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Medical Cannabis Brand Architecture: Establishing its Roots in Pharmaceutical Marketing

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Abstract:

Purpose: *This paper investigates how cannabis can be introduced through brand architecture as a medicinal product. It discusses the setting of medical cannabis brand architecture and classifies cannabis products into brands under a brand hierarchy.*
Design/methodology/approach: *A literature review produced a pool of data related to medical cannabis and brand architecture and set the foundation for devising a medical cannabis brand architecture pattern for administrative brand manageability and applicability.*
Findings: *According to the literature review, a number of issues related to medical cannabis, branding, brand architecture and marketing were evaluated and considered. After considering all the components of traditional (generic) marketing theory, we proceed with a Customer Analytic Approach (PCA2) to enable us to construct and adopt an appropriate brand architecture model (the Triadic model) which would be aligned with medical cannabis holistic marketing strategy and future product line.*
Practical implications: *The analysis of the devised brand architecture strategy considered a number of issues such as the nature of the product, potential customers, its intended use and its current stigmatization status and resulted in a proposed commercialization process.*
Originality/value: *The examination of current brand issues, customer idiosyncrasies, purchasing intentions and market opportunities were considered in order to accurately and insightfully construct a brand architecture for cannabis as a future medicinal product, benefiting not only the firms selling it but society in general with respect to its pharmacological properties.*

Keywords: *Medical cannabis, marketing, branding, brand architecture.*

JEL codes: *I18, M31.*

Paper type: *Conceptual paper.*

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1. Introduction

Cannabis is a substance that is used widely all over the world. In recent years, public opinion increasingly favors its legalization, as more and more states and local governments have been introducing legislation for medical purposes or even recreational usage.

In parallel, public approval for legalizing and bringing cannabis into the market has never been higher. Such developments tend to alleviate the negative stigma associated with cannabis, although this process evolves slowly and demands efforts.

Despite this, medical cannabis remains illegal in many parts of the world and many medical cannabis users still face stigmatization from society (Dahlke *et al*., 2022; Troup *et al*., 2022). These medical cannabis users report discrimination in workplace and social contexts, judgements or rejection from friends and family and encountering negative stereotypes about cannabis (Hulaihel *et al*., 2023; Reid, 2021). Often enough, users of medicinal cannabis are viewed as no different than recreational users (Sinclair *et al.*, 2022).

Business and marketing literature review gives limited results when it comes to the commercialization of medical cannabis and its emerging as a major medical brand. In this paper, we investigated how cannabis can be introduced through brand architecture as a medicinal product. For this purpose, we developed a triadic model for designing and grounding medical cannabis brand architecture.

2. Research Methodology

In this paper, a literature review was used to gather information about the current status in the research area of the brand architecture and its potential contribution to unfold cannabis' real potential in medicine. A single search algorithm was created for each pillar, namely "medical cannabis" and "brand architecture" (Table 1).

Attempting to combine keywords from the two pillars of this study produced only 13 non-relevant results in Scopus database which covers a diverse range of publications in Medicine and Marketing. Thus, a non-systematic approach was adopted (Kraus *et al*., 2022) by the selection of papers related to each pillar separately.

We limited our search to peer-reviewed journal articles, books, book chapters, conference proceedings and editorials written in English. The search was not restricted by date; the aim was to include those activities which are within the scope of this paper and were published by January 2023. After a first screening, we considered all potentially relevant articles.

We manually read the titles and abstracts of all articles identified through this process and removed unrelated and duplicate articles. For these articles, the relevance and

eligibility of which was not clear within the title or abstract, we conducted full-text screening. Some articles deviated from the topic and some others were repetitively reproducing the same information.

Next, we reviewed the reference lists of the articles selected so far to identify additional papers that may have been disregarded by the search engine. The refinement process resulted in articles that met the scope of this paper and therefore were included in the literature review. Two researchers screened each paper separately. No previous similar attempt to synthesize this particular literature in a non-systematic or systematic manner was found.

Table 1. *Search algorithm used and results*

Pillar	Algorithm	Results
#1 Medical cannabis	"medical cannabis" OR "medical marijuana" OR "medical cannabinoids" OR "pharmaceutical cannabis" OR "pharma-grade cannabis"	4,746
#2 Brand architecture	"brand*" OR "brand architecture" OR "brand strategy" OR "brand management" OR "brand portfolio" OR "brand positioning" OR "brand extension" OR "brand hierarchy" OR "brand equity" OR "brand element" OR "brand associations" OR "brand boundaries" OR "parent brand" OR "family brand" OR "sub-brand*" OR "hybrid brand*" OR "branded house" OR "house of brands" OR "brand umbrella" OR "brand variation*" OR "brand level*" OR "brand* practice" OR "brand name*"	149,398
#1 AND #2		13

Source: *Own study.*

3. Medicalization of Cannabis

Cannabis is regarded as a drug that violates communal and societal standards of morality partly because of its illegal status, but also partly because users tend to exhibit anti-social behavioral patterns (Brook *et al.*, 2011; Pardini *et al.*, 2015). The prohibition against the use, cultivation and transfer of cannabis is also powered by the gateway hypothesis, although this does not only relate to cannabis.

According to this hypothesis, the use of cannabis by young people is not only seen as dangerous on its own merits but increases the probability that the user would experiment with other so-called “hard” drugs (Kleinig, 2015).

For these reasons, its users are considered to be social delinquents and their behaviors and physical responses - the identification of cannabis users being fairly easy to determine - are seen to be deviant from what is considered socially acceptable and normal (Reid, 2020). Users of cannabis (for whatever purposes) are therefore looked

upon with disapproval, are disparaged and marginalized and often subjected to discrimination.

Nevertheless, some jurisdictions (countries such as Canada and South Africa) have modified their policies and moved to legalize or decriminalize the use of cannabis. The reasons for this are varied, but one argument often cited in favor of mainstreaming cannabis is its use as a medicinal drug (Piper *et al.,* 2017).

This argument faces stiff headwinds: the fact that cannabis has been used by millions of people for recreational purposes and its characterization as a recreational drug contributes to its stigmatization in the medical field and negatively impacts its social identity (Long *et al.,* 2017).

There is a widespread belief that rather than perceiving or considering cannabis as a drug with potential medicinal value, many people see cannabis as a recreation-only and pleasure-serving drug (Roberts, 2020). In addition, there is the worry that legalizing cannabis for medicinal purposes might contribute to increased non-medicinal use of the drug by young individuals, with significant and harmful repercussions on that age group (Hall and Lynskey, 2016). Cannabis legalization for medical purposes could also have direct implications on the prevalence of cannabis-alcohol poly use (Kim *et al.,* 2021).

In short, whether deliberately or unknowingly, many countries have chosen to focus solely on the negative effects of cannabis and ignore its positive potential and doing so has had far-reaching implications for employing cannabis as a major medical alternative for both now and in the future. A valid argument can reasonably be made that if cannabis wasn't the subject of so much societal negativity, then perhaps the drug would be widely used for medicinal purposes with significant benefit to individuals and societies across the world.

4. Marketing Medical Cannabis

Marketing of medical cannabis preconditions its legalization and regulatory approval. Not all countries are currently at the same level of legalizing the marketing of medical cannabis. In the US, at federal level, THC (tetrahydrocannabinol), the psychoactive ingredient of cannabis, is classified as a schedule one narcotic, the same as heroin and LSD.

On the contrary, formulations containing CBD (cannabidiol), the non-psychoactive ingredient of cannabis, are legal in all the US provided that they do not contain more than 0.3% THC. As of April 2023, thirty-eight states, three territories and the District of Columbia have allowed the medical use of cannabis products, while twenty-two states, two territories and the District of Columbia have enacted measures to regulate cannabis for adult non-medical use.

On the other hand, states vary in the qualifying medical conditions, the type of cannabis products that can be used and whether home cultivation or cannabis dispensaries are allowed (Leung *et al*., 2018). In 2001, the Canadian federal government allowed access to cannabis for medicinal use in exceptional circumstances (Ries, 2016). Since then, the qualifying medical conditions have progressively broadened in response to court decisions (Ries, 2016). Medically approved cannabinoids, e.g., dronabinol and nabiximols, can be used in some European countries (Abuhasira *et al*., 2018).

The Netherlands allows the use of cannabis flower for medicinal purposes and Germany provides health insurance coverage for medical cannabis (Gesley, 2017). In Israel, physicians can prescribe herbal cannabis for medical use when recognized treatments have failed (Ablin *et al*., 2016).

Although the marketing context and environment for cannabis is at an early stage, brand development could be made possible by adopting and imitating brand strategies similar to the ones adopted by traditional drugs. Cannabis could be treated with similar brand strategies used by the pharma industry, but for the beneficial purposes of destigmatizing the drug and offering a much-needed medical product to the general public. By actively shaping the drug's medicinal potential, cannabis could become a major medical brand in demand across the world. Brand architecture could play an important role in those efforts.

5. Branding in the Pharmaceutical Industry

Pharmaceutical branding initiatives should pay careful attention to all of the particular characteristics that set the sector apart from other industries. If one excludes the over-the-counter (OTC) segment (which functions in much the same way and shares the same characteristics as any other retail market), the prescription-only medicine (Rx) sector, which generates around 90% of the global pharmaceutical industry's revenue, is highly regulated and subject to government and political intervention in all jurisdictions (Blackett and Harrison, 2001).

Traditionally, physicians and other healthcare professionals have had exclusive access to all data and information about pharmaceuticals. Direct-to-consumer (DTC) advertising has been a relatively new trend in some markets but is strictly prohibited in many others (Blackett and Robins, 2001).

In reality, payers and users of pharmaceuticals are two different stakeholder groups. Manufacturers traditionally derive their worth primarily from their increasingly challenging research and development (R&D) activities as well as from commercially successful sales and marketing campaigns. The sector still exhibits a lot of traditional, supply-driven traits, layered with paternalism from the government (Blackett and Harrison, 2001).

Another determining aspect is the pharmaceutical industry's extremely high degree of competition. On the other side, the pharmaceutical business has price issues due to intense political pressure to keep the cost of state-reimbursed expenditure as low as possible, in addition to high spending in both successful and unsuccessful product development.

One of the industry's main issues is that new brands are always being introduced at the expense of existing ones due to the industry's ongoing cycle of product enhancement. Thus, current brands lose importance and are elevated to the status of cash cows when for example a new substance or effective treatment enters the pipeline.

Additionally, changes in how medicines are regulated are frequent. After patent expiry, sometimes the management tries to realize an Rx-to-OTC switch to avoid the regulatory restrictions of Rx products (Blackett and Robins, 2001). Short product life cycles, the unique nature and complexity of medicines, and likely long-term benefits and safety data that may require years of use or additional research further complicate branding in the pharmaceutical sector. Market access and payer rules that affect the accessibility of particular brands to patients complicate branding even further (Katsanis, 2016).

Until recently, physicians used to be the most influential decision-makers in healthcare and all commercial communications were directed at them. Physicians are still clients who are susceptible to perceived benefits, even though they work in a data-oriented and evidence-based industry (Moss and Schuiling, 2004).

Today, consumers/end-users/patients are a brand-new audience that pharmaceutical companies are able to target and promote to, in addition to the prescribing physicians. Patients now promote their own healthcare in an active and participatory manner. They conduct their own research, whether using conventional methods or internet websites tailored to a given treatment or disease condition. Left with less power than they once enjoyed, physicians actively discuss drugs with their patients.

Today, doctors and their patients discuss healthcare and treatment alternatives, and if a patient requests a certain treatment which is regarded clinically suitable or equivalent to a more often prescribed alternative, they will probably have it prescribed (McKinlay *et al*., 2014). Patients can also pressure governments to release funds for treatment, which can have a positive effect on business (Sorensen, 2011).

Pharmaceutical companies must go through a difficult branding process in order to communicate with patients and doctors. The majority of pharmaceutical businesses are accustomed to branding to physicians, typically through personal selling settings and media geared toward their specialty.

Pharmaceutical businesses are more experienced with consumer branding tactics in pharma market sectors where marketing to consumers is practiced. Physicians are generally the main target of pharmaceutical branding initiatives, albeit this is constantly changing due to the accessibility of information through electronic media.

The necessity to properly utilize new products when they hit the market has never been more important than today, given the escalating R&D costs and the success rate, which is at best break even. Branding is one strategy for boosting such success. A great brand offers significant competitive distinction of a kind that is exceedingly challenging for competitors to duplicate, in addition to forging strong relationships with customers, influencing behavior and attitudes, and winning over customer loyalty (Blackett and Harrison, 2001).

The importance of branding throughout the post-patent stage of a drug's life is rapidly becoming recognized, as excellent branding may offer the owner more time to optimize the return on its initial investment. A strong brand can also transcend national and market boundaries. The opportunity to extend brand value into new market segments, particularly in the pharmaceutical industry, is growing more and more alluring as the OTC sector expands.

One would argue that there has never been a point in the development of pharmaceutical marketing where branding has been more important. Therefore, there may be a need for the pharmaceutical industry to invest in long-term corporate and product brands (Corstjens and Carpenter, 2000; Moss and Schuiling, 2004). Branding and especially the field of brand architecture could represent a new competitive advantage in the pharmaceutical industry (Burmann and Kanitz, 2017; Moss and Schuiling, 2004).

6. The Concept of Brand Architecture

Managing brands constitutes a complicated multi-dimensional task. The “brand” itself has been shown to comprise meanings drawn from two distinct sources: first, the brand identity as codified and communicated by the brand originator and secondly the brand meanings drawn from the users or consumer environment (Jevons and Gabbott, 2000). The way in which consumers perceive brands is also a key determinant of long-term business-consumer relationships (Fournier, 1998).

In business, any organization must construct its branding strategy and formulate its strategic direction to guide the effective use of brands in the local, national and global environments. Brand portfolio strategies help in determining the efficient frontier of the brand set - the boundary where brand managers can maximize their returns for any level of portfolio risk (Hill and Laderer, 2001).

Several considerations must be taken into account in order to synchronize branding decisions at different levels of the organization against different market situations in

order to provide strategic direction, including identifying which brands should be considered, how they should be introduced in terms of identity, how they should be grouped in a homogeneous manner and how strategic classifications of product categories should be managed to produce synergistic effects, positively affecting the identity and image of the product and the entire organization.

Brand structure is used to refer to the firm's current brand portfolio in different markets. Brand structure is in large measure a legacy of past management decisions as well as the competitive realities the brand faces in the marketplace (Douglas *et al.,* 2001). Brand architecture refers to a formal process and outcome by which management rationalizes the firm's brands and makes explicit how brand names at each level in the organization will be applied. Brand architecture also indicates how new brands, whether acquired or developed internally, will be managed (Douglas *et al.,* 2001).

In essence, brand architecture refers to how companies structure and manage the relationship between their various brands (Keller, 2014). It provides clarity, synergy and leverage (Aaker, 2004) while supporting the understanding and organization of the brands in the minds of customers (Keller, 2014). From a different but similar perspective, brand architecture is the organizing structural pattern of the brand portfolio that specifies brand roles and the nature of relationships between brands (Rajagopal and Sanchez, 2004).

Brand architecture therefore is an integrated process of brand building to set the brand relationships among branding options in any competitive environment, reflecting the characteristics of the product market (Rajagopal and Sanchez, 2004).

Balanced brand architecture schemes help maximize efficient and effective use of resources and promote consistency (Aaker and Joachimsthaler, 2000). In devising an optimal brand architecture, an alignment should be attained between the product portfolio and the needs of customers (Keller, 2014).

Contemporary theories of brand architecture are based on the efficacy of the attributes, projected advantages, derived benefits and brand affiliated issues emerging in relation to the buying power of the customer (Rajagopal and Sanchez, 2004). For example, one common approach is securing the revival, retention or merger of brands that have low market impact and tend to cause organizational conflicts with the strong brands of the company.

There are considerable variations within a given type of brand structure or brand architecture, depending on the firm's administrative heritage and international expansion strategy as well as the degree of commonality among product lines or product businesses (Douglas *et al.*, 2001). In addition, brand structures are continually evolving in response to the changing configuration of markets or as a result of the firm's expansion strategy (Sheinin, 2000).

Research into brand architecture is fairly nascent. Olins (1996) made an early distinction between monolithic identities revolving around one all-embracing corporate brand and branded identity for individual products. Laforet and Saunders (1994) quickly followed and revealed three general patterns of brand architecture: corporate-dominant, product-dominant and mixed hybrid structures.

Corporate-dominant architectures tend to be the most common among firms with a relatively limited range of products or product divisions, or with a clearly defined target market. Corporate-dominant brand architectures are based on visibility for the organization and the corporation as a global driver of brand value. Product-dominant architectures are typically found among firms with multiple national or local brands, or firms that have expanded internationally by leveraging "power" brands.

The most common architectures are hybrid or mixed structures, consisting of a mix of global corporate, regional and national product-level brands, corporate endorsement of product brands or different structures for different product divisions (Rajagopal and Sanchez, 2004).

Both corporate and product-dominant structures are evolving towards hybrid structures. Firms with corporate-dominant structures are adding brands at other levels, for example, the house or product-level, to differentiate between product divisions.

Product-dominant structures may be described with reference to the multiple brands that are moving towards greater integration or co-ordination across the markets through corporate endorsement of local products. Such companies also vary in the extent to which they have a clearly articulated international brand architecture to guide this evolution (Rajagopal and Sanchez, 2004).

Aaker (1996) constructed an innovative framework for illustrating brand systems and characterized different brand roles as drivers, endorsers, fighter brands and silver bullets. Building on the brand systems above, Aaker and Joachimstahler (2000) view brand architecture in five dimensions: brand portfolio (the number of brands), portfolio roles (the relationship between different brands in the portfolio), product market roles (structure for a specific market, e.g., sub-brand or endorsed brand), portfolio structure (brand range), and portfolio graphics (e.g., color and size of logo). They underscore that brand linkages and drivers are crucial issues that permeate brand architecture.

Aaker and Joachimstahler (2000) identify the branded house, the endorsed brand, sub-brands and the house of brands strategies as manageable brand architecture patterns. The "branded house" (BH) strategy is where all products use a core corporate name versus the "house of brands" (HOB) strategy where unique brands are managed for each product or service. Brand architecture strategies can also be perceived as lying on a continuum where companies use a hybrid strategy that mixes the two (Brexendorf and Keller, 2017).

Popular architecture variants, beyond the BH and HOB, include sub-branding and endorsed branding, alternatives with two brand structures that link and leverage both separate and corporate brands (Laforet and Saunders, 2007). With sub-branding, the separate and corporate brands operate equally as meaning-laden, equity-creating entities (Franzen and Moriarty, 2009; Keller, 2012).

Endorsed branding is cued visually using graphics that render the second brand more prominent vis-à-vis the parent brand, as for example through the ordering primacy of brand names, larger font sizes, bold lettering or packaging placement (Keller, 1999; Keller, 2012).

Hsu *et al.* (2016) extended the investigation by Rao *et al.* (2004) into brand portfolio strategy by adding sub-branding and endorsed branding as brand architecture alternatives, clarifying the mixed branding strategy as a BH/HOB hybrid and attempting to identify how financial markets value and perceive the role of the full range of aforementioned modified brand architecture.

As an alternative to the Aaker and Joachimstahler (2000) approach, Keller (2012) suggested a four-level brand hierarchy, including corporate brands, family brands, individual brands and modifying names or numbers. Family brands are defined as brands covering several product classes without being corporate brands, while individual brands are brands restricted to one product class. Modifiers are descriptors that modify a corporate/individual or mixed brand structure for a particular market segment. Jean-Noel Kapferer (2008) proposed the hierarchy model of brands with six levels including product brands, line brands and umbrella brands.

7. Fundamental Strategies for Medical Cannabis

The strategic approach to introduce medical cannabis within the pharmaceutical marketing spectrum will set the foundation of its brand architecture. Such an approach should rely on some preliminary strategic initiatives which will inform and stimulate the potential user segment's interest.

These initiatives should be taken under consideration in order to build a strategy for how to market medical cannabis. However, this marketing strategy should be aligned with the brand architecture to facilitate deeper market penetration. The design and implementation of a well-aligned Segmentation, Targeting and Positioning (STP) approach should be pursued via the following steps:

- The establishment of consumer segmentation "touchpoints" and the consideration of the "Decisive Buying Criteria" (DBC) and "Key Discriminating Features" (KDF) for the identification of "micro-segments";
- The execution of a tailored-made targeting approach; and
- The application of a polymorphic positioning strategy.

7.1 Segmentation

Market segmentation is the process of splitting customers (or potential customers) in a market into different groups or segments (McDonald *et al.*, 2007). The process is designed to determine the size and the value of each group and describe the differences in customer needs. KDF - the characteristics and properties of a purchase that customers regard as determinants when deciding between alternative offers - are considered in segmenting markets. DBC - the perceived or stated attributes of a purchase that customers evaluate when choosing between alternative offers (McDonald and Dunbar, 2012) - are also considered in the segmentation rationale.

In addition, selected segmentation criteria, known as descriptors (such as determining the size and the value of each group and the description of differences in customer needs), facilitate the attainment of market segmentation objectives. Segmentation descriptors for medical cannabis should be divided into four major categories: Physical Descriptors based on demographics describing consumers/users, Person- or firm-related Behavioral Descriptors (Psychographics), Product-related Behavioral Descriptors and Customer Need Descriptors (expressed in terms of benefits sought from a particular product).

7.1.1 Physical Descriptors (Demographics)
Demographic segmentation sorts a market by elements such as age, education, income, family size, race, gender, occupation and nationality. Demographics are one of the simplest and most commonly used forms of segmentation.

In the case of medical cannabis, general physical descriptors should be considered because they produce a better understanding of how consumers make decisions about the products they buy, how they use those products and how much they are willing to spend on them (Cravens and Piercy, 2012; Doyle and Stern, 2006; Kotler and Keller, 2015; McDonald *et al.*, 2007).

7.1.2 Person- or firm-related Behavioral Descriptors (Psychographics)
The most common behavioral descriptors in consumer markets are lifestyle-psychographics and social class. In the case of medical cannabis, obtaining, receiving and using such information can inform (on a general basis) which products will be attractive in regard to a particular group and how to communicate with the individuals within the group (Walker *et al.*, 1996).

Stanford Research Institute (SRI) segmentation scheme (known as “Values and Life Styles” - VALS) (1980) offers a conceptual framework consisting of two dimensions (self-orientation and resources) that can be used in a preliminary medical cannabis customer analytic approach. The first dimension (self-orientation) describes how people search for and acquire products and services via self-oriented beliefs, the behavior of others and the need for social or physical activity, variety or risk-taking.

The second dimension (resources) includes the full range of physical, psychological and material means as well as the capacities consumers can draw on (such as income, education, health, self-confidence, intelligence, energy level and eagerness to buy/use). VALS generates eight segments as a result of this analysis: Actualizers, Fulfilleds, Believers, Achievers, Strivers, Experiencers, Makers and Strugglers.

Consumers differ in their readiness to trust and purchase new products - particularly new medical products and treatments. In every product category, there are daring consumption pioneers and early adopters, while other individuals adopt new products in later stages, after waiting for confirmation from early adopters of whether or not the product has met their expectations and perceived quality of benefits (Kotler, 1984).

Consumers at large can be classified into various adopter categories according to time of adoption: innovators, early adopters, early mainstream, late mainstream and lagging adopters (Kotler and Armstrong, 2017). Innovators are individuals who try new ideas at some risk. Early adopters are opinion leaders who adopt new ideas early but quite carefully. Early mainstream adopters embrace new ideas before the average person. Late mainstream adopters are more skeptical, adopting an innovation only after a majority of people have tried it.

Finally, lagging adopters tend to be suspicious of changes and adopt the innovation only when it has become something of a tradition itself. As successive groups of consumers adopt the innovation, it eventually reaches its cumulative saturation level (Kotler and Armstrong, 2017).

7.1.3 Product-related Behavioral Descriptors

Product-related Behavioral Descriptors reflect the behavior of customers/users toward the product (usage, purchase influence, loyalty, influence on others and purchase predisposition for non-users who might become future buyers/users) (Walker *et al.*, 1996). How individuals vary in their capacity and desire to innovate should be taken under consideration in the case of medical cannabis (e.g., in many markets, a small proportion of potential customers make a high percentage of all purchases).

7.1.4 Customer Need Descriptors

Individuals have different needs and preferences, giving importance to benefits found in different products. Users/consumers evaluate products or brand alternatives on this basis of desired characteristics and how valuable each characteristic is to the consumer in the selection of goods and services (McDonald and Dunbar, 2012). Since purchasing activity is a problem-solving process, products of noticeable utility will be most likely to be chosen and trusted.

It is common practice for firms to produce/manufacture goods and to single out a number of benefits emanating from them in order to target specific segments. When the usefulness and utility are appreciated, companies proceed with more differentiation in their products, adding more value and extra benefits. Benefits sought

are often linked to usage situations because usage strongly affects product choice and substitutability (Kumar, 2004).

The visibility, understandability and appropriateness of product attributes vary across different environments and, therefore, product attributes should be properly identified and communicated. Attempts to define viable segments must recognize this fact, particularly with medical cannabis products.

7.1.5 Proposed Strategy

As a product, medical cannabis is quite innovative, potentially efficacious in specific conditions and promises to offer medical solutions. It is logical to first focus on "adopter categories" to communicate product use. Selected adopter categories could serve as the product ambassadors to evangelize its effectiveness as a medical alternative. Therefore, medical cannabis marketeers could use the following segment signifiers after prioritizing the relevant segments and excluding the non-relevant ones (Table 2).

Table 2. *Proposed Segment Signifiers for Medical Cannabis Market Segmentation*

Segment	Description	Argument of Support
First Target Group		
Innovators (innovation-oriented)	Venturesome, try new ideas at some risk (Kotler and Armstrong, 2017); interested in new ideas, tolerate initial glitches and problems that accompany innovation (Drucker, 2009)	
Early Adopters (innovation-oriented)	Opinion leaders, adopt new ideas early but carefully (Kotler and Armstrong, 2017); attracted by high-risk, high-reward projects, demand personalized solutions, quick response, highly-qualified sales and support (Drucker, 2009)	
Early Mainstream (innovation-oriented)	Pragmatists, adopt an innovation only after a majority of people have tried it (Kotler and Armstrong, 2017); looking for evolutionary change to gain productivity improvements, reliable service and results, seek reference from trusted sources, want to reduce risk in new innovation adoption, make a swift transition (Drucker, 2009)	
Strugglers (guidance-oriented)	Low-skill, aging, poor, passive, concerned about health & security	Strugglers might be an easy segment to approach due to their concern on health issues in order to get through the medical cannabis message faster.
Second Target Group		
Experiencers (action-oriented)	Young, enthusiastic, impulsive, rebellious, excitement seekers	
Makers (action-oriented)	Self-sufficient, practical with constructive skills - live within a traditional family context, physical recreation lovers	
Third Target Group		

Fulfilleds (principle-oriented)	Mature, well-informed, educated, conservative, practical consumers, seek value and functionality from the products they purchase	Fulfilleds should be approached and convinced to use word of mouth and inform market about medical cannabis. Buzz marketing for the benefit of medical cannabis products should be used.
Actualizers (goal-oriented)	Successful, active, sophisticated, active, take charge people, high esteem	Actualizers could serve as reference group of opinion leaders.
Achievers (goal-oriented)	People that maintain control of their lives - they value structure, predictability and stability and favor established brands	Segment should be approached after confirming and introducing substantial evidence concerning the effectiveness of medical cannabis as an alternative treatment.
Believers (principle-oriented)	Conventional people with concrete beliefs, conservative and followers of established brands	Same rationale as Achievers.
Adapted from Stanford Research Institute and Kotler and Armstrong (2017)		

Source: *Own study.*

7.2 Targeting

Tailoring products and marketing programs to meet the desires and the idiosyncrasies of consumer groups are strategically important and imperative within any competitive market. The ability to anticipate market attractiveness and to act accordingly is very important for marketing purposes and this is true with respect to pharmaceuticals as well.

A target market consists of a set of buyers who share common needs or characteristics that the company decides to serve. Targeting can be carried out at several different levels: organizations can target very broadly (undifferentiated marketing), very narrowly (micro-marketing) or somewhere in-between (Kotler and Armstrong, 2017).

Micro-marketing refers to tailoring products and marketing programs to the needs and wants of specific individuals and/or local markets. Concentrated (niche) marketing is a market-coverage strategy in which a firm goes after a large share of one or a few segments or niches (Kotler and Armstrong, 2017). The strategy involves serving one or more segments that, while not the largest, consist of substantial numbers of customers seeking somewhat specialized benefits from a product. Such a strategy is designed to avoid direct competition with larger firms that are pursuing the larger segments.

7.2.1 Proposed Strategy

By targeting via concentrated (niche) marketing, medical cannabis firms can understand the specific needs of their audience and speak to them directly. While also

targeting very narrowly (micro-marketing), medical cannabis companies could even create new niches by discovering and fulfilling customer needs that haven't been addressed yet.

7.3 Positioning

Positioning is the perceived fit between a particular competitive product offering and the consumer needs of the target market (Webster, 1991). According to Walker *et al.* (1996), positioning is an important and critical strategy that contributes to securing the future sustainability and profitability of the product at stake. Positioning strategies which tend to be applicable in the pharmaceutical industry are listed below:

- Mono-segment positioning involves developing a product and marketing program tailored to the preference of a single market segment;
- Multi-segment positioning consists of positioning a product so as to attract consumers from different segments;
- Stand-by positioning refers to switch from a multi-segment positioning to a mono-segment strategy;
- Imitative positioning refers to a position similar to that of an existing successful brand;
- Anticipatory positioning refers to the positioning of a new brand in anticipation of the evolution of a segment's needs;
- Adaptive positioning involves periodically repositioning the brand to follow the evolution of the segment's needs;
- Defensive positioning refers to focusing on reducing profitability but which may allow the firm to better protect itself against competitors in the long term;
- Functional positioning involves brands/products satisfying consumers' functional or product-related needs (Ries and Trout, 2001; Mulvey and Padgett, 2001); and
- Experiential positioning is when firms differentiate themselves on the basis of different experience proposition (Ries and Trout, 2001; Mulvey and Padgett, 2001).

7.3.1 Proposed strategy

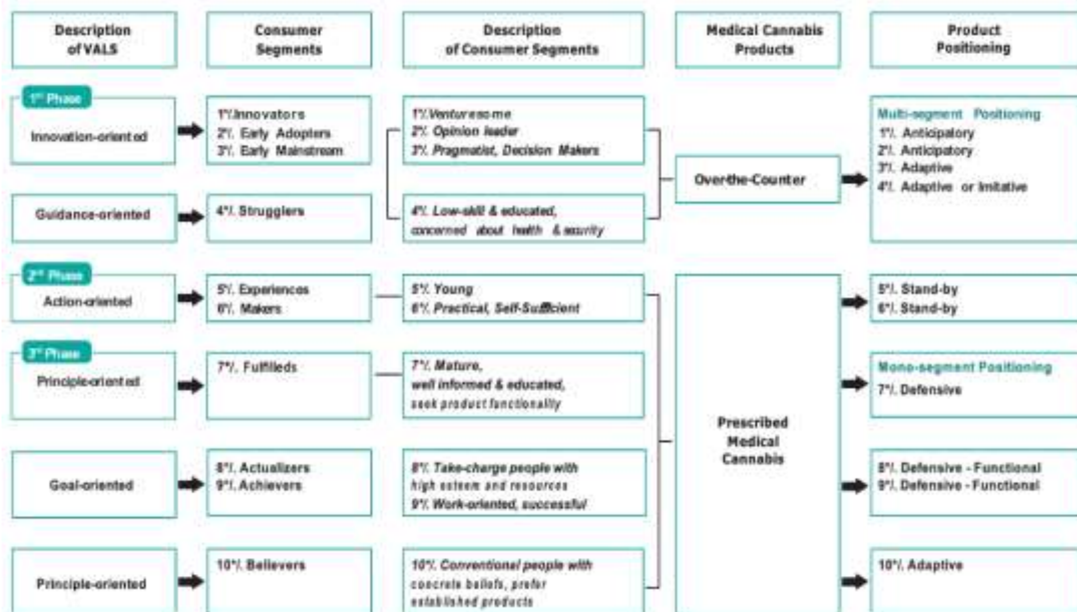
For medical cannabis, the positioning strategy would have a polymorphic application, incorporating multi-segment, mono-segment, adaptive, anticipatory, stand-by, imitative, defensive positioning and repositioning and functional positioning – implemented per specific case and selected time period.

8. Designing and Grounding Medical Cannabis Brand Architecture

8.1 Initial Stage

Proposed STP strategies are summarized in the Preliminary Customer Analytic Approach (PCA2) which is needed to start experimenting with future brand architecture patterns (Figure 1).

Figure 1. *The Preliminary Customer Analytic Approach (PCA2)*



Source: *Own study.*

Synoptically, the PCA2 should be executed in three phases. Each phase will target consumers based on self-orientation, identifying consumer categories as potential users (Kotler and Armstrong, 2017), designating the alignment of types of products and users/consumers, developing the analogous product positioning strategy (Walker *et al.*, 1996) and synthesizing the parameters to guide the selection of a brand architecture model for medical cannabis. The VALS segmentation scheme developed by SRI can be used; dimensions such as consumers' description of self-orientation would then be matched with the corresponding consumer segment type and alignment could be pursued with the appropriate positioning strategy.

The formulation of an integrated strategy to increase awareness of the product in the market is the immediate priority. Disengaging medical cannabis from its stigmatized status will advance the product to a different level of consumer understanding and set the product on a new trajectory.

Any of the three phases of the PCA2 constructed exclusively for the product would lead to the timely trumpeting of its medicinal properties in the market. The product will be introduced to the market in three phases, selecting consumers based on their self-orientation.

In the first phase, innovation- and guidance-oriented consumers will be targeted to increase awareness of the product in the market. *Innovators* who are venturesome consumers, *early adopters* who are opinion leaders and *early mainstream* who are pragmatists and well-balanced decision makers (Kotler and Armstrong, 2017) will be targeted initially for over-the-counter cannabis products using multistage *anticipatory* and *adaptive* positioning.

At a later end of the first phase, *strugglers* will be targeted in order to penetrate low-skill consumer groups with limited education but highly concerned about health issues. For the strugglers, an adaptive positioning strategy will be applied to follow the example of other controversial products within highly condemned industries such as the tobacco industry.

In the second phase, action-oriented consumers will be targeted. *Experiencers* who are young and energetic consumers and *makers* who are practical and self-sufficient consumers will be targeted for prescribed medical cannabis products using multi-segment *stand-by* positioning. In this phase, *experiencers* and *makers* will be targeted to increase confidence in the product within the market since experiencers and makers have a positive effect on most consumer groups.

In the third phase, principle- and goal-oriented consumers will be targeted. *Fulfilleds* are mature, well-informed, educated consumers who are seeking product functionality, *actualizers* are characterized as take-charge people with high esteem and resources and *achievers,* who are successful work-oriented individuals, will be targeted initially for prescribed medical cannabis products using multistage *defensive* positioning and alternatively *functional* positioning, when market conditions call for a supplementary positioning reinforcement.

Finally, adaptive positioning will be used to target *believers* who are principle-oriented consumers, conventional people with concrete beliefs who prefer established products.

In sum, the PCA2 will facilitate the construction of the future medical cannabis brand architecture where the synergistic and aligning effects illustrate the interdependence of the PCA2 with the proposed triadic brand architecture model of medical cannabis which is presented below.

8.2 The Triadic Model

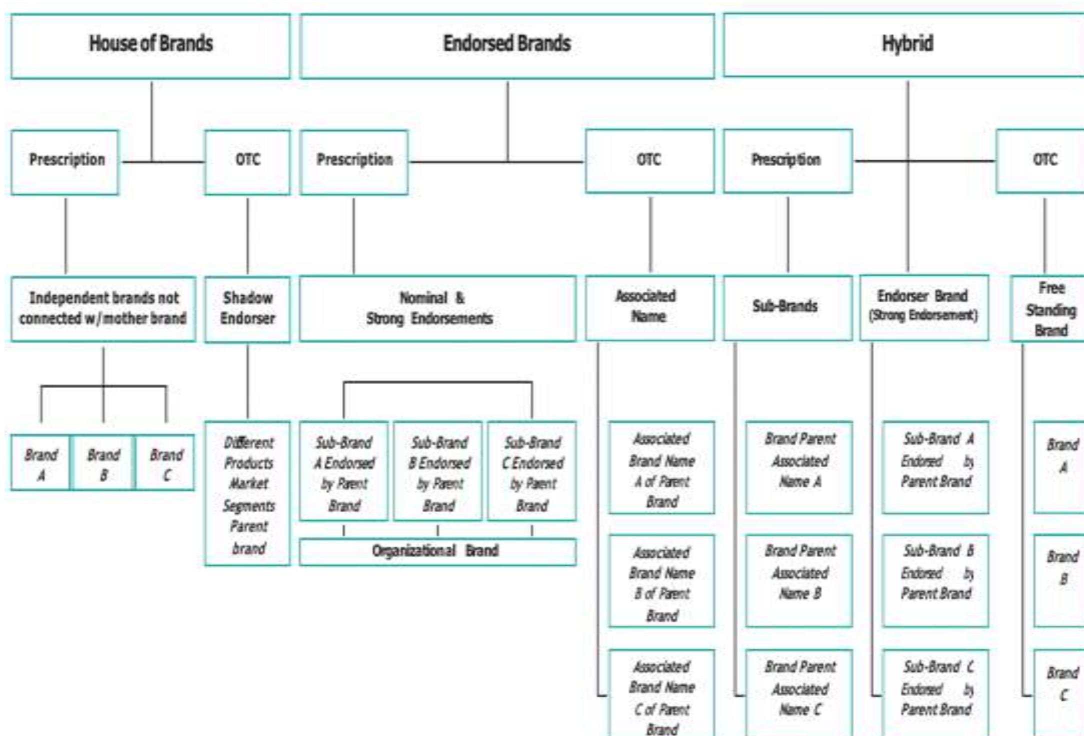
Attempting to create and set the foundation for the brand architecture of medical cannabis requires the application of a sensitive and well-synchronized strategy. The stigmatized status of medical cannabis exposes the product to criticism and the volatile environment will affect the brand, its identity, image and value proposition.

To counter negative perceptions, a product structure and brand architecture should be devised that both follow proven strategic product patterns and adopt a strategic thinking to effectively and rapidly motivate those users who are favorably disposed toward the medicinal properties of cannabis while dealing with the deniers. Medical cannabis brand architecture should be designed under the auspices of the PCA2 and integrate all of its parameters to facilitate the marketing and branding of medical cannabis within the pharmaceutical sector.

Of course, in light of the slow process of legalization and potential destigmatization of medical cannabis, it is premature to arrive at solutions in the form of standardized schemes and permanent brand architecture patterns. Nevertheless, it is essential to introduce a brand architecture model to initiate discussion around the topic.

The proposed triadic brand architecture model (Figure 2) consists of the house of brands strategy (Aaker and Joachimsthaler, 2000), the endorsed strategy (Aaker and Joachimsthaler, 2000) and the hybrid brand portfolio strategy (Hsu *et al.*, 2016; Rao *et al.*, 2004), all of which could be applicable to managing cannabis for medical purposes.

Figure 2*. Proposed Medical Cannabis Brand Architecture - The Triadic Model*



Source: *Own study.*

8.2.1 House of Brands

The HOB strategy is structured by a number of independent stand-alone brands, each one maximizing their impact activity within the market. In the HOB strategy, the brands are acting independently (Aaker and Joachimsthaler, 2000). It clearly positions brands on the basis of functional benefits in order to dominate niche segments. Targeting niche markets with functional benefit positions is the main reason for using a HOB strategy.

A shadow endorser brand will also be suggested that is not connected visibly to the endorsed brand, but many consumers nevertheless know about the link. This sub-category in the HOB strategy provides some of the advantages of having a known organization backing the brand while minimizing any association contamination. It communicates that the organization realizes that the shadow endorsed brand represents a totally different product and market segment (Aaker and Joachimsthaler, 2000).

8.2.2 Endorsed Brands

An endorsement of one brand to another brand within a brand portfolio constitutes the functional aspect of the endorsed brand strategy, which will be offered as a brand architecture alternative. Although an endorsement by a well-known brand provides credibility and substance to the offering, it ultimately plays only a minor driver role as the endorsed brands are independent entities.

The key success of this strategy is by understanding and conveying the distinction between an organizational brand and a product brand. The association effect provided by the endorser serves as a motivator for the consumer to consider the brand (Aaker and Joachimsthaler, 2000).

Another endorsement variant is a linked brand name, where a name with common elements creates a family of brands with an implied endorser. A linked name provides the benefits of a separate name without having to establish a second name from scratch and link it to a master brand. It is also increasingly common to find firms whose brand architectures do not fall cleanly into one of the above architecture categories (Kotler and Keller, 2015; Rajagopal and Sanchez, 2004).

8.2.3 Hybrid

Finally, our triadic brand architecture model proposes a third brand architecture alternative known as the hybrid brand architecture model. Hsu *et al.* (2016) replicated and extended the investigation by Rao *et al.* (2004) of brand portfolio strategy models by adding sub-branding and endorsed branding as brand architecture alternatives, clarifying the mixed branding strategy as a BH-HOB hybrid and attempting to identify how markets value and perceive the role of the full range of aforementioned modified brand architectures.

Hybrid structures combine at least two of four strategies, most commonly BH and HOB (Franzen and Moriarty, 2009). Because the objective is fundamentally different and focused on the impact of BH versus HOB, Rao *et al.* (2004) sometimes include sub-branding and endorsed branding within their mixed category, thereby grouping structures that are mixed because either two brands are linked and utilized (as with sub-branding and endorsed branding) or two or more architectures are used (as in the BH-HOB combination).

Kapferer (2008) and Aaker (2004) considered including sub-branding and endorsed branding as distinct strategies, while the nature of the hybrid mix was further clarified by Franzen and Moriarty (2009) with its focus centered on the prevalent BH-HOB combination.

9. Conclusions

The success of any brand depends on a number of factors: the way customers' needs are satisfied; the synthesis of the value proposition being offered; how the customer relationships are initiated and maintained; how the strategic maneuvers are engineered and applied to achieve a competitive advantage; and how management keeps the brand current, revitalized, differentiated and appropriately managed.

In the case of brand building, success is connected directly with brand architecture. In essence, brand architecture must be aligned with an overarching brand strategy that fully supports the longevity and the proliferation of the brands under the same or different brand architectural morphology.

This paper has provided a strategic approach of how to consider brand architecture in the case of medical cannabis and how brand architecture can boost the holistic strategy of the brand to manage and communicate brand resources, benefits and attributes in a unique way in the market. The proposed triptych of medical cannabis brand architecture aims to attain three objectives and purposes.

First, it enables the firm to select which alternative fits its organizational style and resources the best; second, the selected alternative contributes to the creation of a manageable brand portfolio that is based on a logically structured brand architecture; and finally, the firm can offer to customers a number of products and grouped product lines easily identifiable within the pharmaceutical market.

Cannabis possesses pharmacological properties which may be useful in the treatment of certain diseases (Lim *et al.*, 2021; Peng *et al.*, 2022). With such diseases proliferating across the world, any drug that has the potential to alleviate the suffering caused is certain to be welcomed.

Medical cannabis has an enormous potential to attain acceptance as a medical brand if the brand's attributes and characteristics are well defined and grouped, the brand resources are carefully managed to maximize the identity of the entire product line, and every brand's value proposition is communicated clearly to its market segments.

Nevertheless, there is no current discernible medical cannabis brand logic. The medical cannabis industry needs to swift from tactical to strategic brand management, from a narrow focus to a broad portfolio approach, from a primarily sales-driven perspective to one that also takes into account brand identity and other sophisticated marketing concepts.

This is true even though many medical cannabis product brands have already been developed. Today, the medical cannabis industry is not prepared for the significant changes that have already taken place within the pharmaceutical industry but the requirement to meet strict regulatory requirements, increasing governmental pressure on prices and, as a result, cost cuts, may make it clear that formalizing brand management and practicing it strategically, rationalizing portfolios and introducing roles and relationships have become absolutely necessary.

Multiple customer encounters should be managed under the umbrella of a strategic brand logic. Whether they are corporate or product brands, the medical cannabis sector needs to intensively build them up.

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