

Editor's note: Gennady Retseptor is the author of very popular articles on examples of the 40 principles in microelectronics and quality management. This article starts to collect examples from sales, marketing, advertising and negotiation—the editors have added a few more examples to Gennady Retseptor's list, and readers are invited to add more, and share them!

40 Inventive Principles in Marketing, Sales and Advertising

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Continuing to search for various non-technical applications of 40 Inventive Principles, which have been received favorably in spheres related to quality management [9], the author presents his collection of marketing, sales and advertising examples.

Principle 1. Segmentation

A. Divide an object or system into independent parts.

- ***Market segmentation: clustering prospective buyers into groups that have common needs.***
- ***Sales splitting between customers.***
- ***Autonomous sales region centers.***
- ***Division and sorting advertisements by categories.***

B. Make an object or system easy to disassemble.

- ***Separate a sale into permanent and replacement part, requiring constant new purchase. S.C. Johnson's business strategy, for aroma products especially, and famous as the Gillete strategy—sell the razor cheaply, or give it away, then sell the blades.***

C. Increase the degree of fragmentation or segmentation.

- ***Mass customization: each customer is a market. Publix supermarkets in FL prints out instantly, as you shop, coupons on the back of your receipts from competitors of what you bought!***
- ***Stratified sampling for heterogeneous customer population.***
- ***Product advertisement mini-kits.***

D. Transition to micro-level.

- ***Description of product function in advertisement on micro-level (e.g. food, drugs advertised based on molecular properties).***

Principle 2. Taking Out

A. Separate an interfering part or property from an object or system, or single out the only necessary part or property of an object or system.

- **Separating from competitors by emphasizing product differences in advertisement.**
- **Outsourcing: subcontracting marketing, sales and advertising activities.**
- **Cluster analysis: distilling qualitative customer feedback into quantitative data.**
- **Impersonal anonymous questionnaire and telephone interview to preserve confidentiality at survey.**
- **Separate shelves for discounted goods. Shelf space is also determined by promotion fees from suppliers.**

Principle 3. Local Quality

A. Change an object or system structure from uniform to non-uniform, change an external environment (or external influence) from uniform to non-uniform.

B. Make each part of an object or system function in conditions most suitable for its operation.
Regional variability in gasoline octane, volatility, emissions done all the time.

C. Make each part of an object or system fulfill a different and useful function.

- **Regional marketing. Stores, including restaurants, have local menus. McDonald's has a different menu Florida that has Hispanic items, in India with mutton and vegetarian items, not beef, etc.**
- **Locating distribution centers near customers.**
- **Choosing trade location at heavily popular areas.**
- **Hiring local people to acquire cultural knowledge of local customers.**
- **Selecting market segments on which organization will focus.**
- **Differential strategy development approach for each market segment.**
- **Addressed advertising by the use of customer perceived needs (image, prestige) for each customer stereotype.**
- **Emphasizing product or service advantages in advertisement.**
- **Targeting sales for purchase occasion (routine use, present, season, weather, vacation, etc).**
- **Benefits, bonuses, extra service for the most valuable customers.**
- **Customized marking, packaging, labeling.**
- **Focus groups for customer preferences study.**
- **Forced allocation survey type: quantifying customer preferences for product or service features.**
- **Smoothing technique for conflict resolution: emphasizing areas of agreement, de-emphasizing areas of disagreement, seeking a joint problem solving opportunity.**

Principle 3 (inverted). Global Quality

- **Mass marketing: market with no segmentation.**
- **'Carpet bombing' advertisement.**
- **Census instead of sampling survey.**

Principle 4. Asymmetry

- A. Change the shape of an object or system from symmetrical to asymmetrical.
- B. If an object or system is asymmetrical, change its degree of asymmetry.

- **Market of buyer vs market of seller.**
- **Male and female product or service orientation.**
- **Left and right side handling products.**
- **'Customer is always right' approach at all disputable issues.**

Principle 5. Merging

A. Bring closer together (or merge) identical or similar objects or systems; assemble identical or similar parts to perform parallel operations.

B. Make operations contiguous or parallel; bring them together in time.

- **Business synergism: partnership, merger, alliance.**
- **Network of sales intermediaries.**
- **Selling sets, discount packages (e.g. 1+1 for price of 1). More commonly known as cross-selling, a well known marketing concept.**
- **Coupons of neighborhood shops and services.**
- **Serial labels (e.g. film heroes, sport teams).**
- **Bounty for labels collection.**

Principle 6. Universality

A. Make an object or system perform multiple functions; eliminate the need for other parts.

- **Greater diversity of products or services offering due to increased level of customer expectations.**
- **Marketing of products with multiple functions.**
- **Combining non-traditional with traditional service (e.g. money exchange in post office).**
- **Marketing agency with integrated sales and advertising functions.**

B. Use standardized features.

- **International quality standards.**
- **Standardized forms for record of key customer information.**

Multiple function products (Eveready new flashlight can use any size battery).

Principle 7. Nesting

A. Place one object or system inside another; place each object or system, in turn, inside the other.

- ***Product niches inside market segments.***
- ***Niches inside niches.***
- ***Plant or store shops.***
- ***Including information about other similar or related products or services into advertisement.***

B. Make one part pass through a cavity in the other.

- ***Surprise selling benefits (e.g. extra-service incorporation into flight package).***

Principle 8. Anti-Weight

A. To compensate for the weight (downward tendency) of an object or system, merge it with other object or system that provides lift.

B. To compensate for the weight (downward tendency) of an object or system, make it interact with the environment (e.g. use global lift forces).

- ***Using business driving forces and global events for marketing, sales and advertisement promotion.***
- ***Cooperation with brand name bodies.***
- ***Advertisement by media, movies, video, stories, concerts, sport games.***
- ***Using bazaars, fairs, festivals for marketing, sales and advertisement.***
- ***Benchmarking on industry leaders.***
- ***'Champion customer always buys our product' –use endorsements by high-profile celebrities in advertising.***

Principle 9. Preliminary Anti-Action

A. If it will be necessary to do an action with both harmful and useful effects, this action should be replaced with anti-actions to control harmful effects.

- ***Get intelligence on competitors' products or services to anticipate their actions.***
- ***Use patents, licenses, copyrights, etc., for proprietary rights protection.***
- ***Do customer perception surveys to anticipate harm to your reputation.***
- ***Use statistics of past behavior to reveal situations for potential customer defection (switch to competitor).***
- ***Beforehand negation of negative client stereotype.***

B. Create beforehand stresses in an object or system that will oppose known undesirable working stresses later on.

- ***Customer trials, pilot sales of high-risk new products or services.***

- ***Stretching internal vs external specification requirements (safety margins).***
- ***Starting from tough offer, higher price during sales negotiations.***
- ***Mistake-proofing (poke-yoke) product or service design.***

Principle 10. Preliminary Action

A. Perform, before it is needed, the required change of an object or system (either fully or partially).

- ***Preliminary market research, before the product/service is designed.***
- ***Preliminary advertising at the stage of product or service development.***
- ***Selling of semi-fabricated products.***
- ***Pre-paying.***
- ***Red-line position prior to sales negotiation.***
- ***Introductory questions for customer priming at survey interview.***

B. Pre-arrange an object or system such that they can come into action from the most convenient place and without losing time for their delivery.

- ***Building stock profile and placing pre-orders for cycle time reduction.***
- ***Pre-arranged documents for sale (price list, payment bills, etc).***

Principle 10 (inverted). Afterwards Action

- ***Post-paying.***
- ***After-sales service.***
- ***Bounty for purchase, service or labels collection.***
- ***Rebate coupon for next purchase or service.***
- ***Lottery with partial price reimbursement.***
- ***Keepsake - token for memory.***

Principle 11. Beforehand Cushioning

A. Prepare emergency means beforehand to compensate for the relatively low reliability of an object or system.

- ***Sales splitting between customers to prevent drop in sales due to unexpected decrease in demand from one major customer.***
- ***Contingency clauses in contracts.***
- ***Mistake-proofing product or service design.***
- ***Excess inventory.***
- ***Emergency telephone (fax, e-mail), web technical support, troubleshooting guide, help file, frequently asked questions.***

- **Recovery system for response to customer complaint and conflict resolution.**
- **Back-ups (communication channels, computer data, etc).**

Principle 12. Equipotentiality

A. In a potential field, limit position changes (e.g. change operating conditions to eliminate the need to raise or lower objects in a gravity field).

- **Off-shore trading zones.**
- **Marketing, sales and advertisement promotion conduits.**
- **Leveling of relationships with customer (language, terminology, analogies, etc).**
- **Advertisement and technical literature translation to local language.**
- **Smooth transfer of free temporary product or service use (e.g. web program) to permanent.**
- **Free customer service telephone numbers.**

Principle 12 (inverted). Potentiality Gap

- **Building entrance barrier for competitors.**

Principle 13. Inverse

A. Invert the action(s) used to solve the problem (e.g. instead of cooling an object, heat it).

B. Make movable parts (or the external environment) fixed, and fixed parts movable.

C. Turn an object, process, or system 'upside down'.

- **'Push' instead of 'pull' marketing approach in order to direct customer needs and lead them to new products.**
- **Manufacturing to customer order instead of manufacturing to stock.**
- **Making designers 'to be the customers'.**
- **Making marketing people to be (temporarily) purchasing agents and vice versa.**
- **Managing complaints handling system, which proactively encourages customers to complain.**
- **Survey and analyze lost customers instead of current customers**
- **Getting customer to determine price by himself.**
- **Reception of competitor coupons.**

Principle 14. Spheroidality (Use of curves, increasing curvature)

A. Instead of using rectilinear parts, surfaces, or forms, use curvilinear ones; move from flat surfaces to spherical ones; from parts shaped as a cube (parallelepiped) to ball-shaped structures.

B. Use rollers, balls, spirals, domes.

C. Go from linear to rotary motion, use centrifugal forces.

- ***Having rounded personalities to provide customer service.***
- ***Corner smoothing during negotiations.***
- ***Customer survey questionnaires circulation.***
- ***Rolling forecast of customers purchase requirements.***
- ***Rounded price figures.***

Principle 15. Dynamics

A. Allow (or design) the characteristics of an object, process, system, or external environment to change to be optimal or to find an optimal operating condition.

- ***Adapting to highly competitive business environment with dynamic customer needs and steadily increasing expectations.***
- ***Design for specific market niches.***
- ***Mass customization.***
- ***Flexible policy for price vs quantity.***
- ***Season prices.***

B. Divide an object or system into parts capable of movement relative to each other.

C. If an object, process, or system is rigid or inflexible, make it movable or adaptive.

- ***Mobile retail.***
- ***Electronic trade with mobile purchase delivery to client home.***
- ***Moving picture advertisement.***

Principle 16. Partial or Excessive Action

A. If 100 percent of an objective is hard to achieve using a given solution method then, by using 'slightly less' or 'slightly more' of the same method, the problem may be considerably easier to solve.

- ***Under-promising and over-delivery approach to achieve customer satisfaction.***
- ***'Saturation' advertising by all media for nurturing customer needs.***
- ***Compromising at conflict resolution.***
- ***Quoting more to allow reduction during price negotiations.***
- ***9, 99, 999 price figures.***
- ***Bargains. Discounts.***
- ***Embellishment of product features by advertisement.***
- ***Extra-weight, extra-service as a bounty.***

Principle 16 (inverted). All or Nothing

- ***Zero price for overdue delivery (Pizza Hot).***

Principle 17. Another Dimension

A. Move an object or system in two- or three-dimensional space.

- ***Multiple sources of information at marketing research.***
- ***Multi-dimensional customer surveys. Matrix tabulation of survey results.***
- ***Multi-dimensional factor and cluster analyses.***
- ***House of quality matrices (QFD).***

B. Use a multi-story arrangement of objects or systems instead of a single-story arrangement.

- ***Multi-level marketing.***
- ***Multi-level sales network.***

C. Tilt or re-orient an object or system, lay it on its side.

D. Use 'another side' of a given area.

- ***Interviewing both won and lost customers.***
- ***Printing bounty coupon on another side of purchase check.***

Principle 18. Mechanical Vibration

A. Cause an object or system to oscillate or vibrate.

B. Increase its frequency (even up to the ultrasonic).

- ***Frequently communicating with customer in multiple modes.***
- ***Making a fuss over customers, which have experienced a problem with product or service, in order to re-enforce their positive feeling to a level greater than that where no problem had occurred.***
- ***Creating buyer hesitation by inking on alternative proffers during price negotiations.***

C. Use an object's or system's resonant frequency.

- ***Probing for exact buyer boundaries during price negotiations.***

D. Use piezoelectric vibrators instead of mechanical ones.

E. Use combined ultrasonic and electromagnetic field oscillations. (Use external elements to create oscillation/vibration).

Principle 19. Periodic Action

A. Instead of continuous action, use periodic or pulsating actions.

- ***Periodical reminding advertisement for stable business image support.***

B. If an action is already periodic, change the periodic magnitude or frequency.

- ***Batch manufacture: small customized series.***

- **Mass customization: totally individual production.**

C. Use pauses between impulses to perform a different action.

- **Filling pauses during negotiations.**
- **Using pauses and breaks in TV and radio translations for advertisement.**

Principle 20. Continuity of Useful Action

A. Carry on work continuously; make all parts of an object or system work at full load, all the time.

- **Long-term business and marketing alliances.**
- **Building customer retention.**
- **Nurturing customer loyalty.**
- **Satisfaction of customer needs as never ending challenge.**
- **Using customer stereotype.**
- **Building customer standards based on tradition.**
- **Preserving company brand image.**
- **Re-marketing, supporting marketing for steady demand.**

B. Eliminate all idle or intermittent actions or work.

- **Synchro-marketing for periodical or season demand.**

Principle 21. Skipping

A. Conduct a process, or certain stages (e.g. destructive, harmful or hazardous operations) at high speed.

- **Getting through money losing processes (e.g. discounts, sell-offs) quickly.**
- **'Strike while the iron is hot'. Prompt decision making during negotiations. Fast anchoring of negotiation agreement by contract.**

Principle 21 (inverted). Lagging

- **Awareness of lagged consumer reaction to advertisement.**

Principle 22. "Blessing in Disguise"

A. Use harmful factors (particularly, harmful effects of the environment or surroundings) to achieve a positive effect.

- **Using customer complaints as opportunities for improvement.**
- **Customers whose complaints are handled properly are more loyal than customers who never had a complaint.**
- **The most loyal customer is a dissatisfied customer who later has all of his needs met.**

B. Eliminate the primary harmful action by adding it to another harmful action to resolve the problem.

- ***Eliminating fear of change by introducing fear of competition.***

C. Amplify a harmful factor to such a degree that it is no longer harmful.

- ***Restricting supply of product or service to create scarcity value.***

Principle 22 (inverted). "Cursing in Disguise"

- ***Lack of customer complaints could indicate a lack of customer candor and unwillingness to share information.***
- ***Advertisement saturation (e.g. web 'spam').***

Principle 23. Feedback

A. Introduce feedback (referring back, cross-checking) to improve a process or action.

- ***Marketing review.***
- ***Listening 'the voice of the customer' (survey, visit, report, focus group, interview, mail, feedback form, customer satisfaction checklist).***
- ***Customer response team.***
- ***Customer complaints and suggestions system.***
- ***Product or service guarantees: provide feedback data to organization on how products or services fail to meet customer needs.***
- ***Enlisting customers into design process.***

B. If feedback is already used, change its magnitude or influence.

- ***'Measuring customer skin temperature every day'.***
- ***Exposing designers as well as marketing people to customers.***
- ***Toll-free telephone numbers for consumer communication.***
- ***Website attendees counting.***
- ***Feedback buttons on website.***
- ***Bar-codes system in supermarkets: gathers information to assist future marketing decisions.***

Principle 23 (inverted). Feedforward

- ***Expert system for marketing research.***
- ***Marketing forecasting.***
- ***Anticipating customer future needs - the ideal basis for customer loyalty.***

Principle 24. Intermediary

A. Use an intermediary carrier article or intermediary process.

- **Region sales offices.**
- **Wholesalers.**
- **Retailers.**
- **Export/import agents.**
- **Distribution systems (e.g. FedEx, UPS).**
- **Third-party external certification bodies.**

B. Merge one object or system temporarily with another (which can be easily removed).

- **Hiring consultant.**
- **Using of neutral third party (arbitrator) during difficult negotiation.**

Principle 24 (inverted). Intermediary Removal

- **On-line Internet marketing and sales.**
- **Barter transactions.**
- **Interview without interviewer (mail, telephone, e-mail, website).**

Principle 25. Self-Service

A. Make an object or system serve itself by performing auxiliary helpful functions.

- **Self-benchmarking.**
- **Self-competing.**
- **Getting customers to advertise the organization's products or services.**

B. Use waste (or lost) resources, energy, or substances.

Principle 26. Copying

A. Instead of an unavailable, expensive, fragile object or system, use simpler and inexpensive copies.

- **Measuring customer satisfaction as a measure of organization business wellbeing.**
- **Imitation method of marketing research.**

B. Replace an object, process, or system with optical copies.

- **Numerical simulation.**
- **Virtual modeling.**
- **Video-conferencing.**
- **Trade mark, logo.**
- **Franchising - trade mark license.**

C. If optical copies are used, move to IR or UV (Use an appropriate out of the ordinary illumination and viewing situation).

- *Evaluating customer satisfaction using multiple techniques.*
- *Getting customers to benchmark the organization.*
- *Responding to perceived customer needs.*

Principle 26 (inverted). Anti-Copying

- *Avoiding negative associations in advertisement.*

Principle 27. Cheap Short-Living Objects

A. Replace an expensive object or system with a multiple of inexpensive objects or systems, compromising certain qualities (such as service life, for instance).

- *Inference statistics methods at survey: sampling instead of census.*
- *Low paid, temporary staff (students, etc.) for telemarketing and telephone survey.*
- *Voucher, coupon for sales promotion.*
- *Sales of second-hand goods (cheaper than new goods)*

Principle 28. Mechanics Substitution

A. Replace a mechanical means with a sensory (optical, acoustic, taste or smell) means.

B. Use electric, magnetic and electromagnetic fields to interact with the object or system.

- *Electronic communication.*
- *Electronic trade.*
- *Electronic auction.*
- *Electronic tagging.*
- *Electronic cards for demographic data collection at market testing.*
- *Telemarketing.*
- *Computerized interview.*
- *Website attendees counting.*

C. Change from static to movable fields, from unstructured fields to those having structure.

D. Use fields in conjunction with field-activated (e.g. ferromagnetic) particles.

Principle 29. Pneumatics and Hydraulics

A. Use gas and liquid parts of an object instead of solid parts (e.g. inflatable, filled with liquids, air cushion, hydrostatic, hydro-reactive).

- *Introducing 'breathing spaces' into contracts.*
- *Sampling expansion during survey.*

Principle 30. Flexible Shells and Thin Films

A. Use flexible shells and thin films instead of three-dimensional structures.

- ***Customer service employee as a 'flexible shell' of the organization.***

B. Isolate the object or system from the external environment using flexible shells and thin films.

- ***Using 'trade secret' methods to separate organization's proprietary knowledge from general knowledge.***
- ***'Pacing on thin ice' during difficult negotiations.***

Principle 31. Porous Materials

A. Make an object or system porous or add porous elements (inserts, coatings, etc.).

- ***Customer-facing layer as a porous membrane, which filters information flow both into and out of the organization.***

B. If an object or system is already porous, use the pores to introduce a useful substance or function.

- ***Empowering customer-facing layer employees.***

Principle 32. Color Changes

A. Change the color of an object, system, or external environment.

- ***Creating a strong brand image through use of 'corporate colors'.***
- ***Different colors in mistake-proofing (Poka-Yoke) to prevent unintended use.***

B. Change the transparency of an object, system, or external environment.

- ***Smoke-screen misinformation to disguise confidential (e.g. R&D) activities.***
- ***Make packaging transparent to enable product self-advertising.***
- ***Convert position from transparent (encouraging trust) to opaque (keeping secrets) and vice versa during negotiations.***

Principle 33. Homogeneity

A. Make objects interact with a given object of the same material (or material with identical properties).

- ***Product families (brands).***
- ***Homogeneous customer sectors (clusters).***
- ***Homogeneous focus groups.***

Principle 34. Discarding and Recovering

A. Make portions of an object or system that have fulfilled their functions go away (discard by dissolving, evaporating, etc.) or modify them directly during operation.

- ***Subcontracting marketing, sales, or advertisement agencies.***

B. Conversely, restore consumable parts of an object or system directly in operation.

- **Warranty: manufacturer commitment to repair or replace any part that fails during the life of product.**

Principle 35. Parameter Changes

- A. Change an object's or system's physical state (e.g. to a gas, liquid, or solid).
- **Virtual shopping (e.g. Amazon.com).**
- B. Change the concentration or consistency.
- **'Special offers' for sales promotions.**
- C. Change the degree of flexibility.
- **Introducing intelligence into on-line catalogues (search engines, expert systems, etc.).**
 - **Switching marketing of product or service to non-traditional customers.**
- D. Change the temperature.
- **Getting customers excited about the product or service by giving them sense of advantage over their competitors.**
- E. Change other parameters.
- **Selling non-material attributes (sense, image, function, etc).**

Principle 36. Phase Transitions

- A. Use phenomena occurring during phase transitions.
- **Awareness of S-curve for marketing and sales evolution - different product or service life stages: 'problematic child', 'star', 'milky cow', 'outsider'.**

Principle 37. Thermal Expansion

- A. Use thermal expansion (or contraction) of materials.
- B. If thermal expansion is being used, use multiple materials with different coefficients of thermal expansion.
- **Expanding or contracting marketing efforts depending on the product 'hotness' - rate of sales and profitability.**

Principle 38. Boosted Interactions

- A. Replace common air with oxygen-enriched air (enriched atmosphere).
- B. Replace enriched air with pure oxygen (highly enriched atmosphere).
- C. Expose air or oxygen to ionizing radiation, D. Use ionized oxygen, E. Replace ozonized (or ionized) oxygen with ozone (atmosphere enriched by 'unstable' elements).
- **Using post-crisis enthusiasm for marketing and sales promotion.**
 - **Making sense of emergency for marketing and sales promotion.**
 - **Hiring highly creative individuals who understand 'the voice of the customer'.**

- ***Overcoming reluctance of dissatisfied customers to complain.***

Principle 39. Inert Atmosphere

A. Replace a normal environment with an inert one.

- ***Anonymous survey or interview.***
- ***Neutral, indifferent tonality of questions at survey and interview.***
- ***Awareness of employee indifference as a major reason for customer detection.***

B. Add neutral parts, or inert additives to an object or system.

- ***Using neutral third party during difficult negotiations.***

Principle 40. Composite Structures

A. Change from uniform to composite (multiple) structures.

- ***Multi-disciplinary marketing and sales teams, including different employee personality types.***
- ***Hard person/soft person negotiating team.***
- ***Combined high risk/low risk marketing strategy.***

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