## ISSN No: 2249-894X

# Monthly Multidisciplinary Research Journal

# Review Of Research Journal

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#### RNI MAHMUL/2011/38595

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Review Of Research Journal is a multidisciplinary research journal, published monthly in English, Hindi & Marathi Language. All research papers submitted to the journal will be double - blind peer reviewed referred by members of the editorial Board readers will include investigator in universities, research institutes government and industry with research interest in the general subjects.

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### Review Of Research



Volume - 6 | Issue - 9 | June - 2017

# CONSUMER BEHAVIOR AND CONSUMPTION PATTERN IN SUGAR SECTORS.

#### Jogdankar Haridas B.

Assist. Prof. in Commerce & HOD. Business Economics, JASC, College, Affiliated Dr. BAMU, Aurangabad.



#### ABSTRACT:

he paper examines, firstly, the connection among sugar production, sugar utilization and populace number. Besides, it highlights the connection between sugar utilization and the heaviness of sugar and ice cream parlor buyer use in the nourishment and non-mixed refreshments customer consumption class and in addition in extra cash. Two frameworks of nations were proposed in light of the sugar utilization and the heaviness of sugar and candy store customer consumption in the nourishment and non-mixed refreshments buyer use classification and in discretionary cash flow levels. Thirdly, an examination of sugar generation, sugar utilization and populace number flow of four most important nations was made, alongside testing the connection among sugar creation, sugar utilization, and populace number development/decrease rates.

KEYWORDS: Consumer Behavior, Consumption Pattern, sugar production.



#### **INTRODUCTION**

Sugar is one of the best-known food products and it is consumed daily by many living organisms, including the individual. It is across the board in nature, and it can be found in creatures' blood, crude nourishment, for example, nectar, vegetables, organic products, seeds, and so forth. (Clarke, 1993) and in addition in prepared nourishment, for example sugar dessert shop, alcoholic and non-mixed drinks, e.g. unfermented sugar in wine, squeezed apple (Gupta, Singh and Thakur, 2009), and so forth.

Sugar is predominantly delivered from sugarcane and sugarbeet, yet in littler amounts likewise from palm, millet, sorghum, maple, dates, carob, grapes, and so forth. (Yudkin, 2013).

Sugarcane was utilized to deliver sugar around 2500 years prior in India and China. It appears that its starting points are in India and New Guinea and was gotten Europe and different areas by Alexander the Great in 325 BC (James, 2004).

Sugarcane is developed in tropical and subtropical districts between around 350 scope north and 350

scope south of the equator, in nations, for example, India, China, Brazil, Pakistan, the United States, Thailand, Mexico, Argentina, Jamaica, Cuba, Puerto Rico, South Africa, Egypt, Australia, and so on. (Yadav, Jain and Rai, 2011). Its fundamental parts are water (70-72%), strands (12.5-17.5%) and sugars (11-14%, for example, sucrose, dextrose and fructose (Panda, 2011).

There are distinctive sugarcane assortments, however some present day sugarcane assortments with enhanced attributes (sickness resistance) gotten by hybridization are transcendently utilized (Ramdoyal and Badaloo, 2002).

These days, sugarcane is utilized to deliver sugar, as well as to acquire biomass for vitality, alongside sorghum and maize, because of its high photosynthetic productivity (Johnson and Batidzirai, 2012).

Sugarbeet development has developed in significance since 1747, when sucrose was found in sugarbeet by the German scientific expert Andreas Marggraf. From there on, different researchers have grown new strategies to remove the sugar from sugarbeet and have expanded them at a mechanical level. The principle parts of sugarbeet are water (75%), sucrose (17.5%), pectin (2.4%), and cellulose (1.2%) (Asadi, 2007; Organization for Economic Co-operation and Development, 2006).

Sugarbeet develops in mild zones and it can adjust to chilly and warm atmospheres (in 2007 the tropical sugarbeet was presented in India). In this way, it is developed in nations, for example, European Union expresses, the United States, Russia, Ukraine, Turkey, China, Israel, Japan, Morocco, Pakistan, Iran, Egypt, India, and so forth. (Asadi, 2007; El Bassam, 2010).

The buildups from the sugar business which forms the sugarbeet are bound for creature nourish, yeast, amino corrosive and ethanol generation, and so forth., and furthermore to be changed into biogas to cover the sugar plants or potentially nations' vitality needs (Ortner, Drosg, Stoyanova and Bochmann, 2013).

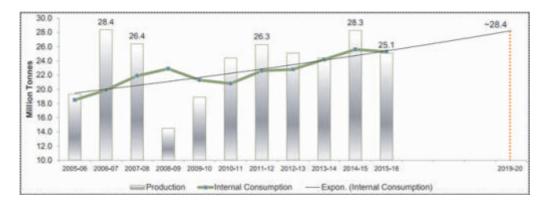
Nonetheless, there are nations that have fitting climatic conditions for the development of both sugarcane and sugarbeet, for example Spain, Pakistan, Marocco, Iran, Egypt, the United States, and so on. (Asadi, 2007).

Both regular and natural horticulture is utilized for sugarcane and sugarbeet generation. The principal natural creation of sugarcane was begun in Mauritius, Madagascar, India, the Philippines, Argentina, and so on and, on account of sugarbeet, in Chile, Sweden, Switzerland, United Kingdom, Denmark, and so on. (Cheesman, 2004).

Contingent upon the refining procedure, sugar contains in the vicinity of 96% and 99% sucrose, which is additionally its concoction name (Belitz, Grosch and Schieberle 2004; Davidson, 2014). Sucrose is a non-decreasing disaccharide which is comprised of fructose and glucose (dextrose), two lessening monosaccharides (Edwards, 2000).

There are distinctive sorts of sugar as per refining grade (crude and refined sugar), shading (white and dark colored sugar), consistency (strong and fluid sugar), precious stone size (protecting, granulated, caster, icing, confection, and grain sugar), and so on. (Belitz, Grosch and Schieberle 2004; Davidson, 2014; Sizer and Whitney, 2014).

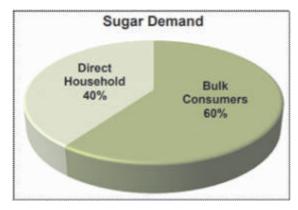
#### Indian Sugar Production & Consumption



- Even though the real consumption is increasing y-o-y due to various factors
- There has been fluctuations in consumption as it is derived from production and change in inventory, not on real consumption data

#### Consumption Pattern of Sugar in India

- Two major sources of sugar demand Bulk Buyers & Direct Household
- Supply is linked to domestic sugar production, imports and exports
- Contrary to the public perception, the price impact on inflation and monthly household budget is minimal as bulk of sugar is consumed indirectly.



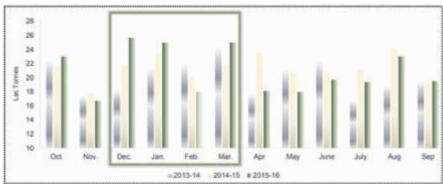
- All India per capita Direct Household Consumption of sugar is estimated at 804 gms/month
- As the % consumption of sugar in monthly household is only 2-3%, an increase of sugar price of Rs. 5/kg in a month, will have only an impact of 0.5% on the overall food budget of any household

Item	Rural	Urban	% of total food - Rural	% of total food - Urban
Cereals & Pulses	196	229	26	20
Milk, egg etc	183	280	24	25
Vegetables, fruits etc.	136	212	18	19
Edible oil	53	70	7	6
Sugar	21	25	3	2
Salt & spices	55	69	7	6
Beverages etc	113	236	15	21
Total Food	756	1121	100	100

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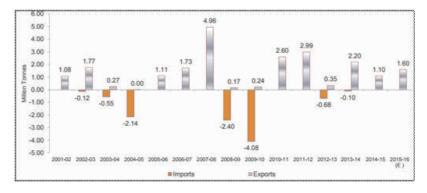
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#### Month-wise Domestic Sales



- Common Perception Demand is high during festive season Oct Nov
  - In reality, domestic sales is highest between Dec Mar due to:
  - Institutional buyers purchase sugar in preparation for the summer season
  - + Sugar mills sell more sugar in order to clear cane payments
- Two major sources of sugar demand Bulk Buyers & Direct Household
- Supply is linked to domestic sugar production, imports and exports
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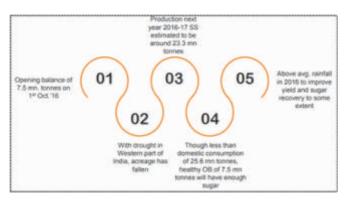
#### India off & on an Exporter or Importer



• Climatic variables and sugarcane valuing strategy brings about uneven sugarcane generation making India a conflicting exporter or shipper

• Being the biggest customer and conflicting exporter or merchant, India is one of the key influencers in worldwide sugar value development

#### Sugar Situation in Coming Years Situation in SS 2016-17



- Cane range the nation over will be greatly improved, due to:
  - + Better rainstorm and water accessibility in repositories
  - + Possibility of higher and auspicious stick value installments due to solid rivalry among mill operators in SS 2016-17
- Better yields and recuperation
  - + Due to more territory under 15 and 18 month crops
  - + Better care of product including water system, by agriculturists
- No other crop giving proportional returns
  - + In fact, despite arrears, farmers are as yet developing "excess" sugarcane
  - + Now with better and convenient installments, they will build zone further
- Experts feel return of guard/surplus stick edit in SS 2017-18
  - + OB assessed at 5.2 mn. tons for 2017-18 yet supply from new season will be sufficient to meet the shortage in Q1 of SS 2017-18

#### India's Retail price v/s other key countries (USD/ton)

Country	2014	2015	2016
USA	1343	1441	1429
Philippines	1131	1175	1200
Brazil	840	584	802
Mexico	688	665	685
Russia	960	870	680
Thailand	673	606	658
India	573	474	560

India has the lowest retail price of sugar in comparison to other key sugar consuming countries.

#### Business Roadmap 2017

Business Roadmap 2017 aims at transforming the sector to unlock its potential by realizing the key opportunities by 2017. Transformation opportunities are critical for achieving the vision, and are also largely

untapped.

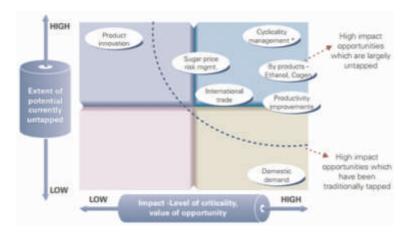


Figure 1: Opportunity matrix - Transformation opportunities

#### Cyclicality management opportunity

The sugar sector is affected by instigated cyclicality, since high sugar and sugarcane costs prompt increment underway at the cost of different harvests. The subsequent low costs for sugar affect the capacity of factories to pay the ranchers, along these lines prompting formation of back payments. High unpaid debts prompt a critical fall in stick development in the following year, prompting high sugar costs and expanded allure of stick.

Cyclicality administration is the chance to limit unpaid debts, along these lines diminishing the requirement for any monetary help from the legislature. The expulsion of overdue debts would likewise evacuate prompted cyclicality; in this manner decreasing the frequency of surplus and deficiency creation stages. Monetarily, this would convert into diminishing the occurrence of abundance stock develop in surplus stages and the requirement for possibly exorbitant imports and government bolster amid shortage stages.

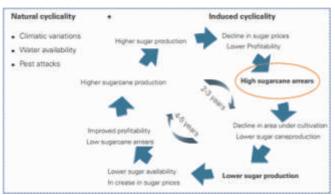


Figure 4: Arrears - The link to induced cyclicality

Thus, ensuring the alignment between sugarcane and sugar prices would be the key policy imperative for managing cyclicality.

#### Domestic demand opportunity

In 2007, the household sugar utilization is assessed to be 19.5 million MT. It is normal that the drivers for utilization i.e. the GDP development and populace development would keep on growing at current rates. In view of the previous ten years' development in utilization and evaluations from different free sources, it is normal that in 2017, the household sugar utilization would be roughly 28.5 million MT. Given the high cost of imports and the key significance of sustenance security, India would need to focus on its creation in overabundance of household

utilization. Given the past pattern underway cyclicality, sugar identical to 1.5 months of utilization i.e. an extra 3.5 million MT of sugar would should be delivered by 2017.

#### International trade opportunity

Universal exchange is of key significance to India as it can help keep up dependability in the local market, notwithstanding the cyclicality underway. In the event that there is a sugar surplus either because of overabundance creation or because of more prominent financial engaging quality of stick for ethanol and cogen later on, fares could be utilized if the surplus can't be overseen in the residential market. Adequacy as a trustworthy exporter will give the Indian area a substitute arrangement of business sectors for redirecting surplus creation. So also, if there should arise an occurrence of shortfalls, crude sugar imports could help connect the supply crevice.

India can possibly fare to real Indian Ocean markets, because of cargo intensity concerning key contenders, Brazil and Thailand. With EU sends out diminishing by 4.5 million MT, world costs per MT of sugar are relied upon to 10 increment in the scope of USD 50 to USD 100 . This could possibly make sends out more reasonable for India. Be that as it may, because of the expanding development of goal refineries, key markets are bringing in more prominent offer of crude sugar, and India's intensity for crude fares is generally lower starting today. At present, India's aggressiveness is higher in business sectors, where offer of white sugar imports as rate of total imports is higher. Going ahead, India would need to construct the ability to deliver crude sugar and refined sugar of universal quality norms, so as to use the fare opportunity.

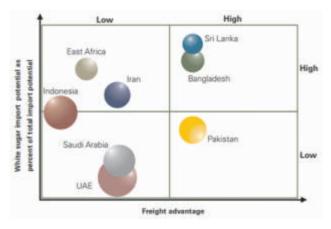


Figure 5: India's export potential to target markets (2017)'

The objective markets are assessed to import 10 million MT of sugar by 2017. India would have the capacity to use this open door through efficiency upgrades and arrangement of stick and sugar costs in the household advertise. India's intensity can likewise be expanded by improving fare foundation like stacking rates and draft in Indian ports. Since the present cost structure of the Indian business is uncompetitive for trades, if there should arise an occurrence of an extensive sugar overflow, the administration could consider utilizing WTO consistent appropriations to empower sends out while making steadiness in the household advertise. The business could likewise investigate methods for all things considered sharing misfortunes because of fares, assuming any, since fares would empower bring down stocks in the local market, accordingly profiting both factories and ranchers through higher sugar acknowledgment.

#### PRODUCTIVITY IMPROVEMENT OPPORTUNITY

Given the anticipated development in residential and global markets, the segment would need to create no less than 28.5 million MT of sugar by 2017. Increment in sugar generation would be fundamentally through profitability upgrades and augmentation in processing limit of existing factories.

The segment can possibly enhance sugarcane yields by 10 percent and furthermore enhance the

recuperation by 50 premise focuses by 2017. This would empower the part to create extra 4.1 million MT of sugar. Expecting steady drawal, to take care of the focused on demand, the region under stick would need to increment by 0.2 million hectares. This would be conceivable by better use of existing stick divided ranges. This would likewise guarantee insignificant effect on different yields. A higher drawal or more noteworthy increment in cultivate profitability will likewise empower the objective request to be met, with no expansion in stick real esatate. With a specific end goal to squash the extra stick, the devastating limit would need to increment by 0.23 million TCD by 2017. This can be met through development of the current units as opposed to new plants being built up.

#### SUGAR PRICE RISK MANAGEMENT OPPORTUNITY

Seasonal production of sugar alongside year long utilization, brings about expansive stock. Such vast stock in an unstable value condition causes high sugar value hazard for the division. The aggregate estimation of sugar stock at chance over a year at 95 17 percent certainty interim is evaluated at around INR 3,000 crore.

A reasonable item trade for sugar would be basic for viable supporting and value chance administration. The potential, effect and speculations identified with the different open doors are compressed beneath.

#### Summary of opportunities.

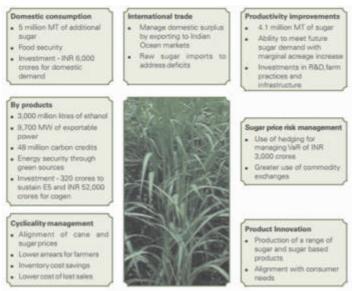


Figure 3: Summary of opportunities

#### Appropriate policy environment features

would need to secure ranchers and empower process suitability and division engaging quality. It would likewise need to adjust insurance of buyer interests with the current utilization design. To encourage the acknowledgment of the open doors, the advanced strategy condition would need to:

- Ensure level playing field
- Ensure proficient use of assets Incentivize productivity and yields
- Strengthen rancher mill operator relationship
- Reduce cyclicality and guarantee better administration of downturns
- Ensure better sugar value hazard administration instruments
- Enable more prominent linkage with universal market

#### INDIAN SUGAR INDUSTRY

Sugar is a sector of significant importance to the national economy. While utilization has been

developing verifiably, the creation has been patterned. At exhibit, the sugar business is controlled over the esteem chain. Interests in side-effects are at a beginning stage, and the area has attempted to create an arrival on put capital in overabundance of its cost of capital in many years, fundamentally because of a high ordered settled stick cost and an unstable sugar cost.

Sugarcane is fundamentally developed in nine conditions of India: Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Maharashtra, Punjab, Uttar Pradesh and Tamil Nadu. More than 50 million agriculturists and their families are reliant on sugarcane for their business. The sugar business takes into account an expected 12 percent of rustic populace in these nine states through immediate and circuitous work. Viably, every rancher 19 adds to the generation of 2.9 MT of sugar each year.

Notwithstanding ranchers, an expected 0.5 million specialists are straightforwardly utilized as farming work required in development and reaping. The sugar business likewise underpins broadened subordinate exercises and abilities that help the nearby economy. The needy populace makes significant interest for neighborhood merchandise and ventures.

#### **CONCLUSION:**

An examination of sugar generation, sugar utilization and populace number flow of four most important nations was made, alongside testing the connection among sugar creation, sugar utilization, and populace number development/decrease rates. India has the lowest retail price of sugar in comparison to other key sugar consuming countries.

The sugar sector is affected by instigated cyclicality, since high sugar and sugarcane costs prompt increment underway at the cost of different harvests. Given the past pattern underway cyclicality, sugar identical to 1.5 months of utilization i.e. an extra 3.5 million MT of sugar would should be delivered by 2017.

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