. Then consider the implied quality specs to deliver on those requirements.

Getting Quality Right From the Very Beginning

We've applied three proven tools to develop innovation requirements and quality specifications.

1. **Innovation pre-planning** develops requirements in eight dimensions integrated into a coherent vision. This is engineering-like homework to do before planning or implementing innovation projects.

   Pre-planning delivers a three-level vision: The innovation itself, the range and characteristics of "customers", and operational issues and requirements in a competitive environment.

2. **The innovation value promise** (brand) summarizes the vision in an easily memorable way. The value promise then can be used to drive development of value for customers.

   Strategic pre-planning also establishes content and focus for marketing communications. The same content can be used for gate review presentations, development of innovation champions, and as the foundation of marketing for launch and sales.

3. **Innovation quality** then increases the richness and detail of requirements. By applying quality concepts to every stage from early science to development of durable customer relationships, the innovation vision is fleshed out in language that drives engineering, manufacturing, testing, training, and customer support.

Use of these three tools helps to ensure…

- Complete project scope, less scope creep, and minimal rework
- Accurate estimations of costs and timing.
- Optimal time to launch
- More effective marketing and rapid market penetration
- High customer satisfaction
- Accurate estimates of payout and ROI.

Just as important at the fuzzy front end of innovation, visioning helps justify management investment in development of the business case for full commercialization.

Value-driven pre-planning, enables all of this… up front, in the ideation phase of innovation. Indeed, pre-planning takes much of the fuzziness out of early stage concepts and directs attention to a sufficient range of requirements that development gets the innovation right, from the very beginning.

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If there's anything we can count on in business today, it's that nothing remains the same. Will your competition slow down? Will today's product satisfy *tomorrow's* customers?

Probably not! Constant change forces evolution of strategy, tactics, and ways to serve.

Gary Lundquist speaks from experience. As a *Ph.D. scientist*, he worked to enable nuclear test-ban treaties. As *entrepreneur and manager*, he founded and helped to grow a software business from start-up to worldwide dominance of its market niche and a position on the INC 500. As *strategist and accelerator*, he supports innovative teams that define, design, develop, and launch powerful businesses, products, and brands.

Change leadership begins with an idea that becomes a shared vision. Whether corporate innovation or entrepreneuring, large company or small, internal funding or sales to customers, we all need the mindsets, tools, and practical skills to build buy-in to our ideas, projects, and products.

The time for change is now, and it always will be.™

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