APPLIED RESEARCH INTERNATIONAL CONFERENCES on World Economic & Social Review (ARICWESR) 2019 Oxford Series

ABSTRACT BOOK

Dates: 28th-29th June 2019

Conference Venue: Seminar Room 5,
St. Anne's College, University of Oxford, U.K
OX2 6HS

EXCLUSIVE PARTNERS:

REVISITING HOME LANGUAGE TEACHING IN CONTEMPORARY SOCIETY[1]

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Abstract

Home language teaching is increasingly accepted as beneficial to effective teaching and learning, especially for students whose home language differs from the language of instruction at their school. This paper highlights one much less discussed angle in the mounting evidence supporting the effectiveness in home language teaching: namely that in the contemporary world, the meaning of home language/mother-tongue/first language (L1) has become less clear cut. To examine how this ambiguity has (or has not) been considered in the relevant literature, major meta-analyses in relevant discipline are reviewed. The original aim of the review was to examine how home language is conceived and considered. However, because the direct discussion of the term is wanting in the majority of the meta-analyses, this paper turns to a broader examination of other aspects of L1. This broader analysis reinforces the finding in terms of the limited attention complexity of language has been considered in the meta-analyses.

Keywords: home language teaching, L1 teaching, bilingual education, effectiveness, meta-analyses

> *Mandarin is the primary language in the household my children grow up[2]. There are English books and TV channels at home, but English is both intentionally and actively discouraged within the household. When my children reached school age, however, the school in the area offered only either English or Afrikaans[3] as home language/language of instruction, neither of which is their home language of course. As an academic, I am familiar with the evidence that mother tongue education is*

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[2] Particularly after the break-up of the marriage between me (Mandarin speaking) and the children's father (Sesotho speaking—one of the other large ethnic groups in South Africa).

[3] Another dominant language in South Africa.

more beneficial to children's development. As a parent, however, I ask myself: available options aside, would I want to send my children to Mandarin schools if they were available?

Introduction

Movement of people, goods and capital has accelerated with globalisation. With increased movement and interactions, exchange of ideas, culture, technology and data has also grown quickly. At the heart of all these exchanges is communication, often through a common language.

The language profile in different countries and among groups of people differs greatly[4], but English has clearly emerged as the lingua franca for the world. In *Ethnologue: Languages of the World*[5] 2019 edition, English firmly sits at the top as a second language (L2) with 753.3 million speakers, more than doubling the second and third largest L2s (Hindi at 274.2 million and Arabic at 273.9 million)[6]. This English 'fever' has reached far and wide. Even in a relatively monolingual country[7] such as China, where a huge population means that one can operate well in the country without English, its "language policy and national curricula… [are said to have] led to a *frantic pursuit* of English" (Huang, 2016, p.28, emphasis added). Besides such a positive reception in monolingual countries where English often remains a subject and not medium of instruction, English usually takes a more central stage in education in multilingual countries or for immigrants who move to English speaking countries. For those immigrants particularly, learning *through* English is often the only available option unless their new adopted country has a progressive and accommodating language policy that makes provision for home language (first language, L1) learning[89].

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[4] See https://www.insider.com/most-popular-second-languages-2017-2 for individual country profiles.

[5] An annual reference publication that provides statistics information on the world languages since 1951.

[6] https://en.wikipedia.org/wiki/List_of_languages_by_total_number_of_speakers

[7] (Discounting all the dialects), and as compared to other South East Asia countries (Singapore, Hong Kong etc) or many African countries.

[8] This article uses the term mother tongue, home language and first language (L1) interchangeably.

[9] The availability of bilingual education is sometimes also hindered by practicality, eg clustering of immigrants, availability of bilingual teachers or teaching material of providing L1 learning.

In education and particularly the language of instruction literature, however, it is fairly well established that learning through L1 (as opposed to L2), at least for the first few years of learning, is more beneficial to learning outcome and student development.

This paper focuses on the notion of L1. It premises on an increasingly complicated family/home language situations in contemporary society. Migrant families aside, this article invites the readers to consider the following scenarios where home language is often less clear cut:

- Multi-lingual families where multiple languages are used within one family;
- Families with deaf children/parents, where the language of children and parents are different;
- Families with multiple primary caregivers (*e.g.,* nannies) who speak different languages[10];
- Parents who consciously or unconsciously stop passing their language to their children[11].

There is also established sociolinguistic finding that claims peers, not parents, who count more in language transmission[12] (Cook-Gumperz, Corsaro & Streeck, 1986; Corsaro & Eder, 1990).

Among the many disciplines that directly or indirectly investigate this topic, including *Mother tongue education, Bilingual education, Mother tongue based bilingual/multilingual education* and *Applied linguistics,* much of the literature is situated within *Bilingual education.* The more specific aim of this article, therefore, is to examine the working definition of the term (L1) in this discipline, particular in terms of how the potential complexity of the term has been considered.

The paper is organized as follows: after providing a brief overview of the eight meta-analyses included in this analysis and some general observations of these meta-analyses, the paper discusses how L1 is included, conceived and analysed (or the lack of) in their finding. Because the direct discussion of the term is found to be wanting in the majority of the meta-analyses, the article then turns to a broader examination of other aspects of L1 teaching and learning. The article ends with a summary of the findings and conclusion.

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[10] Especially with busy parents who do not spend much time with their children, but instead leave much of the caretaking to other caregivers, say a helper/nanny.

[11] This is fairly common in some African countries, particular among middle-class families, where the parents do not speak their home language (ethnic language) to their children, but instead communicate in English at home.

[12] It depends on the relationship and closeness within the family as well. The peer transmission is called *horizontal transmission* (Cavalli-Sforza & Feldman, 1981), as opposed to *intergenerational transmission* or *vertical transmission.* This horizontal transmission starts as early as a child's early playmates well into schooling and adulthood.

Methodology

This paper is a review of how L1 is conceived in the eight meta-analyses on bilingual education effectiveness. The choice of focusing on meta-analyses only is due to the following reasons:

- Within *Bilingual education*, primary, secondary, and increasingly research synthesis have featured extensive discussions on the topic, especially since the 1970s. Therefore, an exceptionally large volume of literature exists on this topic.
- Research synthesis is the highest level in the research evidence pyramid (Haynes, 2006) and is expected to provide a more balanced (than any single primary studies) and therefore valid conclusion on the topics it synthesises. Within research synthesis, there is a distinction between narrative synthesis and meta-analysis. Narrative synthesis relies on vote count, while meta-analysis uses statistical analysis, often yields "effect sizes, which are standardized statistics that can be averaged in order to provide an overall average index in a given field" (Mcfield, 2002, p. 218). Meta-analysis has further advantage over narrative synthesis in that it considers the sample size in each primary study and therefore mitigates sample size bias in the finding.
- Among evaluations of the effectiveness of bilingual education programmes, there are numerous and different outcome dimensions, contributing factors included in the analysis, criteria of selection and considerations, etc. Meta-analysis is particularly well situated for this situation because it "allows for calculations of effect sizes for various factors, whereas a qualitative narrative discussion would yield information that is difficult to systematize or convert to statistics for comparison across studies" (Mcfield, 2002, p. 18).

The dataset of the eight meta-analyses is determined through both general search of bilingual education in Google scholars and Ebscohost as well as forward searches through the reference lists from existing studies and narrative research syntheses on the topic.

The searches produce altogether nine meta-analyses published so far on this topic. The very first meta-analysis—Okada et al. 1982[13]—unfortunately is not publically available and therefore excluded from this analysis. This yields eight meta-analyses. In chronicle order, they are Willig (1985); Greene (1997); Mcfield (2002); Rolstad, Mahoney & Glass (2005a); Rolstad, Mahoney & Glass (2005b); Slavin & Cheung (2005); Rossell, & Kuder (2005); Francis, Lesaux, August (2006); Cheung & Slavin (2012); Reljić, Ferring & Martin (2015). All only include experiments

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[13] Commissioned by National Center for Bilingual Research, California, U.S.

(and quasi-experiments) with control and experiment groups in their syntheses. A brief description of the relevant aspects of these meta-analyses is given in Table 1:

Table 1: a brief description of the meta-analyses included in this study

	Subject focus	No. of study included	Geographic/language focus	Overall finding
Willig (1985)	• Achievement: literacy (both in L1 and L2), math & other subjects; • affective dimensions (eg attitude toward self)	23 (a large amount of unknown programme assignment- not random and not matching, p. 289)	U.S. (L1: Spanish; L2: English)	L1 teaching has a small to moderate positive effect
Greene (1997)	• Achievement: literacy, math & other subjects;	11 (sub-set of five randomised studies)	U.S. (L1: 1 French; 1 Choctaw; rest Spanish)	• Same as above; • sub-set has larger effect
Mcfield (2002)	• Achievement: literacy	10[14]	U.S. (1 French, 1 Cherokee, rest Spanish)	L1 teaching has a positive effect
Rolstad, Mahoney & Glass (2005a[15])	• Achievement: literacy, math & other subjects;	17	U.S. (L1: majority Spanish) Note: L1 coded but not discussed	Small to moderate positive effect
Slavin & Cheung (2005)	• Achievement: literacy (specifically reading)	17 (five randomised studies)	U.S. (L1: Spanish)	Overall favour L1 teaching

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[14] One was excluded from the overall average effect size calculations because it failed effect sizes homogeneity test where the study is found not suitable to "compare within and across different levels of program quality categories" (Mcfield, 2002, p. 219)

[15] The same authors also published an article with a sub-set of the studies included in this publication, focusing on Arizona only: Rolstad, Mahoney & Glass (2005b). As the Arizona sub-set is all included in Rolstad, Mahoney & Glass (2005a), this paper only considers Rolstad, Mahoney & Glass (2005a).

Francis, Lesaux, August (2006[16])	• Achievement: literacy	20 (five randomised studies)	Majority in U.S. (1 French, 1 Choctaw, rest Spanish), 3 French immersion	• Small to moderate positive effect • sub-set larger effect
Cheung & Slavin (2012)	• Achievement: literacy	13 (three randomised studies)	U.S. (focus on Spanish dominant English learners)	• Quality of instruction more important than language of instruction • Overall favouring L1, but subset smaller effect; • "Largest and longest modern day study…didn't find difference" (389)
Reljić, Ferring & Martin (2015)	• Achievement: literacy, math & other subjects;	seven	Europe: 3 in Spain (Asturian, Basque, Catalan); 1 UK (Urdu); 1 Ireland (Gaelic); 1 Norway (Urdu); 1 Netherland (Turks)	• Overall small to moderate positive effect, but 3 studies contributed to most weight

A few general observations are notable from Table 1:

- Although details differ, all eight meta-analyses conclude that L1 teaching and learning is overall beneficial.
- A relatively small amount of primary studies are included in each meta-analysis (from seven to 23)[17], with even smaller subsets of primary studies that use randomisation sampling (the rest use matching).
- Majority of the meta-analyses focus on the U.S. and especially Spanish L1 students.
- Majority of the meta-analyses focus on achievement, particularly outcomes in literacy. The only meta-analysis that includes affective dimensions is the earliest study (Willig, 1985).

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[16] Also known as the NLP study.

[17] Inclusion criteria differs, but 'complains' about the quality of bilingual programmes and/or the evaluation for those programmes eligible for inclusion are also common. In addition, overlaps of one primary studies included in more than one meta-analysis is also fairly common.

L1 **In Meta-Analysis: Findings & Discussion**

In terms of the working definition of home language in the eight meta-analyses, most use the term L1 without any discussion in terms of its definition[18]. The only exception is the last entry: Reljić, Ferring & Martin (2015). In Reljić, Ferring & Martin's study, the authors justify their usage of the term (home language) in that "this term has been increasingly used" (p. 92). The authors further explain the meaning of the term as "the language of the home, which may be 'a mixed language or a set of languages or dialects' (Davies, 2003, p. 18)… synonyms [to those] used by different authors (e.g., L1 or first language), [or *native language* as used in some of the previous meta-analyses]" (p. 92). No further discussion or specific consideration of the complexity of the term is discernable.

In light of this finding, this paper turns to a broader examination of other aspects in these meta-analyses, more particularly the student demographic characteristics considered. This subsequent analysis reveals that in most of the meta-analyses, various student demographic characteristics have been considered in the coding of the primary studies (see Table 2 for details). However, possibly given the focus of these meta-analyses on the effectiveness of the bilingual programmes, often there are no separate discussions on these characteristics when the overall finding is presented and discussed.

Table 2: Inclusion of student characteristics in the meta-analyses

	Demographic characteristics considered/coded
Willig (1985)	• Coding scheme on demographic characteristics includes "characteristics of the students or samples in the primary studies" (p.274) without further details; • No direct discussion of such characteristics in finding, but discussed *language exposure* (more details below) in "additional influential variables" (p.293).
Greene (1997)	• No discussion on demographic characteristics in coding or discussion
Mcfield (2002)	• Student characteristics are not discussed in coding or discussion
Rolstad, Mahoney & Glass (2005a)	• *Control for Social Economic Status (SES)* is coded; • Coded student characteristics include *grade level*, *SES*; *ethnicity*; *gender*, *first language*. • No discussion in finding.

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[18] I need to read through the primary studies included to determine which L1 refers to in some of the meta-analyses.

Slavin & Cheung (2005)	• One paragraph discussing the level of similarity between the two languages, but no other discussion on other demographic characteristics; • *Evidence of initial equivalence* is coded and explained. Among the matching studies, 6 SES matching is mentioned.

Francis, Lesaux, August (2006)	• Coded demographic characteristics include *age, parental education, level of English usage at home, SES, previous education experience, length of exposure to L1 and L2*;
	• In describing the primary studies that use matching, mentions:
	  • 1 "well matched on kindergarten pre-tests, SES, preschool experience and other factors" (p. 379);
	  • 1 "comparable in terms of ethnicity, socio-economic status, and grade level" (p. 381);
	• No discussion in finding.

Cheung & Slavin (2012)	• Mentions that *evidence of initial equivalence* is coded. Among the 10 matching studies included, 6 SES matching is mentioned • No discussion on demographic characteristics
Reljić, Ferring & Martin (2015)	• Demographic characteristics coded include *gender, SES, grade* and *age*; • Mentions matching criteria included prior IQ, prior achievement, SES, native language, but no further details; • No discussion in finding.

Willig (1985) is the only exception to this. In Willig's discussion of her findings, she points to language exposure[19] as one important additional influential variable on programme effectiveness. Discussing this variable first (among influential variables), Willig explains the choice "not because of its statistical significance…but because of its conceptual value… [and that] the dearth of reported information concerning language dominance probably accounts for this lack of significance" (p. 294).

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[19] In terms of whether either/both control and experiment groups are Spanish or English dominant. The impact of this variable is said to be "when both groups were Spanish dominant there is an effect of almost one-half of a standard deviation favouring the experimental group. On the other hand, when the experimental group was Spanish dominant and the comparison group was English dominant, the effect sizes show little or no difference between the groups…similarity, when both groups were English dominant, there is little difference between the group" (p. 294-295)

Given the focus of the meta-analyses as well as the main participant population—mostly migrants or minority language speakers, the lack of discussion on the potential complications regarding the term home language is perhaps not entirely surprising. However, this lack of attention is of concern because:

- It fails to make an important distinction between home languages that are used (and with which frequencies) in the home situation and those not used.
- It fails to distinguish the scenarios where L1 has written material which the students have access to at home or elsewhere, and the language where little of such material is available or accessible.
- The lack of consideration in terms of exposure to neighborhood and playmates is at odds with the sociolinguistic finding on horizontal transmission.
- Attitudes (positive or negative) towards L1 exerts a critical influence on the effectiveness of L1 learning and L1-L2 transferring[20], but this is never mentioned in any of the meta-analyses.
- As implied in Slavin & Cheung's (2005) short discussion, the effectiveness of L1-L2 transferring is also likely impacted by the similarity between L1 and L2.

The existing resolutions to the above-mentioned lack of detailed consideration among the primary studies can be grouped into two broad categories:

- First is to use random sampling that theoretically 'removes' all prior differences between control and experimental groups. However, as noted in Table 1, the primary studies using this sampling method constitute very small sub-set.
- Second is to use matching in drawing control groups.

Besides the demographic characteristics mentioned in Table 2 and more relevant to the focus of this article is another critical element that should be included in the matching: pretest in terms of language ability both in L1 & L2. As Willig (1985), in her lengthy discussion on "equating groups on language variables" (three and half pages) and another half-page "additional problems in equating groups", writes: "when groups are formed through procedures that are not truly random, other ways must be found to equate the students in the two groups on their language proficiencies…[however], the use of language tests for equating groups on language proficiency introduces a[n additional] host of problems" (p. 299). Willig further outlines the additional host

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[20] Interdependency hypothesis (Skutnabb-Kangas & Toukomaa, 1976) is the main underlying theory supporting the effectiveness of L1 teaching and learning.

of problems as statistical considerations, language assessments themselves, and the extent of language exposure.

However, an examination of this language ability matching (Table 3) shows that is equally poorly reported in the meta-analyses.

Table 3: Language ability matching in the meta-analyses

	Matching language ability mentioned in the meta-analyses
Willig (1985)	• A discussion on the shortage of randomised primary studies; • A separate discussion on "equating groups on language variables" as mentioned above.
Greene (1997)	• A separate analysis/discussion on randomised primary studies, but no separate discussion on the matching studies;
Mcfield (2002)	• Discussion on matching criteria is not given consistently[21]. Many of such information is omitted in the narrative describing each primary studies; • Among those matching that was mentioned: • 1 study matched on L2 ability (p. 151);
Rolstad, Mahoney & Glass (2005a)	• *Previous L2 proficiency* (*criteria used for limited English proficiency classification*), *Source/model of L1 support*, *L1 support used for content areas* are coded; • On which criteria primary studies are matched is not mentioned.

Slavin & Cheung (2005)	• Mentions that lack of matching on pre-test differences is one exclusion criteria;
	• *Evidence of initial equivalence* is coded and explained. Among the matching studies:
	  • 1 study matched both in L1 and L2 pre-ability
	  • 5 matched on language (but no detail in terms of which language);
	  • 1 matching L2 ability, but L1 ability differs

Francis, Lesaux, August (2006)	• "No studies were excluded on the basis of level of pre-treatment differences" (p372) • Discussion on matching criteria is not given consistently. Many of such information is omitted; • Among the matching studies: • 1 study "not equivalent in English-language [L2] proficiency" (p.

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[21] One needs to go through narratives on each primary studies to find out.

	378); • 1 "with similar language proficiency as background characteristics" (p. 380) without further details;

Cheung & Slavin (2012)	• Mentions that *evidence of initial equivalence* is coded;
	 • The detail on pre-test language ability matching is explained:
	    • 1 study matched both in L1 and L2 pre-ability;
	    • 2 matched on language (but no detail of which language);
	    • 1 only L2 ability;
	    • 1 matching L2 ability, but L1 ability differs;

Reljić, Ferring & Martin (2015)	• Mentions matching criteria native language, but no further details.

Conclusion

The original aim of examining the working definition of the term (L1) was expanded to a broader analysis on other aspects of L1 in bilingual education because the direct discussion of the term is found to be wanting except one meta-analysis (Reljić, Ferring & Martin, 2015). The resulting broader analysis on student demographic characteristics, especially those related to language, however, reveals a similar limited direct attention, with the exception of Willig (1985). A further examination on the matching language ability pre-test criteria further confirms this limited attention.

This lack of attention is not entirely surprising given the focus of these meta-analyses on the effectiveness of the programmes. It is also possible that the topic has been considered in the original primary studies, but not discussed in more detail in the meta-analyses. However, randomized studies aside, lack of sufficient attention on reporting language ability matching, specifically on pre-test L1 language ability, may greatly undermine the validity of the evaluation of the programmes' effectiveness. Together with the narrow focus of the meta-analyses in achievement effectiveness, often on literacy outcomes only, often concentrated in one country (except Reljić, Ferring & Martin, 2015) and one L1 (Spanish), this paper cautions any uncritical acceptance of the conclusion from these meta-analyses.

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A DEMOGRAPHIC STUDY OF SLUM DWELLERS IN PUNE CITY

By Dr. Shirish Limaye[22]

Abstract

This research is focused on understanding the present status, possessions and aspirations of approximately 2,300 slum dwellers from Panmala area in Pune City. Data was collected through questionnaire. Demographic details such as gender, birthdate, age, marital status, education, occupations, whether handicapped, serious ailments if any, whether they have their own house or they have taken house on rent, what is their income per month, what are their savings, whether they are employed or unemployed, reasons for being unemployed, relations with neighbours, addictions, if any, cast category, whether they perform religious acts? What are the main problems they are facing? Do they possess any immovable property? Have they got benefits from the Government etc. The data collected was analysed by using simple statistical tools such as averages, percentages, ratios and proportions. The analysis is presented in the form of charts and diagrams. The conclusions are based on the scientific analysis.

[22] *Symbiosis College of Arts and Commerce, Pune, Maharashtra, India, Head, Department of Accountancy.*

Key words: slum dwellers, education, employment, saving, ailment.

Introduction

Ramakrishna Math and Ramakrishna Mission, is a socio-spiritual movement founded by Swami Vivekananda. This institution was established way back in 1897 in Belure, Hawara, West Bengal, India. The Ramakrishna Math and Mission teaches the public to practice and preach renunciation and service. The moto of this institution is *"Atmano Mokshartham, Jagat Hitaya Cha"* i.e. "For one's salvation and for the welfare of the world." Thus, this institution works for the improvement of health, disaster relief, rural management, tribal welfare, elementary and higher education and culture. Ramakrishna Math, Pune, Maharashtra, India is a branch centre of Ramakrishna Math and Mission, Belure. The Pune branch centre also carries out many social, spiritual and philanthropic activities conducted.

Ramakrishna Math, Pune Centre

The Ramakrishna Math, Pune Centre is located at 131/1A, Near Dandakar Bridge, Sinhagad Road, Pune 411 030 (India).

Data Analysis

The researcher decided to have s socio-economic study of slum area. As Ramakrishna Ashram is situated on Sinhagad Road, Pune, near Dandekar Bridge, it was decided to choose a slum area near the Ramakrishna Math, Pune. The slum area surrounding Ramakrishna Math, is called "Panmala." Ramakrishna Math is already providing a lot of service to these slum dwellers. Many school children from this area, come to the Ramakrishna Math for coaching classes for supporting their school education, learning to use computers and for their overall character development. Not only the children but their parents and other people in this area, also visit the charitable dispensary and take advantage of the medical treatment in the dispensary of Ramakrishna Math. In order to find out the problems and aspirations of these slum dwellers, volunteers of Ramakrishna Math carried out a demographic survey of this area with an intention to understand their problems and aspirations so that the Ramakrishna Math can serve these slum dwellers in a better way. Though this research is a case study, it represents the slum areas in general.

Population and sample

It was decided to cover the entire 'Panmala' area for research for this survey. Hence, the question of sample does not arise. After conducting a survey, it was observed that 494 families were staying there. In these 494 families, there were 2318 members. Hence, the study includes 2318 members from 494 families.

Pilot survey

A pilot survey was conducted to find out whether the questionnaire was prepared in a manner intelligible to the respondents. Observing difficulties in the pilot survey, a final questionnaire was prepared.

Statistical tools for Analysis.
The researcher has used the following statistical tools for this research.
1. Frequency tables : corresponding to each question, simple frequency tables and relative frequencies as percentages was calculated.
2. Statistics : simple average, standard deviation and proportions were calculated and used in the analysis of data.
3. Z Test :
$$Z = \frac{Difference}{Standard\ Error}$$ and Z value is computed by using tables.

Where standard error $= \frac{Percentage}{Sample\ Size}$

Analysis of Questionnaire
This analysis is for 494 families and 2318 members of 'Panmala' area, Sinhagad Road, Pune, Maharashtra, India.

Gender

Table 1
Distribution of members according to gender

Gender	Number of members	%
Male	1128	48.66
Female	1190	51.43
Total	2318	100%

It can be observed from the above table that the percentage of male and female members in the family are almost equal.

Age

Table 2
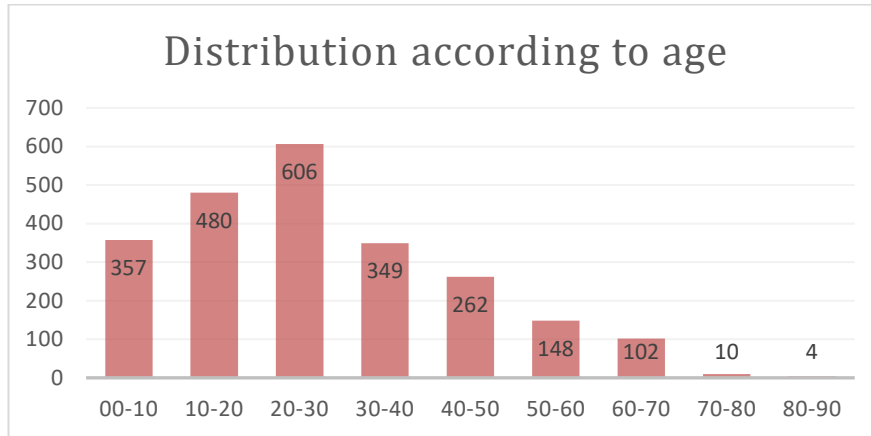**Distribution of members of family according to age**

Sr. No.	Age (in years)	Number of members	%
1	00-10	357	15.40
2	10-20	480	20.71
3	20-30	606	26.14

| 4	30-40	349	15.06
5	40-50	262	11.30
6	50-60	148	06.34
7	60-70	102	04.40
8	70-80	010	00.43
9	80-90	004	00.17
		2618	100%

Chart

It can be seen that members above 70 years are hardly 10% of the total. This shows that comparatively young people are staying in slum areas. This may be because those financially poor people who have migrated from other states and have no accommodation facilities available, stay here. This population could be a floating population.

Education

Table 3
Distribution of members according to education

Education	Number of members	%
Up to 4th Std.	277	11.49
5th Std to 10th Std	1000	43.14
11th to 12th Std	199	08.59
Graduate	5	00.22
College	11	00.47
Illiterate	826	35.63
Total	2318	100%
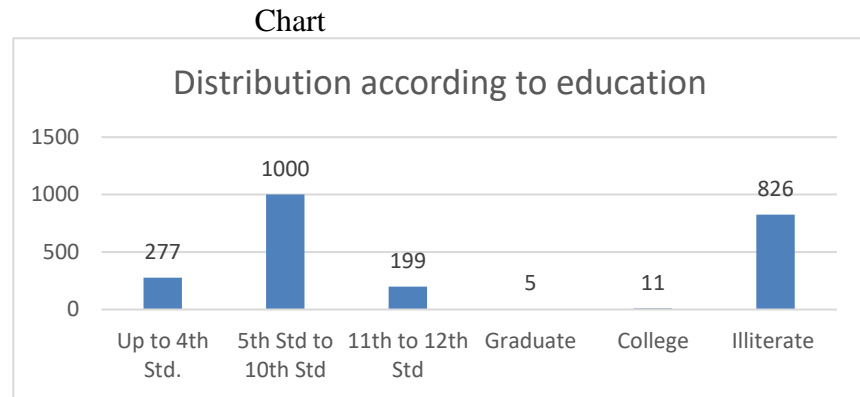
Chart

It can be observed from the above table and chart that 35% are illiterate. They have migrated to the city area because of illiteracy, less yield from farming, less job opportunities in villages etc. It is also observed that their children go to school and continue their education but generally once they are grown up, depending upon economic condition they start earning by doing certain small jobs and then they discontinue education. It was observed that even though the parents are illiterate, they are aware about education of their children.

Hypothesis :
Ho : Majority of the slum dwellers are aware about the importance of education of their children.
Testing of hypothesis :
We test statistically this as more than 50% of the people are aware about education.
Ho : P = 50 (50% people are aware about importance of education)
Ha : P ≠ 50

Sample size is 2318, hence we use normal test i.e. z test

$$SE = \sqrt{\frac{PQ}{n}} = 1.03$$

$$Z = \frac{Difference}{Standare\ Error} = \frac{14.36}{1.03} = 14.21$$

(P = proportion of people who are aware about importance of education. In other words, they are educated. Which is 64.36%
Table value of Z is -1.64
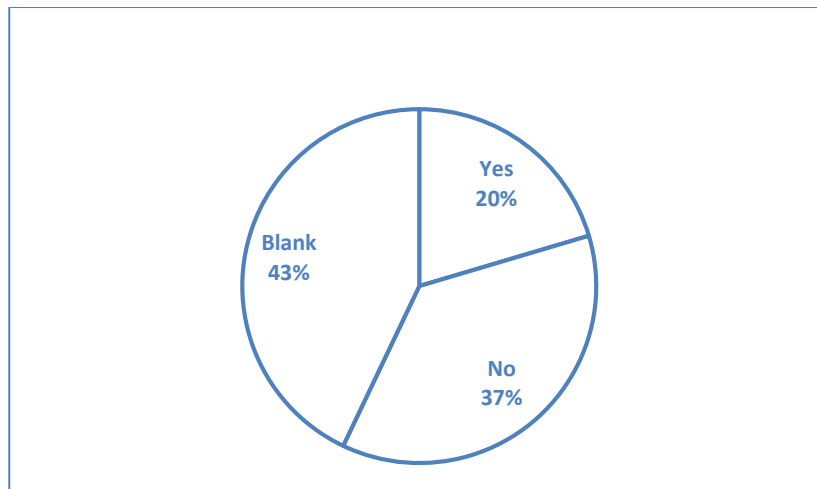Since Z calculation is more than-1.64, we accept null hypothesis.

Conclusion

Hence people in slum areas are aware about education.

Discontinuing education

Table 4
Discontinuing Education

Responses	Number of respondents	%
Yes	473	20
No	850	37
Blank	1295	43
Total	2618	100%

Chart

This chart shows that 37% people have not discontinued their education in spite of family problems.

20% respondents have discontinued their education. Those who have discontinued their education, have stated different reasons for discontinuing their education. These reasons for discontinuation of their education are : education was left incomplete due to family circumstances, due to migration from this area to somewhere else, asthma, death of father and financial problems, repeated failure in examinations, illness, not interested in education but interested in earning money etc.

Occupations

Most of the people residing in this slum area have come to Pune in search of job. Hence, it is important to find out their occupation. These slum dwellers are in the occupations such as house painting, printing, xeroxing, working in shop, driving a rikshaw, mason, truck driver, watchman, coolie, tailoring, salesman, garage, scrap collection, service, boot polishing, house

work, maid servant, plumber, contract labourer, technician etc. Total 900 people reported that they are in service. Out of these 657 (73%) are having full time job and 243 (27%) are having part time jobs.

Income

Table 5
Distribution of Income

Monthly income in '000 Rs.	Number of families	%
00-05	139	28.14
06-10	168	34.01
11-20	147	29.76
21-30	7	1.42
31-40	3	0.61
41-50	8	1.62
51-60	3	0.61
61-70	7	1.42
71-80	5	1.01
81-90	4	0.81
not responded	3	0.61
Total	494	100

Chart

Monthly income of families
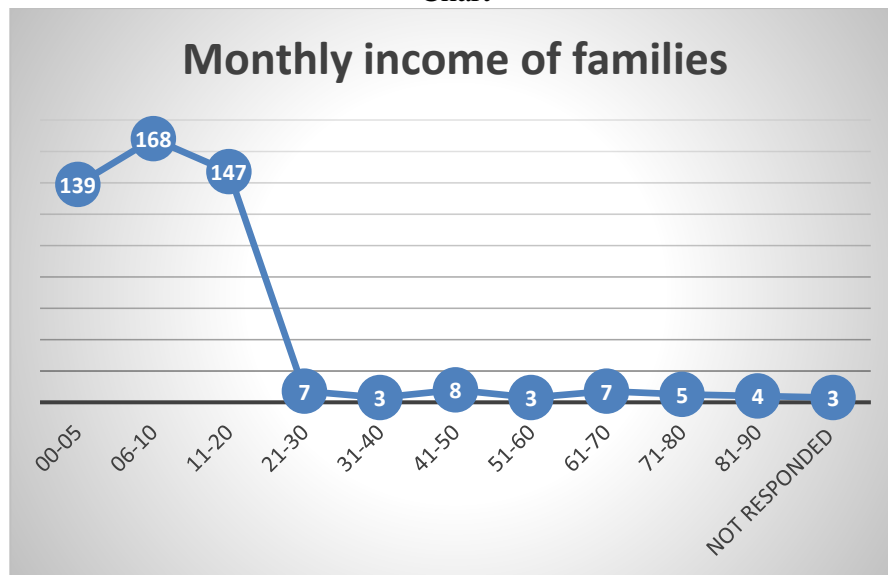
It can be observed that 91.90% of the families have monthly income less than Rs.20,000 and 62.15% of the families have monthly income less than Rs.10,000. In other words, they belong to poor category. In urban area, monthly income of Rs.10,000 for a family, is not at all sufficient for their livelihood. They could only have bread and butter for the family. One should think about how their income can be increased. Average income per month comes out to be Rs.11,509.1

Size of family

Along with income their size of family is also important. Following is the distribution of families according to family size.

Table 6
Size of family

Family size	Number of families	%
1	18	03.64
2	42	05.5
3	62	12.55
4	156	31.58
5	124	25.10
6	58	11.74
7	29	05.87
8	03	00.61
9	00	-
10	02	00.40
Total	494	100

Average size of family is 4.69 i.e. approximately 5 members per family. If we observe average income per month which is Rs. 11,509.1.

Socio economic status

Family Structure

Along with income and family size, the family structure was also studied by the researcher. Size: average family size is 4.69 i.e. 5 persons. This shows that a family consists of father, mother and three children. This shows that they are young. This is obvious because young people migrated to urban areas in search of jobs. These people who live in slum areas are not educated and are in bad economic conditions. After starting to earn they settle in slum areas and start their married life.

Income

Average income per family is Rs.12,323 per month. This is sufficient only to maintain their livelihood and for meeting their bread and butter requirements.

Handicapped people

A comparatively young generation is staying in slum areas and generally their health condition is good. Still it is reported that some of them have handicapped members in the family. This is because some families are staying for more than 20 years in this area. Some became disabled either because of old age or accidents.

Illness

It is reported that some members in family are having some illness. The illness is because of malnutrition and poor hygienic environmental conditions. The different illnesses reported by the respondents are acidity problem, stomach ulcer, arthritics, blood pressure, back pain, body ache, both kidney failure, chest problem, chest tumour, diabetics, dengue, eye problem, blindness, heart operation, bypass surgery, lung failure, lung pain, muscle pain, paralysis, mental frustration, knee problem muscle problem, spinal problem, gynaecology problem, spondylosis, thyroid problem, etc. Majority of them are suffering from knee problem, kidney problem and asthma.

Widows

Out of the 2318 respondents, it was observed that 1190 were women respondents. Out of 1190 women respondents, 819 are not widows and 125 respondents are widows. The 246 respondents have not responded to this question. The respondents gave following reasons for divorces: death of spouse, accident, addiction to alcoholism, cancer, diseases, suicide etc. Majority of divorces have been because of addiction to alcoholism.

Own house

Out of the 494 families 428 (86.64%) have reported about having their own houses. Others are staying in a rented house.

Neighbour relations

Majority of families staying in "Panmala" are having good relations with their neighbours.

Addictions

Majority of the people staying in slum areas are addicted to smoking, chewing tobacco, drinking alcohol, etc.

Sanitation

They have common toilets and they do not have separate toilets for each family. Due to common toilets problems they are facing problem of cleanliness.

Number of years staying

As most of them have their own houses, they are staying in the area for more than 15 years.

Place from where they migrated

The respondents have migrated from places far away. Most of them are from different places from Maharashtra such as Usmanabad, Beed, Solapur, Chilsgaon, Kurduwadi etc. these are the

areas recognised as drought prone areas. This is the important reason for their migration. Some of them are from other states such as Gujarat, Karnataka, Rajasthan which are near the state of Maharashtra.

Role of Ramakrishna Math

Though Ramakrishna Math is nearby barely 2% visit the temple in the math regularly.

Use of facilities provided by Ramakrishna Math

Mainly, Ramakrishna Math is providing medical facilities on charity basis. The Ramakrishna Math has a polyclinic, where facilities are provided for certain medical check ups and medical consultation. Majority of the families in Panmala area are taking advantage of medical facilities provided by Ramakrishna Math.

Conclusions

From this demographic study of slum dwellers in Panmala area in Pune City, the following conclusions can be drawn

1. They have migrated to Pune from Osmanabad, Solapur, Latur and Beed
2. Staying for 15 years
3. Stay in owned houses
4. Having common sanitation facilities
5. % of male and female is almost equal
6. They are young
7. With 5 members per family
8. Have handicapped family members
9. Majority of the ladies are not widow
10. Aware about importance of education
11. Doing variety of skilled based occupations
12. Majority of them are in full time service
13. Average monthly income is 11,509
14. Kidney, knee problems, back pain and asthma ailments
15. Addicted to alcohol
16. Their relations with neighbours is good
17. Majority of them are using the medical facilities of Ramakrishna Math.

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2. https://timesofindia.indiatimes.com

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Floral Dying From Floral Waste: An Organic Approach to Entrepreneurship

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Abstract

India's unique feature is its integrity. India houses seven registered religions from which six of the religions viz. Muslims (14.2%), Christians (2.3%), Sikhs (1.7%), Jains (0.4%), Buddhists (0.7%) and Zoroastrians (not counted) have been awarded 'National Minority' status[23]. Hindus being the maximum i.e. 79.8%. Around 1.37% billion belongs to different religions further divided into various paths of worships. Flowers being an inseparable part of almost every religion in India, it is found that almost thousands of tons of flowers are either used as an offering to God or for decorations on different religious occasions and events. Flowers offered are not disposed scientifically. As per the religious belief, these floral offerings are considered to be sacred and therefore are majorly discarded in the water bodies like rivers, lakes etc. This is one of the reasons for water pollution. Pune is considered as the cultural capital of the Indian State of Maharashtra and is also the second largest city in the state after Mumbai with the population of 6.45 million. As per the record, maximum population in Pune follows Hinduism followed by other religious communities viz. Islam, Sikh, Jain, Christian etc. Pune houses Hindu Temples, Dargahs, Jain Temples, Churches, Gurudwaras etc. Although the rituals differ with every religion, there is still one common factor present and that is the usage of flowers. The purpose of this research is to come up with a business model to help transform the floral waste from the religious places into successful businesses of floral dyeing and provide the entrepreneurial opportunity to the society as well as environmental sustainability. The scope of this research is limited to six Hindu temples, two Jain temples, two Dargahs, two churches and two Gurudwaras in Pune. The researchers have collected the primary data through structured questionnaires and interviews. The secondary data was collected from various reports, journals, books, etc. The sample size of the research study is 350 consisting of various respondents such as priests, trustees of the place, workers, devotees, cleaning officers, concerned representatives of local municipal authority and residents of nearby area to these religious places. The data collected was analysed with the help of ANOVA. The researchers came up with the business

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[23] https://en.wikipedia.org/wiki/Religion_in_India#Demographics

model wherein the floral waste from the religious places is collected, processed to give floral colour imprints on the textile and introduced it to the stakeholders. The researchers feel that the business model introduced has potential to expand in the market.

Key words: Floral dyeing, Floral waste management, Entrepreneurship, Religious places of worship, Environmental sustainability

Introduction

According to latest reports of demographics, India is the second most populous country in the world. Being home to a variety of religions, India witnesses various rituals and customs on a regular basis. Although the rituals and customs vary with every religion, there still exists a common factor viz. Flowers. Flowers play a significant role in every religion. India has a floriculture background from the ancient days. India stands on the second position in the flower production. Flowers are being used for decorations as well as for offerings. These flowers after their respective usage end up as floral waste. As per the religious belief, the floral offerings are considered to be sacred and therefore people used to discard these floral offerings in the water bodies. But this resulted into the problem of water pollution. People now, are aware about the fact that maintaining the environmental balance is also of utmost importance. Keeping this in mind, now-a-days, people have started composting the floral waste generated through religious activities. Although composting is a good option to discard the floral waste, reusing the flowers can also be given a thought about. Flowers can be reused in multiple ways. Extracting the colour pigments from the flowers for dyeing purpose is one of the eco-friendly uses. People are becoming aware about the hazardous effects of the synthetic dyes. Dyeing the textile with floral colour pigments is the new age dyeing. Researchers intend to showcase this eco-friendly dyeing option as an entrepreneurial venture. This study will focus on providing a business model of the eco floral dyeing and printing to the society.

Floral Dyeing means extracting the colour pigments from the flower petals by undergoing various processes and then using those dyes for fabrics. On the other hand, floral printing means arranging the flowers and/or flower petals on a fabric or paper and processing them to have floral colour imprints. In the era of eco-friendly goods, these floral dyed and/or imprinted fabrics and/or papers will be a day-to-day option. Now-a-days the fashion industry is also having floral pattern options. With this view, researchers plan to introduce floral dyeing/printing as an entrepreneurial venture to the society. The researchers aim to focus on the floral waste generated through the religious places for this floral dyeing/printing. Pune – a city in Maharashtra, India, is developing at a rapid pace. Pune is considered as the cultural hub of state of Maharashtra. This city homes a total population of 6.4 million which includes a variety of religion communities[24].

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[24] http://worldpopulationreview.com/world-cities/pune-population/

As a result Pune witnesses various festivals throughout the year. As stated earlier, flowers are being used by the religious communities for variety of purposes. Flowers play a vital role at many religious places.

Statement of Problem

India – home to a variety of religions, witnesses various rituals every other day. Every religion follows different sets of rituals for worshiping god, marriages, funerals, etc. Although these rituals vary with every religion, something is still common for all the rituals. That something is nothing but the use of flowers. More or less in quantity but every religion uses flowers either for religious purpose or for decoration. In India, every year approximately eight hundred million tonnes of floral waste is deposited from the religious places.[25] This waste creates a major environmental problem. Pune being the cultural city of the Indian state of Maharashtra, homes various religious communities. Although the awareness regarding the proper disposal of waste is increasing among the population, there still exists a problem of floral waste management. Researchers carried out a pilot survey and found that the majority of the floral waste is mixed with the wet waste. There is no segregation of flowers from the wet waste. Most of the religious places give away the floral waste to the Municipal Authorities. Researchers, through this study want to suggest ways for the segregation of the floral waste from the wet waste in the religious communities. Studies have been conducted to extract colour pigments from the flowers and using them for fabric dyeing. Despite of these studies, the flowers are still being discarded either in water bodies as they have religious value or given away to the municipal authorities. This results in the wastage of colour pigments in the flowers. This research focuses on developing a business model of floral dyeing/printing for small scale industry. This will be environment friendly venture and help reduce hazardous effects of synthetic dyes. Creation of venture will also generate employment. The business model will provide entrepreneurship option to the society. This will reduce the problem of unemployment.

Purpose of Study

As we move towards the Globalization, development becomes an inseparable part of the society. Development leads to prosperity. This changes the overall lifestyle of people. Although all these things are positive, there still exists a gap. In the light of development we tend to forget the

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[25] https://www.fastcompany.com/40431423/these-indian-entrepreneurs-upcycle-leftover-religious-flowers-into-useful-products

environment. Environmental issues are the major concern for the society which leads to hazardous effects. This study focuses on one such environmental issue of waste management. In a country like India, traditions and customs play a major role in the society. Flowers are used in many rituals on a daily basis right from weddings, offerings to God to funerals. On an average, India has a floral waste of approximately two million tonnes after religious rituals. This waste if treated properly can be used in composting. Awareness about the reuse of solid waste material for composting purposes is increasing these days. Many religious places are having their own composting plants. This is a positive sign. The researchers, through this study, want to introduce the technique of total use of this floral waste to the society. If the flowers are used in composting, the colour pigments from the flowers are wasted. Instead, if we extract the colour pigments from the flowers and then do the composting, the flowers can be more useful. The colour pigments from the flowers can be used for the preparation of natural dyes. Dyeing the fabric/ paper or floral imprinting the fabric/ paper can be an entrepreneurial venture. The researchers desire to introduce a business model for floral dyeing or imprinting to the society. This entrepreneurial venture will help to generate employment. The purpose of this research study is to search ways to protect the environment, to maintain environmental sustainability and to come up with the business model that will help in economic development of the society.

Relation of Flowers & Religion

Flowers and Christianity

White roses or lilies are considered to be sacred in Christianity. They are often considered as a symbol of purity and peace. Red roses have another level of significance in this religion. Red roses are the symbol of love. People also think about the red roses as a sign of Christ's blood. Church altars are decorated with flowers on the special occasions. In India, there are decorations mostly on weekends at the time of prayers. Many a times these decorations are with flowers. Apart from the religious use, Christian weddings and funerals also demonstrate the use of flowers.

Flowers and Hinduism

Flowers play a key role in Hinduism. The worship ritual named "Puja" is also known as "the Flower Act". Lotus is considered as the sacred flower in Hindu religion. Similarly many other flowers are considered to be important in other holy scripts. In Hinduism, some specific flowers correspond to specific god or occasion. Temples have daily floral offerings to the God. In addition to this, many Hindu festivals, weddings and funerals have floral use on a large scale.

Flowers and Islam

This religion does not have that much of religious use of flowers. There are floral net offerings in Dargahs. Flowers are being used in marriages and funerals. In the use of flowers, red roses are used to prepare perfumes. Rose water also has importance in Islam. [26]

Flowers and Sikhism

Flowers are used in Gurudwaras for decoration of the holy book. Marigold flowers are used for the decoration purpose. Along with this use, flowers are an inseparable part of weddings and funerals. Apart from marigold flowers, Sikh people also use roses and jasmine. If a person does not have money or food to offer, he may simply offer flowers.

Flowers and Jainism

Eightfold puja or eightfold offering ceremony in Svetambara Jain Temples has the use of flowers. Worshippers offer flowers as a part of rituals performed. Flowers are one of the eight offerings from the ceremony. According to one belief from Jainism, plucking of flowers is not considered good. In some of the temples Jain people only offer flower petals to their God. The amount of flowers used for religious purposes is not on large scale in Jainism.

Review of Literature

Floral Dyeing

Akhila Nair, Aparna Kelkar (April, 2018) in their research study titled **"Extraction of Natural Dyes from Waste Flowers of Aster and studying its potential application as pH indicator"** write that the extract from the waste aster flowers is a good alternative to the synthetic dyes. The study was aimed at extracting natural dye from the waste aster flowers.[27]

Dhriti Gandhi Ranjan (September, 2017) writes in an article about Renu Gupta who is a designer and specialises in eco- printing. According to Renu Gupta, eco-printing is all about experimenting with natural pigments present in flowers and other parts of plants. She says that sometimes these pigments give shadowy effect and the other times defined one. The designer states that various factors affect the colour impression on the fabric and no two pieces are similar.[28]

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[26] https://www.theflowerexpert.com/content/miscellaneous/flowers-and-religion

[27] http://www.jipbs.com/VolumeArticles/FullTextPDF/412_JIPBSV5I401.pdf

[28] https://www.theweek.in/webworld/features/society/The-art-of-printing-flowers-leaves-on-fabrics.html#

Nisha Jain (March, 2017) in her research study "**Extraction and Application of Natural Dye by utilizing Temple Floral Waste Tegets Erecta L. (Mexican Marigold)"** states that the natural dye extracted from the marigold temple waste can be used for coloration in textile industry. Further, the author concludes the research work by affirming that this natural dye has no side effects on skin and is organic in nature and hence, it is safe for the environment as well.[29]

M. S. Waghmode (November, 2016) in the research article **"Management of Floral waste by Conversion of Value-added Products and their other applications"** reveals that flowers are being used in many of the cities in the country. The author also stresses that there is hardly any proper floral waste management report available and hence, managing the floral waste becomes more important. The study states that countries like India and Shri Lanka, dump 40% of the floral waste on the landfills. The author introduces the modern approach to the waste management through various add-on products such as Biofuels, Organic Acids, Compost, Dyes etc. The study also gives detailed information regarding the preparation of various products from the floral waste with procedure. The author thinks that creation of value-added products from floral waste will reduce the problem of water and environmental pollution.[30]

Dhairyasheel Patil (August, 2016) in the research paper **"Extraction of Natural Dye from Rose flower for Dyeing Cotton Fabrics"** focus on rose flower for extraction of colour pigments. The author used four mordents to test the shades of the colour pigments. Author reveals that different mordents give different shades. The author carried out the dyeing procedure on cotton, silk and woollen fabric.[31]

Manpreet Kalsy, Sangita Srivastava (2016) in their research study **"Dyeing of Silk with Rosa Centifolia: An Eco-friendly Approach"** demonstrate the use of rose petals for extracting the natural dye. The researchers examined the absorption capacity of the fabric at various temperatures. Different shades of pink were observed for different temperatures. The authors conclude that extraction of natural dyes will be an eco-friendly approach for the mankind and will reduce the environmental pollution as well.[32]

Sonal Chavan, Eshita Ghosh (February, 2015) in their study **"Cotton and Silk Dyeing with Natural Dye extracted from Floral Parts of African Marigold"** highlight the use of marigold flower for natural dyeing of 100% cotton and silk fabric. The authors found that dyeing of silk fabric was more impactful. Various mordents were used for this study to test the shades and fastness of the natural colours.[33]

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[29] http://www.ijetsr.com/images/short_pdf/1491477821_nisha_ijetsr.pdf
[30] https://link.springer.com/article/10.1007/s12649-016-9763-2
[31] file:///C:/Users/hp/Downloads/Extractionofnaturaldyefromroseflowerfordyeingcottonfabrics%20(1).pdf
[32] https://www.academia.edu/22676033/Dyeing_of_Silk_with_Rosa_Centifolia_An_Eco-Friendly_Approach
[33] http://www.ijrat.org/downloads/acgt2015/ACGT04.pdf

Singh R., Shrivastava S. (May, 2015) in their research study **"Exploration of Floral Based Natural Dyes – A Review"** say that the awareness about the harmful effects of the artificial toxic dyes is increasing. Various parts of plants can be used for the preparation of natural dyes. According to the authors, floral dyes are important for the textile industry because they provide colour as well as fragrance. Authors also add that these dyes are non-toxic and hence skin friendly in nature. [34]

Floral offerings

(April, 2018) According to the judgement of the Supreme Court, all the temple towns in the country should emulate the Uttar Pradesh Women Welfare Department's project to donate the floral offering from the temples to the destitute and widow women. These women produce incense sticks, Gulal (colour), etc. This gives these women livelihood. This is also an environment friendly project.[35]

Isha Yadav, Shweta Singh and Sunita Chouhan (2018) in their research paper **"Quantification of the Temple Waste of Jaipur City"** state that out of all the offerings in the temples, flowers and garlands are very common in all the temples. The authors also observed that no specific waste management system is followed by the temples. The waste generated is generally given to the Municipal-Waste collection vans. The authors suggested the production of handmade papers, Holi Colours, Incense sticks, etc. which will help the temples to generate revenue. [36]

Nisha Jain (July, 2016) in the research study **"Waste Management of Temple Floral Offerings by Vermicomposting and its effect on soil and Plant Growth"** found that the flower-based vermicomposting shows good and healthier growth of the plants. The plants get all the essential nutrients required for their growth from these flowers. The author suggests that temple floral waste vermicomposting is an eco-friendly method for healthier environment. [37]

Entrepreneurship

Alvaro Cuervo, Domingo Ribeiro and Salvador Roig (2007) in their book **"Entrepreneurship: Concepts, Theory and Perspective"** have described the difference between an Entrepreneur, a Capitalist and a Manager. According to the authors, an

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[34] http://www.isca.in/rjrs/archive/v4/iIVC-2015/2.ISCA-IVC-2015-07Eng-007.php
[35] https://www.thehindu.com/news/national/sc-urges-to-donate-floral-offerings-in-temples-to-destitutes-widows/article23406643.ece
[36] https://www.krishisanskriti.org/vol_image/27Sep201802090320%20%20%20%20%20Isha%20Yadav%20%20%20%20%20%20%2034-36.pdf
[37] https://ijoear.com/Paper-July-2016/IJOEAR-JUL-2016-14.pdf

entrepreneurial opportunity is an unexpected economic opportunity. Various characteristics of an entrepreneur are explained with various psychological, non-psychological and other variables. The authors give insight of entrepreneurship as a career.[38]

Research Methodology

This research is focussed on studying the current status of the disposal system used by the religious places in Pune. The researchers want to introduce the floral dyeing or imprinting as an entrepreneurial venture to the religious places so that the floral waste generated through these places can be reused. The problem of unemployment can also be solved through this venture.

Research Approach & Design

This research is a combination of qualitative and quantitative research. It is a descriptive research with deductive research approach. Researchers framed hypothesis, pointed down the objectives of the research study. On the basis of the objectives and hypothesis, researchers then framed questionnaires accordingly. The questionnaires were structured. The questionnaire was designed so as to make it easier to quantify the data. For the purpose of collecting unquantifiable data, interview technique was implemented.

Objectives

1. To understand and review the current position of the floral waste management at the religious places.
2. To develop a business model for the religious places.
3. To assess the acceptance level of the society about the business model.

Hypothesis

H_0: There is no significant difference between the acceptance levels for the Floral dyeing business model despite of the difference in the religion.

H_1: There is a significant difference between the acceptance levels for the Floral dyeing business model despite of the difference in the religion.

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[38] https://link.springer.com/chapter/10.1007/978-3-540-48543-8_1

For this research, researchers decided to use questionnaire and interview tools to collect the data. Questionnaires were distributed among devotees of selected religious places. The researchers selected the religious places according to the demographic distribution of the religions in Pune. Researchers also used interviewing as a complimentary method to interview other set of respondents. Questionnaires were chosen to collect the information in a systematic manner and more quickly. The researchers could collect the information from multiple respondents in a timely manner. In order to collect supporting information necessary for the research, researchers chose interview method. The interviews were structured and the questions of the same were distributed among the representatives of each participant groups.

Researchers had also planned to use observation method as a part of data collection strategy. But due to time and feasibility constraints, this method could not be opted for.

Sampling & Research Design

For this study, data was collected from variety of respondents. Structured questionnaires were distributed among the devotees of the religious places. This study was focussed with five religions viz., Hindu, Muslim, Sikh, Jain and Christian. A total of fourteen religious places were selected for this research study. Related information was collected from devotees, person performing religious duties, trustees of the religious place, cleaning officers, workers, Corporation personnel, NGO personnel and residents of nearby area. The total of three hundred and fifty respondents were approached to collect the data.

One hundred and forty respondents were given structured questionnaires and data was collected.

Table 1: No. of Respondents

Religious Place	No. of Places	No. of Respondents (No. of place*10)
Temple	6	60
Church	2	20
Dargah	2	20
Jain Temple	2	20
Gurudwara	2	20
Total	14	140

Apart from these respondents, there was other set of respondents who were approached for data collection. Interview method was implemented to collect data from these respondents.

Method of Data Analysis

This research is a combination of quantitative and qualitative research. The questionnaire results were quantified and analysis was done through SPSS. Researchers opted for ANOVA to analyse the data as there were more than two groups of religion for the testing. The qualitative data collected through interviews was analysed with the help of thematic analysis. The results of the questionnaire analysis were presented through charts and tables.

Analysis & Discussion

Table 2: Level of Acceptance

ANOVA					
Acceptance Level					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	61.352	4	15.338	8.889	.000
Within Groups	232.933	135	1.725		
Total	294.286	139			

Figure 1: Level of Acceptance
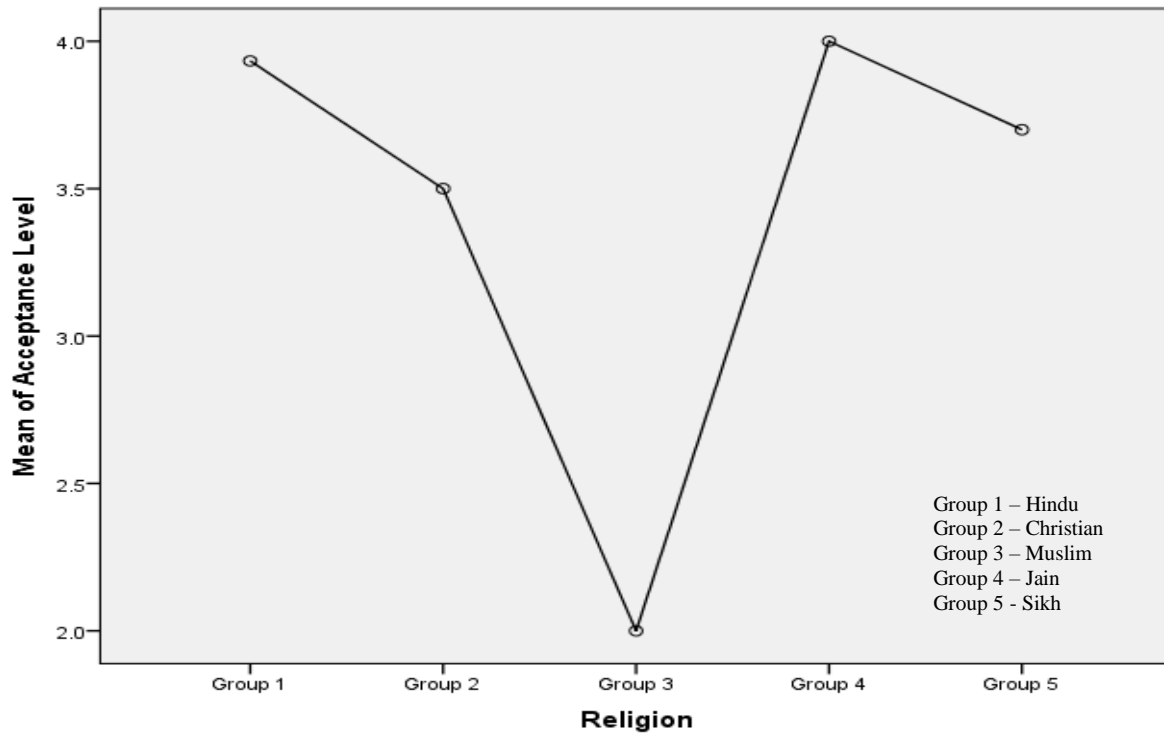
The data collected is analysed using one way ANOVA. This graph indicates the acceptance level of the respondents for the floral dyeing business model. The researchers raised following questions to the devotees of five religious communities.

1. Which religion do you follow?
2. Do you Visit Religious Places? How frequently?
3. Will you be interested to receive the floral imprints of the flowers used at religious places? Rate your acceptance on a scale of 5.

The acceptance level for the floral dyeing business model differ with the religious community. There exists a difference in the acceptance level within the religious group. Researchers found that group two of the respondents was reluctant to use the religious floral waste for floral dyeing/imprinting.

The qualitative data collected through interviews and observations is analysed using thematic analysis. Questions raised to the respondents and the researchers received responses. The responses are as follows:

1. **What is the use of flowers at the religious places?**

Respondent A: Flowers are used as an offering to God. I offer flowers every day.

Respondent B: Flowers offered to god have emotional value. We don't throw these flowers if we receive them back.

Respondent C: We treat the floral offerings as a blessing from god. These floral offerings are sacred.

Codes derived from the responses: Flowers for Offering, Religious belief of devotees, Blessing from God, Flowers have emotional value.

Theme derived from the codes above is **Use of Flowers**.

2. **What happens to the religious floral waste?**

Respondent A: Floral waste is collected separately and we use that waste for composting purpose. We have a composting plant.

Respondent B: I have seen people throwing the floral offerings in the river body. This causes water pollution.

Respondent C: Majorly the floral waste is mixed with the solid waste and municipal authorities collect this waste.

Codes derived from the responses: Government bodies, Water Pollution, Composting.

Theme derived from the codes above is **Floral Waste Management.**

3. **What do you think about floral dyeing?**

Respondent A: What is Floral Dyeing?

Respondent B: Flowers can be reused through floral dyeing. It is environment friendly.

Respondent C: floral waste can be reduced. We are willing to try this model at our religious place.

Codes derived from the responses: Unknown process, Environment Friendly, Reuse of Flowers, Floral Waste reduction, willingness.
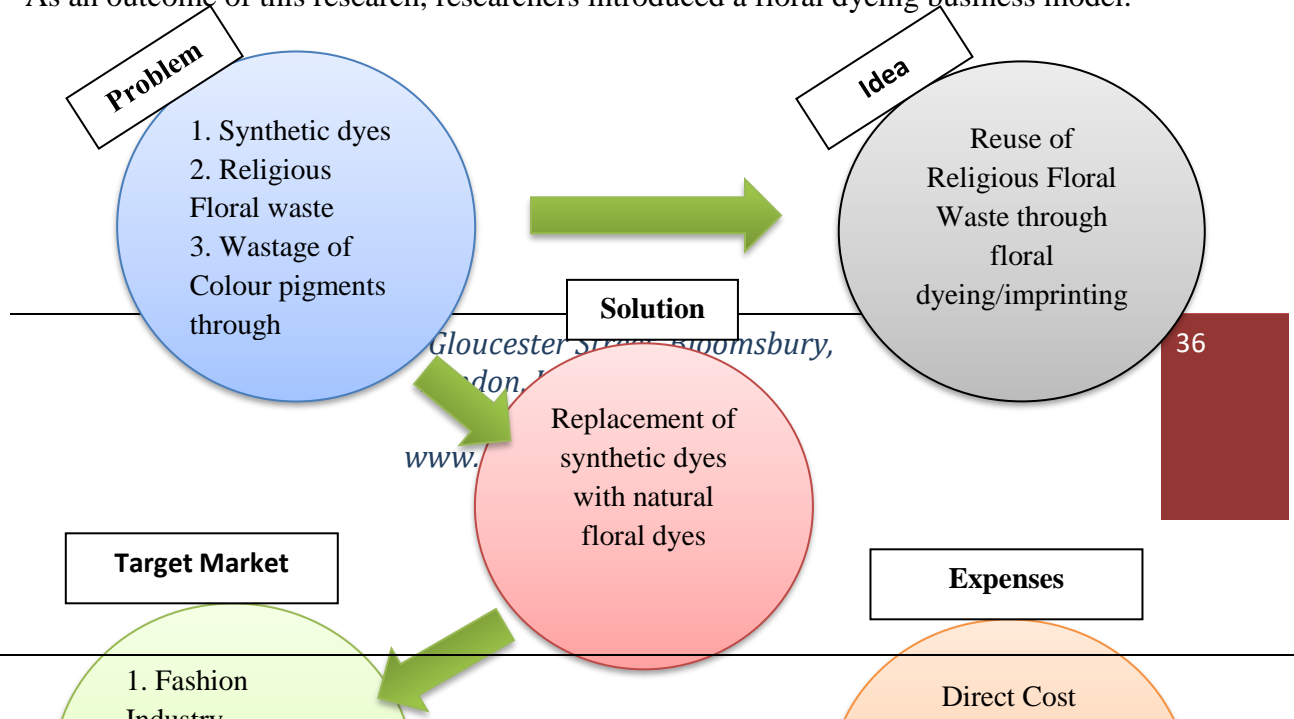
Theme derived from the codes above is **Perception of floral dyeing.**

Conclusion

Floral Dyeing is a relatively new concept for the Indian community. Although initiatives for waste management are in process, the area of floral waste management is at primary level. Few religious places are using composting technique, but systematic disposal system has to long way. There is acceptance for floral dyeing business model from the management of the religious places due to market potential with additional employment. It is a good sign that awareness is increasing about the environment friendly products. Floral dyeing is an organic initiative to replace use of synthetic dyes. Religious places have a maximum percentage of floral waste. Reuse and recycle of the religious floral waste for dyeing purpose is an environment friendly entrepreneurial venture. This Floral Dyeing business model has potential for new entrepreneurial and employment opportunities leading to sustainable development

Suggestions

As an outcome of this research, researchers introduced a floral dyeing business model.

Problem

1. Synthetic dyes
2. Religious Floral waste
3. Wastage of Colour pigments through

Idea

Reuse of Religious Floral Waste through floral dyeing/imprinting

Solution

Replacement of synthetic dyes with natural floral dyes

Gloucester Street, Bloomsbury, London,

www.

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Target Market

1. Fashion Industry

Expenses

Direct Cost

Lean Business Plan for Floral Dyeing/Imprinting

Idea	Problem
To provide fabrics/ papers new look through floral dyeing/ imprinting.	Synthetic dyes cause skin allergies and hence need some organic replacement. Floral waste from the religious places, if discarded inappropriately, cause environmental pollution. If floral waste is used for composting purpose without extracting the colour pigments, they go into waste.
Solution	**Target Market**
Replacement of synthetic dyes with natural floral dyes by extracting the colour pigments from the flowers at the religious places and then using the froth for composting purpose.	Those who have interest in fashion, those who are concerned about the environmental problems and those people who like using organic products.
Competition	**Revenue Stream**
All size companies/ vendors of synthetic dyes.	We will sell directly to the customers at religious places, craft fairs and by using online/social media.

Marketing	**Expenses**
Communication with the customers at religious places, through social media advertisements and exhibitions at social gatherings.	Materials including fabric/ paper, Steamer, strings, Utensils Marketing cost Inventory space Labour charges
Team	**Milestone**
Currently a team of three working for the cause. As the venture grows ahead, plan to add likeminded people.	With the progress of venture, we plan to expand it to explore market oriented needs.

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INDIA'S STATE OF TECH-READINESS AMIDST THE ERA OF CONSTANTLY CHANGING JOB SCENARIO AND INDUSTRIAL REVOLUTION 4.0

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Abstract

The rate at which we are matching our steps with the growing IT revolution across the globe is rampant. Major IT companies of India like Wipro, Infosys, and IBM are investing to bring in the new technology, advancements, and innovation. Are we as a country well-equipped to adapt the shift in technology is what this paper aims to explore? It will take the curtain off the monetary and non-monetary investments in public and private sectors of IT companies which are present in India. The paper also focuses on increased demand for IT engineers who are excelled at new technologies such as IoT, AI, Blockchain, and Cyber security, etc. and thus indicates a sudden need for reskilling of current employees working in the IT sector. With major influx of investments on the floor, it puts a question in front of us and world whether India is really ready to be tech-savvy.

Keywords: Fourth Industrial Revolution, Re-skilling, Indian IT industry, Job scenario in Indian IT sector, Human Resource Management

1. Introduction

The Humans today want to live easy with minimal fluctuations in a world which is changing at the speed of the light. We are borne to change our old methods and adapt the new to be able to match the steps with the changing times. Technology plays a major role in it, and the way it is impacting the working class by the changing nature of jobs. The changing job scenario in Indian software industry with the advent of Industry 4.0 and a trend observed of plethora of students opting for career overseas, there is a big question mark put up on Indian IT sector's ability to provide jobs to employable students. With the new technologies knocking at door for innovation and automation taking place of conventional systems and structures, number of workforce required in corporate IT sector has observed a downward slope. Also, the people who acquire the adequate skills and knowledge of these new technologies such as Artificial Intelligence, Internet of Things, Cyber Security, Blockchain and Augmented/Virtual Reality are less in numbers. The demand and supply is inadequate. The private companies and educational organizations have started taking interest in these domains and actively promote implementing them in solving problems of day-to-day life. The investments done by Indian Government and companies like IBM, Infosys, Google, Wipro, etc. for R&D of these technologies have created a whole new trend that has led students and employees to shift their career choices to AI, and Cyber Security from conventional coding and software development jobs. On the other side of the coin, the employees already working with these conventional job roles for last 10-15 years are forced to re-skill in order to keep up with the change. Change is required, for new and better approaches to come and replace the old ones. With the 4th Industrial revolution, the IT sector of developing countries like India has shifted fleet-footedly. This paper covers an extensive research about the new technologies that has come with Industry 4.0 and the investments done by India's public (Government) and private sector in order to facilitate it. It also talks about the major changes that took place because of Industry 4.0 and how India is dealing with these transformations. It also provides a factual base for the abundance of updates of innovations and investments in Indian IT sector. The survey collected from the students of Computer Science, Information & Communication Technology, and Information Technology branches studying in different universities and colleges contains the information about their career prospects, their educational background, job expectations, income, etc. will guide us to look into the matter objectively and test the hypothesis.

2. Indian I.T Industry

2.1 New Technologies

When everything in the business world is revolving around Internet of Things, Machine Learning & Artificial Intelligence, Augmented Reality & Virtual reality, Big Data (Data Analytics), the future of IT industry is looking stupendous.

2.1.1 Artificial Intelligence

John McCarthy who used the term 'Artificial Intelligence' in the year of 1956, defined it as "The science and engineering of making intelligent computer programs". The modern authors broadly define AI as "A human-like intelligence given to a machine". According to a new update from International Data Corporation (IDC) forecasts worldwide revenues for cognitive and artificial intelligence (AI) systems will reach $35.8 billion in 2019 and $79.2 billion in the year of 2022. [1] Global spending on cognitive and AI solutions will continue to see significant corporate investment over the next several years, achieving a compound annual growth rate (CAGR) of 54.4% through 2020. [1] With more number of companies taking interest into the field of Artificial Intelligence, some of the most important cognitive technologies such as Machine learning (ML), Machine vision, Natural language Processing (NLP), Robotics, and Speech Recognition will expand in terms of growth, accessibility, and utilization. The AI industry has grown by close to 30% in the year of 2017-18 to $230 million. According to a study by Analytics India Magazine, in association with Great Learning, an online education firm for working professionals, over 4,000 AI job seats at mid & senior level positions remain vacant because of the talent shortage as the industry grows 30% to last year. Around 57% firms hiring AI candidates are looking for individuals with 5 years of experience in this domain, whereas the average AI experience of an Indian professional is merely 3 years. This demand-supply gap indicates a huge opportunity for professionals working at mid & senior level positions in domains like finance, healthcare, IT, etc., if they are planning to shift their career into AI. In India, the starting salary for an AI professional is around Rs. 6 Lakhs per annum. Whereas if you look at the median salary of experienced and well-skilled AI professionals, it is around Rs. 14.3 Lakhs per annum. 4% of individuals command for salary more than Rs. 50 lakhs because of their experience in AI domain. The highest paid AI jobs are in Mumbai (Rs. 15.6 Lakhs per annum), then in Bangalore (Rs. 14.5 Lakhs). [13] The 10 leading organizations with the most AI job openings in the year of 2018 were IBM, Accenture, Amazon, Fractal Analytics, Societe Generale, SAP labs, 24/7 customer, Atos, Nvidia, Tech Mahindra.

2.1.2 Cyber Security

Cyber Security comprises of the techniques of protecting computers, networks, programs, and data from unauthorized access or attacks that are aimed for exploitation. According to the Global Cyber Security Index released by the UN telecommunications agency International Telecommunication Union (ITU) in 2017, only about half of all countries are having a cyber-security strategy or are in the process of developing one. The index, which saw India at 23rd position, was topped by Singapore at 0.925. India has also been ranked fourth globally among the countries most affected by ransom-ware. [2] Users using the same device for personal applications and business data makes it prone to cyber-attacks. An infringement in the digital supply network undermines the security of every organization involved in the logistics network. Sudden augmentation in the sharing of information has resulted into revealing private or sensitive information that create privacy-related issues. Currently India ranks 3rd among nations facing most cyber threats, after United States, and China. [14] While securing assets is important, being vigilant and resilient in the face of cyber-attacks is also of vital importance. Along with developing cyber security tools and algorithms, it is also required to create a work culture that is risk-aware of the cyber threats and learns how to manage dealing with such cyber-attacks. [2]

2.1.3   Augmented/Virtual Reality

According to a description given by Google, Augmented Reality (AR) adds digital elements to a live view often by using the smartphone or camera. For example, Pokemon Go game, Snapchat lenses, etc. Whereas Virtual Reality (VR) means a complete immersion experience that shuts out the world. VR brought a big fat change in the Gaming industry. In today's times, VR and AR are reshaping the marketing domain ranging from automation and real estate to retail and consumer goods. Smartphones manufacturers have boosted the VR market by introducing the **VR head** in a global market. AR/VR could witness high utilization in the **edu-tech** domain. "It could be of immense help by employing virtual teaching, digital learning and development methods in schools and colleges. Across domains, AR/VR is changing how products and services are developed and delivered, which is transforming into increased productivity and operational efficiencies. It has the potential to become the foundation of next-gen computing." [3]

2.1.4   Internet of Things

The Internet of Things is an augmentation of Internet connectivity into physical devices and everyday objects. These devices are interconnected with each other and can be remotely monitored and controlled. "IoT is poised for exponential growth globally, with the number of connected devices expected to grow from 5.5X to 20.8 billion and revenue expected to grow

over 3X to $3 trillion by 2020. Global IoT revenue is expected to grow from $0.9 trillion in 2014 to $3 trillion in 2020. Similarly, the installed base of IoT units worldwide is expected to grow from 3.8 billion in 2014 to 20.8 billion by 2020." [4] "Among all industries, **Manufacturing** and **Automotive** are expected to drive the highest volumes in IoT adoption. The installed base of connected units in both of these industries is expected to be approximately 0.7 billion each by 2020. While Manufacturing units are expected to grow over 2X from 0.32 billion in 2014 to 0.68 billion in 2020, the installed base for the automotive industry will grow 37X from 0.02 billion in 2014 to 0.74 billion in 2020. In terms of revenue, the automotive industry is expected to see maximum growth to reach $303 billion by 2020. On the other hand, Transportation & Logistics is expected to drive industry-specific IoT revenue and will reach $491 billion by 2020." [4] As a result, areas like Engineering, Research & Development, and Business Process Management will see accretion in opportunities related to IoT. Government of India has planned investment worth $1 billion for 100 smart cities, over the next 5 years, is expected to be a key enabler for IoT adoption across these industries. [8] According to Deloitte's latest report, India is a rapidly growing hub for IoT solutions with market value expected to be $9 billion, and an installed unit base of $1.9 billion by 2020. [4] But due to privacy and security related issues, and the cost of IoT devices, the adoption of IoT devices in India to consider to be expected slowly.

2.1.5 Blockchain

"Blockchain is a digital record of transactions in simple language. The name blockchain comes from an architecture, where individual records, called Blocks are linked together in a list, called chain. Each transaction that is added to the blockchain is validated by multiple computers connected through the internet. These systems create a peer-to-peer network." (Per Christensson, 13th April, 2018) When a new block is added to a blockchain, it is linked to the previous node using cryptographic hash generated from the contents of the previous block. This type of structure ensures atomicity, concurrency, and security. Blockchain is emerging as one of the most evolving technologies and is on the verge of promising a bright future for individuals seeking jobs in this domain. According to Times of India newspaper (dated 19th December 2018), the West Bengal government is trying with the Indian Statistical Institute (ISI) to set up a centre of excellence on this technology that will conduct research, identify more areas where it can be used to provide better services and safeguard government data.[8] Almost 50 percent of banks are expected to use this ingenious technology by 2020 and there is a huge transformation expected to take place in the non-financial sector as well in the coming time. "INDIACHAIN": the brainchild of NITI Aayog (The National Institution for Transforming India), plans to

implement full-fledged blockchain based infrastructure that will complement 'Indiastack' and also the use of AADHAR. It also envisions to revolutionize the regulating of land records to avoid duplication, eKYC in banking, distribution of subsidies in farming, electricity distribution, etc. Imagine you own a diamond and you have its whole history from mine to market! In a major initiative to revive consumer confidence in diamonds and diamond jewellery, two Surat-based companies - Dharmanandan Diamonds and Hari Krishna Exports have become the first in the world to use blockchain technology, which tracks a stone's journey from rough diamonds mined to the end customer. [9] Dharmanandan Diamonds has partnered with technology company Everledger to place its diamond-tracking data on to a blockchain platform. Taking the cue from Andhra Pradesh, Karnataka and Telangana governments declared their intention of using **Blockchain for governance**. With such encouragement, it would be hopeful to see **future governance model of India based on the secured Blockchain technology.** This technology would address the issue of financial mismanagement, cyber threats, subsidy leakages, and most help in eradicating corruption in our nation. Driverless trains, remote sensing, medical diagnosis, precision irrigation, etc. are upcoming focus areas for central government which would use AI & Blockchain in the near future. Several startups in the country have also been working significantly in this domain, i.e. Unocoin, Sofocle Technologies, EzyRemit, Elemental Labs, LedgerConnect, Primechain Technologies, etc. Blockchain is carving a massive demand for professionals to work on the technology in major cities of India. Bengaluru, India's Silicon Valley was leading in 2018 for those seeking jobs in the blockchain sector, with nearly 37% of all Blockchain job postings in India. [10] This was followed by Mumbai, Hyderabad, Pune, and Gurugram, making up the top 5 destinations for Blockchain careers in India. An average Blockchain developer salary in India is between Rs. 5 lakhs to Rs. 30 lakhs depending upon how much experience and how much skill a developer has in coding, managing projects, running teams of blockchain developers, handling clients and stakeholders, communication skills, etc.

2.2 Changing Job Scenario

Although the past 2 years have been quite tough for individuals working in IT as the Industry Revolution 4.0 took place and IT sector is facing a huge technological shift, the coming five years of Indian economy will see an upsurge, and overseas demand for Indian IT human resource will increase. As new technologies come and replace the old one, it comes with a great amount of responsibility and risk. Lately, the employability rate has gone lower and reskilling of current working IT individuals has become a mandatory task for all the MNCs. Job opportunities for the

new technologies such as IoT, ML, AI, Cloud, etc. have seen a sharp and significant increase. Whereas, there remains vacancy in these job positions in companies because of the unavailability of individuals having adequate skills, knowledge, and experience for these job roles. Also, now that the MNCs and public sector in India are encouraging the push on new technologies quite sincerely and machines are already serving a purpose for some jobs, companies need lesser individuals to perform the same task.

Also, the increased efficiency of IT individuals fulfils one of the reasons for diminishing jobs in IT sector. Less number of skilled professionals can serve the purpose nowadays. Thus, IT industries shall not only invest in developing advanced technologies but also invest money and resources in re-skilling of employees. Although, India being one of the leading developing countries aspires to create fresh jobs with the advanced technologies in coming time. With the increase in the use of mobiles, social media applications, and camera, big data increases. The need to leverage this big data is already a challenge. Big data will initially increase threats to security, privacy, and data theft, thus those who are skilled in Cyber security and Data analytics domains will be in demand for the next few years. The old fashioned coding jobs will decrease and will be replaced by automatic coding and cloud computing that significantly reduces the workforce in the companies. According to official sources**, Maruti Suzuki uses a total of 7,500 robots in their Manesar and Gurugram plants.** Robots in India would take time to replace the focus of labour-centric work, however demanding and tech-savvy customers encourage such initiatives and help the growth of new technology. According to a study by Horses for Sources, India is likely to lose 640,000 jobs to IT automation by 2021. [5] Over the years, the Indian IT industry has become less labour absorbent.

2.3 Tech-Readiness of Indian I.T Industry

Figure: 2 – Digital disruption in different geographies [6]
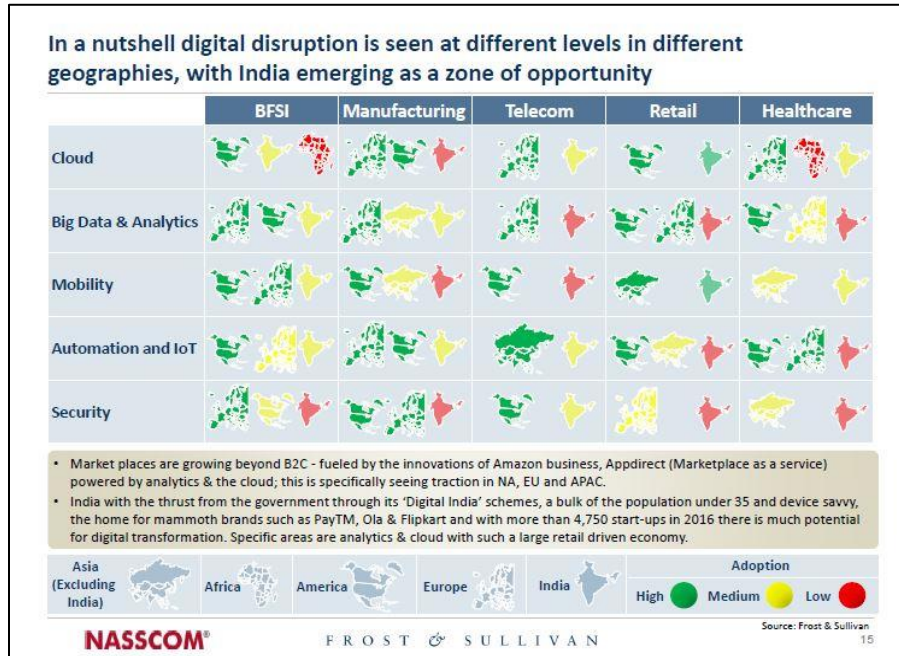
Indian markets foresee largely robust growth over the course of the next decade, making them relatively stable growth centres,

(A) From an economic point of view: [6]

USD 44 Billion in FDI in 2016	Indian IT market generated USD 154 Billion in FY2017	The Indian e-commerce industry is USD 33 billion industry in FY2017
India's IT talent supply is growing at 11.5% YoY since 2005	$15 Trillion economy by 2025, the 3rd largest nation to be by 2025	25+ cities added to the centre of innovations for various industries since 2010

(B) From Technological point of view: [6]

670 million people in India will have access to mobile internet by 2020	Ranks 3rd with more than 4750 start-ups in the global start-up ecosystem	1035.2 million Mobile subscribers in 2016. The second largest smartphone market
USD $210 billion will be the contribution of the mobile industry by 2020.	By 2020, both B2B & B2C e-commerce will be worth USD $900 million.	The mobile-based gaming is expected to worth a consolidated $1 billion by 2020

2.4 Changed Prospects In Indian I.T Industry

The Indian IT industry's contribution to the GDP has been steadily growing - from 4.8% in 2006 to 9.5% in 2016. [17] This is a prodigious achievement for a young industry in a country where the economy used to be predominantly agrarian and the primary contributor to the GDP was agriculture till the 1980s. At present, one picture that is emerging is that the **pace of change** is overtaking the pace of learning. Smartphones, smart cities, smart homes, and smart cars will logically translate into smart jobs, smart skills, and smart industries. Global enterprises are progressively moving towards the 4th industrial revolution, which has set the ground for the technologies like IoT, automation, AI, Cloud computing, Cyber security, etc. to evolve.

Automation: Beneficial for long-term: Initial Investments decrease the costs eventually **,** Enhanced output within the same timeframe**,** Eliminates several phases of employee lifecycle such as L&D, activities, and engagement efforts.

Going automation is a lucrative approach, but it also leads to loss of jobs. Does that mean that the entire human workforce is on the verge of extinction? The answer is No. Before 20 years, we weren't dependent on mobile devices for our daily work and living. Nowadays, we can't imagine our lives without our mobile phones for even 5-6 hours. With the emergence of use of these devices (i.e. smartphones), new jobs have also been introduced in the IT domain inculcating fresh job roles like Smartphone productions (Manufacturing), App developers (Android/iOS), UI/UX Developers, Aggregators (Uber, Airbnb), Social Media campaigns (Marketing, Creative), etc. With over 460 million internet users, India is the second largest online market, after China.

India had over 337 million smartphone users in 2018, which is expected to be 490.9 million by 2022. Uber has affected the automobile industry adversely with lesser number of people opting for car ownership, where on a positive side, it has provided citizens more mobility and better transportation experience altogether. It has also provided jobs to drivers and helped them improve their standard of living. Applications such as Zomato, Swiggy, and UberEats have provided home delivery of food items of different cuisines by providing a better supply chain, faster delivery, discount coupon codes, time-saving, and accessibility of food at customer's door-step. Online e-commerce platforms such as Amazon, Flipkart, Snapdeal have made shopping easier for customers, so now they don't have to drive the car to the shopping malls, or different shops for different commodities. Instead, they can compare all the products from several different brands and then choose from them, sitting at their home. All these examples prove that the world today is ready for new age human skills and jobs will go under tremendous transformation. If corporates do not invest in these future technologies and reskill their employees, it would be the beginning of the end of these organizations. Evidently, it indicates the urgency to create re-skilling of job employees at a lower level and move them up to the chain in order for them to become part of Industry 4.0. We are already in the thick of automation action and have new job skills workforce employed to build a future-proof solution for our clients. [7]

3. Survey

A survey was taken from the undergraduate students of age group: 17 to 22 years studying in well-known colleges of Gujarat, India to see what the freshers (individuals with no prior work experience) expect from industry. Here is the summary of the responses received:

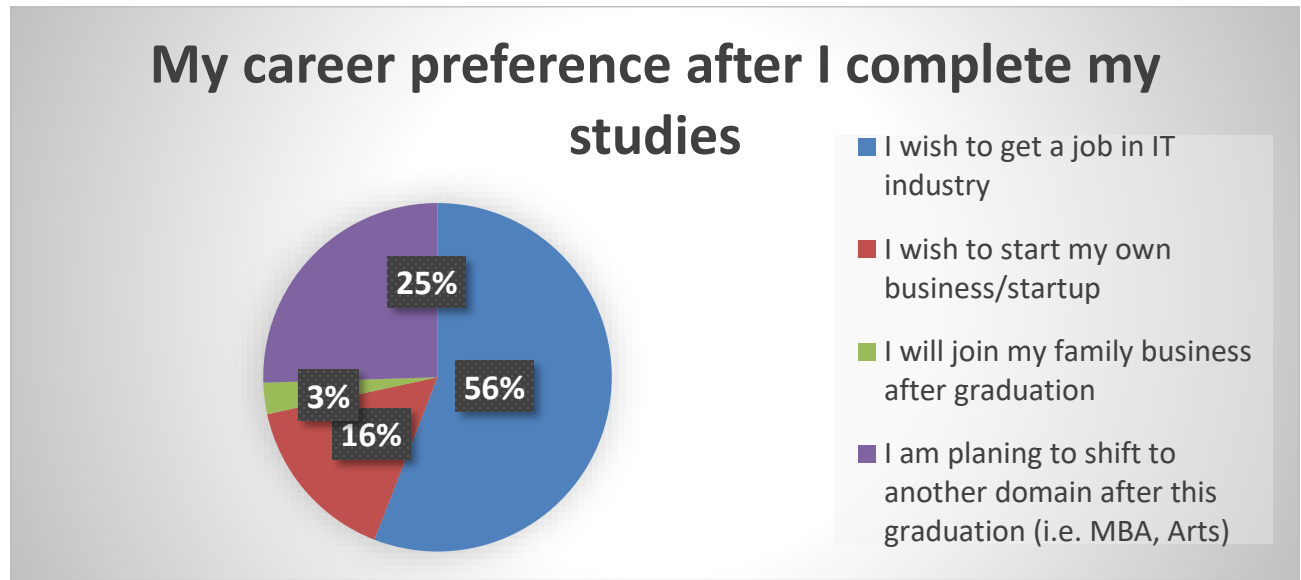Figure: 2 - Career preference of students after graduation

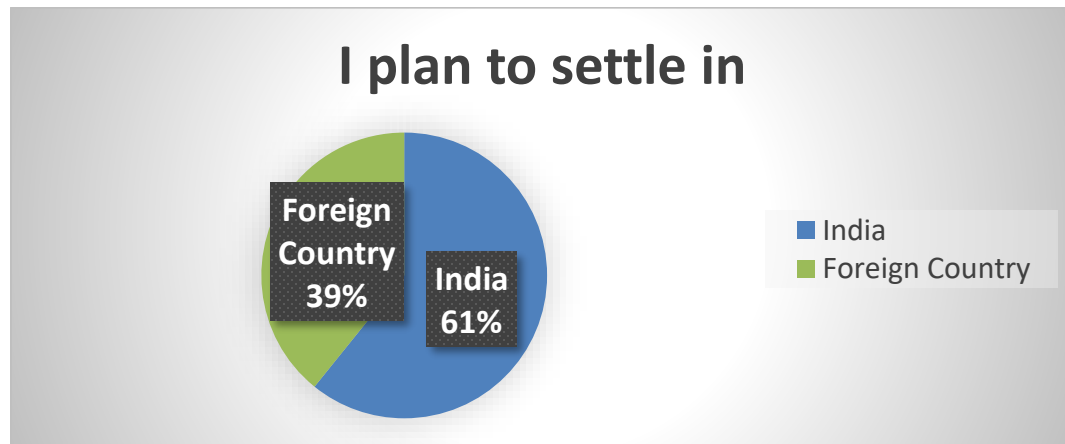Figure: 3 – Country preference of students after completion of graduation

Figure: 4 – Reason behind students going to foreign countries for foreign countries
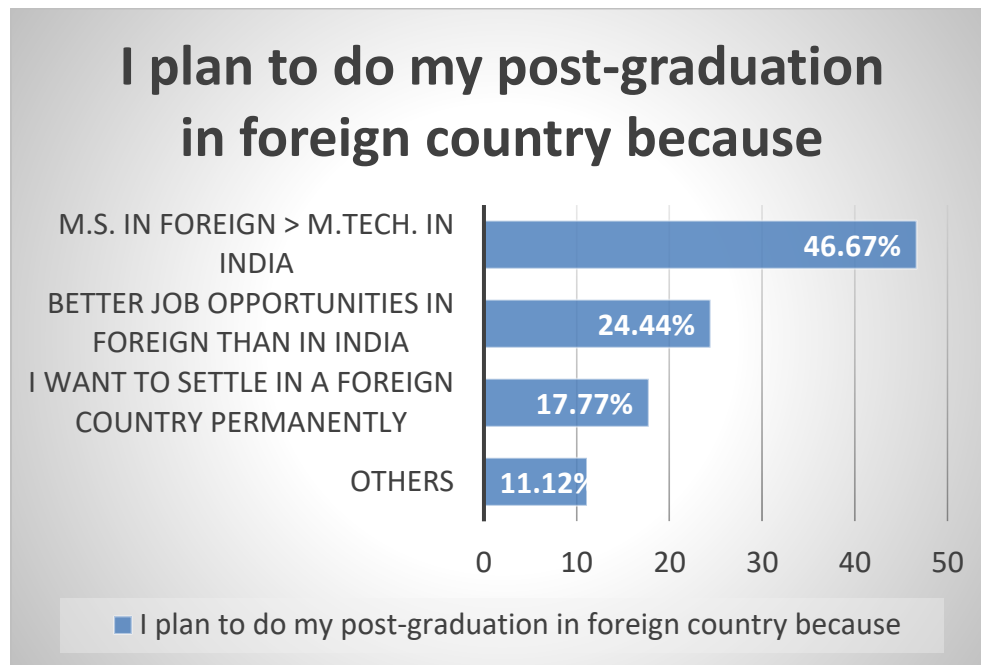
Figure: 5 – Job domain preference of students according to his/her current interest and skillset
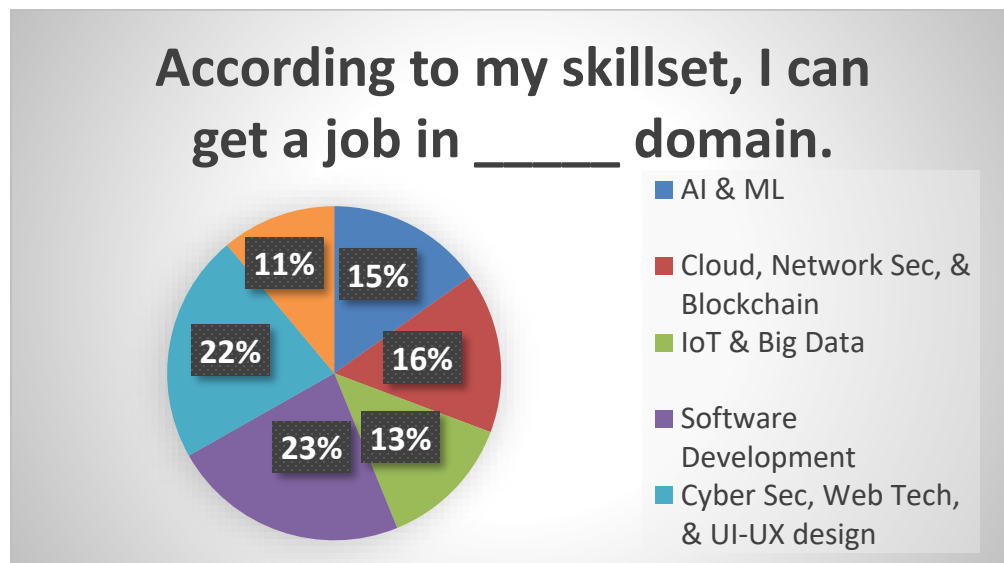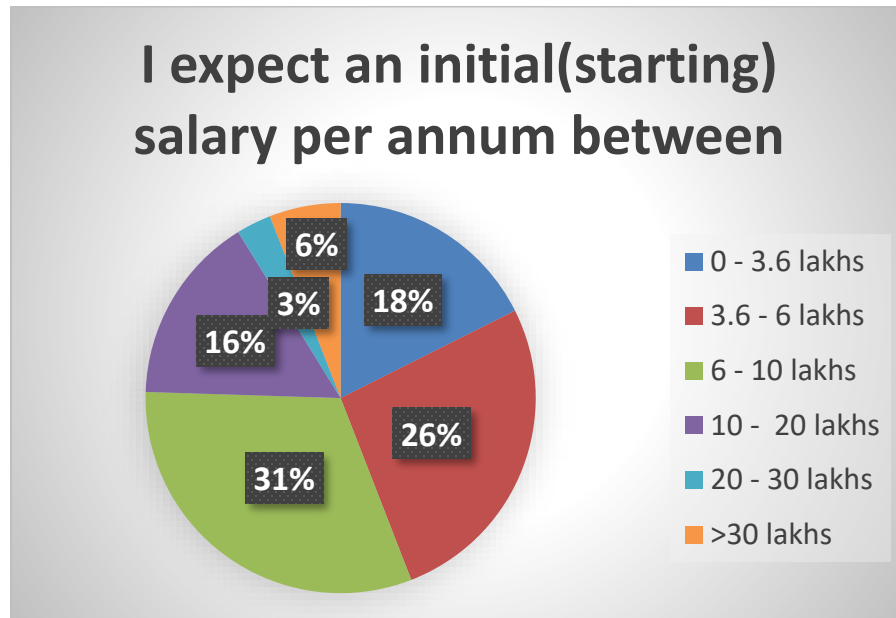

Figure: 6 – Expected average starting salary of students from Indian IT industry

Thus from the above pie charts and bar graphs, some significant result has been derived. The ratio of students staying in India for doing masters course or for seeking jobs and students leaving India in order to pursue masters' degree in a foreign country is approximately 3:2.

Table: 1 - Mean for the expected initial salary per annum expected by freshers

Class (in Lakhs)	Frequency
0 – 3.6	18
3.6 – 6	27
6 – 10	31
10 - 20	16
20 – 30	3
30 – 50	6

Mean = $\sum fx / \sum f$ = 965/101 = 9.5545

Hence, Expected Average starting salary for an IT individual (fresher) living in India is around **9.55 Lakhs per annum**. So, MNCs in India and Indian companies have to be willing to pay these 'to be corporate IT professionals' a great deal.

4. **Conclusion**

The major company leaders, CEOs, and organizations have already made up plans for re-skilling, but the Indian education system will also have to take action to bridge the gap between academics and constantly evolving industry, otherwise jobs in IT sector would see a substantial decline and economy of India will observe an unrest. In India, more than 400,000 IT students graduate every year, yet the employment rate out of those students is only 20%. [15] This is because the universities and colleges are more focused on providing degrees rather than enhancing student skills that can connect students to industry. This is a major reason behind the gap between demand and supply. The policymakers of India should make these freshly evolving technologies a serious component in our flagship programmes such as Make in India, Skill India, and Digital India programme. Indian education policy must make radical recommendations for the overall perspective shift in the education system to provide a better future to the AI-powered economy. India is known for the human resource it provides to the world and Indians have always been found indulged in innovating the present in order to create a better future. As the new technologies such as AI, IoT, Cyber security, and Blockchain replace the old job roles in Indian IT sector, it is high time that the students, researchers, and industry professionals take part in this process of transformation and help India evolve into a mega hub for information, communication, and technology. The country's private and public sector have started investing time and money in the growth of these technologies in the past 4-5 years, yet a lot of real-time challenges such as less commercialization, lack of infrastructure for these technologies, economic slowdown, etc. still exist, for which the industry needs real-time solutions. With the number of feasible solutions to solve a single problem increasing exponentially day-by-day, it is the responsibility of each individual working in IT industry to learn new technologies, create a harmony with change, and to be ready for the years to come in order for India to break the records and stand strong while the worldview evolves.

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Factors affecting turnover intention of temporary employees of an airline company

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The purpose of the study was to investigate the effects of job characteristics, job satisfaction, and organizational commitment on turnover intention in a sample of temporary employees working at an airline company in Thailand. To achieve this aim, data were collected via self-administered questionnaires. A sample of 350 temporary employees were recruited through the use of convenience sampling. Regression analysis was used to determine the effects of the proposed antecedents of turnover intention among temporary employees. The results of the regression analysis indicated that seven antecedent variables were significantly related to temporary employees' turnover intention. Specifically, three job characteristics namely skill variety, task significance, feedback were significantly related to turnover intention. Furthermore, pay satisfaction, co-worker satisfaction, and supervisor satisfaction played an important role on turnover intention. Normative commitment also contributed to turnover intention of temporary employees. Task identity, job autonomy, promotion satisfaction, affective commitment, and continuance comment did not affect turnover intention of temporary employees working in this airline company. It is anticipated that the findings of this study will provide airline management with guidance on how to reduce the levels of temporary employees' turnover intention within the organisation.

Exploring Innovation Eco-System: Different Model of Innovation Centres in Malaysian Public Universities

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The study aims to explore institutional logic of innovation centres towards supporting an innovative eco-system, and understand the evolutionary stages they bring for research product commercialisation at Malaysian public universities. Design/methodology/approach – The explorative study synthesizes and organises three categories of universities, utilising in-depth interviews. The three universities are clustered as, Research Universities (RUs), Comprehensive Universities and Focused Universities, each with their own respective innovation Centres, through institutional collaboration with industry towards commercialisation.
Findings – It is contends that a total of four broad forms of institutional logic are suggested: basic, progressive, transitional and matured form.
Research limitations/implications – The study depicts that the different institutional logics of innovation centres in relation to researchers, industry partners and funding agencies can prevail in (at least) four different ways resulting in four different types of innovation processes. Since the relationship is not necessarily linear, there could be an overlapping of the institutional logics towards the advanced model.
Practical implications – If the role of the innovation centre is to be a forum for collaboration, the centre has to be a good mediator between the actors in order to ensure their satisfaction with the research within and between projects. If, in contrast, the role of the research centre is to be a facilitator of collaboration, the centre needs to enable the actors to learn how to interact with each other in order for the basic, transitional, progressive forms of institutional logic to evolve into matured mode.
Originality/value – An original contribution was first made by delineating and discussing the three categories of institutional logic. Next, it systematically uncovers the four components of innovation centre in terms of the institutional experience to deliver their outcomes. Finally, some recommendations and direction for future research are offered to improve institutional provision.

Prospects of rural transformation in rural tribal domain: A study in Assam

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The primary theme of Rural Transformation (RT) centers round the issues of diversification of economies, reduction of reliance on agriculture, increased link with distant and urban places in relation to trade, goods and services. RT is envisioned in totality as a process in which rising agricultural productivity, increasing marketable surpluses, expanded off-farm employment

opportunities, better access to services and infrastructure, and capacity to influence policy all lead to improved rural livelihoods and inclusive growth. The dominant unilateral development paradigms of past years failed grossly to achieve their desired goals because it hardly took the social and environmental aspects and the probable influence of such changes on human society and culture as a whole. It also created a structural vulnerability for global and national economies manifesting diminishing share in GNP of agriculture and rural production in developing countries, while more than half of the economically active people remained dependent for their livelihood and well-being on agriculture. While rural transformation can result in the diversification of rural economies and create economic growth, it also provides a new intervention context and have far-reaching consequences for the development of rural areas (and urban areas) and alike. To make rural transformation meaningful, skills development, employment generation, and structural changes corresponding to the local context has been adapted as basic strategies where the above mentioned key issues to be incorporated. Tribal people, in terms of interaction with non-tribal domain and change process, have been portrayed as relatively shy, lack of entrepreneurial zeal, resistant against change, lack of enthusiasm for investment aiming at profit making etc. Further, studies also unambiguously illustrated how coercive, unplanned and imposed development initiatives have made the tribal people devoid of their traditional resources, unskilled labourers and a group of people having no bargain power. All such situations indicate that being tribes and living in rural domain have double effect on the life of the tribal people and thus there is a need to study these societies to make RT meaningful and sustainable parallel to preserving the tribal ethos. To meet such a challenging issue, there is urgent need to understand the core issues like needs of tribal people, their psycho-social bearing related to change processes, the social and physical environment of the tribal people live with, the initiatives taken up by existing development agencies, and nature and extent of tribal people's response to such initiatives in past.

Unconscious Economic Development in the 4th Industrial Revolution

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This paper intends to take part in altering the notion of Economic Development by proposing a wholesome model. In order to move market economy active and to keep consumerism alive, several implications can be observed: the increase in the extraction of natural resources, the worsening of environmental degradation, and the rise of unemployment and homelessness. Consequently, redefining "Economic Development" in the era of the 4th Industrial Revolution becomes necessary. The concept of Economic Development in this paper is illustrated and

discussed through a road map in the form of a tree. The Economic Development itself is the trunk, and human mentality of economic-socio-political ideologies (in terms of market economy, capitalism, profit, and greed) is signified by the roots; additionally, consumerism, environmental degradation, inequity, unemployment, and socio-psycho-somatic challenges are the branches. By delving into these variables, we can explore the need for greater symphony to indoctrinate a good understanding at all levels of educational institutions. Similarly, policy changes and implementation at the national, regional, and international domains can be undertaken. Curbing of the propaganda from the commercial advertisements, rephrasing the goals and objectives of the market economy, and revisiting consumerism are also the end goal.

Innovative Approaches of Tourism Ventures: A Case Study of Assam

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Is Assam the new destination for Eco – Tourism in India? Over the past five years, there has been an upward trend in tourism activities in the State of Assam. Assam is one of the beautiful states in the North Eastern part of India. The number of Domestic tourists visiting the State has increased from 45,11407 in 2012 to 60,52667 in 2017. Similarly, the number of foreign tourists also have gone up from 17,543 in 2012 to 21,760 in 2017. The thick dense forests, lesser trodden roads, the whirling and turbulent rivers and the picturesque beauty of the place provides ample opportunities for the tourism entrepreneurs to come up with various Eco-friendly innovative ventures. The objective of the study is to analyze the socio-economic viability and the innovations incorporated by the tourism ventures in the light of the growing demand for Ecotourism. It explores the various problems and prospects of tourism entrepreneurs. The study also focuses on the perceptions of the customers (Tourists) regarding such innovations. This is a qualitative paper with Collective Case study research methodology. The researchers have identified Five unique tourism ventures in Assam which have started their operations within the last 5 years for the purpose of the study. 350 tourists visiting those ventures have been interviewed. Thematic analysis is done on the Data collected from those interviews. The findings will help the entrepreneurs understand the perceptions of their customers regarding their innovative approaches. This, in turn, will help them take various decisions to increase their business in the future. From the inferences derived, the researchers have also provided some suggestions to develop the tourism business in Assam.

Keywords: Ecotourism, tourism entrepreneurship, innovative approaches, Assam.

Manifestations of Workplace Bullying: In the Context of Private Sector Employees in Sri Lanka

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This study explores the prevalence of workplace bullying in private sector organizations in Sri Lanka. Workplace bullying has captured a great deal of research interest among scholars around the world. Workplace bullying refers to "situations where a person repeatedly and over a period of time is exposed to negative acts (i.e. constant abuse, offensive remarks or teasing, ridicule or social exclusion) on the part of co-workers, supervisors, or subordinates. Workplace bullying, has been investigated in many dimensions, including areas of its nature and measurement, antecedents, and consequences for employees and organizations. However, manifestations of bullying in terms of person-related and work-related have not been studied extensively. Therefore, this study focused on addressing this lacuna in the literature. Private sector is highly susceptible to workplace bullying due to its nature of competition. Increased competition among private sector organizations has increased the greater emphasis on employee performance. Organizations use variety of techniques to achieve the optimum level of human resources deployment. Organisations appear to have developed a culture whereby the achievement of organisational goals justifies the reasons of using such bullying mechanisms. Therefore, level of prevalence of workplace bullying in private sector may be higher compared to public sector in Sri Lanka.

Two hundred and thirty managerial level employees in the fast-moving consumer goods industry were selected for the study. Self-administered questionnaires were used to collect data and Analysis of the Moment Structure (AMOS) was used to analyse data. Empirical data supported that person-related bullying behaviours such as ignoring, insulting, spreading rumours, yelling, public humiliation is higher than work-related bullying behaviours such as impossible deadlines, unmanageable workloads, meaningless tasks. However, some behaviours identified as bullying behaviours in western context were considered normal occurrences by the participants of this study. This may be to the cultural sensitivity. Therefore, this study adds a cultural dimension to existing literature by conducting the study in Asian context. This study also contributes to the workplace bullying and job stress literature as workplace bullying identified as a work stressor. Findings of this research will be of vital importance to officers and policy developers especially those belonging to the private sector organizations to improve and creating a healthier working environment. Findings may also have the potential for being transferred to other developing countries with similar characteristics to Sri Lanka.

Incorporating SAFT to develop Shariah-compliant Marketing Mix Framework as Halal Marketing Tool for Malaysian Islamic Banking Sector

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Purpose – To consider the extent to which the dynamism of Islamic Ethic Values (IEV) derived from four commendable characteristics of Prophet Muhammad (PBUH) fits within existing marketing mix framework as a framework for marketing strategy applicable to Malaysian Islamic Banking Institutions (IBIs). This can be achieved through analysing selected IEV elements: Siddiq (Truthfulness), Amanah (Trustworthiness), Fathanah (Wisdom), and Tabligh (Communicative), abbreviated as 'SAFT' to be incorporate as a catalyst into marketing mix framework. Embedding ethical marketing management culture can add value to Islamic banking brand, whereas failure to abide can emasculate the efficiency of IBIs overall marketing programmes. Incorporating SAFT into IBIs marketing mix framework aiming to hone marketing management decision process in supporting and complimenting IBIs Shariah-compliant status which evidently acted as distinctive feature and branding persona for Malaysian IBIs. Presented at the end of this study, a re-interpretation of Shariah-compliant marketing mix is proposed, a conceptual framework for its implementation is offered and introduced Shariah-compliant Marketing Mix as Halal Marketing Tool. Design/Methodology/Approach – The present study used descriptive, analytical and comparative analyses. This included an examination of the existing contemporary marketing mix framework employed within studied sector. Guidance from Al-Quran and Hadith was also sought to understand the Islamic ordainments pertaining to ethics and marketing. Findings – The study reveals four ethic values in Islamic perspective that can be evaluate its potential to be incorporated elements in developing a Shariah-compliant Marketing Mix framework for Islamic Banking Sector. Originality/Value – The paper contributes to the literature on Islamic Marketing Mix as well as to Islamic Marketing. It is aims to be one of few studies investigating the practicality of four commendable characteristics of Prophet Muhammad (PBUH) as ethic values that can potentially connect Islamic banking marketers with their clients. The findings presented will be of genuine interest to Islamic Banking operators, conventional and Islamic marketing managers, and academicians.

Keywords - Marketing Mix Framework, Islamic Ethic Values (IEV), SAFT, Shariah-compliant Marketing Mix, Halal Marketing Tool

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