



Demographic Challenges For Evidence Based Decision Making In Hospital Sector

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ABSTRACT

Effective decision is the key to the success of any Institution. To take effective decisions these must be backed up by the evidences and not just the perceptions. Without the support of relevant information and data, the decisions may not be effective and lead to unwanted results. The purpose of the current research is to know the demographic variables responsible to act as a major challenge in front of evidence based decision making. For this purpose, experienced doctors, nurses and administrative staff of the hospitals have been taken into account. The study was conducted on 152 hospital staff members of Haryana State of India. The study will be helpful for the researchers and the decision makers in knowing the criteria of evidence-based decision making and challenges for taking decisions.

Key words: Evidence Based, Decision Making, Challenges in Decision Making, Hospital Industry.

INTRODUCTION

To make a decision relevant there should be proper information supporting that decision. Without the support of proper availability of resources, the decisions taken will be totally based on the intuition that will not lead to proper results that will be more challenging for the organization. For example, it has been found that management decisions are often heavily influenced by and over rely on "habits, fads, convention, and guesswork" when making decisions (Rousseau, 2011).

Evidence helps to take decisions in the organizations, by considering evidences will help the employees or the managers to take decisions. Doctors, Nurses and the other administration staff consider evidences so that they are able to take better decisions for the patients, for their organization.

It is basically a process that involves making the decisions regarding the program, policies, that is grounded by the best possible research evidence that is taken from the field of conceptual evidence.

The decisions taken in health sector are on the synthesis of the internal and external evidence. Internal evidence comprises of the knowledge, facts, education and training gained or imparted from the respective institutions. External evidence comprises of the

accessible information that is gained through practice and specific experience gained from the doctor-patient relationship.

LITERATURE REVIEW

The rise to evidence based decision making in healthcare sector was due to existence of unexplained wide variations in clinical patterns. The unexplained variations in clinical patterns were due to the implementation of poor therapies of known effectiveness, and by persistent use of technologies that were known to be ineffective. (Walshe and Rundall, 2001).

Kovner & Rundall, 2006; Pfeffer & Sutton, 2006; Rousseau & McCarthy (2007) These authors have explained different definitions regarding Evidence based decision making. These authors have differentiated the definition on two different bases – local organizational evidence and experiential knowledge. These researchers have explained the different definitions which explains the use of research evidence and scientific evidence in the decision making process. Evidence based management assumes that available research evidence is consistent with the problems and decision-making conditions faced by those who will utilize this evidence in practice”. “Evidence based health services management applies the idea of evidence-based decision making to business process, operational and strategic decisions in health service organizations, it is systematic application of the best available evidence to the evaluation of managerial strategies for improving the performance of health service organizations”. “Managers can be more effective if they are routinely guided by the best logic and evidence- if they relentlessly seek new knowledge and insight from both inside and outside their companies, to keep updating their assumptions, knowledge and skills.” “Evidence based management means managerial decisions and organizational practices were informed by the best available scientific evidence”. These were certain definitions that were given by different researchers to give a proper understanding of the Evidence based decision making.

Amara et al., 2004; Beyer & Trice, 1982; Lavis, Ross, & Hurley, (2002) Their study explained that while health care management decision making is being influenced by internal and external conditions, but there may also be changes in the motivation for using evidence. Unlike health care sector, where evidence is meant to be used purely based upon the conceptual knowledge or for problem solving reasons, evidence management decision making may involve or invoke evidence for other reasons as well that includes “instrumental knowledge such as (using research for problem solving/specific issues), which appears to be Associated with the assumptions in the literature, conceptual knowledge such as (utilizing research for general enlightenment), and symbolic knowledge (or the strategic use of evidence) for making decisions.”

Upshur (2003) His study told about the impact of patient demand for some particular therapies that in some cases caused doctors to make certain decisions, those that were not in consistency with the best possible evidence. Earlier also there were some of the trails conducted that do not account for individual and clinical situations that emphasized on the highly controlled environment. While some decisions are made in the context of evidence based management, they do not necessarily have strongest voice

that will give adherence to evidence generated. Understanding the context in both manner i.e internal as well as external to the organization in which decisions are made and is a key component to making effective health care decisions.

Weiss (1979) In his study, he has identified seven models of research utilization on the part of decision makers that will help them to make decisions and to highlight the differences in decisions including “knowledge-driven, problem-solving; interactive, political, tactical, enlightenment, and research as part of the intellectual enterprise of society.” Denis, Lehoux, and Champagne (2004) has outlined five important knowledge utilization models that has been taken from some of these utilization models. Knowledge driven: Basic definition research has relevance to public policy. There is an assumption that basic research moves into application. Instrumental, problem solving: Involves acting on research in specific/direct ways. Conceptual, enlightenment: Involves using research results for general enlightenment; results influence actions but in an indirect way. Symbolic, tactical: Using research results in ways to legitimate and sustain predetermined positions. Interactive, deliberative: The utilization of a evidence as a part of process that involves experience, political insights, social technologies and judgment.

OBJECTIVE OF THE STUDY

The study was conducted for the below mentioned prime objective:

To know the significant difference for various demographic factors for challenges faced for Evidence Based Decision Making.

HYPOTHESIS

H0: There is no significant difference for various demographics (Gender, Age, Experience, Qualification, and Nature of the Organization, Nature of Job and Salary) on evidence based decision making.

H1: There is a significant difference for various demographics (Gender, Age, Experience, Qualification, Nature of the organization, Nature of Job and Salary) on evidence based decision making.

RESEARCH METHODOLOGY

The data for this study was primarily collected from the primary sources. This study is descriptive in nature. The objective of the research was achieved by conducting a survey on the 152 doctors, nurses and other administrative staff members of different hospitals of Haryana region of public sector and private sector hospitals. The data was collected through questionnaire sent taking help of Google forms. The questionnaire was bifurcated into 02 sections. The First Part of the Questionnaire includes the information regarding the demographics of the respondents and the second part is focused on how the organisations take decisions and challenges while facing decisions.

ANALYSIS

RELIABILITY STATISTICS

The reliability of scale is determined by calculating the Cronbach's alpha for each construct considered or required in the study, therefore assessing the magnitude of internal consistency. The sample size is a total of 152 Respondents. Here as we can see

that Cronbach's Alpha comes to 0.844, for the 33 statements of the questionnaire used in study. It establishes the reliability.

Table 1

Cronbach's Alpha	N of items
.844	33

DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Table 2 Demographic Profile of the Respondents

		Frequency	Percent
Gender	Male	92	60.5
	Female	60	39.5
	Total	152	100
Age (in Years)	20-30	103	67.8
	31-40	31	20.4
	41-50	10	6.6
	Above 50	8	5.3
	Total	152	100
Qualification	Graduate	99	65.1
	Post-Graduate	53	34.9
	Total	152	100
Nature of the Organization	Public Sector	102	67.1
	Private Sector	52	32.9
	Total	152	100
Nature of the Job	Permanent	62	40.8
	Contractual	62	40.8
	Others	28	18.4
	Total	152	100
Experience (in years)	Less than 5	119	78.3
	5-10	10	6.6
	11-15	19	12.5
	More than 15	4	2.6
	Total	152	100

The above table depicts the demographic profile of the selected respondents. The population respondents for the study was the employees working in the hospitals in Haryana State in public and private sector. A total 152 well structured questionnaires were distributed to employees. And the responses of that employees' are considered for analysis.

Most of respondents were male (60.5%), the age of the maximum of respondents was 20-30 (67.80%). Majority of the respondents are from public sector.

Impact of various demographic factors for challenges faced for Evidence Based Decision Making.

1) Gender

Table 3 Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
B1: "Equal Variance assumed"	.004	.952	1.465	150	.145	.286	.195	-.099	.670
Equal Variance not assumed"			1.513	138.978	.133	.286	.189	-.088	.659
B2: "Equal Variance assumed"	.371	.544	-1.324	150	.187	-.253	.191	-.630	.124
Equal Variance not assumed"			-1.334	129.270	.185	-.253	.190	-.628	.122
B3: "Equal Variance assumed"	.004	.949	.917	150	.361	.165	.180	-1.91	.521
Equal Variance not assumed"			.936	134.903	.351	.165	.177	-.184	.514
B4: "Equal Variance assumed"	35.135	.000	1.668	150	.097	.336	.202	-.062	.735
Equal Variance not assumed"			1.530	91.546	.129	.336	.220	-.100	.773
B5: "Equal Variance assumed"	3.797	.053	4.220	150	.000	.817	.194	.434	1.199
Equal Variance not assumed"			4.350	138.384	.000	.817	.188	.445	1.188
B6: "Equal Variance"	.300	.585	2.663	150	.009	.505	.190	.130	.880

assumed									
Equal Variance not assumed"			2.647	123.674	.009	.505	.191	.127	.883
B7:"Equal Variance assumed	.271	.603	3.481	150	.001	.656	.188	.284	1.028
Equal Variance not assumed"			3.447	122.056	.001	.656	.190	.279	1.032
B8:"Equal Variance assumed	6.697	.011	.117	150	.907	.022	.193	-.358	.403
Equal Variance not assumed"			.122	143.936	.903	.022	.184	-.341	.385
B9:"Equal Variance assumed	1.866	.174	3.048	150	.003	.661	.217	.232	1.089
Equal Variance not assumed"			2.958	113.513	.004	.661	.223	.218	1.103
B10:"Equal Variance assumed	2.185	.141	-.754	150	.452	-.170	.226	-.617	.276
Equal Variance not assumed"			-.749	123.502	.455	-.170	.227	-.620	.280
B11:"Equal Variance assumed	8.293	.005	.658	150	.512	.143	.218	-.288	.575
Equal Variance not assumed"			.698	146.951	.486	.143	.206	-.263	.550

Interpretation:

The above table shows that the sig 2-tailed value is less than 0.05 of the following statements i.e B5, B6, B7, and B9. Thus, the null hypothesis is rejected and the alternate hypothesis is accepted. So, there is significant difference in the perception of male and female for evidence based decision making.

2) Qualification

Table 4 Independent Samples Test

	Levene's Test for Equality of Variances	t-test for Equality of Means
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	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
B1: "Equal Variance assumed Equal Variance not assumed"	4.941	.028	1.78	150	.086	.345	.199	-.049	.739
			1.65	93.24	.102	.345	.209	-.070	.760
B2: "Equal Variance assumed Equal Variance not assumed"	.228	.633	1.942	150	.054	.378	.195	-.007	.762
			2.018	118.49	.046	.378	.187	.007	.749
B3: "Equal Variance assumed Equal Variance not assumed"	3.494	.064	4.494	150	.000	.782	.174	.438	1.126
			4.81	128.7	.000	.782	.162	.461	1.103
B4: "Equal Variance assumed Equal Variance not assumed"	.207	.650	1.461	150	.146	.303	.207	-.107	.712
			1.47	108.3	.145	.303	.206	-.106	.711
B5: "Equal Variance assumed Equal Variance not"	12.484	.001	-.299	150	.766	-.063	.210	-.477	.352

assumed”				128 .4	.74	-.063	.196	-.450	.325
			- .32 0						
B6:“Equal Variance assumed Equal Variance not assumed”	21. 290	.00 0	1.4 16	150	.15	.280	.198	-.111	.671
			1.62 6	147 .8	.10	.280	.172	-0.60	.620
B7:“Equal Variance assumed Equal Variance not assumed”	.03 7	.84 7	2.7 8	150	.006	.545	.196	.157	.932
			2.7 99	108 .5	.006	.545	.195	.159	.930
B8:“Equal Variance assumed Equal Variance not assumed”	2.8 72	.09 2	1.2 60	150	.210	.248	.196	-.141	.636
			1.3 01	116 .31 7	.196	.248	.190	-.129	.625
B9:“Equal Variance assumed Equal Variance not assumed”	29. 50	.00 0	- .12 6	150	.900	-.029	.229	-.482	.424
B10:“Equ al Variance assumed Equal	.20 9	.64 8	1.2 29	150	.221	.284	.231	-.173	.740

Variance not assumed"			1.276	118.2	.205	.284	.222	-.157	.724
B11: "Equal Variance assumed Equal Variance not assumed"	11.22	.001	.998	150	.320	.223	.223	-.218	.664
			1.128	143.7	.261	.223	.19	-1.68	.614

Interpretation: The above table shows that the sig 2-tailed value is less than 0.05 of the following statements i.e "B3 and B7." Thus, the null hypothesis is rejected and the alternate hypothesis is accepted. So, there is significant difference on the basis of qualification for evidence-based decision making

3) Nature of Organization

Table 5 Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
B1: "Equal Variance assumed Equal Variance not assumed"	9.764	.002	3.652	150	.000	.715	.196	.328	1.101
				79.8	.001	.715	.212	.293	

			3.3 71	94					1.13 6
B2: "Equal Variance assumed	1.15 3	.28 5	- 3.5 71	150	.000	-.685	.192	- 1.064	-.306
Equal Variance not assumed"				107. 10	.000	-.685	.185	- 1.052	-.318
B3: "Equal Variance assumed	.162	.68 8	- .63 5	150	.527	-.119	.188	-4.90	.252
Equal Variance not assumed"				122. 75	.489	-.119	.172	-.460	.221
B4: "Equal Variance assumed	1.83 9	.17 7	- 2.3 16	150	.022	-.482	.208	-.893	-0.71
Equal Variance not assumed"				86.8 3	.030	-.482	.218	.914	-0.49
B5: "Equal Variance assumed	.177	.67 4	.89 6	150	.372	.190	.212	-.229	.610
Equal Variance not assumed"				116. 25	.340	.190	.199	-.203	.584

B6: "Equal Variance assumed"	.046	.830	-.796	150	.472	-.160	.201	-.559	.238
Equal Variance not assumed"				105.77	.413	-.160	.195	-.548	.227
B7: "Equal Variance assumed"			-1.546	150	.124				
Equal Variance not assumed"	.497	.482		96.36	.127	-.313	.202	-.712	.087
B8: "Equal Variance assumed"	5.628	.019	2.11	150	.036	.418	.197	.028	.808
Equal Variance not assumed"			1.993	83.813	.050	.418	.210	.001	.834
B9: "Equal Variance assumed"			-.771	150					
Equal Variance not assumed"	21.815	.000		75.380	.442	-.179	.232	-.637	.280
			-.693		.490	-.179	.258	-.693	.335

B10: "Equal Variance assumed			-						
	1.03	.31	.31	150	.753	-.074	.235	-.539	.391
Equal Variance not assumed"									
			-.30	90.2	.761	-.074	.243	-.556	.408
			6	23					
B11: "Equal Variance assumed			1.2	150	.220	.278	.226	-.168	.725
	1.65	.20	31						
Equal Variance not assumed"									
			1.2	104.	.210	.278	.221	-.159	.716
			63	1					

Interpretation: The above table shows that the sig 2-tailed value is less than 0.05 of the following statements i.e "B1 and B2." Thus, the null hypothesis is rejected and the alternate hypothesis is accepted. So, there is significant difference on the basis of nature of organization for evidence based decision making.

4) Age

Table 6 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
B1	Between Groups	26.277	3	8.759	7.065	.000
	Within Groups	183.486	148	1.240		
	Total	209.763	151			
B2	Between Groups	53.220	3	17.740	17.773	.000
	Within Groups	147.721	148	.998		
	Total	200.941	151			
B3	Between Groups	32.188	3	10.729	10.890	.000
	Within Groups	145.812	148	.985		
	Total	178.000	151			
B4	Between Groups	30.962	3	10.321	7.853	.000
	Within Groups	194.512	148	1.314		
	Total	225.474	151			
B5	Between Groups	2.297	3	.766	.502	.682
	Within Groups	225.907	148	1.526		
	Total					

	Total	228.204	151			
B6	Between Groups	15.999	3	5.333	4.172	.007
	Within Groups	189.205	148	1.278		
	Total	205.204	151			
B7	Between Groups	51.879	3	17.293	16.295	.000
	Within Groups	157.062	148	1.061		
	Total	208.941	151			
B8	Between Groups	44.236	3	14.745	13.838	.000
	Within Groups	157.705	148			
	Total	201.941	151			
B9	Between Groups	17.488	3	5.829	3.390	.020
	Within Groups	254.512	148	1.720		
	Total	272.000	151			
B10	Between Groups	7.905	3	2.635	1.439	.234
	Within Groups	271.036	148	1.831		
	Total	278.941	151			
B11	Between Groups	10.047	3	3.349	1.983	.119
	Within Groups	249.927	148	1.689		
	Total	259.974	151			

Interpretation: The above table shows that the sig value from annova is less than 0.05 of the following statements i.e “B1, B2, B3, B4, B6, B7 and B8.” Thus, the null hypothesis is rejected and the alternate hypothesis is accepted. So, there is significant difference on the basis of age for evidence based decision making.

5) Nature of Job

Table 7 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
B1	Between Groups	42.648	2	21.324	19.012	.000
	Within Groups	167.115	149	1.122		
	Total	209.764	151			
B2	Between Groups	16.210	2	8.105	6.537	.002
	Within Groups	184.730	149	1.240		
	Total	200.941	151			
B3	Between Groups	49.935	2	24.968	29.049	.000
	Within Groups	128.065	149	.859		
	Total	178.000	151			
B4	Between Groups	.432	2	.216	.143	.867
	Within Groups	225.041	149	1.510		
	Total	225.474	151			
B5	Between Groups	34.589	2	17.294	13.309	.000
	Within Groups	193.615	149	1.299		
	Total	228.204	151			

B6	Between Groups Within Groups Total	13.114 192.090 205.204	2 149 151	6.557 1.289	5.086	.007
B7	Between Groups Within Groups Total	22.648 186.293 208.941	2 149 151	11.324 1.250	9.057	.000
B8	Between Groups Within Groups Total	.487 201.454 201.941	2 149 151	.243 1.352	.180	.835
B9	Between Groups Within Groups Total	59.318 212.682 272.000	2 149 151	29.659 1.427	20.778	.000
B10	Between Groups Within Groups Total	.464 278.477 278.941	2 149 151	.232 1.869	.124	.803
B11	Between Groups Within Groups Total	10.034 249.940 259.974	2 149 151	5.017 1.677	2.991	.053

Interpretation: The above table shows that the sig value of annova is less than 0.05 of the following statements i.e “B1, B2, B3, B5, B6, B7 and B9.” Thus, the null hypothesis is rejected and the alternate hypothesis is accepted. So, there is significant difference on the basis of nature job for evidence based decision making.

6) Salary

Table 8 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
B1	Between Groups Within Groups Total	27.521 182.242 209.763	3 148 151	9.174 1.231	7.450	.000
B2	Between Groups Within Groups Total	24.111 176.830 200.941	3 148 151	8.037 1.195	6.727	.000
B3	Between Groups Within Groups Total	7.972 170.028 178.000	3 148 151	2.657 1.149	2.313	.078
B4	Between Groups Within Groups Total	5.397 220.076 225.474	3 148 151	1.799 1.487	1.210	.308
B5	Between Groups Within Groups Total	1.761 226.443 228.204	3 148 151	.587 1.530	.384	.765
B6	Between Groups Within Groups	18.021 187.183	3 148	6.007 1.265	4.749	.003

	Total	205.204	151			
B7	Between Groups	20.780	3	6.927	5.448	.001
	Within Groups	188.161	148	1.271		
	Total	208.941	151			
B8	Between Groups	24.828	3	8.276	6.916	.000
	Within Groups	177.113	148	1.197		
	Total	201.941	151			
B9	Between Groups	59.824	3	19.941	13.910	.000
	Within Groups	212.176	148	1.434		
	Total	272.000	151			
B10	Between Groups	26.130	3	8.710	5.099	.002
	Within Groups	252.810	148	1.708		
	Total	278.941	151			
B11	Between Groups	10.061	3	3.354	1.986	.119
	Within Groups	249.192	148	1.689		
	Total	259.974	151			

Interpretation: The above table shows that the sig value of ANOVA is less than 0.05 of the following statements i.e “B1, B2, B6, B7, B8 and B10.” Thus, the null hypothesis is rejected and the alternate hypothesis is accepted. So, there is significant difference on the basis of salary for evidence based decision making.

CONCLUSION

The study revealed that evidence based decision making is affected by various demographic factors. The demographic factors used in this study were gender, qualification, nature of job, nature of organization, salary in which the doctors, administration staff and nurses were enrolled. Use of t-test indicated that there was significant difference in the perception of male and female as the significant two tailed was less than value of 0.05. The findings established the fact that there was significant difference on the basis of the qualification of doctors, nurses and administration staff; as the significant two tailed was less than value of 0.05. Use of t-test indicated that there was significant difference on the basis of nature of organization; as the significant two tailed was less than value of 0.05. Differences in age of doctors, nurses and administration staff affect how they perceive the evidence based decision making. The value of ANOVA table indicate that the doctors, nurses and administration staff of different ages have different opinion regarding the challenges on evidence based decision making. Difference in nature of job of doctors, nurses and administration staff affect how they perceive the evidence based decision making. The value of ANOVA table indicates that the doctors, nurses and administration staff of different nature of job i.e permanent and contractual have different opinion regarding the challenges on evidence based decision making. Difference in salary of doctors, nurses and administration staff affect how they perceive the evidence based decision making. The value of ANOVA table indicates that the doctors, nurses and administration staff of different salary have different opinion regarding the challenges on evidence based decision making.

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