



Nutritional Features of Biryani as The Basis for The Formation of An Entrepreneurial Mode in Biryani Market

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Abstract

Biryani is a traditional spice-flavored rice-based delicacy containing meat and vegetables. In this paper, the preparation of Biryani, its composition, nutritional value and entrepreneurial possibilities are discussed. The nutritional value per 100 g of product of different types of Biryani is given. A diagram of the cooking procedure of this dish is presented. The Biryani market is compared with the fast food market. Attention is also paid to the most important economic factors that influence the consumer's decision when buying food. These are: per capita income, price of the food relative to other products, as well as changes in the size and structure of the population. An additional advantage over the competition is outside the links between the restaurants and customers, business partners and suppliers. The purchase of this dish is most often associated with the processes of interacting with customers, with consumer safety, shaping their expectations, market information and customer behavior. This research suggests how establishing a modern Biryani market. Experimenting new variants of this dish and taking advantage of innovative digital solutions could be a strategy for promoting entrepreneurial development and even reducing youth unemployment.

Indexing terms/Keywords: Biryani preparation, consumer market, consumer economics, protein foods, emerging markets, entrepreneurs

Language: English

Date of Publication: 2018-02-30

ISSN: 2349-0837

Volume: 08 Issue: 01

Journal: Journal of Advances in Agriculture

Website: <https://cirworld.com>



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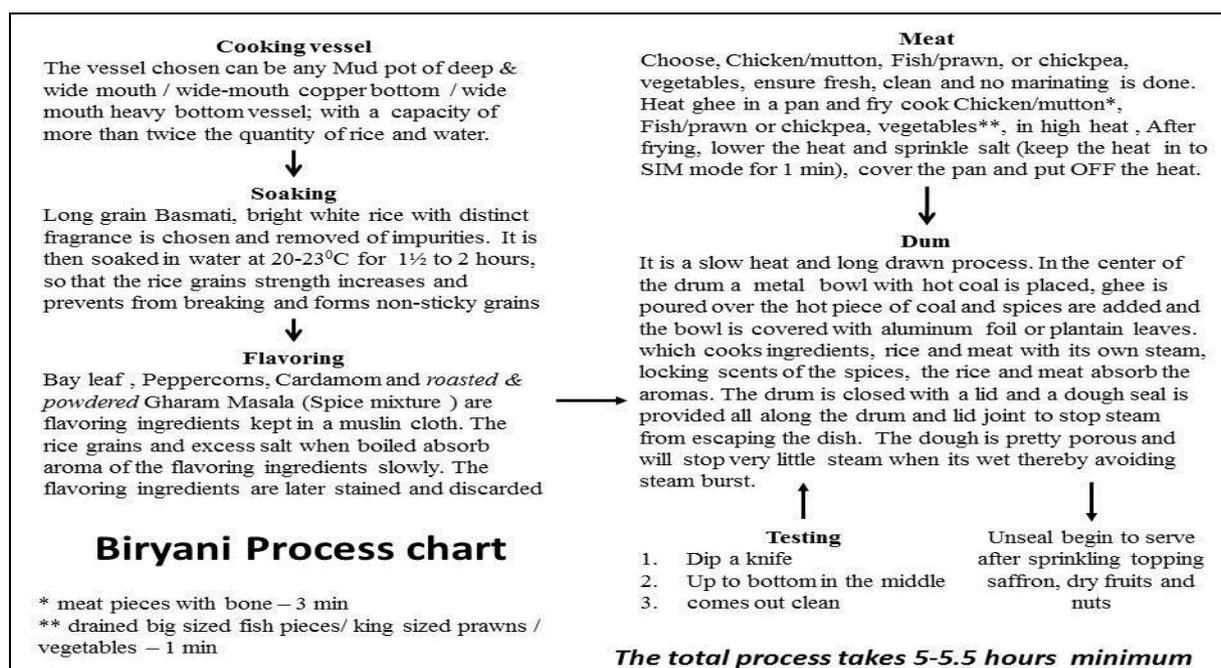
Introduction

Biryani is a dish which tickles the taste buds and is composed of a variety of mixed spices, rice, meats, and vegetables. Though the phonetics is maintained it is conveniently spelled as biryani, biriyani, biryani, breyani, biryani, birani. Biryani derived from the Persian word *birian*, which means 'roasted before cooking'. It is a mixture of rice (basmati), meat (chicken, mutton) / fish / prawn /vegetables (potatoes, beans, green peas, cauliflower) and spices (Students' Academy, 2011; Charminar food exports, 2011; Roy and Roy, 2011). This dish belongs to fresh homemade food category and is the expression of a unique food culture as an amalgamation of local Islamic Mughlai and various other influences (Rebecca and Dittrich, 2009). Very popular among Islamic population, Biryani came to India after the Mughal invasion, but is not restricted to India. Moreover, Biryani is similar to the Spanish paella, a rice-based and saffron flavoured dish containing vegetables and meat or seafoods, which is probably an inheritance of the Islamic domination in Spain. In India, there is historical evidence that biryani was part of the Akbar banquets emphasizing the Mogul connection to the dish. Moguls belong to the Muslim dynasty who ruled large parts of India from 1526 to 1857 were invaders who have their roots in Persia (Anand, 2012). Love for food is not constrained to recipes but extends to food culture itself (Lange & Meier, 2009). In recent years food culture has improved, and there is more demand for healthy and tasty food. Therefore, Biryani became a sought-after meal. With the extensive demand for it to operate as marketplace (Davids et al., 2013), and with the availability of internet facilitations, the consumers can order food from restaurants which have expertise in homemade style, monetizing and providing delivery support (Rebecca et al., 2009; Dawar, 2013). The aim of this work was to describe the nutritional characteristics of the different Biryani variants and to explore the potential and profitability of an entrepreneurial market for this traditional food.

Biryani Preparation Method

The basic process for Biryani preparation involves rice boiling along with meat and mixing with vegetables (Figure 1). Biryani is a main course and is safe as the ingredients are steam boiled and served hot. This dish is not suitable with tandoor style heating, here the heat transfer process is through conduction and convection. It is cooked in both mud pots and in metal vessels over fire, hence the relish is different in both forms of cooking.

Figure1. Schematic procedure for Biryani preparation





The procedure to prepare this dish requires several heat variations; therefore, induction heating may not suit it. Biryani is a main course whose ingredients is chicken, mutton, prawn, fish or vegetables; depending on the specific Biryani type (Figures 2 and 3). Meat pieces are mixed with basmati rice, flavored with spices such as saffron and turmeric, fresh peas, red onion, plum tomato, lime, jalapeño, ginger, cumin, garlic cloves, cilantro and seedless golden raisins, added of yogurt and chicken stock concentrate, then fried in oil or in ghee and slowly cooked in a closed thick bottomed utensil. Whole chicken or shredded meat and the stock for flavor are used in the Biryani (Times Kuwait, 2014).

Biryani preparation requires peeling and chopping fresh vegetables such as onion, garlic and ginger. The oil is heated in the frying pan and the onions are gently fried until soft, then other ingredients are added while cooking, such as cumin and coriander, tomatoes and vegetables, while the rice gets cooked simultaneously. Then black pepper and water are added, and rice is simmered until cooked (Islington, 2017). Biryani is cooked in three steps resulting in a perfectly cooked meat, rice, and a homogenous flavor of aromatic meat broth, aromatic spices and sweet flavors. The meat is seared in ghee and cooked in water with warm aromatic spices till the desired degree of tenderness is reached. After the meat broth is drained out, the rice is lightly fried in ghee, and cooked in the meat broth from the previous step.

Cooked meat and rice are layered in an earthenware or metal pot and sweet flavors are added. Then, the vessel is sealed and cooked over low heat. Spice mixtures are placed in a muslin cloth to make a stock, so the spices release their flavour and can be eliminated after cooking. Potatoes are cooked along with rice and absorb the flavor of the meat and spice (Joshi, 2017). There are thousands of Biryani variants, each having a unique local and cultural twist, at times garnished with high-grade saffron (Italia Sh, 2014).

Photo 2. Chicken Biryani



Source: <https://www.bbcgoodfood.com/recipes/4686/chicken-biryani>



Photo 3. Prawn Biryani



Source: <https://www.google.pl/search?q=Prawn+Biryani&tbm>

Nutritional Features of Biryani

Doctors prescribe Biryani to patients for its nutritious ingredients and safe cooking style. Biryani is a very popular dish, allowing many variants. The vegetable version would be recommended over the mutton/lamb-based Biryani, mainly for the lower overall energy value (Table 1) (Misra, 2011).

Interesting is also the dietary fiber content of the vegetable-based variant (Kumar et al., 2015). However, even the mutton/lamb-based Biryani, despite higher energy value, has a good nutritional value, assumed that it constitutes the unique course of a meal, without adding other foods. In fact, current dietary guidelines recommend that 30% of energy intake comes from fats, whereas the 50% should come from carbohydrates and 20% from proteins. The suggested ratio is close to be fulfilled in mutton/lamb-based Biryani, where 88.2 kcal come from fats, 118.4 kcal from carbohydrates, and 49.6 kcal from proteins, accounting for 34%, 46%, and 20% of energy intake, respectively. Some fresh fruit and/or vegetable after this meal would perfectly adjust the ratio.

Obviously, special care has to be put in avoiding too frequent and repeated consumption of mutton/lamb-based Biryani, such as that of chicken or fish/prawn Biryani, because of the unavoidable intake of cholesterol which characterizes animal fats. Many restaurants, in fact, serve Biryani as a strength point of the menu and also claim to serve Halal Food as an indicator focusing on the health (Thomson Reuters, 2015). However, in animal-derived foodstuffs destined to Muslim consumers, often is given less attention to check the energy value or the level of cholesterol than to verify Halal accomplishment (Shaw and Hussein, 2013).

Table 1. Dietary facts (values per 100 g) of different types of Biryani.

Parameter	Biryani type				
	Vegetable	Fish	Prawn	Chicken	Mutton/ lamb
Carbohydrate (g)	37.8	33.9	32.6	31.7	29.6
Protein (g)	3.4	12.5	10.6	11.2	12.4
Fat (g)	2.4	5.4	6.5	7.6	9.8
Dietary fiber (g)	6.7	0.5	1.3	0.5	0.2
Energy value (kcal)	186.0	234.0	231.0	240.0	256.0

Source: Own study by MyFitnessPal, 2017



Biryani is part of traditional health systems aiming at deriving health benefits from the food eaten (Mazumdar, 2014). In fact, especially the vegetable Biryani is a healthy food, featuring grains, pulses and loads of vegetables, and also has good sensory features, with hot, tart, sweet and tangy flavours in exquisite balance. Besides having good taste and flavour, the spices added (saffron, ginger, cumin, garlic, onion, etc.) are valuable for their antioxidant properties, due to the content of phenolic compounds and flavonoids (Asdaq and Inamdar, 2010; Nuutila et al., 2003; Stoilova et al., 2007; Thippeswamy and Naidu, 2005). A welfare State's responsibility is to ensure an environment in which children can grow with good health and good education. Safe and nutritious food plays an essential role at this regard. Recently, in India, vegetable Biryani has been served to children at school. This initiative has been very appreciated by the children; therefore, it has been proposed to extend it to all the schools (GOI, 2013). Food trucks are part of the events where Biryani are sold to school children (EVHS ASB, 2016). Safe and clean cooking process should be made available to all, avoiding possibilities of contamination (GOI, 2013). In the recent past, meat Biryani and stale Biryani were found to be the causes of foodborne diseases in Hyderabad in 14% and 11% of the cases, respectively (Rao et al., 1989), demonstrating that this dish is quite common but also evidencing poor hygiene conditions in many cases. To avoid this, food producers, at any level, including catering services and retailers, have to follow the hazard analysis and critical control point (HACCP) food safety standards

Biryani Market: A Comparison with Fast Food

The extraordinary growth of the fast food industry has been driven by fundamental changes in the society (Schlosser, 2002). The non-economic factors that influence consumers demand are affordability, food safety, healthy and environmental features, and novelty (Taljaard et al., 2006). Fast food is considered as the empty calorie food, with the bulk of calories and fewer or no micronutrients. Globalization and urbanization impacted the routine intake of consumers towards fast food. Unhealthy behaviors involve consuming low quality fast foods and highly processed industrialized food, predominantly non-vegetarian, together with the consumption of alcoholic drinks (Shelar, 2016).

Photo 4. A roadside Biryani shop in Old Mahabalipuram Road (OMR) near Thoraipakkam, Chennai, India



Source: <http://www.nyindia.us/biryani-cart-nyc-review.html>



Biryani Market is consumer centric and this product is appreciated in many parts of the world. Contradictory to the fast food, preparing traditional local dishes takes a lot of time and patience. The preparation takes the whole night, Biryani must be cooked for several hours, and spice mixtures can contain over a dozen different ingredients. It is very slowly cooked and an experience by itself. Everything needs to be cooked at the right time to the right point, leading to a close attachment with food. Biryani needs care and effective processing for safe, healthy preparation than to consume. It is healthier than any junk food and young generation prefers to eat Biryani for its cooked meat in rice of homogenous flavor in aromatic meat broth, spices and sweet flavors (Sudershan and Subba Rao, 2008). Spice mixtures can sometimes lead to a gastronomic disaster, but the right combinations of herbs used recreate the precise architecture of flavor and even surpass previous levels of excellence by making the dish blend together, giving it a more all rounded balance, avoiding segregation layering and use of optimum time in cooking flame (Italia Sh, 2014).

Micro entrepreneurship development is the inbuilt benefit for the ever-growing market butted with population increase (Davids et al., 2013). As consumers prefer easily accessible, cheap, home cooked, commonly available food in close vicinity which can be delivered directly to work place or home; it would be advisable to turn Biryani into an entrepreneurial mode. In addition, the restaurant business model strategized to move toward direct customer with new technology, thereby becoming a new business (Rebecca et al., 2009). It is evident that the increase of food courts at malls, forecourts, airport and railway lounges and along freeways is driving growth of the organized Quick Service Restaurants (QSR) and dining segment. Investing in centralized cooking and supply chain facilities is critical to success in the QSR space as it ensures quality and consistency across outlets, and helps players reap the benefits of bulk procurement. There are also enormous growth opportunities for internet service providing companies to carry out reviews, location services, contact details, customer ratings and various other services for restaurant. Quick-serve restaurant (QSR) companies are in the business described as a specific category of chain restaurants where fast food is sold and consumed (Coitinho Delmuè et al., 2011). Fast food restaurant concept includes fast casual restaurants and catering trucks. Fast casual restaurants have higher sit-in ratios, offering a hybrid between counter-service typical at fast food restaurants and a traditional table service restaurant. Therefore, Biryani is served in all types of restaurants such as casual, QSR and street side dine outs (Figure 4) in various countries. Retailing generates connections with customers and business leading to construction and promotion of social networks their community. Economic recession downsizing has caused pressure on earnings, with the weakest exiting the industry. Being employed has created more fear in men and women explore possibilities and support to operate in more insecure locations, trade in less lucrative goods, and generate lower volumes of trade (Sulmont-Rossé et al., 2013, Mehta C.P, 2014). The level of income should commensurate with the level of investment, a kitchen-scale enterprise investment is small and consequently so will be the income, depending upon the popularity, quality, safety, competition, best-selling locations, travelling distances and time from the source to the selling location. The rise in trend of online ordering and app-based businesses contributes delivery services that could open up more prospects in the future.

Biryani Strength Points

Nutritious, well-balanced meals made with wholesome ingredients address a variety of healthier dining options as Biryani. There are numerous regional variations of the dish, but the overall flavor of the meal, make it the most memorable. The quality of rice and conditional soak of long grain basmati rice in all flavors make it to be soft and moist, pieces of mutton, soaked with fragrant whole spices, perfectly sealed and cooked together on low heat for hours – till the meat is tender and falls off the bone and the rice is fluffed up and soft, is more important than the meat itself (Joshi, 2017). Biryani is an affordable food borne out of a different ingredient, some unique and some shared with other parts of the world, which come together to make up a stunning cuisine of spice and flavor. Food parties indulge in a great selection of food items includes flavorsome appetizers, special curries along with a bread basket, and tasty Biryanis with long grain basmati rice. Food and agricultural commodities, urbanization, and population growth are major contributing factors which affect the high volatility of food price, as it is linked to financial, energy and agricultural markets growth (Coitinho Delmuè et al., 2011). The price of a Biryani portion depends more on the established reputation of



the restaurant than on the ingredients that go into it. Moreover, a social aspect of food consumption is that, while eating, people spend time with rejoicing and sharing with others (Hossain et al., 2015). Young people prefer to socialize in restaurants, roadside Biryani shops and others such as bakeries and ice cream parlors (Rajkala and Kumari, 2017) and, while craving for innovations in alternative foods, beverages and food substitutes, at the same time appreciate traditional foods. Biryani can ensure an enriched dine-out experience for customers, from restaurant discovery to reservation, by means of new tools such as online presence, online management of orders, bookings and payments, and targeted marketing (Anonymous, 2016). Easily reachable healthy fast food may provide vast choices to the health-conscious population reinforce the food market growth in the forthcoming years (Srivastava, 2017) followed by advertisement and promotions (Hebden et al., 2011) to boost the sales. At domestic level, learning about personal hygiene, food safety, cross-contamination, use of scales and equipment to weigh and measure accurately, understanding how to keep low the sugar, salt and oil content (Sudershan et al., 2008) and finally saving money, are parental concerns (Kumar et al., 2015), all required in Biryani preparation.

Micro Entrepreneurship Development

Micro entrepreneurs are quite unfamiliar with basic business practices (Terreiro da Costa Pedro, 2014), they perceive the risk as identification of strategies to reduce the downward fluctuations in their sales and replough their profits into business (Bloom et al., 2013). Actually, various food producers in fast food market have generated powerful competition amid the leading companies to mainly keep an attention on new food item development (Srivastava, 2017). Family support and encouragements are the facilitating factors which help to inspire entrepreneurship (Srivastava, 2013). The most successful popular foods are likely to be those that are based on or reflect the traditional cuisine in an area. Foods are distinguished by type and number of ingredients, ranging from simple to complex meals that contain many ingredients, and of which some require specific processing. The variety of utensils and equipment, namely earthenware or metal pots, vegetable and meat chopping cutlery, as well as facilities for washing and cooking, may be a challenge for a Micro entrepreneur. Economically, the relative prices of meat ingredients remain an important determinant of Biryani production in relation to alternatives. The entrepreneurial activity is now technology driven. With the advent of internet, the opportunities for reaching funding for startup business are strongly increased, especially for food sector. Technological advances in commercialization and funding, intelligent policies, and business-model innovation, allow to realize productivity improvements while creating more sustainable environments (Knupfer et al. 2015). Technology platforms enable users to order food for takeaway or delivery as downstream activities (Dawar, 2013). Restaurant business model caters to eat-at-home market as competitive advantage. The market provides a variety of food ordering platforms differentiated by factors from sourcing of the meal, ownership of the kitchen, to delivery logistics (Anonymous, 2016). In this segment, Internet First Restaurants do not have offline outlets and take orders and payments online. The majority of them support delivery services, including City of Boston where the Law Clinics are available to assist with any transactional legal needs such as advising on business formation, contract review, business permits, licensing, financing, confidentiality agreements, partnership; and trademarks (Boston, 2013). With growing urban relocation and the reduction in formal sector employment, selling through retailing has become a livelihood means for the urban poor people (Ray and Mishra, 2011).

Conclusions

Price-based competition exists within fast food establishments on various fronts such as, location, food quality, style and presentation and food range, hence they require capital infusion to support their growth. Varied new safer items can be frequently introduced with the use of social media to reach a wider range of consumers for marketing its brands and engage more on real time. The most important economic factors that influence the consumer's decision on food consumption are income per capita, price of dish in relation to other products as well as changes in the size and structure of the population. Downstream competitive advantage, resides outside the restaurant linkages with customers, channel partners and complementary. It is most often embedded in the processes for interacting with customer's safety, shaping customers' expectations, in



marketplace information, and in customer behavior for other downstream advantages related to amassing and deploying data for accumulative use. These conveniences created to consumers can position the Biryani as food product for a premium, in addition to the nutritional and healthy inertness it possesses. Biryani is not only available as street food, but also in elite restaurants. Anyhow, food market is very voluminous and has grown out of bounds, there are no real statistics available on records. Further, street food is an unorganized sector, mostly operating on cash basis instead of digital transactions, so the street vendors are not precisely accounted or taxed. As of now, the Biryani industry is stereotyped as a Muslim-owned and driven in elite segment. Even in street food segment Biryani market is predominantly owned by Muslims, yet some undereducated have taken this as a business and succeeded. Owing to massive educational upheaval, many young people are educated but there are not enough jobs for them. Therefore, these educated jobless or underpaid people could team together and innovatively do business, experimenting also new Biryani varieties such as chickpea, mushroom, white pork, etc., and above all taking advantage of new digital solutions applied to marketing, based on the skills they acquired during their studies. This paper thus shows that food industry can be a new perspective for reducing unemployment and promoting entrepreneurial development.

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