An Empirical Analysis to Identify Effective Recruitment Source Mix Using Conjoint Analysis

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Abstract – **The study investigates the preference behavior of the HR Specialists to identify an effective 'Source Mix' for recruitment. The research was carried out for different Indian Industry sectors using Conjoint Analysis employing orthogonal design questionnaire. 1091 completed questionnaires were used for the analysis. One of the major findings depicts Print Media as the most preferred source, even in this era of information technology; while Employee Referrals as the least preferred source of recruitment across all Industry-sectors. Interestingly within this factor, Academic journals are most preferred source of recruitment whereas newspapers as the least preferred. Based on the individual preferences different ideal source mix were identified for the industries studied. The findings have implications for both recruiting practices and human resource research.**

Keywords: **Source Mix, Conjoint Analysis, Orthogonal Design, Preference, Indian Industry, HR Specialists**

I. INTRODUCTION

The global economy is fast becoming a reality where organizations will need to find ways to become more productive, more efficient and more competitive. Firms should entail themselves to prepare for the big global game and become more efficient and competitive to deliver high performance. A high-performance organization has two general human resource objectives. The first is the recruitment and retention of a workforce made up of the best people available for the job to be done. Although the term recruitment is commonly used, it is not easy to define (Barber, 1998: 5-6). The definition offered by Barber states that: "Human Resource Recruiting includes those practices and activities carried on by the organization with the primary purpose of identifying and attracting potential employees" (p. 5). Breaugh (1992) stated that recruitment activities are designed to affect (1) the number of people who apply for vacancies, (2) the type of people who apply for them, and/or (3) the likelihood that those applying for vacancies will accept positions if offered. Once they are hired, the firm's best interest lies in maintaining a stable and

experienced workforce. The second objective is to increase the effectiveness of the workforce (Czinkota, et. al., 2010). These two objectives can be achieved if proper attention is paid to the available source mix.

"Source mix" is a term used in this paper to describe the different combinations of recruitment sources available to the recruiters for fetching a talent or prospective employee into the organization. With the evolution of the Job market, recruiters are required to be more cautious in their choices, as poor recruiting decisions can produce long-term negative effects. Poor recruiting may possibly occur because of wrong choice of recruitment sources. The recruiters usually have a wide range of options to choose from. Depending on the number of people needed and when they are needed, recruiters subconsciously evaluate a complex set of attributes of recruitment sources before making their "source mix" decision. The importance of various recruitment sources attributes is unique to the individuals concerned.

The present study attempts to understand the HR Specialists' preference for recruitment source mix in services and manufacturing industries in India using conjoint analysis. The use of conjoint analysis is appropriate in measuring the utility of the various sources of recruitment. The utility scores obtained from conjoint analysis will enable organizations to devise appropriate recruitment source mix to serve their specific industry/sector needs. The idea behind this research is to gauge the importance of various sources of recruitment in this era of information technology. As India being one of the growing markets for internet users, whether HR specialists prefer using ICT based instruments to recruit prospective employees or are they still using the traditional sources of recruitment like newspaper etc. Today, it has become increasingly important for HR specialists to show that its investments improve the bottom line, as his/her primary task has evolved from that of ''personnel control'' to ''people developer'' and now to ''talent multiplier (Cheese *et al.,* 2007)''.

The paper is organized around the recruitment source mix preferences that are presented in the first section of the article, following the definition of recruitment and recruitment source mix. In the second section, the literature on recruitment and sources of recruitment is discussed. In the third section, we zoom in on the research methodology followed by empirical findings. The paper concludes with discussion and conclusion section to help HR Specialists in identifying an ideal source mix.

II. Literature Review

A comprehensive analysis of literature was conducted in order to identify various sources of recruitment to generate an orthogonal design for the appropriate recruitment source mix factors and their sub levels. Indeed, the recruiter must never forget that recruiting is a two-way process. To be successful and outstanding, a recruiter has to be able to exceed his expectations by really understanding advantages and reasons for selecting a particular mix of sources of recruitment.

The literature on recruitment, like other professional disciplines, is continually evolving. Gannon (1971) examined the relationship between several methods by which individuals heard about job openings and voluntary turnover. Among his findings were that individuals who were referred by a current employee or who had applied directly ("walk-ins") without knowing if there were job openings were less likely to quit than individuals who responded to job advertisements or who were referred by an employment agency.

Further, in one of the earlier studies, research on job information sources has drawn a distinction between formal and informal recruitment sources. The former involves the use of formal intermediaries such as placement offices, and recruitment advertisements, whereas the latter does not involve the use of formal intermediaries (e.g. friends and relatives) (Saks and Ashforth, 1997).

Gorter, Nijkamp, and Rietveld, (1993), using a piece-wise constant hazard rate, argued that from the analysis of the time pattern of the hazard rate one may conclude that when advertising is used employers search non-sequentially, while if the informal channel is used employers tend to search sequentially.

While Gorter and Ommeren (1994) pushed the analysis one step further. The authors concluded that two main recruitment strategies can be identified: a sequential use of search channels, in which the first search channel chosen is usually the informal channel, and additional search channels are activated one after the other; and an "adding to the pool" strategy in which the first search channel chosen is basically advertisement and later one or more search channels are activated in order to enrich the pool of available applicants.

Russo, Rietveld, Nijkamp, and Gorter (1994), concluded that the different impacts on duration between the informal channel and advertisement are basically due to the different characteristics of the applicants generated by the channels considered. In fact, the informal channel tends to reach a smaller population, whose productivity is less uncertain (pre-screening hypothesis). On the other hand, the population reached by advertising is usually broader; this lead to higher expected productivity levels but in the meantime it may increase the likelihood of mistakes in recruitment. In order to avoid the latter risk, a more intensive selection may be required.

Various authors have also suggested that, one strategy often used by organizations to influence job seekers' organizational attractiveness perceptions is communicating important information via recruitment websites (Cober, Brown, Blumental, Doverspike, & Levy, 2000; Harrington, 2002; McConnel, 2002). These websites are often the first contact job seekers have with potential employees (Carlson, Connerley, & Mecham, 2002) and thus may serve as the primary source of organizational information to job seekers (Cober, Brown, Levy, Keeping, & Cober, 2003).

A study conducted by Rafaeli, Hadomi, and Simons (2005) involved a plant located in Israel and focused on three recruitment methods: employee referrals, geographically focused ads (i.e., the local newspaper), and geographically unfocused ads (i.e., a national newspaper). They found that referrals generated more applicants, more hires, and a higher yield ratio (hires/applicants) than geographically focused ads which, in turn, outperformed unfocused ads on these three criteria.

A research carried by Henkens, Remery and Schippers (2005) on recruiting personnel in a tight labour market aimed to analyse the instruments employers used to contact potential workers and, to find out the extent of employers to rely on traditional means, like advertisement in the news paper, world wide web, visiting job fares etc. The authors conducted a survey among more than 1000 employers in the

Netherlands. Factor analyses and regression analyses were carried out to explain different recruitment strategies. The factor analyses showed that different recruitment methods can be traced back to three recruitment strategies. The first strategy was described as active and informal recruitment. The second strategy was called recruiting via the internet and the third was characterised by formal recruitment. The results suggested that many organisations – not in the least organisations in the local government sector – could gain a great deal from using a wider range of instruments to recruit new personnel.

Haroon (2010) examined the recruitment practices of selected Banks, operating in Rawalpindi / Islamabad. The author focused on finding the effectiveness of recruitment practices in terms of employee's job satisfaction and organizational commitment. The study also sought to describe mediating role of unmet expectations between recruitment sources (internal vs. external) and post-hire outcomes i.e. job satisfaction and post-hire outcomes. The study found that those employees who entered the organization through internal recruitment sources experienced slightly less unmet expectations than employees recruited through external recruitment sources. The study also found that unmet expectation mediated the relationship between recruitment sources (internal vs. external) and both job satisfaction and organizational commitment. Author suggested that Banks should prefer internal recruitment practices to ensure less unmet expectations of employees and high level of job satisfaction and organizational commitment.

After organizations have scientifically chosen the right source of recruitment and hired the best human resources available to them, they could build a culture that places a high priority on individual and job performance and use it as a measure of organizational success. Aligning organizational objectives to individual objectives provides a clear goals and feedback mechanisms to enable long-term sustainable individual and/or team achievement and performance. Hence, the use of most appropriate source mix of recruitment can help organizations to create the best pool of talent while recruiting as well as post-hiring outcomes.

III. Data and Research Methodology

The data collection was done through a questionnaire, which was generated in SPSS 16.0 software using Orthogonal Design. This particular design is used to generate a manageable number of potential profiles, as even a small number of factors and a few levels for each factor will lead to an unmanageable number of combinations. The possible number of profiles in our study come out to be 162 (=3*3*3*3*3*2). As this number of combinations was too large to rank by the respondents, hence the numbers of these combinations were restricted to only 20 using the "Fractional Factorial Design". Out of the 20 combinations, four were holdout samples. Responses were taken for the holdout samples also, but the respondents were not told about the same. These holdout samples do not form part of the conjoint method to estimate the utility scores but they constitute a control criterion for the validity of utility scores for the real profiles.

Thus, the final questionnaire contained 20 different combinations of the source mix (Table IV). These combinations were given to the HR Specialists to rank them on a scale of 1 to 20, where 1 is most preferred and 20 is least preferred.

The data was collected across 6 industry sectors viz., Information Technology, Hospitality, Financial Services, Automobiles, FMCG and Consumer Durables. The first three sectors belong to the Services Industry while the other three are from the Manufacturing Industry. These two industries were combined together to form an Overall Indian Industry. The sources of recruitment, that is factors, which are used in the study, are Print Media, Internet, Placement Consultants, Campus Selection and Employee Referrals (Table III). There could be other factors as well.

The total sample size consisted of 1586 respondents. After data validation and data cleaning, 1091 (69%) questionnaires were found to be complete and the same formed the part of analysis. The break-up of the completed questionnaires across industry sectors is as under:

Table I Break-up of Analysis ackoloss Industry Sectors

Sectors	Complete	Incomplete	Total
Information Technology	220 (70%)	95	315
Financial Services	214 (74%)	77	291
Hospitality	204 (73%)	75	279
Automobiles	99 (50%)	99	198
FMCG	166 (68%)	79	245
Consumer Durables	188 (73%)	70	258
Total	1091 (69%)	495	1586

*Figures In Bracket Are Row Percentages

Conjoint analysis is then applied to the data so obtained. It is a technique for measuring preference. It relies on surveying respondents with a representative set of attribute combinations that the subjects rank or score according to their preference. The analysis yields a utility score for each of the sub-factor levels. The higher the utility score the greater the importance of that sub-factor level. The analysis gives the importance value of the factors and utility scores for the sub-factor levels (Table III). Since utility scores are in common units hence by adding the most important sub-factor levels, the most important combination is generated.

IV. EMPIRICAL FINDINGS

The Conjoint analysis was administered on three separate occasions. The first batch of results was from the Overall Indian Industry. The second batch was from the group of Services Industry comprises of Information Technology, Hospitality and Financial sectors. The last group was from Manufacturing Industry having Automobile, Consumer Durables and FMCG sectors. The technique has really been useful to obtain the revealed preference for the source mix of the HR specialists.

TABLE IA UTILITY SCORE (INDUSTRY)

Sub-Factor Level	Overall Indian Industry	Services Industry	Manufacturing Industry
Job Portals	-0.012	-0.065	0.051
Company Website	-0.095	-0.08	-0.113
Social Networking Sites	0.107	0.145	0.062
Newspapers	-0.295**	-0.234**	-0.367**
Magazines	0.087	0.107	0.063
Academic Journals	0.208*	0.127	0.304
Retained Search Firms	-0.232	-0.223	-0.243
Contingency Employment Agencies	0.201	0.091	0.333*
Niche/Industry Specific Consultants	0.031	0.132	-0.09
Individual Campus	0.113	0.067	0.167
Joint Placement	-0.238	-0.204	-0.278
Job Fair	0.125	0.138	0.111
Regular Employee referrals	-0.181	-0.207	-0.15
Contingent Employee Referrals	0.181	.207*	0.15

*Maximum Utility
**Minimum Utility

TABLE 1B UTILITY SCORE (SECTOR)

Sub-Factor Level	IT Services	Hospitality Services	Financial Services	Automobile	Consumer Durables	FMCG
Job Portals	0.062	-0.074	-0.179**	-0.117	0.342*	-0.173
Company Website	-0.328	0.057	0.024	-0.072	-0.166	-0.078
Social Networking Sites	0.266	0.017	0.156	0.189	-0.176	0.251
Newspapers	-0.649**	-0.021	-0.045	-0.122	-0.286**	-0.575**
Magazines	0.097	0.204	0.02	0.350*	0.084	-0.103
Academic Journals	0.553*	-0.183	0.025	-0.228	0.202	0.678*
Retained Search Firms	-0.317	-0.245	-0.108	-0.451**	-0.069	-0.323
Contingency Employment Agencies	0.085	-0.001	0.189*	0.246	0.298	0.414
Niche/Industry Specific Consultants	0.232	0.247	-0.08	0.204	-0.229	-0.091
Individual Campus	0.205	-0.054	0.053	0.263	0.179	0.107
Joint Placement	-0.158	-0.457**	0.003	-0.367	-0.042	-0.482
Job Fair	-0.047	0.511*	-0.055	0.104	-0.137	0.375
Regular Employee referrals	-0.252	-0.308	-0.062	-0.092	0.023	-0.361
Contingent Employee Referrals	0.252	0.308	0.062	0.092	-0.023	0.361

*Maximum Utility
**Minimum Utility

TABLE IIA IMPORTANCE VALUES (INDUSTRY)

Factor Level	Overall Indian Industry	Service Industry	Manufacturing Industry
Internet	22.34	21.856	22.918
Print Media	24.152*	24.508*	23.726*
Placement Consultants	21.234	21.274	21.187
Campus Selection	20.254	20.052	20.496
Employee Referrals	12.020**	12.310**	11.674**

*Maximum Importance Value
**Minimum Importance Value

TABLE IIB IMPORTANCE VALUES (SECTOR)

Factor Level	IT Services	Hospitality Services	Financial Services	Automobile	Consumer Durables	FMCG
Internet	21.651	21.619	22.293	22.590	23.546	22.418
Print Media	25.224*	22.672*	25.648*	24.122*	24.491*	22.719*
Placement Consultants	22.430	21.918	19.504	22.746	19.163	22.545
Campus Selection	18.364	21.567	20.178	19.755	20.306	21.067
Employee Referrals	12.330**	12.224**	12.377**	10.787**	12.494**	11.252**

*Maximum Importance Value
**Minimum Importance Value

TABLE III FACTORS AND SUB-FACTORS

Factor Level	Sub-factor Level
Internet	Job Portals
	Company Website
	Social Networking Sites
Print Media	Newspapers
	Magazines
	Academic Journals
Placement Consultants	Retained Search Firms
	Contingency Employment Agencies
	Niche/Industry Specific Consultants
Campus Selection	Individual Campus
	Joint Placement
	Job Fair
Employee Referrals	Regular Employee referrals
	Contingent Employee Referrals

A. Overall Indian Industry

The results of Overall Indian Industry, all sectors combined revealed relative preference for the sources of recruitment. Print Media came out to be most preferred followed by Internet, Placement Consultants, Campus Selection and Employee Referrals (Table IIa).]

At the sub-factor level, Academic Journals are most preferred within Print Media, with utility score of 0.208, closely followed by Contingency Employment Agencies within Placement Consultants with a utility score of 0.201 (Table 1a).

The maximum disutility (-0.295) is derived from Newspapers as a source of recruitment from within Print Media, followed by Joint Placement in the Campus Selection factor, with a disutility of -0.238 (Table Ia).

Pearson's R and Kendall's tau provide measures of rank correlation between the observed and estimated preferences. Both these statistics show high correlation between the observed and estimated preferences and are highly significant indicating a good estimation performance. However, the rank correlation coefficient computed for holdout profiles (four holdouts), is negative but insignificant which leaves no impact on the results.

The ideal source mix that can be derived from the Table 1a is Social Networking Sites, Academic Journals, Contingency Employment Agencies, Job Fair and Contingent Employee Referrals, which is Card Id 17, from the questionnaire (Table IV). The total utility of this source mix is 0.822 (=0.107+0.208+0.201+0.125+0.181).

B. Services Industry

The Services Industry results, as per the importance value revealed relative preference for the sources of recruitment which is Print Media followed by Internet, Placement Consultants, Campus Selection and Employee Referrals (Table IIa). The sequence of preference is same as that of the Overall Indian Industry. The importance value of Internet and Placement Consultants is very close.

The utilities derived at the sub-factor level have changed. Academic Journals are still the most preferred within Print Media, with utility score of 0.127 (less than the utility for the Overall Indian Industry). However, the sub-factor level that is most preferred is Contingent Employee Referral within Employee Referral, with a utility score of 0.207. This is closely followed by Social Networking Sites within Internet, with a utility score of 0.145 (Table Ia).

Newspapers continue to remain least preferred source of recruitment from within Print Media, followed by Retained Search Firms in the Placement Consultants factor, with a disutility of -0.234 and -0.223, respectively (Table Ia).

Pearson's R and Kendall's tau are highly significant indicating a good estimation performance. In addition, the rank correlation coefficient computed for holdout profile is positive but insignificant.

The ideal source mix suggested by the conjoint analysis for the Services Industry, based on the highest utilities, is Contingent Employee Referrals, Social Networking Sites, Job Fair, Niche/Industry Specific consultants and Academic Journals, which is Card Id 7 as per the questionnaire (Table IV). The total utility of this source mix is 0.749 (=0.207+0.145+0.138+0.132+0.127).

1. Information Technology Sector

The empirical findings of IT sector revealed relative preference, which as per the importance value, is Print Media followed by Placement Consultants, Internet, Campus Selection and Employee Referrals. The sequence of preference is different from that of the Services Industry and the Overall Indian Industry. The Internet is pushed to number three in the order of preference based on the importance values (Table 2b). This is an interesting finding for the Information Technology sector.

At the sub-factor level, Academic Journals are still the most preferred within Print Media, with an impressive utility score of 0.553, higher than that of the Services Industry as a whole and the Overall Indian Industry. The second most preferred recruitment source is Social Networking Sites, with a utility score of 0.266 (Table 1b).

TABLE IV RANK THE FOLLOWING PROFILES IN ORDER OF YOUR PREFERENCE ON A SCALE OF 1 TO 20; WHERE,
1 IS MOST PREFERRED AND 20 IS LEAST PREFERRED.

Card ID	Internet Type	Print Media Type	Placement Consultants Type	Campus Selection Type	Employee Referrals Type
1	Company Website	Magazines	Contingency Employment Agencies	Individual Campus	Contingent
2	Job Portals	Newspapers	Niche/Industry Specific Consultants	Job Fair	Contingent
3	Social Networking Sites	Magazines	Retained Search Firms	Job Fair	Regular
4	Social Networking Sites	Newspapers	Retained Search Firms	Individual Campus	Contingent
5	Job Portals	Academic Journals	Retained Search Firms	Joint Placement	Contingent
6	Job Portals	Academic Journals	Contingency Employment Agencies	Individual Campus	Regular
7	Social Networking Sites	Academic Journals	Niche/Industry Specific Consultants	Individual Campus	Contingent
8	Job Portals	Magazines	Niche/Industry Specific Consultants	Individual Campus	Regular
9	Social Networking Sites	Newspapers	Contingency Employment Agencies	Joint Placement	Regular
10	Company Website	Academic Journals	Retained Search Firms	Job Fair	Regular
11	Job Portals	Newspapers	Contingency Employment Agencies	Job Fair	Contingent
12	Company Website	Newspapers	Retained Search Firms	Individual Campus	Contingent
13	Company Website	Newspapers	Niche/Industry Specific Consultants	Joint Placement	Regular
14	Job Portals	Newspapers	Retained Search Firms	Individual Campus	Regular
15	Job Portals	Magazines	Retained Search Firms	Joint Placement	Contingent
16	Job Portals	Newspapers	Retained Search Firms	Individual Campus	Regular
17	Social Networking Sites	Academic Journals	Contingency Employment Agencies	Job Fair	Contingent
18	Company Website	Newspapers	Niche/Industry Specific Consultants	Job Fair	Regular
19	Social Networking Sites	Magazines	Niche/Industry Specific Consultants	Job Fair	Regular
20	Social Networking Sites	Newspapers	Niche/Industry Specific Consultants	Job Fair	Regular

Newspapers still continue to remain least preferred source of recruitment from Print Media, having a utility score of -0.649. This is followed by Company Website with a utility score of -0.328 (Table 1b).

The ideal source mix suggested by the conjoint analysis for the Information Technology Sector, based on the highest utilities, is Academic Journals, Social Networking Sites, Contingent Employee Referrals, Niche/Industry Specific Consultants and Individual Campus which is Card Id 7 as per the questionnaire (Table 4), and the same source mix preference as that of the Services Industry as a whole. The total utility of this source mix is 1.508 (=0.553+0.266+0.252 +0.232+0.205).

2. Hospitality Sector

In the Hospitality sector of the Services Industry, the sequence of preference for the sources of recruitment, as per the importance values, is same as that in the Information Technology Sector. However, the importance values in the Hospitality sector are quite close with no clear winner (Table 2b).

Job Fair is the most preferred source of recruitment at the sub-factor level from within the factor Campus Selection. It has a utility score of 0.511. The second most preferred source of recruitment is Contingent Employee Referral, with a utility score of 0.308. Hospitality sector draws maximum disutility from Joint Placement, having a score of -0.457, and regular Employee Referrals with a score of -0.308 (Table 1b).

The ideal source mix suggested for the Hospitality sector by the conjoint analysis, based on the sub-factor level utilities, is Job Fair, Contingent Employee Referrals, Niche/Industry Specific Consultants, Magazines and Company Website. The total utility for such a source mix as per the analysis is 1.327 (=0.511+0.308+0.247+0.204+0.057).

3. Financial Services Sector

The preference for sources of recruitment in the Financial Services sector within the Services Industry happens to be different from IT and Hospitality sectors, however, similar to Services Industry. The preference for the different sources of recruitment, based on the importance values, comes out to be, Print Media, Internet, Campus Selection, Placement Consultants and Employee Referrals (Table 2b).

The highest utility score, 0.189, is observed for Contingency Employment Agencies from the Placement Consultants Factor. Social Networking Site follows it with a utility score of 0.156. The highest disutility are derived from Job Portals followed by Retained Search Firms, having a score of, -0.179 and -0.108 respectively, (Table 1b).

Contingent Employment Agencies, Social Networking Sites, Contingent Employee Referrals, Individual Campus and Academic Journals together form an ideal source mix for the Financial Services sector. The total utility score of this source mix is 0.485 (=0.189+0.156+0.062+0.053+0.025). It seems that the sector derives very low utilities from any of the sources of recruitment.

C. Manufacturing Industry

The results of the Manufacturing Industry are quite different from that of Services Industry in terms of relative preference for the sources of recruitment at the sub-factor level. However, at the overall factor level, as per the importance value, the sequence of preference remained the same as of Services Industry and Overall industry (Table IIa).

The utilities derived at the factor and sub-factor levels have changed. Contingency Employment Agencies is the most preferred with a utility score of 0.333. The second most preferred source of recruitment is Academic Journals with a utility score of 0.304 (Table Ia).

Newspapers remain least preferred source of recruitment, with a utility estimate of -0.367. The utility score of Newspaper has the highest disutility in the Manufacturing Industry vis-à-vis the Services Industry and the Overall Indian Industry.

Pearson's R and Kendall's tau are highly significant indicating a good estimation performance. In addition, the rank correlation coefficient computed for holdout profiles is positive but insignificant.

The best source mix suggested by the conjoint analysis for the Manufacturing Industry, based on the highest utilities, is Contingent Employee Agencies, Academic Journals, Individual Campus Placements, Contingent Employee Referrals and Social Networking Sites. However, it is quite interesting to note that the same combination was not found in the proposed questionnaire (Table IV). The total utility of this source mix is 1.016 (=0.333+0.304+0.167+0.150+ 0.062).

1. Automobile Sector

In the Automobile sector, Print Media is the most preferred, as per the importance value, followed by Placement Consultants, Internet, Campus Selection and Employee Referrals (Table 2b).

Magazines are the most preferred source of recruitment at the sub-factor level with a utility score of 0.350 followed by Individual Campus having a utility score of 0.263. Amongst the least preferred ones, Retained Search Firms have a utility score of -0.451 followed by Joint Placement with a score of -0.367 (Table 1b).

The ideal source mix identified for this sector based on the highest utility scores is Magazines, Individual Campus, Contingency Employment Agencies, Social Networking Sites and Contingent Employment Referrals with a total utility score of 1.140 (=0.350+0.263+0.246+0.189+ 0.092).

2. Consumer Durables Sector

The most preferred sources of recruitment in the Consumer Durables sector, is found to be Print Media, Internet, Campus Selection, Placement Consultants and Employee Referrals (Table 2b). Job Portals and Contingency Employment Agencies are two most preferred sources of recruitment at the sub-factor level, with utility scores of 0.342 and 0.298, respectively (Table 1b).

Based on the highest utility scores, the ideal source mix for the Consumer Durables sector gauged as Job Portals, Contingency Employment Agencies, Academic Journals, Individual Campus and Regular Employee Referrals. The total utility derived from this source mix is 1.044 (=0.342+0. 298+0.202+0.179+0.023).

3. FMCG Sector

Print Media, Placement Consultants, Internet, Campus Selection and Employee Referrals are preferred in decreasing order of preference (Table IIb). The importance values attached to these sources of recruitment, however, are very close to one another with no clear preference.

At the sub-factor level, Academic Journals from within the Print Media came out to be the most preferred choice as a source of recruitment with a utility score of 0.678 closely followed by Contingency Employment Agencies with a utility score of 0.414. While Newspapers and Joint Placement are, the two least preferred sources of recruitment (Table Ib).

The ideal source mix for this sector is Academic Journals, Contingency Employment Agencies, Job Fair, Contingent Employee Referrals and Social Networking Sites with a combined utility score of 2.079 (=0.678+0.414+0.375+0.36 1+0.251).

V. Discussion and Conclusion

This research focuses upon determining the utility values of recruitment source mix. It provides results for the Overall Indian Industry, where, Print Media seems to be a medium heavily relied upon by the Overall Indian Industries to target and establish a direct link with potential employees. Although Print Media is one of the most preferred sources of recruitment, it does not mean the Newspaper Advertising. As we move towards dissecting the Print Media source into the sub-factor level, it is observed that Academic Journals are most preferred and Newspapers are the least preferred. Academic journals could be considered as an important

tool available to companies for attracting fresh graduates in their respective fields; while Newspapers, which were once considered, as the best available source to directly appeal the potential employees have lost its sheen as an important source of recruitment. Similar results were reported by Bolles (2001) stating that in past years the number of résumés received from an advertisement would be 20 to 1,000. He mentioned that ads in newspapers receive a response within 24 to 96 hours, with the third day usually being the peak day. This number had significantly dropped, primarily, because of the Internet, which is the second highest preference of the respondents in our study. In addition, cost associated with posting a vacancy on newspapers is relatively on a higher side as compare to the Internet.

In service sector, recruitment and retention have been acknowledged to be problematic and increasingly a response has been to "cast the net more widely" (Gueutal and Stone, 2005). An interesting finding on Contingent Employee Referrals is observed with maximum utility score. Employee referrals has its own pros and cons such as strong understanding of organization strategy, culture, realistic job preview, allegation of nepotism, too many references for bonus, etc. Nevertheless, Contingent Employee Referral is a mid-way to overcome the negative impact where the source is used only in contingencies. Evidence from many researches has also shown that HR Specialists are finding referrals to be the best way to recruit top talent (Swenson, 1999; Gilpatrick, 2001; Ted, 2002; Anonymous, 2006; Kreissl, 2010).

A Social Networking Site, which is the second preference of Service Industry, has officially outshined almost all other sources of recruitment within a short span of time. In 2011, increasingly more companies boosted their recruiting efforts by investing in social media to reach job candidates (Phaedra, 2012). Same results have bees shown by a new survey finding that companies are investing more and more on their recruitment in social media networks and seeing it pay off (Jobvite Survey, 2011).

Referring to the results of IT Sector, it seems that HR Specialists are reluctant to take up internet as a first preference for recruitment rather it prefers the Print Media. Mathis and Jackson (2003); DeCenzo and Robbins (2005); Dessler (2005); Feldman and Klaas (2002) have also given various disadvantages of internet recruiting from organization's perspective. Although there are many reasons, some major disadvantages could be, possibility of under qualified applicants applying for the job and therefore making the

process more cumbersome for HR Specialists. Probably this could be one of the reasons for IT sector not opting for the Internet. However, this calls for a future area of research to find out the in-depth reasons for the same.

For Hospitality sector, a different source of recruitment has come out as the most preferred which is Job Fair at the sub-factor level. The hospitality sector is characterised by high mobility, as it is relatively easy for workers to find a similar job with another establishment. Employees are likely to compare employers and employment conditions and seek out better opportunities. Already, turnover in the industry is almost accepted as inevitable. For this reason, job fairs come in handy when applications from interested and highly qualified candidates are to be obtained. This is fair enough in the sense that due to high attrition rate in the sector, there is always a requirement of huge number of employees, where Job fairs are more effective in terms of cost and time. This is also substantiated by various studies of Solnet, David,Hood, Anna (2008); Deery (2002); Karatepe & Kilie, 2007; Karatepe & Baddar, 2006.

Financial service is one of the largest sectors in the Indian Services Industry. The results of the sector are similar to the Services Industry at the factor level. At the Sub-factor level, Contingency Employment Agency is the most preferred source followed by Social Networking Sites. A Contingency Agency is paid when the employer hires their candidate. These types of firms are mostly used for the low and mid-level searches. As the industry is featured by high attrition at these levels, Contingent Employment Agencies becomes the preference for the recruiters.

Manufacturing Sector's results are in line with Services Industry and Overall Indian Industry at the factor level. Though, at the sub-factor level, Contingent Employment Agency has the maximum utility score. Interestingly, the results also shows that Newspaper have the maximum disutility. One of the reasons could be the semi-skilled labour and less educated employees who are generally employed in this sector. So the accessibility of Newspaper to the labor; and of labor to the sector is low. Therefore, Contingent Agency is approached to provide contract, permanent and interim staff for any discipline within the manufacturing process.

The Indian Automobile Industry presents a galaxy of varieties and models meeting all possible expectations and globally established industry standards, yet with a challenge of talent crunch. The findings shows similar pattern having print media as the most preferred source. The sub-factor level depicts Magazines as a favored source. It is observed that they are mostly used to recruit for a specialized job or for the job that requires experience as well as for the specific industry type.

Discussing the results for Consumer Durable Sector, it is observed that the factor level preferences are still the same as that of other sectors. At the sub-factor level Job Portals has the maximum utility. The results are very much in line with the statistics available on www.naukri.com (as on April 2012), where, the industry wise data shows significantly high percentage (25 %) of job vacancies in the consumer durable sector.

For FMCG Sector, highest preference is given to Print Media at the factor level. However, at the sub-factor level Academic Journals has maximum utility. Though, the results obtained were unexpected and the same was verified by 57 percent job vacancies available on www.naukri.com (as on April, 2012).

To conclude, the study suggests choosing the right source of recruitment and therefore hiring the best possible human resources. The most imperative factor is to use the right 'Source Mix' for the right type of requirement, which would ultimately provide time and cost savings to the organization. For this purpose, there is need for recruiters to be more aware and to stretch the net widely.

REFERENCE

[1] Anonymous, (2006), "Employee Referrals Help Employers Tap Top Talent", *Office Solutions,* Vol.23, No. 5, pp. 8.

2. Barber, A.E., (1998), "Recruiting Employees: Individual and Organizational Perspective", Sage Publications, Thousand Oaks, CA.

3. Bolles, R.N., (2001), "What Color Is Your Parachute?", Ten Speed Press, Berkeley, CA.

4. Breaugh, J.A., (1992), "Recruitment: Science and Practice", Boston:PWS-Kent.

5. Brian, K., (2010), "Problems with Employee Referrals," *Canadian HR Reporter,* Vol.23, No.17, 2001.

6. Carlson, K. D., Connerley, M. L., & Mecham, R. L., (2002), "Recruitment Evaluation: The Case for Assessing the Quality of Applicants Attracted", *Personnel Psychology,* Vol.55, pp.461–490.

7. Cheese, P., Thomas, R.J. and Craig, E., (2007), "The Talent Powered Organization: Strategies for Globalization", *Talent Management and High Performance,* Kogan Page, London.

8. Cober, R.T., Brown, D.J., Blumental, A.J., and Levy, P.E., (2001), "What do the "Best Companies" do? A Qualitative Analysis of Internet Recruiting Practices", In S. Highhouse (Chair), New approaches to

research on job search and job choice. Symposium presented at the 16th Annual Conference of the Society for Industrial and Organizational Psychology, San Diego, CA.

9. Czinkota, M.R., Ronkainen, I.A., Moffett, M.H., (2010), "Human Resource Management", *International Business,* (India Edition), Cengage Learning, New Delhi, 627.

10. David, S., Anna, H., (2002), "Generation Y as Hospitality Employees: Framing a Research Agenda", *Journal of Hospitality and Tourism Management.*

11. DeCenzo, D.A., and Robbins, S.P., (2005), Fundamentals of Human Resource Management, (8th edition), John Wiley & Sons, Singapore, pp. 155-6.

12. Dessler, G., (2005), Human Resource Management, (10th edition), Prentice Hall of India Pvt Ltd, New Delhi, 175.

13. Feldman, D., and Klaas, B.S., (2002), "Internet Job Hunting: A Field Study of Applicant Experiences with On-line Recruiting", *Human Resource Management,* Vol.41, No.2, pp.175-92.

14. Gannon, M. J., (1971), "Source of Referral and Employee Turnover", *Journal of Applied Psychology,* Vol. 55, pp. 226−228.

15. Gorter, C., Nijkamp, P., and Rietveld, P., (1993), "Employers' Recruitment Behaviour and Vacancy Duration: An Empirical Analysis of the Dutch Labour Market", Paper presented in Pacific Regional Science Conference Organization, Whistler, Alberta, Canada.

16. Gorter, C., Van Ommeren, J., (1994), "Sequencing, Timing and Filling Rates of Recruitment Channels", Warsaw.

17. Gueutal, H.G., and Stone, D.L., (Eds), (2005), "The Brave New World of e-HR: Human Resources Management in the Digital Age", Jossey-Bass, San Francisco, CA.

18. Haroon, Muhammad, (2010), "Determination of Relative Effective Recruitment Sources. A Case Based On Experience of Pakistani Banks", *Interdisciplinary Journal of Contemporary Research in Business,* Vol. 1, No.11.

19. Harrington, A., (2002), "Can anyone Build a Better Monster?" *Fortune,* Vol. 145, pp. 189-192.

20. Henkens, K., Remery, C., and Schippers, J., (2005), "Recruiting Personnel in a Tight Labour Market: An Analysis of Employers' Behaviour", *International Journal of Manpower,* Vol. 26, No.5, pp. 421-433.

21. Karatepe, O.M., & Baddar, L., (2006), "An Empirical Study of the Selected Consequences of Frontline Employees' Work-Family Conflict and Family Work Conflict", *Tourism Management,* Vol. 27, No. 5, pp. 1017-1028.

22. Karatepe, O.M., & Kilie, H., (2007), "Relationships of Supervisor Support and Conflicts in the Work-Family Interface and the Selected Job Outcomes of Frontline Employees", *Tourism Management,* Vol. 28, No.1, pp. 238-252.

23. Keith, S., (1999), "Maximizing Employee Referrals" *HR Focus,* Vol. 76, No.1.

24. Kristin, G., (2001), "Lessons Learned...in Employee Referrals", *Credit Union Management,* Vol. 24, No. 12.

25. Labour Turnover in International Hospitality and Tourism. In N. D'Annunzio-Green, G.A. Maxwell & S. Watson (Eds.), Human Resource Management: International Perspectives In Hospitality And Tourism (pp. 51-63), London: Continuum.

26. Mathis, R.L., and Jackson, J.H., (2003), "Human Resource Management", (10th edition), Thomson South-Western, Singapore, pp. 217-19.

27. McConnel, B., (2002), "Companies Lure Job Seekers in New Ways: Corporate Web Sites Snare Applicants Online", HR News, pp. 1-12.

28. Phaedra, B., (2012), "Social Media and Referrals are Best Sources for Talent", T + D, Vol. 66, No.1, pp.24.

29. Rafaeli, A., Hadomi, O., & Simons, T., (2005), "Recruiting Through Advertising or Employee Referrals: Costs, Yields, and the Effects of Geographic Focus", *European Journal of Work and Organizational Psychology,* Vol. 14, pp. 355−366.

30. Redman, T., and Mathews, B.P., (1995), "Trends in Recruitment: A Ten-Year Retrospective View", *The International Journal of Career Management,* Vol. 7, No. 2, pp. 10-16.

31. Russo, G., Rietveld, P., Nijkamo, P., and Gorter, C., (1995), "Issues in Recruitment Strategies: An Economic Perspective", *The International Journal of Career Management,* Vol. 7, No. 3, pp. 3-13.

32. Saks, A.M. and Ashforth, B.E., (1997), "A Longitudinal Investigation of the Relationships between Job Information Sources, Applicant Perceptions of Fit, and Work Outcomes", *Personnel Psychology,* Vol. 50, No. 2, pp. 395-426.

33. Ted, M., (2002), "Are Black Workers Missing the Connection? The Effect of Spatial Distance and Employee Referrals" *Demography,* Vol. 39, No. 3, pp. 507.

34. Would you hire him? false Human Resources (Oct 2007): Copyright Haymarket Business PublicationsLtd.Oct2007http://search.proquest.com/docview/228257009?accountid=136238.

35. http://www.entrepreneurswebsite.com/2010/05/26/automobile-industry-in-india/

36. http://jobsearch.naukri.com/mynaukri/mn_newsmartsearch.php

37. http://jobsearch.about.com/od/searchfirms/a/headhunter.htm