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Qualitative Research Methods To Study Shop Signs

Context: India

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Abstract : In the present digital age of a consumer-oriented society, signs and the messages they communicate become prime facilitators to promote and firmly establish a business within a marketplace. Shop signs are generally treated as mere structural components of shop exteriors that imbibe a modest signature of the respective business shop owner in order to make his or her identity known to the public. However, this is a basic level of understanding of a sign for a shop. To address the core aim and objectives behind the message and communication aspects that craft the representation of a shop sign for the buyer/consumer; the author applied a group of qualitative research methods to study a data collection of 450 shop signs from selective five cities of India as part of her doctoral thesis, 'Visual Framework of colour analysis of shop signs in cities of India' (Nath and Poovaiah, 2015). This paper brings forth a step-by-step research plan that outlines the qualitative data collection methods, sampling of the documented data and selection of variables; such as stratified data sampling; along with detailed photo documentations and videographies of shop sign makers as well. In addition, the paper elaborates on the visual analytical method applied with the details of the object of study, variables, their meanings, redefinitions and mode of analysis. The definitions and meanings of the four dimensions of color attribute and their respective characteristics to be analyzed in the total data of five-city shop signs has been presented. After this we have outlined the stages of the visual analytical framework development of color analysis in shop signs by applying the research approach of methodological Bricolage. The discussions and insights showcase advantages and of using a mixed method qualitative approach to study the aspects of signs, significations, message and communication as part of commercial businesses in local market places and the positive takeaways and implications for signboard painters as well (context: India).

IndexTerms **- Signs, Shop Signs, Stratified Data Sampling, Qualitative Research Methods, Cities, India**

I. INTRODUCTION

Shop signs are generally treated as mere structural components of shop exteriors that imbibe a modest signature of the shop owner in order to make his or her identity known to the public. However, this is a basic level of understanding of a sign for a shop. A shop sign as an object in the context of this research imbibes two very distinct contributions as part of a cityscape. They are as follows:

1) A shop sign is a distinct element of a street culture that fascinates with respect to history, culture and social identity of a marketplace, city and its people. In the context of India, there are hardly any textual records that describe this role of shop signs.

2) Shop signs can also be considered as genuine urban markers of the various trades and crafts in a city (Yi, 2007). As artifacts, they also constitute the material culture prevalent in marketplaces of different cities in India.

The data in this research is a documentation of a large number of shop signs belonging to a broad timeline. These shop signs have been photo-documented by the researcher from different marketplaces and their respective cities in India. The visualization of this data has been a challenging task. Post the data collection, the need of the hour was to develop a suitable method to formulate a visual framework to analyze the selected attribute of color in our data of shop signs.

The following sections elaborate the step-by-step process starting from the aims and objectives, data collection, selection of variables, a suitable methodological research approach and finally the formulation of a visual framework of color analysis of shop signs.

II. AIM AND OBJECTIVES OF THE STUDY

1) To decide the basis and appropriate parametric approach of acquiring as well as organizing a good number of shop signs from
a selected number of cities for final analysis.
2) To select a sampling method in order to acquire a representative group of shop signs from the large data collected by the
researcher.
3) To identify the variables of cities, marketplaces and time periods.
4) To identify the component parts in the visual attribute of color that can be taken forward for the final analysis of shop signs.
5) To select a suitable existing method for the formulation of a visual framework of color analysis of shop signs in our research.

III. DATA COLLECTION

The author and researcher has utilized two modes of data collections, as follows:

1) To document shop sign photographs available in books, magazines and web resources. There may have been discrepancies that are inherent in the shop sign photographs available on the web or other print publications. There has been very little hint that these signs exist for real as part of the street markets from the pictures displayed in the web and printed records.
2) Therefore, the researcher decided to go in for a second approach to collect data first hand by making field visits to different marketplaces and cities. This approach seemed to be more effective in order to acquire the shop signs as they exist in reality as part of streetscapes.

As part of the field visits, the researcher could gather information from the shop owners about the visual aspects and the business image of their shops. The following sections present the data collection methods used in this research.

3.1 Documentation through photography

Photography as a visual research technique has been used in the fields of anthropology, sociology, history and design (Collier and Collier 1986; Edwards 1992; Prosser 1998). We documented shop signs through photography in their isolated form as well as in groups as part of marketplaces in different cities of India. The on field captures could document data of around 3500 shop signs from twelve cities of India. This approach has been applied by the researcher in order to inculcate meaning, value and richness associated with the visual design of shop signs. Not only could she capture each of the shop signs or their groups as part of streetscapes but also the information about their year of installation, business kind, scale and the marketplace profile from the shop owners. This was instrumental in acquiring multiple perspectives about shop signs as urban markers of the cities they belong to. Therefore, the data imbibes richness with respect to the identity of shop sign as an object of material culture as well as a medium of visual display design within the paradigm of time periods, marketplaces and cities in India.

3.2 Documentation through videography

Video documentation of select interviews with the makers of these shop signs is part of the data collection. They helped us to capture the background around the making of a shop sign. We share a few photographs of the artists painting at the time of interviews (Fig. 1). The videos provide data collection to gather the makers' perspectives, process and rationale followed by them in the making of shop signs. The

collection of videos reveal shop signs as powerful social mediums of display with a physical interface that communicates new kinds of visual identities as compared to other objects of urban visual culture in streetscapes.

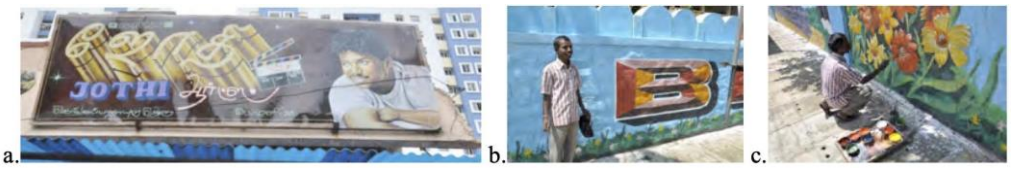

Figure 1. a. Interviews at Jonji Painters, Chennai, b. and c. Mr. Shivkumar, Murugan Arts painters, Bengaluru

3.3 Stratified sampling method for data reduction

The data collection included around 3500 shop signs from twelve cities of India: Agra, Ajmer, Ahmedabad, Bengaluru, Chandigarh, Chennai, Fatehpur Sikri, Hyderabad, Jaipur, Kishangarh, Mumbai and Thiruvananthapuram. This large number had to be reduced in order to get a representative sample of shop signs for analysis. The researcher could observe damaged shop signs or ones with incomplete information with respect to their year of installation, design basis, material identity and business scale as gathered from the shop owners and the makers of the signs. After elimination, around 2700 shop signs were filtered from twelve cities. Sampling this large data required a mathematical rationale.

The author and researcher selected a stratified sampling method after taking into account other existing methods such as simple, systematic, oversampling and cluster sampling. Finally, stratified sampling method was applied to eliminate and distribute the acquired number of shop signs into systematic subgroup divisions or strata.

A stratified sample is an outcome of that sampling technique in which the researcher divides an entire target population into different subgroups or strata and then randomly selects the final subjects proportionally from the different strata. Stratification groups members of a population into relatively homogenous strata before sampling. This practice helps improve the representation of a sample by reducing the degree of sample error (Babbie, 1992). This type of sampling method is applied when the researcher wants to highlight specific subgroups within the population. For instance, to obtain a stratified sample of university students, the researcher would first organize the population by college class and then select appropriate numbers of freshmen, sophomores, juniors and seniors. This ensures that the researcher has adequate amounts of subjects from each class in the final sample.

Similarly, strata in our study were formulated by first reducing twelve cities to five cities. The next step was to organize the population of shop signs to a number achieved per city. When per city sample number was acquired, further numbers in strata of shop signs in different marketplaces within each city could be calculated. A random elimination of shop sign photographs on the basis of visual condition helped in attaining a reduced and manageable sample of shop signs per marketplace. Henceforth, we got marketplaces as distinct sub-groups. They together defined the larger sub-group of shop signs per city. Three marketplaces per city were chosen on the basis of business scales. Generally, for quantitative and qualitative research analysis, a sample size of 100 is preferred (Nielson et. al, 2004). Finally a good number of 30 shop signs per marketplace in each of the cities was achieved that led to a good number of 90 shop signs per city for final analysis (Fig. 2).

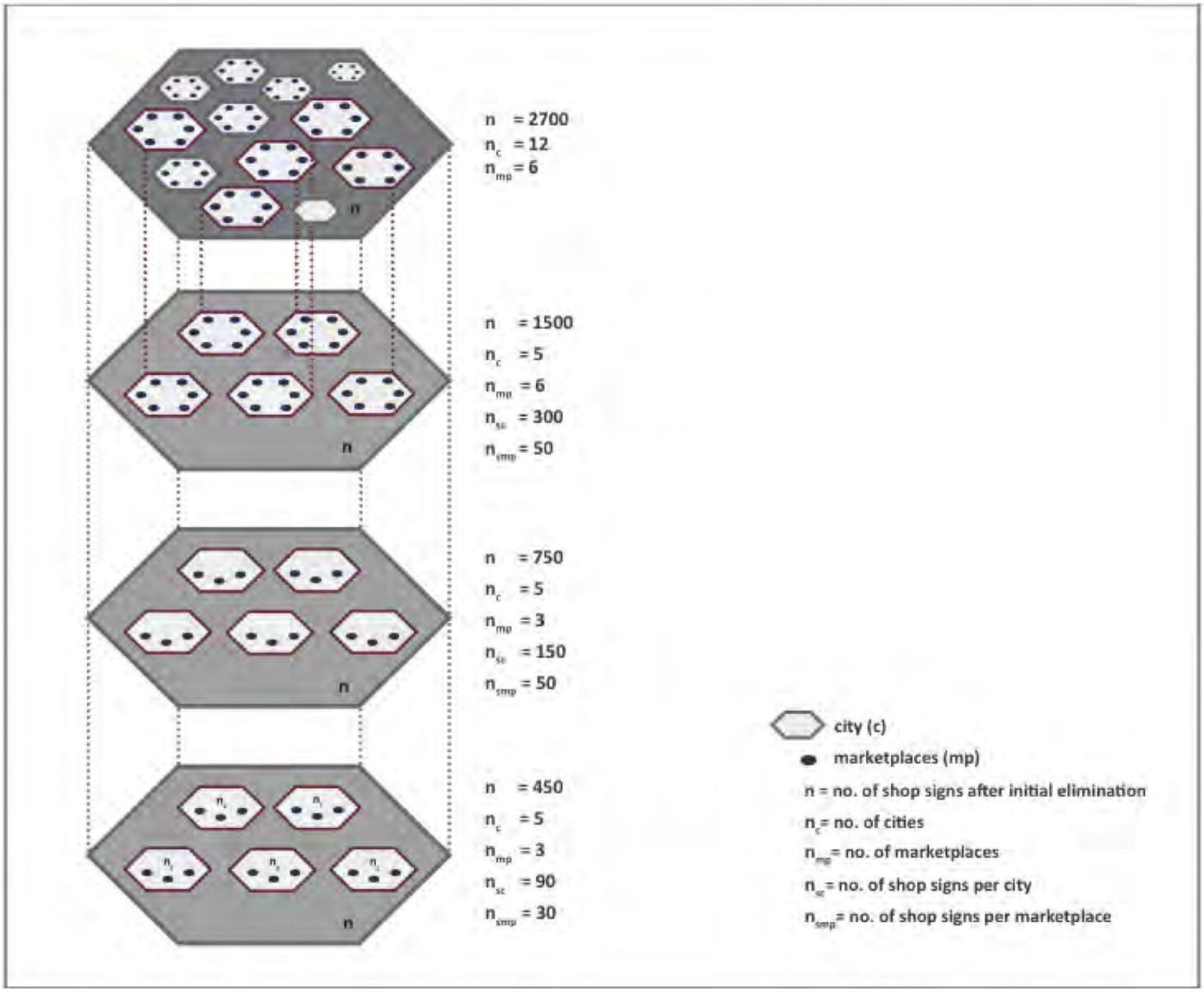

Figure 2. Stratified sampling to acquire representative shop signs and their numbers

All the steps of sampling entire data of shop signs in our research have been described and illustrated as follows:

1) **Total Population (N):**
N = 3500 shop signs in six marketplaces of each of 12 cities

2) Population (n) after elimination of damaged shop signs or one with incomplete information:
n= 2700 shop signs in six marketplaces of each of 12 cities

3) Reduction of 12 cities to 5 cities with a good number of around 300 shop signs per city: 50 shop signs per marketplace (mp)

4) Reduction of six marketplaces to three marketplaces:
Shop business scale was the parameter that included different kinds of business status of markets. In each city, we could identify
at least three marketplaces (mp) representing different business scales small, small-medium and large, with each marketplace
including 50 shop signs. Therefore, the six marketplaces were reduced to three marketplaces per city in the selected five cities in our data.

5) Reduction of number of shop signs from 50 to 30 per marketplace: In order to reduce per city sample size of shop signs close to 100, we revisited the 50 shop signs and selected a representative sample size of 30 shop signs per marketplace according to its business scale as explained in section 3.4 below. This led to a total of 90 shop signs sample size for each of the five cities in our data (Fig. 2 above).

3.3 Selection criteria of cities, marketplaces and timeslots

1) Cities

The initial data collection from 12 cities had an uneven number of shop signs. Some cities had more than 300 shop signs, while some others had less than 100. Therefore, we selected those cities that presented good scope in terms of a range of signboards belonging to a broad timeline along with total number of shop signs that could be considered for both a qualitative analysis and a quantitative visualization. On this basis, the cities of Jaipur, Hyderabad, Mumbai, Bengaluru and Chennai were selected.

2) Marketplaces

Shop kinds can be gauged by the nature of trade i.e. wholesale, retail / manufacturing or the assets and revenues parameters. Out of these, the most common way is to classify on the basis of the nature of business that has direct correlation with the scales of business. For instance, small-scale business sometimes has a sub-classification of cottage industries and micro enterprises. SMES (small to medium enterprises) lump the small and medium business together in order to emphasize the difference from the large business that are generally multinationals or key players in the industry. We selected three marketplaces per city with three different scales of business as follows:

a) Small scale business marketplace

This kind of marketplace mainly consists small business shops wherein the ownerships, partnerships and proprietorships are planned on a small scale. For instance, general merchant, tea shops, juice stalls, tailors and small medical shops (Fig. 3).

Figure 3. Small-scale business shops from the city of Ajmer, Rajasthan, India

b) Small and medium scale business marketplace

This kind of marketplace has a mixture of small and medium business shops wherein the ownerships, partnerships and proprietorships are planned on a medium business scale. For instance, variety shops such as bakeries, local items, stationery stores, grocery stores, local beauty parlors, book stall, service shops: hardware stores, watch repair shops etc. (Fig. 4).

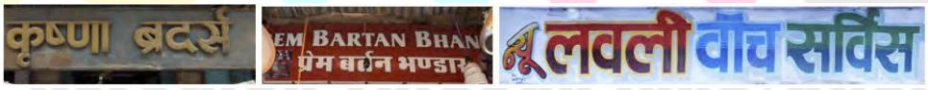

Figure 4. Small and medium-scale business shops from the city of Ajmer, Rajasthan, India

c) Large scale business marketplace

This kind of marketplace mainly consists of large business shops wherein the ownerships, partnerships and proprietorships are planned on large scale. For instance, large outlets like Nike, Pantaloons, @home etc. and large Showrooms like Gili, Manyavar, Baggit, Saboo Collections etc. (Fig. .5).

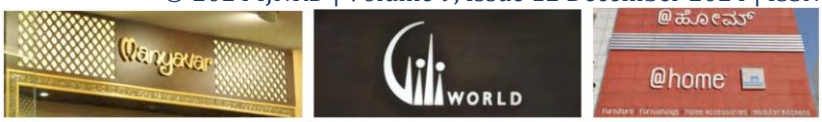

Figure 5. Large-scale business shops from the city of Bengaluru, Karnataka, India

3) Timeslots

The data of shop signs collected per marketplace in each of the five cities in this research includes shop signs as old as pre-independence to the post-independence and the modern times. A slot-wise continuous ordering of six timeslots that represent significant time periods of pre and post-independence in India were finalized as: 1930-44, 1945-59, 1960-74, 1975- 89, 1990-2004 and 2005 onwards. The year of the making and installations of shop signs in our data belong to each of these time slots. Each slot including 14 years give a good scope to tap some marked historical, social and scientific developments in India as follows:

a) The time period slot in British Colonial India falls between 1930-44. During this time period, marked revolutions such as

Salt Satyagraha, Khadi and Civil Disobedience movements initiated by Mahatma Gandhi to propagate notions of

self-reliance, hard work, sacrifice etc. Other political agitations and social regimes and other events occurred nationally as

well as internationally (Keay, 2011).

b) The next time slot covering the majority of years in the post-independent times in India falls between 1945-59. This period

was well known for Nehru's efforts to establish a marked development in the public sectors, with the advent of a lot of

premier educational universities and institutes like the IITs in India. Nehru aimed for stabilization of independent India with

forming of our Indian constitution in 1950, with the following years well known for building of dams to address large-scale

preservation efforts (Keay, 2011). In addition, this period includes many scientific inventions, tech advancements in printing

and display design, social developments. This time slot is also marked by the Golden Age of Indian film industry, well

known to experiment and explore popular themes of sacrifice, realism with respect to changing Indian society, families and

other socially evolving concepts.

c) The third time slot from 1960-74 marks the era of socio-political unrest in India, popular by the name of period of

consolidation at the backdrop of wars. On the other side, was also a period of invention of new schools in the arts, aesthetics

and fashion worlds. Popularly known as the decade of innocence, a new sense of individualism began to emerge in various

fields. For instance, remakes in Indian cinema and the decade went beyond disco and safari suits (Majumdar, 2007).

d) The next time periods between 1975-89 in India have been well known for the coming of Commercial advertising, photo

realism techniques and color broadcasting introduced for the first time on television. The socio-political atmosphere of

aggression, harsh decisions and unfortunate marginalized movements depicted the popular theme on Indian land. This period

is also known for the secessionist movements.

e) The next periods in the slot of 1990-2004 are well known for major economic growth of the nation that saw an upsurge in

new policy reforms (Panagaria, 2003). The refreshing 1990s with the emerging Open economy54, especially post the violent

and self-inflicted 1980s that led to a tattered financial status of India. 2005 onwards is representative of the ultra modern

lifestyle, tastes, fast technology and futuristic ideas to take India ahead.

3.4 Colour study for Analysis in terms of Dimensions and Characteristics

Designers and practitioners have discovered color analysis methods prominently for fashion designers and make-up artists. Among these existing methods, we have considered the four seasons and their twelve color types introduced by Carole Jackson in her book Color me Beautiful (1987). Following the same method, we could observe four dimensions of colors for the visual analysis of 450 shop signs in our research. The foremost description dimension describes color hue, value, saturation, temperature and kinds. In past, the well-known color researcher Johannes Itten saw reactions to color as aesthetic, emotional or symbolic. Colors and their combinations can be particularly evocative when they conjure an atmosphere or a period of history (Itten and Birren, 1970). Such color relationships are formed by using two or more color combinations, their hierarchy, contrast, effects and the mixing qualities in the form of color schemes. The fabrication, make and production of colors as part of materials is the dimension that explains their pragmatics. In this dimension, an extra thirteenth characteristic namely color functionality is also considered for final analysis in our research. Symbolism of colors reveals the identity dimension i.e. the culturally known or arbitrarily implied meanings of colors (Table 1).

Table 1. Four dimensions and thirteen color characteristics

Color dimensions	Color characteristics
1) Color description	Color hue Color value Color saturation Color temperature Color kinds
2) Color relationships	Color combinations Color hierarchy Color contrast Color effects Color schemes
3) Color pragmatics	Color production Color functionality
4) Color symbolism	Color identity

IV. DATA INTEGRATION FOR FORMATION OF A VISUAL FRAMEWORK

4.1 Bricolage method as a qualitative research approach

The design of a shop sign can be seen in terms of a visual form. This visual form envisages expression(s) that are explicit and meaning(s) that are implicit in the shop sign identity. This has helped us in integrating the explicit structural and visual syntax based patterns and trends with the implicit expressions and meaning based tendencies and conventions by applying the Bricolage method as a research approach. The method propagates the belief that without social contexts, visual research will become less meaningful and thus cannot be translated into a new cultural meaning. We agree with this role of Bricolage and have applied it as a research approach in our selection of trends, tendencies and conventions and the respective analytical observations and insights of each of these three. This has helped to create new meanings of a visual culture of shop signs as material objects linked to the social cum design research inquiries in the analysis chapter of this thesis.

4.2 Identifying and defining quadrants

4.2.1 Identifying Quadrants

The visual display of 450 shop signs in five cities was first put on the display space of the Shenoy Innovation studio at IDC, IIT Bombay by the researcher (Appendix IX). Then in the role of a bricoleur, she identified four independent factors in the visual design of the shop signs. When she observed each of the 450 signboard photographs identifying varied shop business, the first observation was of the component parts (signifiers/elements) and their arrangements in the foreground texts and the background panels. This represented the visual syntactics as part of each and every shop sign in her documented data. This syntax of elements and arrangements refers to patterns as the first factor identified by her in the visual design of a shop sign. Following this, the visual elements have expressions/ styles, the semantics in the context of semiotics.

These expressions were identified to be changing across six time slots for each signboard in the display. Therefore, these changing visual expressions and styles identified by her became the second factor of trends.

Moving further, she observed the well-known standards of color display in the foreground texts and the background panels of 450 shop signs display. These implicit symbolic meanings of color are the third identified factor, generally known by the term conventions. The fourth identified factor of tendencies came across her next step to study the history, culture, architecture and social underpinnings that influence each of the five city visual cultures and color displays. In the context of semiotics, both conventions and tendencies reveal meanings as symbolic norms and abstract impelling forces that reflect the pragmatics of the shop signs in this research.

4.2.2 Defining Quadrants

These identified factors as the four corners of the visualized framework of color analysis have been called quadrants in this research. The four factors identified by the researcher of patterns, trends, tendencies and conventions have been integrated by using the methodology of Bricolage (section 4.1). Before the analysis chapter, it is pertinent to present the definitions, meanings and kinds of patterns, trends, tendencies and conventions. To redefine each quadrant, we have followed an inductive rationale i.e. we have selected the keywords that explain the meaning of each of the four quadrants via established definitions, etymologies and findings by researchers and practitioners in the field of design.

IV. FORMULATION OF A VISUAL FRAMEWORK

Application of Bricolage methodology as described above has enabled us to formulate the visual framework of color analysis of a shop signboard (Fig. 6).

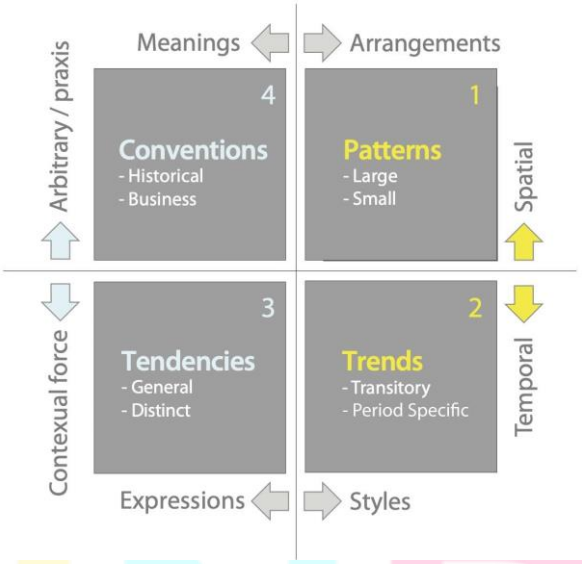

Figure 6. Bricolage method integrates Patterns, Trends, Tendencies and Conventions into a visual framework

There are reasons to place each quadrant at respective positions and along the vertical and horizontal domains of functions. These domains or the grounds make the foundation of each of the quadrants during the visual analysis of an attribute. Two domains together make the essence of one quadrant. For instance, patterns and their analysis represent the domains of arrangements and their spatial configurations and positions with respect to each other.

V. DISCUSSION AND INSIGHTS

The present methodology chapter brings forth the formulated research plan to analyze color in the selected data of shop signs in this thesis. This plan outlines the qualitative data collection modes, sampling of the documented data for reduction, selection of variables and acquiring a representative population within each variable to design a visualization of 450 shop signs from five selected cities in India across a timeline. Data collection involved field visits to cities in India within the researcher's best possible reach practically. For this, she could document 3500 shop signs from 12 cities in India through photography. The visits included written records made by the researcher during interactions with the shop owners. Along with this, she could also gather views of a few signboard painters and artists as well. The entire compilation of 3500 shop signs archived from 12 cities was re-organized by eliminating damaged, repetitive shop signs in terms of visual

representation and time periods. Then the method of stratified sampling was used to reduce this large data and get the most representative sample of shop signs, marketplaces and cities.

The attribute of color was reviewed in context of the science of colors, its principles in design and available methods of analysis. The definitions and meanings of the four dimensions of color and their respective characteristics were studied. There is one more characteristic of functionality that we could observe for the visual attribute of color in addition to the rest of the twelve characteristics.

The researcher could observe four distinct factors in each of the 450 shop signs. Each shop sign displayed elements and their similar arrangements, identified as a factor called patterns. Popular visual styles changing with time were the second identified factor of trends. The conceptual impelling forces driven by the city specific underpinnings of architecture, aesthetics, history, local narratives, lifestyle etc. were called tendencies. Finally, the established codes of color display in the context of India were conventions.

The next step was to understand each of the four factors and take into account the existing definitions, meanings and functions formulated by designers and researchers. This step was instrumental in knowing the epistemological and ontological position, standing and credibility of the four factors to be associated with color and the rationale behind their inclusion in the framework of visual analysis. The design of a shop sign could be fully understood from the four factors that make the four corners of the quadrants in the structure of the formulated visual framework.

Following the identification and redefinitions of quadrants, the methodological research approach of Bricolage has been described and how it integrates the four quadrants of patterns, trends, tendencies and conventions into a visual framework. This method views each and every shop sign in our data as a visual form made of information layers that display color via the quadrants across marketplaces, cities and time periods. This integration of quadrants through Bricolage finally gave the researcher a concrete form of the visualized framework of color analysis of shop signs.

VI. CONCLUSIONS

6.1 Visual mode of diachronic analysis of colors in shop signs

The data collection gave us a large number of shop signs belonging to different time periods of their making. The distinct feature of the diachronic analysis of colors in the shop signs conducted in this research work has been able to capture the shop signs belonging to six time slots (each slot of 14 years duration), belonging to five cities and three different marketplaces
per city in India.

A group of design case studies were gathered from both western and eastern parts of the world mainly to explore either the urban design or the architectural influences on shop signs as part of streetscapes. Thus, they reveal insights (even if historical) only in the said subject areas. Our study has been unique in a sense that the applied method of stratified sampling has helped us to simplify and reduce the large documented data of shop signs in terms of cities, marketplaces and time periods. All these factors have led to a detailed study of shop sign as an artifact of urban material cultural with historical underpinnings.

6.2 Inductive theoretical process to redefine quadrants

Following a set of assumptions for this research, we could observe the presence of patterns, trends, tendencies and conventions in the attribute of color. These terms have been defined, studied and researched by various designers/scholars/analysts for new meanings. The existing definitions, etymologies and meanings were collected and examined for the most characteristic keywords that explain them in the true picture. Thus, this inductive approach of joining the significant keywords helped us redefine all the terms in the design context of shop sign – this context being the major ground for our research. The inductive joining of words for new definitions and meanings presents a new approach to simplify theoretical complexity of terms for design researchers.

6.3 Rich qualitative associations in the visual analysis of color

As part of the creatively explored and articulated observations, as part of the visual analysis of color has been the kind of associations identified within quadrants. For instance, in case of period specific trend analysis, popular themes as part of movie posters, socio-economic conditions in national and local context, regional political influence and other arts and aesthetics movements in the specific periods could be associated to the parallel color display on shop signs. Distinct tendencies are other interesting qualities that use specific color hue in order to correspond with the look of the locally available stone panels in case of background sign panels across cities. For instance, the pink of the background sign panels in the city of Jaipur has been replicated

taking a direct cue from the tonal identity of quartzite sandstone that is the official royal stone material used in city's buildings, monuments and shop fronts.

6.4 Relevance of the framework for signboard designers

The framework of visual analysis of color designed in this research has been envisioned to act as an analytical tool that can aid designers or makers of signboards in the context of promotional design strategy, identity creation and business image building from the perspective of marketing and branding. This is so because the framework with patterns, trends, tendencies and conventions views color in this research from multiple perspectives. Likewise, other attributes of typography, graphics, layout and material can be analyzed for identifying patterns, trends, tendencies and conventions of the framework by sign designers in India.

To elaborate on these perspectives and influencing factors, for instance, trends of visual display design in shops would give information about the changing fashion and make of designs, related naming trends in case of different business kinds, new techniques of displaying shop names along with tag lines or sometimes tag lines themselves assuming the role of brand identity for a shop's business. The perspective of patterns would help resolve the mechanical coherence of all content on the signboard, that at many times is also followed on the printed visiting business card of a shop. These patterns of specific hues and other characteristics would help create a color or any other attribute's distinct grammar for the shop name identity, tag line identity or even background sign panels. This would give required cues to the sign designer to create a distinct syntax for a shop business in context of information design in these contemporary times. With tendencies and conventions being more locally, nationally, traditionally, historically and commercially ingrained meanings, the designer would get familiarized with certain unknown qualities and age-old known practices to portray form and content of the business in context of its kind, scale, purpose, history and future visions.

The suggested visual framework can act as effective analytical tool to decode the communication aspects of different kinds of signs in context of visual design or may be the larger perspective of semiotics and conceptual modes of meaning-making and signification systems with which different signs operate in a range of semiotics. Semioticians have provided us the theoretical foundation of this subject area. The current framework in the focused context of visual design, takes a lead from the mode of semiotic analysis in order to create a design thinking based visual analysis mode that studies an attribute, its characteristics and their modes of visual communication.

VI. ACKNOWLEDGEMENT

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