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A STUDY ON VARIABLES (LIKE FINANCE (F), SOCIAL (S), GEOGRAPHY (G)) TO FINDING OUT FINANCING POSSIBILITIES AT FAMILY-SETTING OF INDIVIDUAL HOUSEHOLD, LEADING TO FSG MODEL WITH SEVERAL CIVIL INFRASTRUCTURAL IMPROVEMENTS

S. Christina Sheela[1,a,*], S Sriranjani Mokshagundam[1,b], Jalaja Enamala[2,a,*], Rajani H Pillai[2,b], S. Malini[2,c,*], Prasanta Biswas[3,*]

[1,a]Associate Professor, Department of Management, Gnanam School of Business (Affiliated to Anna University), Thanjavur, Chennai, 613402, India (Orcid: https://orcid.org/0000-0001-5262-9490).
[1,b]Professor, Department of Management, BGS B-School - Affiliated to Bangalore University, Karnataka, India.
[2,a]Professor, Department of Management, Noble PG College - Affllliated to Osmania University, Hyderabad, India
[2,b]Assistant Professor, School of Commerce, Mount Carmel College (Autonomous), Bengaluru, India.
[2,c]Visiting Faculty and Superintendent, Centre for Distance Education, Anna University, Tamilnadu, India
[3]EMBA Passout, Great Lakes Institute Of Management, Gurugram, India
[*]Corresponding Author.

ABSTRACT
In a given locality, families living with finance and social status are herein taken into an analysis for locating the living or financing status, though developing a modeling by various approaches. Such status named by FSG in this present study, is symbolized by finance (F), Social (S) and Geography (G) for each and every family. Networking among households gets thereby formed upon finding an interaction between or among families, by FSG, and this network further leads to generation of a modelling, called by FSG modeling in this study. Expressed as theoretical study entirely, it has various usefulnesses to crop up entirety of a locality with regard to F, S and G features or variables, to know one family's interaction or FSG status (as an effect) upon another family. How a locality is equipped with by present resources (by F,S,G indeed) as available to or how it should be maneuvered to or many such fortunes can be described well by the study's FSG modelling. It should solve complexity in organizing among families onto their (FSG) distribution agendas or various marketing propositions or insights to bring in alongwith giving scopes of future research to be a doing-for aspect for a country's mankind.

KEYWORDS: Business scopes, Consumption, Cutting-edge management, Economic status integration, Household saving, Income, Marketing Strategy.

INTRODUCTION
"Consumption is a habit that every human garners it as a need, sometimes more of it (need or habit!)" – this is the theme of this paper. Consumption has always been the practice human is usually faced with to combat needfulness. This is continuously a fight over saving for a given income or economy.
With current features, any country has its own challenges over trend of food consumption and it is a crucial measure to balance agriculture with food demand[1]. There is always to be a fight over elasticity of income with consumption of food[2]. This elasticity is not an easy task to anticipate or estimate and there would be a different picture for different countries. For a given demography, as income is not constant with time, there does exist a turbulence of it, that is, changes in consumption in any life-style psychology with income variability and other economic factors[3]. Over various debts or monetary outflows, consumption expenditure does although get hurt over a pre-occupied perception of expense or saving[4]. This disparity (about a given economy) of consumption

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practice provides a direct threat to consumer group or society[5]. It is a natural phenomenon. From ancestral practices of human being, if we see, it would show how consumption rate or pattern had changed over the time[6]. It could definitely reflect on income changes, as the direct cause for such disparity and income changes are functional to consumption changes or vice-versa. A national repository of any country across globe could indicate this well to have a comparative difference across the continents – this means correlation between income and consumption should vary across territory[7]. However, pursuit to saving over a given income gets improved and damaged respectively on income and consumption variability[8],[9] and this provides to each household an unaccountable perception, on household economy, to survive or better living. In a way of expression, this scenario may be termed as a behaviour of consumption or saving to fulfill various psychological pursuits or needs and it should be on both the entity – income and consumption or income and economy or consumption and economy. These entities must have to be taken care of[10]. This present study is about making a joint integrity among such various entities at domestic setup of income and consumption or consumption or saving. Once a joint integrity is possible, there will unlikely to form up or exist a disparity or inequality of (distribution of) income or consumption. This study would bring in insights to the fore of how a good distribution can be set or constructed over income and consumption, on an integrated way. However, to remain in a good well-being of the distribution is always a dream of achievement at socio-economic setting[11]. In various countries, distinction between poor and affluent people is always to be a matter of learning[12], with infrastructural indications from town planning to standard of economy or (domestic) living, from pediatric clinics to rise in numbers to higher levels of motivations. In fact, this is after all possible once a good balance is maintained between consumption and saving for a given (domestic) household[13].

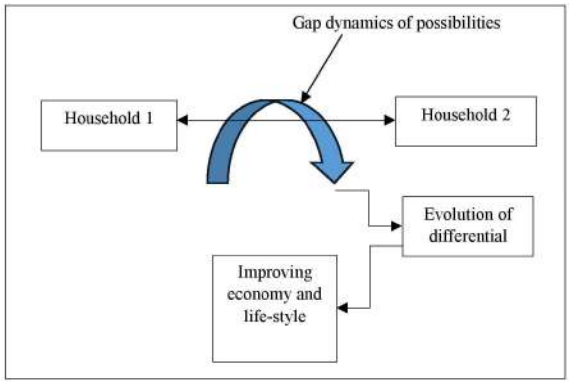

Figure 1: Vantage of differentials of domestic household economy

There could be a number of possibilities, of changes in consumption with changes in income, such as income constant and consumption changing or income changing and consumption constant or consumption constant and income changing or consumption changing and income constant or both consumption and income constant or both consumption and income changing or varying. Each of the possibility which has its own definition, demography or economy and applicability, should indicate or reflect of level of economy at a given territory or geographical location of household[14]. From such reflection, a degree of distribution of resources or needs to living or survival would be possible to be determined, resulting to design a business marketing prospect against a given households (Figure 1). The possibilities would also entail an enhancement from one to the others[15]. This enhancement is qualifying to a level of economy that is reflective of prospect[16].

Above mentioned prospect by the possibility is to be manifested by several players of business management, from improving perception biases or advertising standard[17] to sales level (break point sales or else) of a given product applicable to a given territory defined by number of households[18]. So, a territorial location subjected by one of the possibilities, in a socio-economic setting, would explore (differential) possibilities of revenue growth or more business management over the differential gap cross households on financial saving or income

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or consumption.

Thereby, from above discussions it is self-expressive to declare that any given territorial location, in a social setting, consisting of number of households must be in an advantageous situation over the differential gap. And, a marketer should explore that (vantages) until competitive and/or business cutting edges are fulfilled by business objective so as to a more growth of life-style or economy to bring up is possible. Figure 1 has explained the possibilities for two households who are in an integrity to each other at a given territory. Over the gap between two households, a better and improving economy is possible by analyzing differential existing between the households. This improving economy will keep improving itself over improvement of two households done by it. In this way, a territory of number of households in a form of network of households could be exploited to in a right direction or use of business management in its all branches like marketing, strategy, supply chain, operations and research financial management, human resources management, etc.

We all know that consumption of a product/service depends on demography on social setting. Marketing psychology must enhance on "status" consumption with corrective effectiveness[19]. Because, with rise in income consumption usually increases, leading to a shift to luxury or status consumption from chief consumables. This is although one of the mentioned possibilities. Again, an adequacy of income results to a recognition of purchase making; until adequacy is not earned, consumption can't start on[20].

A modeling, coined by FS, is hereby given as the study's methodology to explain this. Such FSG model would also deliver infrastructural possibility/movement through it, effected by marketing/financing potential. There might be a common dilemma of decision making over the symbiosis and this is – income based consumption or consumption based income. Inequality in income and consumption is to be general reflection of the symbiosis in every country across globe. Of psychology like between permissibility and necessity on purchasing marketing/financial items, there is a lot of research required to be done to acquire flexibility or rigidity of the psychology[21]. There are consumptions which always happen to get found in instances like conspicuous nature of purchasing items, human nature of marketing psychology, pros cons of business objectives etc and etc. This shows a very clear picture that non-distribution or correct diagnosis of the symbiosis mentioned above needs to be evaluated or assessed for a given place of country, on the purview of effective corrections or measures.

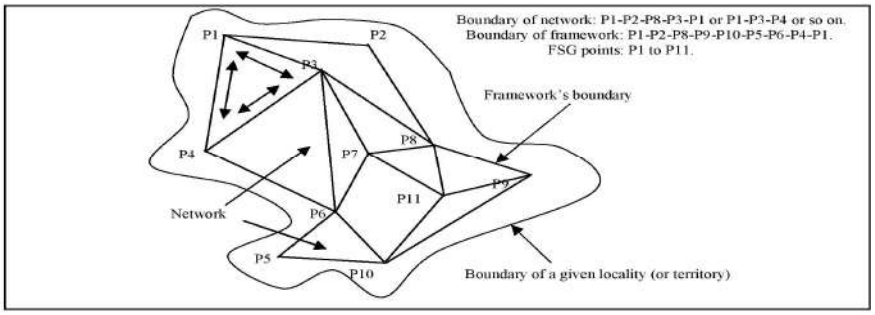

Figure 2: Skeleton of a framework subjected to FSG

Life-cycle of consumption does also play another role over income changes[22]. It is more of a subjective discussion when income uncertainty attaches to the life-cycle for household living in society[23]. It is thereforth quite evident that a place be better known, the place be better marketable/financeable with lesser degree of anonymity/non-uniformity in the symbiosis distribution.

Methodological backgrounds of the study

Often, it is found that households with various financial parameters like income (i), consumption (c), saving (s), deficit (d), etc. do exist or spread across in a non-uniform pattern or simply in a fragment in a territory, even in a developed locality or township. This means that at a given place there is always found a mix of households having different levels of symbiosis definition. There needs to be a gradation of households over their income-

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consumption symbiosis and those graded households should be in or within a cluster in the place or locality.

Table 1: FSG and its applications

Geo-Socio-Fin (FSG) Item^	Description	Study implication
Geographical (G)	It pertains to locational geographies.	It means in the study about habitat of an individual or a family.
Social (S)	It deals with various factors like age, religion, sex, occupation, education, culture, status, life-style, politically influencing etc.	It means in the study about the level at which an individual (or a family) is earning.
Finance (F)	It indicates various indicators like income, consumption etc.	It means in the study about consumption level that an individual (each family) is spending.

^S is kept in middle as it controls both F and G. An increase in income is said to cause a rise in consumption first and then habitat perfectness/style to change - this should result to as F-S-G.

No household should belong to a place not justified or defined by properly, based on the symbiosis. So, to construct a universal system of modelling to integrate a given locality to respond to same rhythm (to purchase making or lifestyle exposure or habits etc.), an integrated "systematic" approach is essential. This present study would be one to explain it, in a modelling (FSG) construction sense.

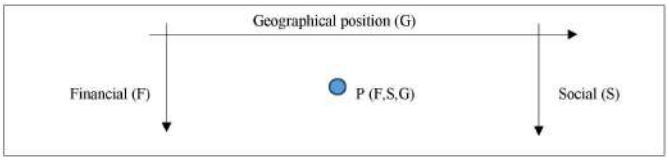

Figure 3: Directional dimension and pointing mapping

Basically, the study would involve three variables, namely F, S and G, explained in Table 1 and 2. Let's consider that in a given locality (township/village/municipal ward), there should be a number of families residing; each family should constitute of three kinds of data F, S and G (simply, FSG). Figure 2 shows a typical locality on plan view. Each point P1, P2 etc. is a family constituted with data bearing F, S and G. As G is implied into, so it's easily recognizable that pointing of families such as P1, P2 etc. is possible by use of co-ordinate geometry (Figure 3). Points forming network and networks to form an entire skeleton which is the framework for a given locality to be studied for FSG status and its dynamics are shown in Figure 2. However, FSG data against each point P1, P2 etc. can be taken forth to model a locality's FSG framing to show FSG status alongwith variability of occurrence of F, S and G variables. The study's modelling would construct it (FSGs) establish how a given locality could be revealed by its FSG status as of present or towards a future time ahead. Such a modelling would cause a given locality's framework to respond over other families FSG status. The modelling determinations are given in methodology segment afterwards, by including several approaches of new kind. Modellings are so flexible that they are easily compatible to transformation into software-based navigation and controlling, even on real-time basis for any given location. This should bring in lot of control in business as well as economy standard. In all, the study would ultimately come out with several future pursuits go with and get accomplished by.

Table 2: FSG and category of item^

Item	Category	Sub-Category	Relates to
Finance	F	Finance based such as Income (i), Consumption (c), Saving (s), Deficit (d) etc.	Family's earning
Social	S	Demography based such as age, education, sex, occupation etc.	Family's demography
Geography	G	Location based like Latitude, Longitude, Landmark, Terrain, Vegetation cover, Population density, Various objects like river, road, canal, open land etc.	Habitat location of family

^item of FSG should be family-wise, meaning a family's better representative than an individual/inhabitant.

Novelty of the research

It is its applications. The study ultimately defined by FSG modelling would be able to delineate a prospect of locality by diminishing inequality, to all regards – financial management or better marketing proposition,

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consumption forecasting or anticipation, good use of income over consumption, better scopes to marketing as well as financial researches, a better platform to showcase affordable and adequate consumables etc. A place networked under by FSG modelling would be at its best to deliver a good management networking from marketer or financing institutions to consumers or households. Also, infrastructural valuation of a place may be improved over such modelling perspective. Rationally, a rapidly changing place (over consumption or income) is to be more easily reckonable than slowly or moderately changing one. With these, present research of this study would be, to the most, beneficial to a nation's economy upholding. Objectives of the study includes the following-
Briefly,

- To determine an integrated networking of families by FSG.
- To indicate inter-responses between families.
- To determine dependency of a family on other families, by FSG, by modelling.

Broadly,

- In a given locality, how to position F, S and G together against domestic families!
- What concepts to be taken to FSG modelling determination!
- How to control positional complexity for F, S and G!
- What measures would be sufficiently able to investigate dynamics/movement in FSG framework!

METHODOLOGY

It should be an entire stability at a locality not only by finance management only but also other subjects like marketing, supply chain, operation and strategic management and many more. In fact, various infrastructural decisions may partake with kind of economic study[24]. Already introduced that there shall be various demographics (that may be of diverse character at a locality) at background of people which should be brought into the methodology of study as well, as economy of people is often found as eaten by that[25]. This present study doesn't want an exclusion of that indeed.
In a demography, variability in income across families in a locality should exist and it should have positive and negative effects on people or (social) demography[26]. And, there might have variety of experiences at a social setting owing to an effect of that[27].Also, several others like[28] or[29] or[30] may be present as well. Special factors like conspicuous consumption[31], pandemic outbursts[32],[33] should be also taken with due care in making a study consisting of them like income, saving etc. This present study is done well with such incorporation abilities of socio-demography factors.

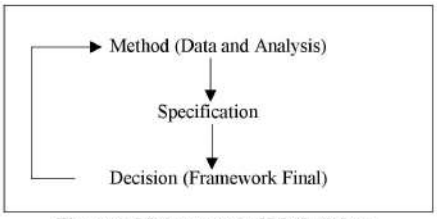

Figure 4: Management of Methodology

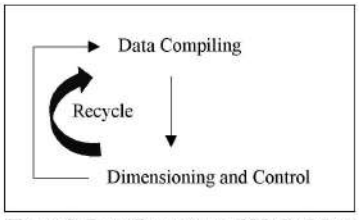

Figure 5: Recycling nature of Methodology

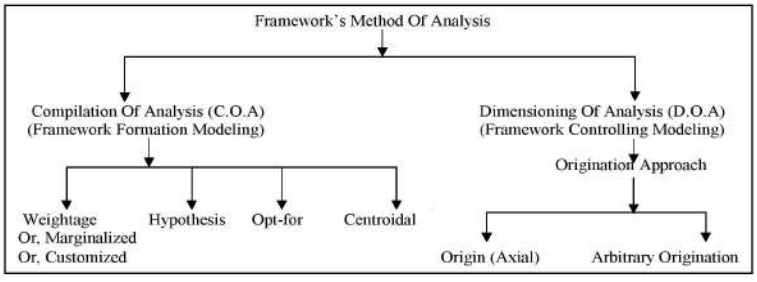

Figure 6: Kinds of construction and analysis of framework

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This study starts with a goal of forming up a framework modelling by integrity among all families in a locality. The framework which would be representative of a locality by FSG could be plotted by a simple co-ordinate application as shown by Figure 3. Once all FSGs are set up and finalized to a framework "final", then next step of methodology comes to how to control the framework. Usually, a systematic management is to be followed with from data collection through methodology or approach implementation to final decision making via specification of data or process (Figure 4).

Table 3: Framework Analyses and modellings

Sl.	Kind of method	Nature of modelling coming out	Detailing	Number of approaches
1	Compilation Of Analysis (C.O.A)^	Framework Formation Modelling	It is the method that narrates down how a framework, consisting of several circles or points (or, networks), must be formed.	4 (Weightage, Centroidal, Hypothesis, Opt-for)
			Circles or points of framework are defined *primarily* so as to form a framework.	
2	Dimensioning Of Analysis (D.O.A)^	Framework Controlling Modelling	It is the method in which entire framework is measured by dimensional lengths, using an axial/arbitration/design.	2 (Origin (Axial), Arbitrary Origination)
			Distance between points is determined here.	
			Control over points or an entire framework is also attained with.	
			Circles or points of framework are corrected *dimensionally* over *primarily* taken circles or points in C.O.A., so as to finalize a framework.	

^controlling is to be at higher stage of motivation than formation of framework.

Table 4: Concept and Method of framing of framework

Framing and Analysis	Before Framing (Compilation)	After Framing (Dimensioning)
Function	Compilation of Item; On or during framework construction.	Dimension's design and controlling; After framework's construction is finished.
Method	Compilation Of Analysis (C.O.A)	Dimensioning Of Analysis (D.O.A)
Approach	Weightage, Centroidal, Hypothesis, Opt-for	Origin (Axial), Arbitrary Origination
Purpose	To analyse how to construct only.	To analyse how to design and control.

It is common and mentioned for a guidance purpose of the study as well. The study also would undergo similar style of management by executing two steps of process - one is compilation and another is dimensioning to final decision making (Figure 5). Each of these two processes is a modelling of the study. These twos are C.O.A and D.O.A as shown in detail by Figure 6, Table 3 and Table 4.

Note A: Collection of various FSG data can be accomplished by efforts like questionnaire or survey works or tabulation like Table 5. Each sub-category, in particular, should be plotted based on such efforts to construct framework, of families at a given locality. So, this is the way to take FSG data into framework construction and subsequent analyses.

Table 5: Illustrative FSG Tabulation

Sl.	Item (Sub-Category)	Category of item	Unique set of status values belonging to individual inhabitant (as head-person of)				
			Family 1	Family 2	Family 3	…	Family n-th
1	Income	Finance (F)				…	
2	Consumption					…	
3	Saving					…	
4	Deficit					…	
5	Variability (frequency), unit time					…	
1	Social Status	Social (S)				…	
2	Occupation					…	
3	Age/Religion					…	
4	Education					…	
5	Life Expectancy					…	
1	Latitude and Longitude	Geography				…	

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2	Area of house/habitat	(G)				…	
3	Vegetation cover					…	
4	Occupation / Number of dependents					…	
5	Agricultural land (owned/self)					…	

Let's explain C.O.A and D.O.A in the following –

Explanation of C.O.A

Each of C.O.A approaches (or methods) would clarify a positional status of FSG variables in a given locality. Term "positional status" is to be used here because of integrated effect that acts onto all FSG points by considering FSG points in a network of framework. Again, position of one inhabitant or individual family on co-ordinate geometry is required to be analyzed or decided with respect to all other inhabitant of families associated with it in the framework's network. This way of network responsiveness and its culmination into forming a total integrity by each and every inhabitant or family is to be the best procedure to determine a positional status which will facilitate not only an individual's position correctly (at FSG setting) but also should act as *mutual regulation (or interaction)* in determining or controlling the positional status.

Each D.O.A approaches would explain dimensional measure to the framework. This measure may be distance or length or even a force or a twisting moment. Tabulations or figures related with C.O.A have been given in Appendices (Appendix 1 and Appendix 2) and D.O.A in Annexures (Annexure 1 and Annexure 2).

A basic assumption is that no inhabitant or families should be existing at all without mutual regulation to others - this regulation is the driving force to network or framework formation and integrity. As introduced by term "mutual regulation", FSG status of each family or inhabitant should be of variability by nature, over theirs' integrated network formation by the mutual sharing of data like F, S and G. This variability in addition to own changes in FSG to each family. This means that one family is in a connection with other families by data of F, S and G. Once such connection is presumed or made, then flows of information of FSG data are deemed to be happened through networks so formed in a framework. Such flow or regulation or interaction is sometimes spontaneous by nature or sometimes need to be constructed or built artificially by management, suitably. This regulation or interaction is highly important to improve a locality's FSG status entirely.

Approach 1 – Weightage Approach

Over mutual regulations of flows of data information, a positional status for constructing modelling of FSG and its variability concern is required for FSGs across all families in a locality. Figure 3 has shown it to how to plot FSG for a given family or individual or inhabitant. In a given locality, there should be a continuum (by magnitude) of FSGs among all families. This continuum is represented by Weightage of each family against other families in the mutual regulation.

Further, this study has considered a ranking corresponding to weightage, as mentioned above. This means that there should be a predictability standard or such about which a weightage should happen. This standard is termed as Ranking. Thus, this approach concludes with a culmination of weightage and ranking, leading to a modelling. Figure V.1 has shown with a layout matrix between weightage and ranking. As this is an axial field over co-ordinate geometry, this field, termed as net value or simply, net, will represent a data as outcome. This outcome would be used for a transformation of given FSG value. This means such a net if taken as a guiding one, should be termed as an index value or net "index" value. Term "index" defines to a basis or standard kind or nature that propels an existing value to a desired one. As obtained by four divisions of net or field, each color-net would show a behavior of (index-value) data over their variability. This figure, as a core, is hereby said to be acting as a basic layout to formulate modellings of the study as well, which is called as V.I.M.

However, there should be a basis to consider weightage and ranking for FSG data. For information, all values by numerical magnitude can reside on or be found in any field or net variably but also be presentable on other axial patterns apart from the one so shown in Figure V.1. This is called as net dynamics.

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As the figure gives layout of data concerned, such layout may be termed as *index value* layout that'll be determining the modelling as corresponded to all approaches of C.O.A. term "index value" defines to a bases data to generate to real data feature. Conversely, such index value will serve as future anticipating base data. For example, future or anticipated data = index value multiplied by actual or present or observed value.

Procedure of the approach

Before going into modelling, let's discuss applicability or validity of such an index value presentation by color nets. Table V.01 has shown a list (not as least indeed) of sets of various measures that may be taken against weightage and ranking, for use of Figure V.1. This tabulation clears that what is defined for against weightage and ranking. It is with a relation like cause and effect. Like, when weightage is taken as a cause then ranking is to be an effect of it and vice-versa. Subjectively, each LD should result to a unique modelling or V.I.M as shown by Figure V.1. Based on LDs, we can calculate a level of approach, resulting to an index level (IL), shown in Table V.02. This tabulation shows that a final level (FL) should be reached by over several ILs
wherein each IL is to defining a level of the approach applied; approach means the method applied in the study (Table 4). In this way, we can determine FL for a given set of LD. Noted that each set or LD is of unique nature and a FSG modelling should be decided by its policy or scope to how many sets or LDs should be taken into account, for analysis or determinations.

For index value determination, justification of LD (or say for LD1) can thus be considered as,

- Weightage (against i or c): Quantity or Quality (of i or c).
- Ranking (against i or c): Predictability (of i or c).

where, i and c means income and consumption of individual household respectively.

Although Table V.01 giving with lots of sets of LD, calculation of index values should always be done after considering justification like above, as per definition of the measures (Figure V.2).

It is essential to characterize weightage or ranking into present or future status or such validation. Table V.03 gives us such an insight wherein four possibility is found to form a mutual regulation in between weightage and ranking, indeed for each LD. So, nature of vice-versa in acting over mutual regulation between weightage and ranking (as shown in Figure V.1) should proclaim such a status holding possibility given by Table V.03. With this, LDs should be selected out from Table V.01 or rather, dimensional measures of Table V.01 are not rigid or fixed to any present of future status, instead they are independent and equally or freely applicable to any status, present or future.

Table 6: FSG Matrix

Sl.	Income Level (i)	FSG flexibility level outcome^ (at domestic family level)	
		Level Of Consumption(c)	
		High	Low
1	**High**	Affluent (Urbane); Draggers (Luxurious) (Say, Group 1)	Saving (Say, Group 1)
2	**Low**	Deficit (Say, Group 2)	Unsuccessful (Rural); Wishers (parsimonious) (Say, Group 2)

^arrow indicates target to become stable by policy making etc.; affluent target is more stable one than saving.

For understanding purpose of the study, Table V.04 is explained with by taking LD1 of set 1 of Table V.01. In fact, it's mentioned here that prior to plotting FSG data over co-ordinate positioning by Figure 4 into framework, FSG data should be taken with due care by V.I.M (Figure V.1, V.2) so as to deal with FLs of Table V.02. Now, taking LD1 of Table V.01 in mind, if we plot over Figure V.01, we'll get the index values as presented over in

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Table V.05. This is the tabulation which is getting talked about from Figure V.01 about a formation basis of the modelling. As shown with color-nets, the index values are hereby considered half for the color net or discrimination, although this half consideration may be otherwise or variably taken with at ease. Index-values marked in red color are to show how changeability is occurred over the assumed values of weightage and ranking. Also, to be noted that assumed values of weightage and ranking may be variably taken with, apart from the ones shown by Table V.05.

Table 7: Status of matrix alongwith business proposition

Income-Consumption Group	Level in Demography^	Kind of proposition (Product/Service)^^	Character of demography cluster^^^
Group 1	High Demography (good financing background)	Brand Sensitive, Luxurious, High Segmentation, Penchant to consuming highly/abundance etc.	Less clustered (less populated)
Group 2	Low Demography (bad/poor financing background)	Consumer Durables, Usual, Low-Cost Services, Lowly Segmented, Avoidance to consuming etc.	More clustered (highly populated)

^group 1 for high level in demography achievement whilst group 2 for low in demography.

^^more specificity is preferred in affluent people than deficit-faced ones. Wishers are said to be non-conscious on selecting consumables.

^^^poor people correspond to highly populated one in a given locality. Similarly, rich or affluent people as less populated in a given locality.

Equation modelling has been done by excel spreadsheet application of Microsoft Office (using computer) over Table V.05, by considering weightages and index values along x and y axis respectively. Such modelling is shown in Table V.06 and Table V.07 and with this, V.I.M modelling is completed.In this similar way, another equation modelling can also be found if across ranking is done over the excel spreadsheet application. However, such modelling would be helpful to attain at a measurement level over a chosen LD so as to finalize framework integrity, over changeability. Thus, it is now possible to represent how a household's FSG should be in a mutual regulation or joint or connective status in developing an entire FSG of locality. Such way of representation would mark possible potential households running with FSG status to conduct a reaction so as to develop a locality entirely.

Note B: All index values are under subjection of a 360º dynamics of Net values in their co-ordinate orientation.

Implications of the approach

Various color nets are hereby explained by considering income, i, as the data under consideration on V.I.M as follows –

- *Black Net* – Saving Propensity (FSG character: Parsimonious).
- *Yellow Net* – Abject Standard (FSG character: Unsuccessful).
- *Blue Net* – Lumpsum Earners (FSG character: Public/PSU/Private Consultants).
- *Green Net* – Dedicated Earners (FSG character: Govt. Employees).

Similarly, characteristics for other FSGs (like S, G) by color nets can be explained by above manner as given for income.

In V.I.M, diagonal values in particular should reflect dynamics or a motion in their ownself in any given color net. Such motion is the 360º dynamics, also including the reasons mentioned earlier. The dynamics should behave to typically finding out characteristics of a category or sub-category) of FSG, meaning to FSG potential or status of a locality. Although such motion in the index value is changeable or not fixed always to that of shown by Table V.05.

V.I.M may serve as a core reference value-chart of standard kind that may be useful to any suitable weightage versus ranking values; be it a category or sub-category in FSG (please see Table 2).

Several insights of functionality to FSG can be expressed by V.I.M resulting to reveal out a locality's trend or status to the functionality/measures to operate (please see Table V.01).

Such a V.I.M modelling would be able to give a universal platform to know each other through software-interface

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system.
Also, an individual family once known by another family by its own FSG status through system of framework integration, a status of FSG about its distribution between the two families can thus be determined by this method (please consult with Table V.01 of Appendix 1, also Table 6, 7) which also reflect a country's potential to deliver peoples' expectation (to become developed) or economic status. Such a flexibility level, described afterwards, would also provide an" instantaneous" effect that FSG system can deliver about better trimming of F, S and G from insufficiency on the distribution among families. However, forgetting any raging impacts, the study seeks a good fortune ontowards providing a better financial management as well as civilized infrastructural technology of modern/future life.

Approach 2 – Centroidal Approach
This is another approach of formation analysis of framework. To understand it easily, the study has taken index values of V.I.M as its values to work with.
By definition of this approach, a centroidal value over given values is obtained. This centroidal value is to indicate a totality approach to define all the given values as a whole. This calculation can be done by using following formulas as,
Centroidal "unknown" FSG status = $(x1 * y1 * z1 + x2 * y2 * z2 + x3 * y3 * z3)/(x1 * y1 + x2 * y2 + x3 * y3 + \cdots)$

. . .

(Eq.C)
where, x1,y1,x2,y2,x3,y3…= known FSGs under consideration.
z1,z2,z3,…= unknown FSGs under consideration = centroidal FSG.
As there are three variables F,S and G, so Eq.(C) will find the value by the way as shown above. However, for two variables, formula Eq.(C) can also be applicable. Noted that, each centroidal FSG would define to only one variable kind (either F or S or G) which is unknown and required to be determined/calculated. Also, there may be suitable variables of known kind taken to calculate the unknown variable. This suitability is to the definition of the variable and scope or policy making of the study.
It's mentioned that such centroidal finding can also be done by averaging, weighted averaging, or such. Figure V.3 shows useful illustration of interlinking of modelling with framework pointing determination. For all modellings of this study, each index value of modelling should correspond to one variable only (from F, S, G) by category as well as sub-category. So, there should be separate framework for each individual variable (of F, S, G) and once all frameworks are presented in one picture then it may appear out as a complex skeleton of numerous zig-zag lines or networks.
Also, variability among variables, by category and its sub-category, to be taken with care needs to be shown or established by proper calculation of centroidal making.
Note C: This method is highly applicable for frequently changing topography with changing F, S and G values. A typical exemplary modeling (say, for LD1 only) based on centroidal approach, called as C.M, has been explained in Appendix 2. In this modeling, index values of V.I.M modeling have been taken for the calculation.

Procedure of the approach
This approach gives us a learning to how an equivalent level can be obtained on given values. Term "centroidal" is chosen because of providing a basis of knowledge to obtain a best value that'll be best represent all the given values. This means there can be several ways available to find that and it may include applications like weighted average, simple averaging and etc. All these ways should be deemed to have a centroidal or best representative kind of equivalency of several values and henceforth it would reveal a singular value from a number of values,

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by using the application. This singular value will be called as the centroidal value and corresponding modelling of it would be called as centroidal modelling. Let's see how such singular value can be obtained. Table C.01 gives three such applications based on which a singular value is obtained. For an example, for weighted average, the singular value is obtained as 7.00 for ranking 10 for a number of weightages from 0.1 to 1.0 (please see Table V.05). Subjectively, across weightage is shown with values and etc. and across ranking would be similarly possible to be determined. Other application like average is simply done by taking mean of values of all weightages as for across weightage presentation. For information, difference between weighted average and average would also provide the basis of singular value importance. However, this study has only presented weighted average values and its corresponding modelling by keeping other twos (average and difference) in future researches due to space problem in journal paper.

All these methods would be unique individually and proclaimed to be a centroidal modelling.
Using Eq.(C), the singular value presentation is done for several ranking values as given in Table C.01. On furtherance, the value modelling of weighted average is done by equation (trend-line) by using microsoft excel spreadsheet application and these are shown in Table C.02 and Figure C.1.

Implications of the approach
Using centroidal modelling, one can easily see a total variability over FSG status at a locality. Subjectively, each singular value may be for an individual's own FSG history or a joint FSG status on the networking of framework. Morevover, such singular value should reveal most influential FSG statuses than ordinary ones in order to avoid unnecessary inclusions leading to complexity by more numbers of values in one definition. More refined future of a locality with respect to FSG value can be seen using centroidal approach if more unnecessary values are kept aside instead of inclusions into calculation. Henceforth, this is the approach to make a justify over available or given values of FSG on framing the network among families or individuals.

Approach 3 – Hypothesis Approach (Hypothesized Economy)
This is the approach by statistics. As we all know meaning and definition of statistics, hypothesis as a term should define to what it means to as a subject of statistical application. In this approach, all values of a given finance parameter (F) in a topography/locality (G) should be taken forth to know their future hypotheses. By following with fundamental property/testing of hypothesis (like H_0,H_1, H_2), it can be possible to get (to a) desired value. This should unveil lots of business possibilities though, be it in finance or else.

Implications of the approach
Various insights related to FSG can be taken forward by hypothesis and they can clearly explain to what future anticipations a locality can be subjected to. Based on this, FSG modelling explained by earlier two methods should be at its best attraction for application by hypothesis. Nonetheless, there are enormous features for FSG modelling that can be explored or enhanced more by using hypothetical applications. In this way, several inner as well as tough problems of a locality on purview of FSG modelling solved by hypothesis alone or using hypothesis with two FSG modellings given earlier could have many useful regards related to practical scenario of FSG data.

Approach 4 – Opt-for Approach
By virtue, the study has its lot of variability that can be easily used to or applied with suitability. With three data F, S and G (of FSG), it is possible to vary any data (as unknown one) by keeping other twos as known or

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independent. In addition to it, in each C.O.A approaches (and for D.O.A also), there has the scope of creativity, almost at every pace, on making up the data or process as suitable. This facilitates to forming up another approach that's termed here as *opt-for approach*. So, this approach would unveil creative ideas into action and the study has the incorporative potential to that.

Implications of the approach

It is not always required for a family to be undergone through all approaches for having the analyses done. Also, it is not at all needful to stay at natural FSG always; sometimes an artificiality or creativity can be imparted upon FSG so as to build up a good or well-balanced FSG network or modelling. Here lies a bringing in of a method that could make an opt-for basis of FSG values. So, this approach can be obtained on each of three approaches once (them) done with the artificial or modification as required to. This often becomes a need to make such to forecast or re-define the locality better or with more corrective anticipation. So, this approach would unfold or facilitate possibility of doing research, besides designing the locality with its best fullest potentials.

Explanation of D.O.A

It is the analysis of design and/or controlling of framework. In this, followings can be calculated –
Dimensional measures between circles or between origins to circles to be an origination force.
Angular shifts like twisting angles to change from one position to another position of circles in a framework. Ss shown by Figure 5, it is clear that D.O.A is in a process subject to accomplishment of C.O.A and this process is recyclable or cyclic. This means such a process continues till a suitable level or degree of C.O.A as well as D.O.A is achieved. Here lies the prudent application of the study. For information, FL as shown by Figure V.02 must hold good enough for both C.O.A and D.O.A. Two approaches have been used to form up D.O.A modelling & those are -

- *Approach 1 - Origin (Axial) Approach.*
- *Approach 2 - Arbitrary Origination Approach.*

Modelling of D.O.A comprised of above approaches is hereby discussed in Annexure 2 which should be not indeed exclusive of Annexure 1 instead of theirs' inter-relation to be treated as always inter-bonded.

Implication

Dimensional measures like distance or force quantity each would provide concepts to framework positioning or dynamics potential respectively. Analysis by vector application of dimensional quantities would be helpful to navigate across points or families and investigate to a framework qualification with respect to positioning and dynamics. In fact, dynamics would be an essential part of research for following reasons –

- Locality extensions. Better accuracy.
- Elimination of unnecessary points or families that may deter efficiency or efficacy limits.
- Ease of operation with framework's orientation facility/scope.
- To move up smoothly to a desired limit.
- To crop with policy making with easeness.

Assumptions Of Methodology

1. The study is related with inhabitant or family living in a given location or territory.
2. Variables defined to each inhabitant are all time-dependent that is for any given point of time or instance.
3. All variables, such as i,c, s, etc., are not independent of micro and macro economy, various social-cum-demography or such.

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4. The study is applicable to any geographical location subjected to E and S. This means orientations like alteration or re-allocation or such policy making is highly possible in this study.
5. The study never seeks conflicts to any influences (of political or such).
6. The study should have local or global level effect. The study should encourage policy making initiatives to a total improvement of FSG status.

Framework Guidelines (Network Rules):

The guidelines or rules that may be applicable for framework formation and analysis may be as -

1. Skeleton of framework should be simple, flexible and easily accessible.
2. Scale must be chosen proper in order to view up the framework legible and clear.
3. Extent of area of a framework has no limit but should be kept under control.
4. There may not be strict rule in naming or ordering of points/circles.
5. There should also be not any length of line too long for a given network.
6. Link between two circles/points may act as a dimensional/force quantity so it must not be too long to become unjustified (please see description of D.O.A).
7. Space problem may always become as a problem to both the analysis, so it needs to take them carefully.
8. Selection of a network, about shape and size, is of optative nature and suitably to be prepared of.
9. There should be always a good coherence not only inside or between networks but also with outside of framework's boundary. Such coherence should provide an all-through response all the time like nerve system of human body.
10. One fallible network may cause failure of an entire network. So, every network is equally valuable.
11. It is not necessary to consider all inhabitants into the framework formation. This should be done by a study's objective or budget.
12. A network may be subjected by G's various features like bogs, forest etc., but must be analyzable.
13. There should be a proper mix of disturbed areas or undisturbed areas if any, in the considered locality. It may so happen that small networks, in numbers, may be provided for smaller disturbed areas lying in sparse.
14. Much significance differences in FSGs within a network are better to keep as avoided.
15. There should be kept future association of such networking study for any other fields (like science, engineering, technology, etc.) of study, as needful.
16. Public awareness (to FSG study modelling) is to be given a requisite for making the study more fruitful. There should always be honest approach towards humans onto ethics and necessary adjustments with care.

However, a framework may be constructed as per the following steps as,

- Step 1: Choose an area or locality where framework is required to be obtained.
- Step 2: Find data of income or consumption etc. of the inhabitants.
- Step 3: Check changes in FSG (over time, space etc.) so as to determine FSG's dynamic behavior.
- Step 4: Put new data of incomes, consumption, etc., coming up over years.

Above simple steps should be subjected to network rules. Various kinds of surveys can be done with against step 2 which entail to obtaining primary and/or secondary data as well. With all these, a final framework would be set up after broad analyses as explained by the study (please see Table 8, 9 and V.02).

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Correction of modelling (please see Appendix 3)

It is required for all four approaches so explained in this study. This is to investigate or determine nature of spread or distribution of index values. This nature is about preparing a decision making of a reference value against which index values would move around. This means this reference value is also index value which is more advanced nature.

Reference value is hereby defined as the value making a total controlling upon all index values. Such is done by centroidal approach of the study.

Figure T.1 is made by Table V.05, by simply ranging of values falling under each color net. Actually, this is so found by Table V.05 on its assumed weightage and ranking. Each range for better understanding is broken into upper and lower limit in Table T.01. Also, Table C.01 is re-presented in Table T.02 where yellow color given in is to relate to range of yellow net, although such a color relation may be a trifle one. However, now we're moving to find out all index values (of all our color nets) are at what deviation from centroidal value for given ranking and weightage co-ordination. In doing so, percentage change is applied between centroidal value (Table T.02) and index values by ranges (Figure T.1). Minimum the value of percentage change would indicate minimum the difference resulting to closeness of the difference. This means that a difference against an index value coming as less would be treated as equal to close to the centroidal value. Noted that, %age change is calculated with respect to index value always, instead of centroidal ones.

For example, %age = (7-5)/5*100 = 40%. This is for yellow net (upper limit), ranking between 10 to 6 and weightage between 0.1 to 0.5.

In this way, all %age changes are calculated for all rankings. These are given in Table T.03, T.04. These two tabulations are showing the closest one value by dark bold color, by comparing row-wise upper/lower limit values, for each row.

Now to find out best change (BC) among row and column-wise index values, both directions are required to be judged or compared. Before going to that, let's find BC on degrees by color conventions (as shown by Table T.05). %age change values of Table T.03 are hereby marked by color conventions on column and row-wise to indicate degree of BC, as shown in Table T.06, T.07. Such a color convention would also easily let us know how the variability over closeness takes place and can be marked. Noted that, +ve or -ve sign is a sign only coming out as the difference result and to find out degree by color convention is of no meaning with such +ve or -ve sign. These magnitudes are signified here numerically.

Now, both directions are compared simultaneously. In doing so, such joint comparison should take place from minimum value (here it's 2.00 for ranking 7). While comparing values by color convention, joint comparison proceeds on both row and column-wise by starting from minimum value and ending by maximum value. Each time a joint comparison is taken place, row and column-wise values would be marked by color convention which is minimum value for light cyan and maximum ones to other colors as shown by BC in Table T.05.

It is required to be mentioned that an assumption underlying joint comparison that coloring by comparison should always start from minimum index value and proceeds towards maximum value by marking as per conventions, on index values on both the direction, row and column-wise.

Till all index values are marked once, the procedure would go on and sequential order of color convention should be always followed while coloring the index values. Once an index value is marked by color convention, it should be marked again during marking by other index values without losing the sequential order of coloring. This means if an index value is already marked by any color (say, light cyan color) then the value which should definitely be

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taken in the coloring sequence during coloring by other index values, should not be marked again (by the next coloring sequence/order).It is done and shown in Table T.08 where best closeness is obtained and marked by star (*) for the corresponding ranking.

Similarly, by the joint comparison, Table T.09 is prepared for ranking 5 to 1 and shown directly along with its ranking outcomes of BC.
In this way, a better corrective measure can be done on finding a more corrective nature of index value for a given set of values, by reference value criteria as explained above.

RESULTS AND DISCUSSION

1. Analysis across ranking is also possible in the same way as done in the study for across weightage.
2. FSG modelling is the reflection which can be developed for any given locality/FSG scenario to indicate the FSG status. Such a modelling can be transformed into software-based real-time reflection to showcase the scenario technologically. This will help not only to know or conglomerate of all FSGs at one platform by network framing but also to improve or diagnosis any locality that always has had immense potential to be developed. This way of modelling demonstration could provide a good distribution over habitat where inhabitants do live or justification over their on-going living status with respect to F and S. Use of F or S can thus be taken forward to examine whether they are suited to at a given G and vice-versa.
3. Relocation of peoples can be thought of as a future measure of application of this study.
4. Locality which is under-rated or below developed status can't be marked only but also made up to developed status by using of this study. This can be done by –
    - By improving FSG at the locality, by hands of both the peoples and government, NGOs, etc.
    - By investigating possible constructive allocations or unseen potentials to be seen/shown or into reasonable justifications remaining in deprived or overlooked.
    - By providing suitable marketing facilities to customers like pricing, costing, valuing, etc.
    - By lending various financing facilities to peoples like loan, credits, etc. with lower interest rates.
5. Unreasonable decision over a locality's improvement may cause a threat to the diversity the locality's survived in. So, distributive or allocating decisions must be taken with prudent expertise.
6. It can be said from the study as an outcome that there should always be able to be found some portion of locality suffering from inadequacy or otherwise scenario based on F, S and G. To correct them in a proper distribution by each of F, S and G, the study's modelling would be helpful at ease. However, this study attracts indeed future scopes of doing research using itself to propagate into exploring various dimensions of it which are left unexplored due to less space.

CONCLUSIONS

1. A framework should be made as easy as possible so that it can be accessed with little complexity on all of its branches or lines. Whilst there should be good bonding between points or networks it should be not away from analytical background to consider a prospective synergy between objective and subjective locality.
2. Any modelling of the study to framework presentation may have various limitations like boundary conditions or advantages, disadvantages, etc. and this limitation should be incorporated with study's scope or policy making or by vision and mission of a business and/or locality's infrastructure plan.
3. Weightage and Centroidal modelling (of C.O.A) can establish a standard chart by its own definition as mentioned.

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4. Awareness among people should be provided or spread enough so that this kind of study can get enhanced more. Enhancement can be brought about with correct data-giving approach/mindset, right to know about others in a given locality, etc.
5. The force causing mutual attraction between one (single) inhabitant or family to other ones is to be controlling tool. Its value can be checked by organizing various studies as well. This value may be anything of calculative relationship such as additive, subtractive, multiplication and division.
6. As a future scope the study, moment lying inline (like S1-S2, S3-S4, etc) is to be a prospective expansion which causes a controlling movement on framework (of its outside as well as inside changes over time).
7. In all, the study is at its well set to deliver a modelling to determine various strategies at various management operations.
8. Future scopes of the study are mentioned underneath as,
    - ***Framework controlling on change***

    So far explained by D.O.A, it is clear that originating dimensions for a framework may exist in terms of measurable length or force or both as applicable. Using such dimensional importance, by force or lineal measure, a given framework can be kept under control entirely and it'll be helpful on any changes (or shifts) occurred to the framework.
    - ***Computer Programming***

    So far explained by C.O.A, positioning of peoples or families in a given locality can be generated on real-time basis once software is made up by using index-values (V.I.M), centroidal modelling values etc. by theirs' excel spreadsheet trend-line equations. Such modeling or software would be also able to predict any FSG data based on a system-based output.
9. Some other introspections of the study are sighted herein as follows -
    - ***Framework's hypothesized management***

    Forecasting by hypothesis may be applicable, at ease, into the study[34]. Application by statistical applications should be at par best potential to regards of a framework to behave to. This may be executed in next further study.
    - ***Marketing obligations***

    Various rational happening a framework may experience with. This happening becomes noticeable if unwanted pursuits are seen to occur. These pursuits are definitely to non-fulfillment of business objectives (as functional to FSG) at a given locality. Let's term an unwanted pursuit as Least Consumption Propensity (LCP) by assuming higher consumption as an indication of better or healthier FSG status at any geographical locality. Now with this, there might be three following happenings at where LCP should exist-
        - Happening 1 (LCP 1): FSG constant but business propositions varying.
        - Happening 2 (LCP 2): Business propositions constant but FSG varying.
        - Happening 3 (LCP 3): Simultaneous effect.

    LCP 3 is thereby neither LCP 1 nor LCP 2. Conversely, it's either both FSG and Business propositions constant simultaneously or both FSG and Business propositions varying simultaneously.
        - Happening 4 (LCP 4): Effect of untouched (or, parallelism).

    LCP 4 is actually meaning to a business proposition not going with or having connectivity with FSG; vice-versa.

    Kind of problem, as stated above by LCPs, could well be taken care of and solved by the study's framework formation approaches and analysis by methodology.
    - ***Marginal propensity***

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It is a common phenomenon that happens in any economy. It deals with happening like transitory changes in income, consumption etc.[35] or "opportunity" savings[36] or effect by wealth distribution[37] or such[38] which may propel into marginal propensity. The present study has mentioned it many times and may explain on such, in future scope of the study as well.

- ***Biased perceptions or psychology (At-Variables Changes)***

It is already mentioned in scope of this study that how framework's dimensioning (or controlling) should be constructed over changes in one variables of F,S,G (by category or sub-category) as such changes may be occurred due to perceptional psychology, of families. Subjectively, biases may have several dimensions, even of income distributions[39].

- ***Inequality standard***

It's also another phenomenon in economy. Apart from general consequences of it[40],[41],[42], the study is able to express on all possibilities of inequality.

- ***Framework management applications***

This is most interesting insight which the study has mentioned in every pace of its elaboration. It has explained how the study would be valid to be applicable to exhibit into delivering satisfactory fulfillments of several disciplines like marketing[43], finance[44], strategy, human resources, operation, etc. As the study is comprised of all such disciplines, so it needs policy making efforts from them, definitely by not forgetting theirs' inter-relational connections (please see Table 7, for example), amongst FSGs.

- ***Business matrix (imagination and reality)***

If want to instance on application of FSG framework study or analysis, a matrix between sub-category items (of Table 7) could prove that well. Table 6 shows that there should be a motion between Group 1 and Group 2 in any given FSG status. This gives with hopes and plots to how to improve a given FSG situation to a desired level Group 1 or Group2.In doing so, a framework analysis is to be highly essential by approaches of the study. Based on Table 6, situation of spread of FSG data in a locality can be imagined or thought of with logical assumptions like the one expressed in Table 7. Background concepts would include such type of basis about human clustering in habitats or social propensity to consumption or buying propositions or any financial reason to be onto an imagination to spread closely linked to practical happening at a locality, under FSG study.

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APPENDICES

Appendix 1: V.I.M Modeling Format (Weightage Approach)
(Value Index Modeling, V.I.M)

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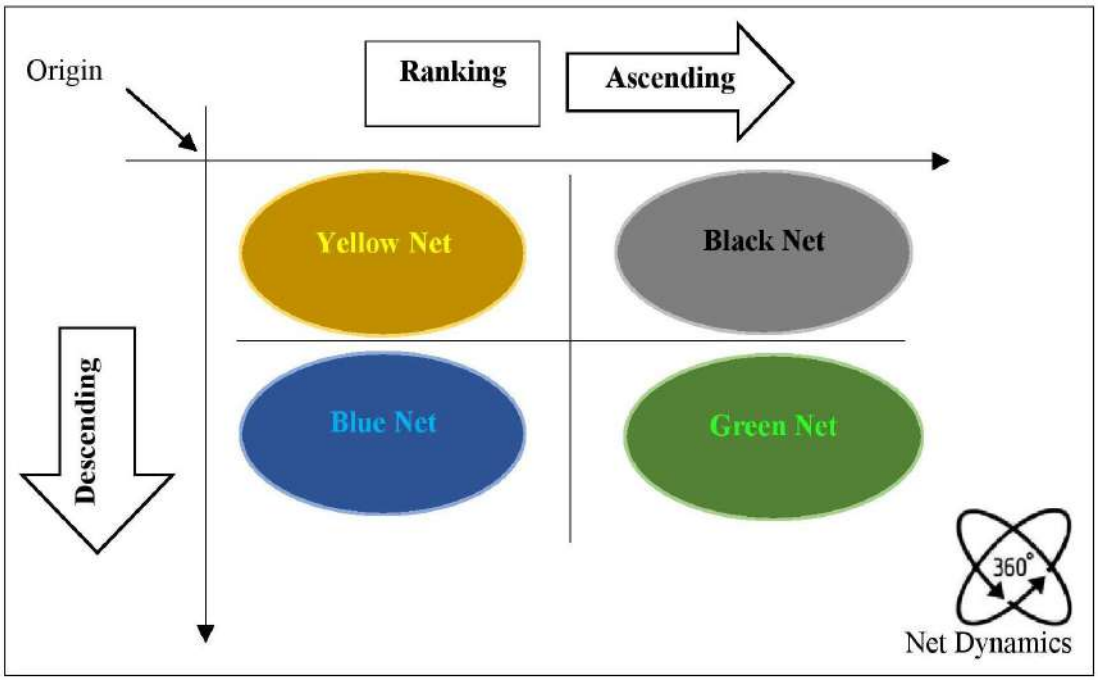

Figure V.1: FSG index value layout classification by color nets

Table V.01: Measures behind social and finance parameters (for both C.O.A and D.O.A)^

Set dimension	Layer dimension	Various measures of^^	
		Weightage (Cause / Effect), Z	**Ranking (Effect / Cause), M**
Set 1	LD1	Quantity or Quality	Predictability
	LD2	Predictability	Quantity or Quality
Set 2	LD1	Reliability	Risk
	LD2	Risk	Reliability
Set 3	LD1	Variability (Changeability)	Predictability
	LD2	Predictability	Variability (Changeability)
Set 4	LD1	Social integrity and involvedness	Variability
	LD2	Variability	Social integrity and involvedness
Set 5	LD1	New groups inclusions / old groups deletions (social or finance parameter)	Predictability
	LD2	Predictability	New groups inclusions / old groups deletions (social or finance parameter)
Set 6	LD1	Relocations	Attribution
	LD2	Attribution	Relocations
Set 7	LD1	Infrastructural policy	Variability (Changeability)
	LD2	Variability (Changeability)	Infrastructural policy
Set 8	LD1	Influencing factors such as sustainability, adoption, transformation and resilience)	Strategic standard
	LD2	Strategic standard	Influencing factors such as sustainability, adoption, transformation and resilience)
Set 9	LD1	Community problems such as riots, rages, etc.	Changeability to social and finance parameters
	LD2	Changeability to social and finance parameters	Community problems such as riots, rages, etc.
Set 10	LD1	Pandemic like big disaster (natural / human)	Predictability / Changeability / Variability
	LD2	Predictability / Changeability / Variability	Pandemic like big disaster(natural / human)

^each LD bearing number of layers or levels, to infinite extent (see Table V.02).

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^^dimensions may be numerous; each dimension can be for a whole study or a study can consist of several dimensions.

Table V.02: FSG Modelling Level Determination^

Iteration No.	Set dimension	Layer Dimension (LD)^^	Level	Z	M	Approach Level#	Index Levels (ILs)	Final Level (FL)$
Iteration 1	Set 1	LD1	Level 1 (layer1)	Z1	M1	Approach Level 1	IL1	FL1
Iteration 2			Level 2 (layer2)	Z2	M2	Approach Level 2	IL2	
Iteration 3			Level 3 (layer3)	Z3	M3	Approach Level 3	IL3	
Iterations		LD2	Levels (layers)	Z's	M's	Approach Levels	IL's	FL2
Iterations	Set 2	LD3	Levels (layers)	Z's	M's	Approach Levels	IL's	FL3
Iterations		LD4	Levels (layers)	Z's	M's	Approach Levels	IL's	FL4

^this is related with Table V.03; Z's, M's and IL's correspond to all Z, M and IL as specified by Table V.01.
^^for each LD, there is a weightage (Z) and its corresponding ranking (M) for a given layer that's an iterated level.
#a level or layer value should represent a level (by IL) of an approach used; a layer may be instantaneous also.
$a final level (FL) can be an average (of all ILs) or else as applicable.

Table V.03: Time-variability nature of LD

FSG Guidelines	Weightage	Ranking
FSG Status	Present Status^	Future Status^^
	Future Status	Future Status
	Future Status	Present Status
	Present Status	Present Status

^currently available status LD;^^to be available status LD.

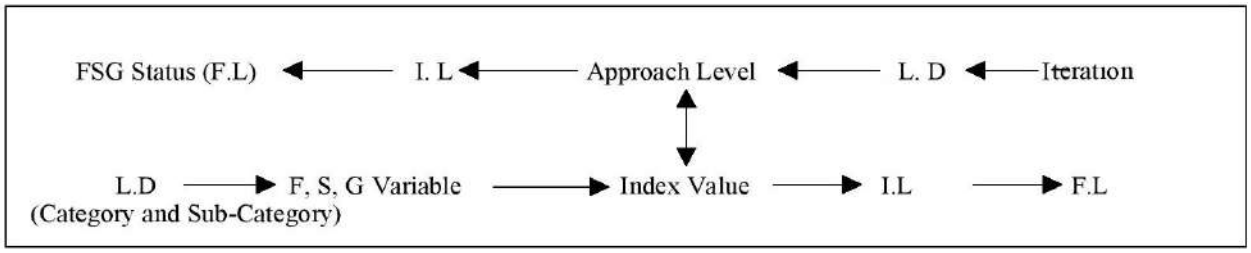

Figure V.2: Measures (LD) selection and index values as a process

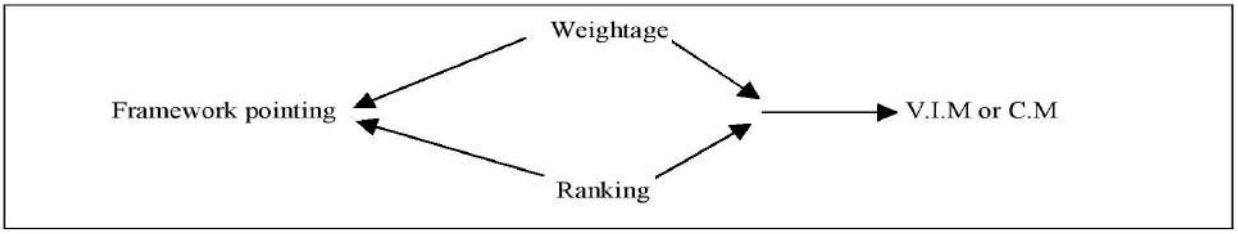

Figure V.3: Insight of modelling into framework formation (subjected to FSG)

Table V.04: Variables justifications and validity

Justification	Description	Variable	Justification validity (of V.I.M)^
Quality	The level at which a given variable exhibits its property on qualitative measure. This level may be also transformed or converted into quantitative measure by suitable applications.	Weightage	It is with respect to validity of ranking

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Quantity	The level at which a given variable exhibits its property on qualitative measure. This level may be also transformed or converted into quantitative measure by suitable applications.		It is with respect to validity of ranking
Predictability	It is a measure of occurrence's probability for weightage.	Ranking	It is with respect to validity of weightage

^similar modelling can be constructed by taking a vice-versa that is interchanging justification over weightage and ranking – this may be a future scope of the study as well.

Table V.05: Determination of V.I.M

Sl.	Weightage		FSG index value^									
			Ranking									
			10	9	8	7	6	5	4	3	2	1
			Across Ranking ◄►									
1	0.10		1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1
2	0.20		2	1.8	1.6	1.4	1.2	1.0	0.8	0.6	0.4	0.2
3	0.30		3	2.7	2.4	2.1	1.8	1.5	1.2	0.9	0.6	0.3
4	0.40		4	3.6	3.2	2.8	2.4	2.0	1.6	1.2	0.8	0.4
5	0.50		5	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5
6	0.60	Across Weightages ▲▼	6	5.4	4.8	4.2	3.6	3.0	2.4	1.8	1.2	0.6
7	0.70		7	6.3	5.6	4.9	4.2	3.5	2.8	2.1	1.4	0.7
8	0.80		8	7.2	6.4	5.6	4.8	4.0	3.2	2.4	1.6	0.8
9	0.90		9	8.1	7.2	6.3	5.4	4.5	3.6	2.7	1.8	0.9
10	1.00		10	9	8	7	6	5	4	3	2	1

^anticipated FSG value = (FSG index value) multiplied by (given FSG value); interpolation may suitably be applicable.

Table V.06: Weightage variability profile (for ranking=6 to 10) modelling of V.I.M

Ranking		10	9	8	7	6
Equation modelling^	Linear	y=10x	y = 9x + 3E-15	y = 8x	y = 7x	y = 6x + 2E-15
		$R^2 = 1$	$R^2 = 1$	$R^2 = 1$	$R^2 = 1$	$R^2 = 1$
	Exponential	$y = 1.2753e^{2.3041x}$	$y = 1.1478e^{2.3041x}$	$y = 1.0203e^{2.3041x}$	$y = 0.8927e^{2.3041x}$	$y = 0.7652e^{2.3041x}$
		$R^2 = 0.9057$	$R^2 = 0.9057$	$R^2 = 0.9057$	$R^2 = 0.9057$	$R^2 = 0.9057$
	Polynomial	y = 10x - 6E-14	y = 9x - 8E-14	y = 8x - 5E-14	$y = -6E\text{-}14x^2 + 7x - 5E\text{-}14$	$y = -6E\text{-}14x^2 + 6x - 5E\text{-}14$
		$R^2 = 1$	$R^2 = 1$	$R^2 = 1$	$R^2 = 1$	$R^2 = 1$

^y = index value; x = weightage value.

Table V.07: Weightage variability profile (for ranking=1 to 5) modelling of V.I.M^

Ranking	5	4	3	2	1
Linear	y = 5x	y = 4x	y = 3x + 9E-16	y = 2x	y = x
	$R^2 = 1$	$R^2 = 1$	$R^2 = 1$	$R^2 = 1$	$R^2 = 1$
Exponential	$y = 0.6377e^{2.3041x}$	$y = 0.5101e^{2.3041x}$	$y = 0.3826e^{2.3041x}$	$y = 0.2551e^{2.3041x}$	$y = 0.1275e^{2.3041x}$
	$R^2 = 0.9057$	$R^2 = 0.9057$	$R^2 = 0.9057$	$R^2 = 0.9057$	$R^2 = 0.9057$
Polynomial	y = 5x - 3E-14	y = 4x - 2E-14	$y = -3E\text{-}14x^2 + 3x - 3E\text{-}14$	y = 2x - 1E-14	y = x - 6E-15
	$R^2 = 1$	$R^2 = 1$	$R^2 = 1$	$R^2 = 1$	$R^2 = 1$

^y = index value; x = weightage value.

Appendix 2: Centroidal Modeling (C.M)

Table C.01: Various methods of centroidal modelling

Method	Index value across weightages for ranking of

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	10	9	8	7	6	5	4	3	2	1
Weighted Average^	7.00	6.30	5.60	4.90	4.20	3.50	2.80	2.10	1.40	0.69
Average	5.5	4.95	4.4	3.85	3.3	2.75	2.2	1.65	1.1	0.55
Difference	1.50	1.35	1.20	1.05	0.90	0.75	0.60	0.45	0.30	0.14

^the study has only shown its FSG profile modelling against it which may also be done against average and difference similarly.

Table C.02: Profile expression modelling (Weighted Average)

Linear (falling on the profile; not shown)	$y = 0.7006x - 0.0044$	Co-ordinates: y=Index value; x=Ranking value. (please see Figure C.1)
	$R^2 = 1$	
Exponential (shown on the profile)	$y = 0.8871e^{0.2313x}$	
	$R^2 = 0.9035$	
Polynomial (falling almost on the profile; not shown)	$y = -0.0002x^2 + 0.7033x - 0.0098$	
	$R^2 = 1$	

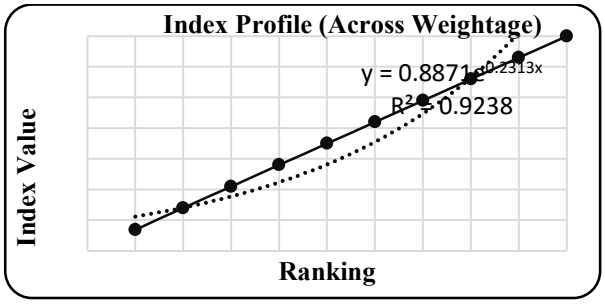

Figure C.1: Profile of the modelling (Weighted Average)

Appendix 3: Modelling Correction

Figure T.1: Discrimination of index value of color nets

Sl.	Weightage	Index value range for ranking									
		10	9	8	7	6	5	4	3	2	1
1	0.10	5.0-0.60					2.50-0.10				
2	0.20										
3	0.30										
4	0.40										
5	0.50										
6	0.60	10-3.60					5.0-0.60				
7	0.70										
8	0.80										
9	0.90										
10	1.00										

Table T.01: Introduction to weightage by limit implication

Sl.	Net Color	Index Value (Range)	Weightage Range	Weightage Upper Limit	Weightage Lower Limit
1	Yellow	5.0 to 0.60	0.1 to 0.50	0.50	0.10
2	Blue	10 to 3.60	0.60 to 1.00	1.00	0.60
3	Green	5.0 to 0.60	0.60 to 1.00	1.00	0.60
4	Black	2.50 to 0.10	0.1 to 0.50	0.50	0.10

Table T.02: Index value across different weightages

Sl.	Weightage	Index value for weighted average method for ranking of									
		10	9	8	7	6	5	4	3	2	1
1	0.10	7.00	6.30	5.60	4.90	4.20	3.50	2.80	2.10	1.40	0.69

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2	0.20										
3	0.30										
4	0.40										
5	0.50										
6	0.60										
7	0.70										
8	0.80										
9	0.90										
10	1.00										

Table T.03: Distributive nature of index values about the given method (ranking: 10 to 6)

Weightage Classification	Upper / Lower Limit^	%age change against ranking of				
		10	9	8	7	6
Weightage (0.10-0.50)	Upper Limit	40.00	26.00	12.00	**-2.00**	-16.00
	Lower Limit	1066.67	950.00	833.33	716.67	**600.00**
Weightage (0.60-1.00)	Upper Limit	**-30.00**	-37.00	-44.00	-51.00	-58.00
	Lower Limit	94.44	75.00	55.56	36.11	**16.67**

^+ve change: away of index values from centroidal value; more +ve changes, more far away the distance is and vice-versa.
-ve change: away of index values from centroidal value; less -ve changes less far away the distance is and vice-versa.

Table T.04: Distributive nature of index values about the given method (ranking: 5 to 1)

Weightage Classification	Upper / Lower Limit	%age change against ranking of				
		5	4	3	2	1
Weightage (0.10-0.50)	Upper Limit	40.00	**12.00**	-16.00	-44.00	-72.40
	Lower Limit	3400.00	2700.00	2000.00	1300.00	**590.00**
Weightage (0.60-1.00)	Upper Limit	**-30.00**	-44.00	-58.00	-72.00	-86.20
	Lower Limit	483.33	366.67	250.00	133.33	**15.00**

Table T.05: Color convention of best change^

Excellent (=best change, BC1)	Very good (best change = BC2)	Good (best change = BC3)	Fair (best change = BC4)	Fair (best change = BC5)
Light cyan	Light red	Pure red	Dark cyan	White

^defined by subsequent best levels of change; BC1>BC2>BC3>BC4>BC5; BC: best change; >: greater than sign.

Table T.06: Column-wise color convention (for ranking: 10 to 6)

Weightage Classification	Upper/Lower Limit	%age change against ranking of				
		10	9	8	7	6
Weightage (0.10-0.50)	Upper Limit	40.00	26.00	12.00	-2.00	-16.00
	Lower Limit	1066.67	950.00	833.33	716.67	600.00
Weightage (0.60-1.00)	Upper Limit	-30.00	-37.00	-44.00	-51.00	-58.00
	Lower Limit	94.44	75.00	55.56	36.11	16.67

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Table T.07: Row-wise color convention (for ranking: 10 to 6)

Weightage Classification	Upper/Lower Limit	%age change against ranking of				
		10	9	8	7	6
Weightage (0.10-0.50)	Upper Limit	40.00	26.00	12.00	-2.00	-16.00
	Lower Limit	1066.67	950.00	833.33	716.67	600.00
Weightage (0.60-1.00)	Upper Limit	-30.00	-37.00	-44.00	-51.00	-58.00
	Lower Limit	94.44	75.00	55.56	36.11	16.67

Table T.08: Best distributive nature determination (for ranking: 10 to 6)

Weightage Classification	Upper/Lower Limit	%age change^ (against ranking of)					Outcome by least change in ranking of
		10	9	8	7	6	
Weightage (0.10-0.50)	Upper Limit	40.00	26.00	12.00	-2.00	-16.00	7*
	Lower Limit	1066.67	950.00	833.33	716.67	600.00	none^
Weightage (0.60-1.00)	Upper Limit	-30.00	-37.00	-44.00	-51.00	-58.00	10*
	Lower Limit	94.44	75.00	55.56	36.11	16.67	6

^values too far from the closeness can be negligible, while at light cyan it's at closest one; *mark applies to best closeness by minimum.

Table T.9: Best distributive nature determination (for ranking: 5 to 1)

Weightage Classification	Upper/Lower Limit	%age change against ranking of					Outcome by least change in ranking of
		5	4	3	2	1	
Weightage (0.10-0.50)	Upper Limit	40.00	12.00	-16.00	-44.00	-72.40	4*
	Lower Limit	3400.00	2700.00	2000.00	1300.00	590.00	none
Weightage (0.60-1.00)	Upper Limit	-30.00	-44.00	-58.00	-72.00	-86.20	5
	Lower Limit	483.33	366.67	250.00	133.33	15.00	1*

^star (*) mark denotes fulfilling of best minimum/closeness criteria.

ANNEXURES

Annexure 1: Subjective and Objective

There is nothing workable if not of prospective nature. For a locality to be analyzed by FSGs, mission and vision perspective should always be in mind. Figure A.1.1 should focus on this idea of perspective that a boundary of framework should be with a significance of future expansions. So long as FSG study is concerned, it is highly essential to meet up with modelling's potential or project-budget's anticipatory fulfillment. Surrounding of a locality within framework therefore needs to be given visionary importance. These areas can be classified by twos and these twos should be included into the study always. The areas are, namely, for surrounding area the objective locality (O.L) and for locality within the subjective locality (S.L). Description of these two areas is given in Table A.1.1 (schematic diagram shown in Figure A.1.1).

Table A.1.1: Nature of locality^

Sl.	Locality Name	Description
1	Objective	It is location outside locality (area) concerned, by FSG modelling. It is so named because of possibility of control of framework does exist within it. Such control points could be the visionary measure that a business planning (be it finance, marketing, operation or else) may look upon.
2	Subjective	It is the locality within which framework is built up. It is so named because of possibility of all factors in building up the framework is lying within the locality itself. Very less factors are seldom found outside this locality. It has a fixed boundary. Its shape and size should be easy, flexible and known. It must have extensive property of future inclusions. Its peripheral lines must be properly planned and should be not changed haphazardly, and if not, complexity in operation of analysing framework may come in picture. Each point in this locality (area) must be properly accessible and not beyond a potential of effective measure.

^to know control points of framework please see Annexure 2.

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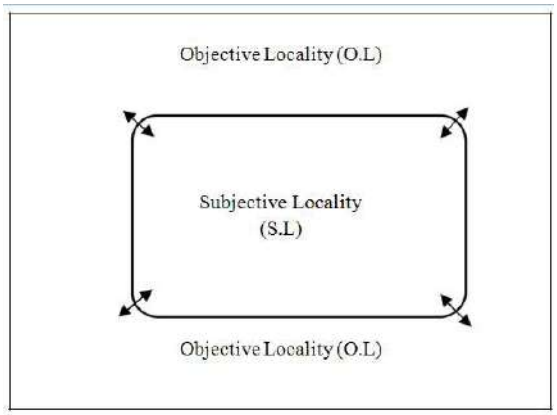

Figure A.1.1: Areal demarcation of locality

Such classification may be required into the integrated management for many reasons which may include the following (not by least) -

- To abide by or arrive at expansion plans, if any.
- To have a good connectivity on the growths of the two areas. To avoid any mismatch between the twos and so on.

It is also study's assumption to consider an expansion strategy always for a given S.L. With such strategy, a potential power gets increased for good future of locality concerned. This is a concept totally applicable for entirety of the study as well. Another assumption is that framework should always be a closed one in order to complete integrity among all points or families (Figure A.1.1); a framework is to be within S.L always. Entire study of framework formation and analysis is thereforth to be under consideration of a good correlation between O.L and S.L. in order to have the framework long-lasting with an accuracy standard.

Annexure 2: Origination Approach (Mechanism)

A typical diagram of framework is shown in Figure A.2.1. In this, positioning of FSGs as points are marked by 1,2,3…,7 by forming the boundary lines. Inside of boundary lines such as 1-2, 2-3, 3-4 etc., the area enclosed is termed as subjective field and outside of the boundary the area as objective (please see Table A.1.1). An assumption is to be reminded here that C.O.A is necessarily in process to determine D.O.A.

Another assumption is to consider that dimensional measure of framework itself serves as a dimensional quantity (distance, length etc.) but it could also serve as force quantity. This force quantity is termed here as *origination force*. In fact, such force quantity will be able to control framework entirely.

Entire set-up by co-ordinate geometry of enclosed framework so shown in Figure A.2.1 is self-expressive alongwith O.L and S.L. To accomplish analysis by using D.O.A for a framework 12345671 (Figure A.2.1), dimensional measures shall be taken into consideration by origination approach. This approach is quite new to the research.

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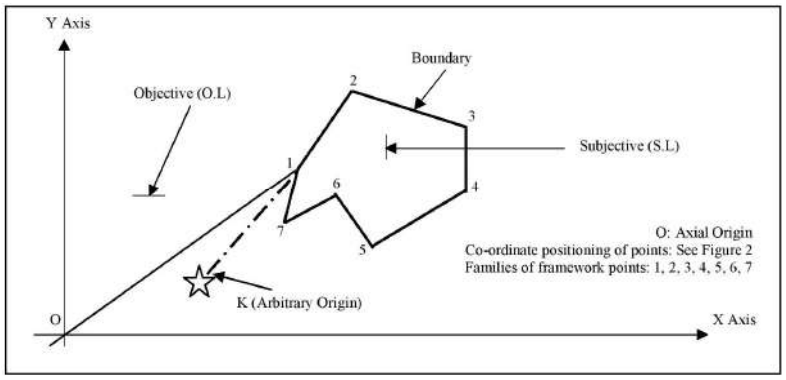

Figure A.2.1: A Framework Diagram

Origination Approach

Dimensional measures in terms of distance, length force, etc. shall be calculated for framework. To do so, characteristic of dimension is important. For distance determination, all dimensions of framework need to be treated as distance or length. Similarly, it'd be force dimension for force quantity determination (see Table A.2.2).

Table A.2.2: Detailing of measures of framework

Explanation item	Dimensional measures	
	Distance quantity	Force quantity
What?	Length	Force
What for?	To draw framework.	To find out interaction (that is, interactive force) between points or families.
On what variables?	F, S and G	F, S and G
What origination approach to be used?	Both (Axial origination and Arbitrary origination)	Both (Axial origination and Arbitrary origination)
What application?	Vector analysis (By line vector)	Vector analysis (By force vector)

^these measures are for controlling of framework.

To obtain such dimensional measures, vector analysis has been taken as the pursuit to apply in the study. Framework shown in Figure A.2.1 which is shown by axial origin O will be analyzed for dimensional measurement by vector analysis with respect to two different positions of the origin O. One position is in itself of origin O and another position is arbitrary, other than position O. This other position is shown by K in the figure. Thus, this approach is classified under two approaches further –

- Axial origin based.
- Arbitrary origin based.

Let's describe both one after another as follows -

Axial Origination

After completion of framework's points by definite peripheral lines, this approach as mentioned considers joining of each and every point of framework right from origin O. There shall be rays of such lines (like O-2, O-3, etc) originated from axial origin O to all points of framework, resembling a prism-like outlook (Figure A.2.2). Note: This approach attempts to establish a control over framework with respect to axial origin O.

Analytical Mechanism (using vector analysis):

To calculate dimensional measures, let's first of all prepare a triangle (vector triangle) with required vector

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dimensions along the lines so drawn, as shown by Figure A.2.2.
For example, to calculate force vector, a vector triangle is formed by force vector O-2 and O-3 with direction. Now by application of vector application (given with the direction conventions),
For direction convention from 2 to 3 of line 2-3, resultant vector 2-O=force vector 3-O + force vector 2-3.For direction convention from 3 to 2 of line 2-3, resultant vector 3-O=force vector 2-O + force vector 3-2.
So, direction of vector may be on both directions for line 2-3 only, as applicable and it's shown in Figure A.2.2.
Above resultant vectors are force resultants that would let us know the force at which the framework is lying on, leading to give us a degree of controlling. However, calculation of line vectors should be applicable to find out dimensional distances from origin or in between points (Table A.2.2).

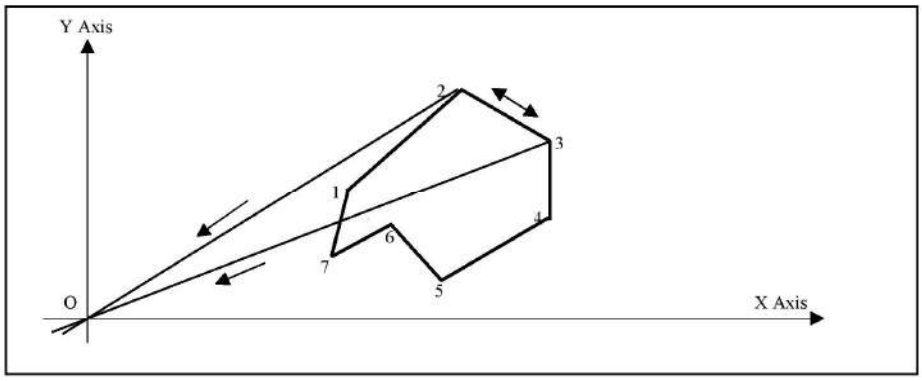

Figure A.2.2: Framework Analysis Layout

Arbitrary Origination

It is similar like axial origination. Only exception that's made this approach different is that the point of origination of the lines joining points of framework is here with an origin outside the axial origin. As the point of origin is arbitrarily chosen, this type of origin (K indicated by star mark, shown in Figure A.2.3) would facilitate a 360 degree rotation (against 90 degree rotation for axial origination) for existence and operation by the origin.
Note:

- Position K can be anywhere in and within O.L and it's spatial by nature.
- This approach also attempts to establish a control over framework with respect to arbitrary origin K. Dimensional measures can be calculated by vector analysis by way explained earlier.

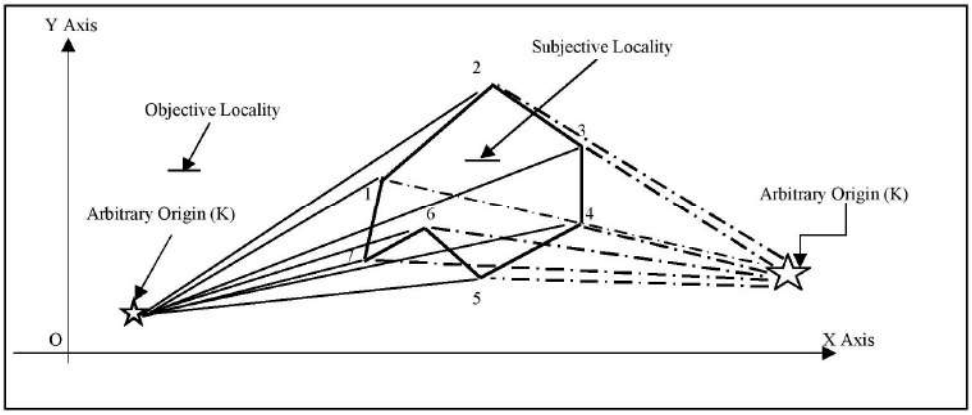

Figure A.2.3: Framework Analysis Layout

Analytical Mechanism:

Similar like earlier approach, the prism-like outlook may come out like the one shown in Figure A.2.3 if all joining lines (dotted here) are drawn and joined with respect to an arbitrary point on any point of O.L. For

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analytical interest, calculation mechanism is similar like earlier axial origination approach. Only implication for difference from earlier approach is - here is given with an origination which is 360 degree spatial and entire framework can thus be controlled spatially at any suitable position in O.L conferring more balancing disposition in framework's potential to orientation or move-ability. This dynamic nature is herewith attained by the study, by vector analysis.