

POPULAR MARKETS:

FROM FUTURE STUDIES TO THE DEVELOPMENT OF PRODUCTS

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ABSTRACT

Strategies for running companies in low-income markets have been in the spotlight in both the academic and the corporate environments. However, the first discussions about the relevance of such markets arose during the 1980s, when scenario-prospecting studies showed that popular markets would provide many opportunities around the year 2000. Indeed, at present, the base of the pyramid has many unaddressed needs that offer business possibilities for those companies that are willing to review their strategies. In this context, product development becomes increasingly important, since products targeting consumers of the C, D and E classes may need different features from those of goods manufactured for the A and B classes. The aim of this study is to revisit past popular market forecasts and to identify development trends for goods that target lowincome consumers. Our results indicate that Wright and Johnson's (1984) studies predicted that Brazil would maintain both qualitative and quantitative progress in its socioeconomic development over the next two decades and that the development of popular products is undergoing a buoyant phase. Several functional perspectives were used to develop an understanding of the phenomenon, especially marketing, engineering and manufacturing.

Key words: Future studies. Popular markets. Product development.

MERCADOS POPULARES:

DOS ESTUDOS DO FUTURO AO DESENVOLVIMENTO DE PRODUTOS

RESUMO

As estratégias de atuação das empresas em mercados de baixa renda têm sido assunto de destaque no meio acadêmico e empresarial. Contudo, as primeiras discussões sobre a importância desses mercados surgiram na década de 80, quando estudos de prospecção de cenários indicavam que os mercados populares ofereceriam inúmeras oportunidades por volta do ano 2000. De fato, atualmente, a base da pirâmide apresenta algumas demandas não atendidas que se consubstanciam em possibilidades de negócios para as empresas dispostas a rever suas estratégias. Nesse contexto, ganha importância o processo de desenvolvimento de produtos, uma vez que os bens destinados a consumidores das classes C, D e E podem requerer características diferentes dos produzidos para as classes A e B. Neste trabalho, objetivou-se resgatar o histórico da prospectiva para mercados populares e identificar tendências de desenvolvimento de produtos para consumidores de baixa renda. Constatou-se que o trabalho de Wright e Johnson (1984) prospectava que o Brasil manteria um avanço qualitativo e quantitativo do seu desenvolvimento socioeconômico nas duas décadas seguintes, e que o desenvolvimento de produtos populares encontra-se em plena fase de ebulição, sendo utilizadas diversas perspectivas funcionais para seu estudo, em especial marketing, engenharia e manufatura.

Palavras-chave: Estudos do futuro. Mercados populares. Desenvolvimento de produtos.

1 INTRODUCTION

In the 1980s, scenario-related prospecting studies for the year 2000 predicted that popular markets would offer countless opportunities to be explored. This prediction came true. Recent studies – on both the domestic and the international level - have shown the social and economic importance of low-income markets, which generate value for companies and promote inclusive consumption for the lower-income segment of the population (Wright, 1993, 1994; Prahalad, 2005; World Resources Institute, 2007).

An analysis of the income growth of Brazilian families in the last few years reveals income distribution progress. The Gini Index, which measures income inequality on a scale from zero (perfect equality) to one (maximum inequality) has been dropping consistently. In 1995, the family Gini Index in Brazil stood at 0.599. By 2005, it was down to 0.566 and tending to drop by 1.2% a year (Barros et al., 2006). The income growth of this population segment allows it to become a stronger player in the generation of value through consumption.

Giovinazzo (2003), upon analyzing the gross revenue fluctuations from 1997 to 2001 of food, beverage, tobacco, personal care, home appliances and retail firms, found that, in Brazil, corporate revenues derived from the lowincome segment of the population enjoyed average real growth of 25% a year, whereas firms targeting the A and B classes suffered an average drop of 0.7% a year. Taking into account that GDP growth came to 1.71% a year during the period analyzed, the growth of companies that aim at the low-income markets is especially significant.

Traditionally, the big companies – capable of generating economies of scale and competitive business operations – have focused heavily on the highincome markets, gearing their strategies and competencies to a segment of consumers whose characteristics often differ substantially from those of lowincome consumers. Thus, the unmet needs at the base of the pyramid can provide business opportunities for companies willing to rethink the value chain and the product to be delivered to the consumer. This is the context of this paper, the objectives of which are to retrieve the history of popular markets' prospects and to identify development trends for products for low-income consumers. One must stress that product development is considered within a broad perspective, which encompasses the dimensions of a companies' overall strategies and the interactions among different business functions, such as manufacturing, engineering and technology.

2 POPULAR MARKETS: EARLY ESTIMATES AND THE CURRENT MARKET

In the field of studies about the future, estimates on the rise of the lowincome markets can be found in a number of scenarios related to the telecom industry in Brazil in the 2000s, prepared by the researchers Wright and Johnson (1984). According to them, the basic objective of prospecting studies is to establish a scenario framework that will allow the firm to make strategic decisions based on an explicit analysis of the planning assumptions, thus highlighting the opportunities for new business development. In the aforementioned study, Wright and Johnson (1984) emphasize the systematic analysis of the process of socioeconomic changes with regard to technological innovations. The reason for this is that the complexity of social futures dictates focusing on attitudes and values that are already shared within a given sociocultural context, or on attitudes and values that are emerging and that have a stronger influence on economic and social development models (Wright and Johnson, 1984).

In their scenarios, Wright and Johnson (1984) predicted that during the subsequent two decades, Brazil would maintain the qualitative and quantitative progress of its social and economic development, encompassing income growth and improved income distribution, in line with the values of a more egalitarian society. According to them, as the buying power of this enormous contingent of consumers increased, new market opportunities would arise, given that firms were then focusing on the middle and high-income markets, which they continue to do to this day.

According to the World Resources Institute (2007), the world's lowincome population represents a US\$5 trillion market and comprises some 4 billion people, most of whom live in Asia (2,86 billion), followed by Africa, (486 million), Latin America (360 million) and Eastern Europe (254 million). However, when consumption power is valued in dollar terms, the market weights change. In the ensuing scenario, Asia (US\$3.4 trillion) continues to stand out, followed by Latin America (US\$509 billion), Eastern Europe (US\$458 billion) and Africa (US\$429 billion). One must point out that the African and Asian markets are predominantly located in rural areas, whereas those in Latin America and the Caribbean are mainly urban.

The consumption pattern of consumers at the base of the pyramid centers on meeting their basic needs. Thus, the food industry, followed by the energy, housing and transportation industries, captures most of their income. According to data from *Pesquisa Nacional de Amostra por Domicílios* 2006/ PNAD (National Survey by Household Sampling), 89% of all Brazilian families are in the low-income population segment (IBGE, 2006), which accounts for a significant share of the domestic market. The consumption patterns of the Brazilian market – summarized in Table 1 – are similar to those of other markets around the world.

Range	MAIN BUDGET ALLOCATIONS	Size of the Market in the Major Sectors
Range 1: up to 2 minimum salaries	Housing = 37.2% Food = 32.7% Transportation = 8.2% Clothing = 5.3% Health care = 4.1%	R\$ 46.2 billion R\$ 40.7 billion R\$ 10.1 billion R\$ 06.6 billion R\$ 05.1 billion
Range 2: from 2 to 3 minimum salaries	Housing = 36.8% Food = 29.8% Transportation = 8,6% Clothing = 5.7% Health care = 4.7%	R\$ 39.0 billion R\$ 31.5 billion R\$ 09.1 billion R\$ 06.0 billion R\$ 04.9 billion
Range 3: from 3 to 5 minimum salaries	Housing = 35.9% Food = 25.4% Transportation = 10.9% Clothing = 5.8% Health care = 5.0%	R\$ 60.9 billion R\$ 43.2 billion R\$ 18.5 billion R\$ 09.8 billion R\$ 08.4 billion
Range 4: from 5 to 10 minimum salaries	Housing = 32.7% Food = 21% Transportation = 13.4% Clothing = 5.7% Health care = 5.2%	R\$ 81.1 billion R\$ 52.0 billion R\$ 33.2 billion R\$ 14.0 billion R\$ 13.0 billion

Table 1: Summary of the expense-related percentages and size of themain market segments that account for the bulk of expenditures ofBrazilian families at the base of the pyramid

Table 1 shows that, for example, families earning up to 2 minimum salaries a month allocate 83.3% of their budget to essential survival expenses, such as food, housing, clothing and transportation. Food accounts for 32.7% of their spending, housing for 32.7%, transportation for 8.2 %, and clothing for 5.3%.

According to data from the latest PNAD (National Survey by Household Sampling), conducted in 2006 by IBGE (the Brazilian Geography and Statistics Institute), Brazil has a contingent of approximately 58 million families. An analysis of the average income of these consumption units shows that income is still highly concentrated in Brazil; in other words, 41.3% of the families earn an average monthly income of 2 minimum salaries or less, while 2.7% of the families earn more than 20 minimum salaries.

Chart 1 shows the evolution of the income range of Brazilian families from 1995 to 2006. One must point out the reduction of extreme poverty and an increase in the percentage of families with very low income moving upwards, toward the lower middle class.



Chart 1: Evolution of the number of Brazilian families by income range.

Although income inequality is a historical characteristic of Brazil, the Gini Index, a measure of income inequality value of which ranges from zero (perfect equality) to one (maximum inequality), shows that the country has improved in this respect in the last few years. In 1995, Brazil's Gini Index stood at 0.599. By 2005, this was down to 0.566, and tending to drop by 1.2% a year (Paes de Barros et al, 2006). This population segment's income growth has enabled it to participate more vigorously in the generation of value via consumption.

3 PRODUCT DEVELOPMENT

Takahashi and Takahashi (2007) emphasize that new product development can be viewed as a journey from the abstract and the intangible, which contemplates subjective and still unclear ideas, to the real, the tangible, the result. This process seeks to transform objectives, intentions and ideas into something real, i.e., into products or solutions for which consumers will pay to satisfy their needs.

Slack, Chambers and Johnston (2007) emphasize three aspects of products and services: concept, bundle and process. The concept refers to the set of expected benefits, i.e., the global intent underlying the product or service from the consumer's point of view. The product bundle is the set of the components that provide the benefits defined in the concept. Some of these are essential for the purchase and cannot be eliminated without destroying the nature of the bundle, while others are used to improve the essential part, and are referred to as supporting goods and services. The process defines the relation between the components, making it possible for given products or services to perform their functions and deliver the concept's original objective.

Takahashi and Takahashi (2007) propose five steps for the product development process, as follows: generating the concept, planning the product, detailing the product, detailing the process, review and tests. The five steps are summarized below.

- ✓ Generating the concept (or conception): this consists of determining the characteristics of the product from the consumer's point of view. It is based on the identification of a need that is often perceived unclearly in the midst of the various situations involving the market. Therefore, one must conduct a careful analysis of the social trends, individual tastes and potential market, among other elements, to define precisely the real needs that the product is to satisfy.
- ✓ Planning the product: this concerns translating the product concept into detailed specifications, including style, arrangement, specifications, cost, investment and technical choices. Though still intangible, the specifications created in this phase provide the first opportunity to interpret the product concept physically. In the authors' opinion, the two biggest challenges during this phase are to achieve external consistency, making the plan, the concept and the product compatible; and to achieve internal consistency, making the specifications, components, style and arrangement compatible.
- ✓ Detailing the product: here, the product is decomposed into its components for detailed design and is then stored in the form of drawings. These are converted into prototypes that are tested until they are officially approved.
- ✓ Detailing the process: the design of the product is detailed into process designs compatible with the current manufacturing processes.
- ✓ Review and tests: the process-related information is converted into production factors and tested in the form of pilot batches in order to identify weak points or failures, which must be remedied before the product is launched for end consumers.

When a new product development (NPD) process is initiated, the project team must clearly understand the strategic direction of the business and its critical functions. The basis for NPD is the integration between functional and corporate strategies (Clark and Wheelwright, 1993). This can be achieved by means of a process that maps the strategies in each area, with emphasis on marketing, engineering and manufacturing. As Chart 1 shows, competition issues are analyzed by means of specific measures for each functional area.

FUNCTIONAL AREA	SPECIFIC CONCEPTS AND MEASURES	
Marketing		
Product	Product attributes (placed on a performance scale, and indication of the importance that the consumer ascribes to the attribute); position in relation to competitors.	
Distribution channels	Sales per channel; market share per channel.	
Generating the product	Timing of new products; life cycle of models; the product's relation relative to other products.	
Engineering		
Critical skills	Composition of employees' skills for the design, development and engineering of products and processes. For example, knowledge of mechanics, electronics, ergonomics, acoustics, etc.	
Performance Trade-offs	Range of the possible performance combinations of possibly conflicting dimensions.	
Technology of the components	Performance of the critical components using different technologies.	
Manufacturing		
Process Technology	Level of automation; fraction of output in different kinds of processes.	
Vertical integration	Role of suppliers; internal operations per components.	
Cost structure	Cost per volume levels; cost per production factor.	

Chart 1: NPD and functional areas

Source: Clark and Wheelwright (1993)

In this respect, Krishnan and Ulrich (2001) emphasize that research in product development is circumscribed by at least four perspectives - marketing, organizations, engineering and operations – which differ in terms of the level of abstraction at which they study the product development, moving from an aggregate level (organizations) to a more detailed one (engineering). Chart 2 shows further details regarding the different perspectives.

	MARKETING	ORGANIZATIONS	ENGINEERING	OPERATIONS
Perspective on the product:	A product is a set of attributes.	A product is an artifact resulting from an organizational process.	A product is a complex assembly of interacting components.	A product is a development sequence and/or steps of a production process.
Typical performance metrics:	"Fit" with the market, market share, usefulness to consumer (sometimes profit).	Success of the design.	Form, function, technical performance, innovation (sometimes direct costs).	Efficiency, total cost, service level, lead-time, use of capacity.

	MARKETING	ORGANIZATIONS	ENGINEERING	OPERATIONS
Dominant representative paradigm	Usefulness for consumer as a function of one of the product's attributes.	There is no dominant paradigm. Organizational networks are sometimes used.	Geometric models, technical performance parameter models.	Process flow diagram, process performance parameter models.
Examples of decision variables	Level of product attributes, price.	Structure of the product development team, incentives.	Size of the product, form, configuration, function, dimensions.	Sequence of the development of the process and schedule; point of differentiation in the production process.
Critical success factors	Product positioning, pricing, identifying and meeting clients' needs.	Organizational alignment, team characteristics	Creative concept, configuration, performance optimization	Suppliers, selection of materials, production sequence design, project management.

Chart 2: Comparison of the perspectives of the Marketing, Organizations, Engineering and Operations academic communities

Source: Krishnan and Ulrich (2001).

Based on a review of literature, Krishnan and Ulrich (2001) also presented a number of decisions that must be taken within a new product development process. These decisions are grouped into four categories: concept development, product design, supply chain design, and production process (Chart 3).

	CONCEPT DEVELOPMENT	PRODUCT DESIGN	SUPPLY CHAIN DESIGN	PRODUCTION RAMP-UP AND LAUNCHING
DECISIONS	What are the target values of the product's attributes, including price?	What are the values of the key parameters of the project?	Which components will be designed and which will be selected? Who will design the components?	What is the market test and launch plan?
	What is the product's core concept?	What is the configuration of the components and what are the relations prior to the assembly line?	Who will produce the components and make the product's production line?	What is the plan for the production ramp-up?

	CONCEPT DEVELOPMENT	PRODUCT DESIGN	SUPPLY CHAIN DESIGN	PRODUCTION RAMP-UP AND LAUNCHING
NS	What is the architecture of the product?	What is the detailed design of the components, including materials and process selection?	What is the physical configuration of the supply chain, including the location of the decoupling point?	
DECISIONS	Which product variations will be offered?		What kind of process will be used to produce the product?	
	Which components will the product variations share?		Who will develop and provide the process and equipment technologies?	
	What will be the product's general physical form and industrial design?			

Chart 3: Product development decisions within a project.

Source: Krishnan and Ulrich (2001).

4 DEVELOPMENT OF POPULAR PRODUCTS

Giovinazzo (2003) defines popular products as those positioned predominantly for the C, D and E income classes. The income-effect of these products is negative, i.e., income growth results in consumers replacing such products or brands by more upscale or elaborate ones. Conversely, a "normal" product or brand has a positive income-effect, in that an income increase results in its increased consumption.

Nascimento, Yu and Sobral (2005) state that a popular product is not necessarily the cheapest product in its category, because, even though price is important, it is not the only prerequisite. They point out that the popular product concept must:

 a) Prioritize the needs of low-income consumers; in Brazil, this means families earning less than ten minimum salaries or families classified as belonging to classes C, D or E. However, certain situations may arise in which higher-income consumers become interested in buying such products;

- b) Offer quality at a low price, the two fundamental prerequisites for this market; however, a popular product is not necessarily the cheapest in its category; instead, it may offer terms that make it easier for its target consumers to buy it, such as credit, points of sale, fulfilling consumer needs, etc.
- c) Have the right product life-cycle attributes: reliability regarding its rate of failure and the materials used in the product; human factors, such as being user-friendly and convenient, providing the appropriate level of control complexity, and avoiding potential hazards; easy maintenance; easy installation and installation requirements; reasonable delivery time and easy access. Therefore, a popular product must meet the needs of the needier population during its entire life cycle.

Giovinazzo (2003) identified the strategic profile of companies that focus on the popular market and the characteristics of their strategic dimensions. Table 4 indicates that they appear to have a clearly defined profile.

	IMPORTANT CRITICAL VARIABLES			
Price	Most important variable for the strategies of companies that charge the market's lowest prices, this factor being the major competitive component.			
Cost	Low costs are these companies' leading strategic component. They invest in cost-reducing facilities, equipment and methods, to incur in the lowest possible costs; charge low prices is the main strategic factor.			
Distribution and differentiation channel	Although competitiveness stems from low prices, these companies want their brand to have a certain degree of differentiation. However, the chief way of achieving this differentiation is not by means of advertising, i.e., by means of investments in the development of the brand's identification, but rather by means of promotions and support of their products' distribution channels and points of sale.			
Quality	The company seeks to meet all the requirements in terms of raw materials, specifications, compliance with tolerances, etc.			
Specialization/ products diversification and segmentation	Concerning the extent to which the company makes an effort to expand the product lines or market segments, companies target the popular market focus less on products or market segments than those that focus on the A and B classes; these companies operate with a broader range of products and segments.			
Client Services	In relation to additional services provided for its line of products – such as technical service or having their own customer services network – the companies do not provide sophisticated or special added services, offering only the basic services.			

LESS IMPORTANT VARIABLES		
Brand identification and advertising The company does not differentiate its brand as the leading competitive factor via advertising, sales force, packaging or other investments. These companies seek differentiation via distribution channels, unlike the companies that target the A and B classes, which pursue brand identification by the end consumer.		
Technology	Concerning the extent to which the company seeks to achieve technological leadership in its sector, as opposed to maintaining imitative product and process technologies, the companies that target popular markets do not conduct research activities and resort to existing, well-known technologies.	

Chart 4: Critical strategic variables of companies focused on the lowincome market.

Source: Giovinazzo (2003).

Research projects for the development of popular products have looked for answers to the issues mentioned in the study by Krishnan and Ulrich (2001) on the development process of new products.

Wright (1993, 1994) states that popular products should comply with the following guidelines: simplicity, with no exaggerated pursuit of market differentiation; manufacturing economies of scale, enabling the standardization of components, which may be developed and produced cooperatively by companies from the given sector; extensive standardization of parts, components and durables, which must be amenable to corrective maintenance – as opposed to disposables; longer life cycles, which, coupled with durability, make it feasible to provide credit to low-income consumers and that allow for the creation of a secondary market for durable goods; environment-friendliness, which reduces the consumption of non-renewable resources and facilitates recycling; and selective use of modern technology.

Nascimento and Yu (2003) highlight certain popular innovation strategies: low unit cost and large-scale production to reduce unit costs; low-cost physical distribution and speedy delivery; preference for small retailers as the product points of sale, thus circumventing the strong bargaining power of the major retail chains; purchase terms, such as affordable pricing, small installments and no collateral (these are among the most important criteria); attention to the needs and preferences of this target audience; ability to capture changes in popular preferences; and, above all, the rapid development and launch of products that meet demand. Prahalad (2005) proposes 12 innovation principles for the markets at the base of the pyramid: price performance; hybrid solutions with high technology and limited infrastructure; economies of scale through solutions that can be adapted to different markets; reduction of usable resources and use of environment-friendly products; identification of functionalities compatible with the market; process innovation; de-specialization of work, adapting it to the skills available; education of clients on how to use the products; design compatible with hostile infrastructure; design with friendly product/client interface, taking cultural differences into account; distribution systems that provide access to clients; and focus on the system's platform/architecture.

Wright (1993, 1994), Nascimento and You (2003), and Prahalad (2005) mention certain common features of the supplying of products for low-income consumers, summarized in Table 6.

	WRIGHT (1993, 1994)	NASCIMENTO AND YU (2003)	PRAHALAD (2005)
	 Simple product, no exaggeration in the pursuit of marketing differentiation. 	 It is vital to pay attention to the preferences and needs of this target audience. 	 Identification of functionalities compatible with the market. Client/product interface design, taking cultural differences into account.
PRODUCT CONCEPT	 Product geared to economies of scale in terms of manufacturing, allowing for the standardization of components that can be developed and produced in cooperatively by companies from the sector. 	 Low unit cost and large- scale production. Get as much advantage as possible from scale and efficiency to reduce unit costs. 	 Gain of scale with solutions that can be adapted to different markets.
PRC	 Longer life cycles that, coupled with durability, make it viable to provide credit to lower-income consumers, resulting in the creation of a secondary market for durable goods. 	 Ability to capture changes in popular preferences. It is essential to speedily develop and launch products that meet demand. The purchase terms, offering an affordable price and small installments with no collateral, are the most important criteria. 	 Price performance. Focus on the system's platform/architecture.

	WRIGHT (1993, 1994)	NASCIMENTO AND YU (2003)	PRAHALAD (2005)
ИСЕРТ	 Product geared to economies of scale in terms of manufacturing, allowing for the standardization of components that can be developed and produced in cooperatively by companies from the sector. 	 Low unit cost and large- scale production. Get as much advantage as possible from scale and efficiency to reduce unit costs. 	 Gain of scale with solutions that can be adapted to different markets.
PRODUCT CONCEPT	 Longer life cycles that, coupled with durability, make it viable to provide credit to lower-income consumers, resulting in the creation of a secondary market for durable goods. 	 Ability to capture changes in popular preferences. It is essential to speedily develop and launch products that meet demand. The purchase terms, offering an affordable price and small installments with no collateral, are the most important criteria. 	 Price performance. Focus on the system's platform/architecture.
MANUFACTURING	 Durable products with high standardization of parts and components, that can be fixed if needed (as opposed to disposable products). Selective use of modern technology. 		 Process innovation. Hybrid solutions with high technology and limited infrastructure.
SUPPLY CHAIN		 Preference for small retailers as points of sale. Low cost distribution and speedy delivery. Deliberate avoidance of the major retail chains because of their great bargaining power. 	 Distribution systems that provide access to clients
SPECIFIC PRODUCT DEVELOPMENT REQUIREMENTS	 Environment-friendly products, reducing the consumption of non- renewable resources and facilitating recycling. 		 Educate clients to teach them how to use the products. De-specialization of work, adapting the work required to the skills available. Design compatible with a hostile infrastructure. Reduction of resources used in production and use of ecologically correct products.

Chart 5: Guidelines for the supply of products to popular markets

Source: adapted from Wright (1993, 1994), Nascimento and You (2003), and Prahalad (2005).

5 FINAL COMMENTS

This paper aimed to retrieve the history of popular markets prospects and to identify the development trends for popular products.

Regarding the first objective, the work of Wright and Johnson (1984), were studied. Their scenarios predicted that Brazil would maintain the qualitative and quantitative progress of its social and economic development in forthcoming decades, which would be evidenced by income growth and more equitable income distribution, reflecting the values of a more egalitarian society.

Concerning the second objective, the research and development of popular products is still proceeding at full speed. Several functional perspectives are being used for the study of development trends, especially marketing, engineering and manufacturing.

The analysis of the research work conducted by different authors shows that the development of products for the base of the pyramid is an crossfunctional activity that calls for integrated solutions and challenges companies to align themselves with the several internal requirements of an unexplored market, on which there is very little information, given that scientific production about it is still in the finalization and publication phase.

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