

# Sales Quota for Sales Force Control in Pharmaceutical Companies in India: An Empirical Analysis.

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## **Abstract**

Sales quota is an essential activity employed by the sales manger to control the sales force effort so as to fulfill the objectives of the company; this paper studies the effect of certain conditions and factors in setting sales quotas across age groups and sales experience. The result of the study shows that significant differences exist between if medical representatives high in self efficacy should be assigned higher sales quotas and age. Further the result shows that significant differences exists between if sales quotas are set after mutual consultation with the medical representatives, then higher sales quotas can be achieved and age. The study was carried out at all the big hospitals in Delhi and the opinion of 500 Medical representatives was collected and analyzed by using S.P.S.S. The various hypotheses were tested using A.N.O.V.A.

## **Keywords:**

Sales quotas, sales force control, outcome control, Behavior based control, Pharmaceutical industry and Pharma representatives .

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## **Introduction**

Controlling The Sales Force Is One Fundamental Question Which Is Faced By Every Sales Manager In Performing Its Duties Of Fulfilling The Objectives Of An Enterprise. Control process is a four step process involving (setting performance standards, measuring performance, determining whether performance matches standards and taking corrective actions). Sales quotas are used as a device for controlling and motivating sales person. A Sales quota is defined as the sales goal set for a product line, company division or company agent. It is a primarily a managerial device for defining and stimulating sales effort. (Kotler).

The purpose or the basic aim of this article is to see how on the basis of certain factors and conditions higher sales quotas can be achieved. If higher sales quotas can be assigned successfully in any organization then it will be beneficial for it because it will lead to the saving to time, money and precious resources besides increasing efficiency of medical representatives and making increased fulfillment of the objectives of accompany.

### **Indian Pharmaceutical Industry**

In order to have an understanding of this research, it is important to have an understanding of the Indian pharmaceutical industry. The Pharmaceutical industry in India is the world's third-largest in terms of volume. According to Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers, the total turnover of India's pharmaceuticals industry between 2008 and September 2009 was US\$21.04 billion. While the domestic market was worth

US\$ 12.26 billion. According to Brand India Equity Foundation, the Indian pharmaceutical market is likely to grow at a compound annual growth rate (CAGR) of 14-17 per cent in between 2012-16. India is now among the top five pharmaceutical emerging markets of the world.

Exports of pharmaceuticals products from India increased from US\$6.23 billion in 2006–07 to US\$8.7 billion in 2008–09 a combined annual growth rate of 21.25%. According to PricewaterhouseCoopers (PWC) in 2010, India joined among the league of top 10 global pharmaceuticals markets in terms of sales by 2020 with value reaching US\$50 billion. The number of purely Indian pharmaceutical companies is fairly low. Indian pharmaceutical industry is mainly operated as well as controlled by dominant foreign companies having subsidiaries in India due to availability of cheap labor in India at lowest cost. In 2002, over 20,000 registered drug manufacturers in India sold \$9 billion worth of formulations and bulk drugs. 85% of these formulations were sold in India while over 60% of the bulk drugs were exported, mostly to the United States and Russia. Most of the players in the market are small-to-medium enterprises; 250 of the largest companies control 70% of the Indian market. Thanks to the 1970 Patent Act, multinationals represent only 35% of the market, down from 70% thirty years ago. The government policies of successive governments have been very supportive of the pharma industry. The pharmaceutical industry is second largest export earner after IT industry in India. (en. wikipedia. org/ wiki/ Pharmaceutical \_ industry\_in\_India.)

### Review of Literature

Mantrala, Sinha and Zoltner(1994) carried out a research and found out that many companies use multi product sales quota bonus plan to indirectly control their field salespeople selling activities in an accounting period. In practice sales manager usually rely on their own institution and rather arbitrary rules on setting plan parameters with little input from sales force. As a result management cannot systematically assess the plans impact on sales people performances and related firms profit prior to its implementation. The agency theoretic model based approach proposed by Mantrala, Sinha and Zoltner. In this paper can assist sales management in evaluating and optimally structuring such plans.

Darmon (1987) in a paper presented a completely menu driven computerized procedure which is extremely user friendly and which should remove most of the obstacles to using these concept for practice of sales force control. More specifically through quota plan each salesperson can now provide his/her preferences for various quota and bonus option through a simple and short dialogue with the system. Then QUOPLAN can provide the sales manager with a quota bonus plan which is consistent across sales people. In addition QUOPLAN can take into account managers judgmental input. This ensures that the sales manager keep in control of the system and will eventually reach a solution that is acceptable to management.

Davis and Farley showed that an iterative allocation schemes where salesman request quotas of various products and the firm adjust commission rates until everyone is satisfied with the result retain many of the advantages of decentralization and allow the firm to coordinate sales volume with production efficiencies. commission and quota affect both allocation of time and total time

the salesman works and the latter may dominate consideration about time allocation and internal efficiency. This trade of must be made a conscious decision.

Mantrala , Raman and Desiraju (1997 ) has shown how sales quotas can be systematically utilized not only to motivate sales people but also to generate value able information about uncertain territory, salesperson, incentive plan and firm specific characteristics. This methodology offers not only conceptual benefits to research but also is consistent with the way things are done in practice and therefore readily implementable.

Chaudhary (1993) found out that expenditure of effort is highest when sales quotas are of intermediate level of difficulty and when the level of goal difficulty is held constant higher level of expectancy of task success contributes to increase in effort expanded and external information about probability of task success raises the individuals own estimate of probability of task success .He also found out that with on a given level of quota individuals high in self efficacy exhibit greater increase in effort expenditure than those low in self efficacy .

Winer (1973) carried out research and found out that universal salesmen are not dollar maximize but quota achievers and the managers goal does not appears to maximize sales but to minimize amount of difficulty they may experience in managing their salesperson.

Schwepker (Jr) and Good (2004) found out that perceived quota difficulty is related to annual sales revenue. When sales people perceive quota to be difficult they are likely to have a poorer performance evaluation and earn less income. However when quotas are perceived to be more difficult the forms annual sales revenue is greater. They further found out that when no action is taken after sales people fail to reach quota performance tends to be poorer. Conversely positive relationship between performance and a stern verbal warning exit. Relationships were formed between annual sales revenue and managerial actions taken for failing to achieve quota. In this study the sample size was of 1975 financial service sales people a total of 198 questionnaires were returned .limitations of the study include low response rate and generalization of result to other industries.

### Objectives of the study

- 1 To study how certain personality related factors like self efficacy and task specific self esteem affect the setting of sales quotas.
- 2 To study how higher sales quotas can be assigned to salesperson on the basis of certain factors.

### Research Problem

The research problem is to study how and on what basis or factors can we assign higher sales quotas to the pharmaceutical medical representatives in Indian pharmaceutical industry.

### Sampling Design

#### Universe

All the medical representatives working in different hospitals of Delhi constitute the universe in this study.

#### Sampling Unit

The sampling unit is the medical representative of different pharmaceutical companies working in hospitals of Delhi.

**Sampling Frame**

The sampling frame is the Directory of pharmaceutical producers in India ,2008 published by ministry of chemicals and fertilizers , government of India.

**Sampling Techniques**

Stratified sampling techniques was used and then a simple random was carried out in conduction of the survey.

**Sample Size**

Sample size is of 500 medical representatives working in Delhi, The sample size is quite large to be adequate and representative and is not very small.

**Research Tools**

ANOVA test is used to test various hypotheses.

**Limitations and Scope Of the Study**

The study was carried out at different hospitals in Delhi region only and the results that emerge may be true for Delhi only and results can vary region wise and across the length and breadth of the country. The scope and application of this research is applicant only to Delhi region only.

**Hypotheses**

H1: There is no significant relationship between if quotas set are of intermediate level of difficulty then higher sales quotas can be achieved and age.

H2: There is no significant relationship between if quotas set are of intermediate level of difficulty then higher sales quotas can be achieved and sales experience.

H03: There is no significant relationship between medical representatives high in self efficacy should be assigned higher sales quotas and age.

Ho4: There is no significant relationship between medical representatives high in self efficacy should be assigned higher sales quotas and experience

Ho5: There is no significant relationship between medical representative high in task specific self esteem should be assigned higher sales quotas and age.

Ho6: There is no significant relationship between medical representative high in task specific self esteem should be assigned higher sales quotas and experience.

Ho7: There is no significant difference between if sales quotas are

set after mutual consultation with the medical representatives, then higher sales quotas can be achieved and age.

Ho8: There is no significant difference between if sales quotas are set after mutual consultation with the medical representatives, then higher sales quotas can be achieved and sales experience

Ho9: There is no significant difference between employing activity quota leads to higher sales volume quota achievement and age.

Ho10: There is no significant difference between employing activity quota leads to higher sales volume quota achievement and experience.

Ho11: There is no significant difference between, if management encourages feeling of risk sharing with medical representatives, then it will lead to the formation of higher sales quota assignment and age.

Ho12: There is no significant difference between, if management encourages feeling of risk sharing with medical representatives, then it will lead to the formation of higher sales quota assignment and experience.

Ho13: There are no significant differences between if coaching and counseling medical representatives after unsuccessful quota performance will lead to higher sales quota assignment in future and age.

Ho14: There are no significant differences between if coaching and counseling medical representatives after unsuccessful quota performance will lead to higher sales quota assignment in future and experience.

**Research Gap Identification**

1. Most of the studies on sales quotas have studied sales quotas in global context and there is no study on sales quota in Indian context and relevant for Indian Pharmaceutical Industry.
2. Very few studies have considered only some of the personality related factors in their studies and have not properly considered behavioral factors or personality related factors at all.
3. Very few studies are available on assigning higher sales quotas on the basis of Certain conditions and Factors and these studies are in global context and have not properly addressed the issues.

**Analysis**

Let us analyse various hypotheses which have already been mentioned

**Table no 1**

Quotas set are of intermediate level of difficulty then higher sales quotas can be achieved and age.	Age	Mean	Std Deviation	F value	Significant value
	<24	2.46	1.236	.407	.666
	24-26	2.43	1.296		
	26-28	2.33	1.227		
	Total	2.41	1.265		

The above table no1 shows that the result of ANOVA test used to ascertain differences, if they exist between if quotas set are of intermediate level of difficulty then higher sales quotas can be achieved and age. The mean

value in this case is less than 3, which indicates disagreement between if quotas set are of intermediate level of difficulty then higher sales quotas can be achieved and age. Further the result of ANOVA shows

that the value of significance is equal to .666 which is greater than .05, hence no significant differences exist between if quotas set are of intermediate level of

difficulty then higher sales quotas can be achieved and age. Thus null hypothesis H1 is accepted.

**Table no 2**

If quotas set are of intermediate level of difficulty then higher sales quotas can be achieved and sales experience.	experience	Mean	Std Deviation	F value	Significant value
	1-2	2.38	1.258		
	2-3	2.36	1.254		
	>3	2.50	1.292		
	Total	2.41	1.265		

The above table no2 shows that the result of ANOVA test used to ascertain differences, if they exist between if quotas set are of intermediate level of difficulty then higher sales quotas can be achieved and sales experience. The mean value in this case is less than 3, which indicates disagreement between if quotas set are of intermediate level of difficulty then higher sales quotas can be

achieved and experience . Further the result of ANOVA shows that the value of significance is equal to .570 which is greater than .05, hence no significant differences exist between if quotas set are of intermediate level of difficulty then higher sales quotas can be achieved and sales experience. Thus null hypothesis H2 is accepted.

**Table no 3**

Medical representatives high in self efficacy should be assigned higher sales quotas and age.	Age	Mean	Std Deviation	F value	Significant value
	<24	2.70	1.479		
	24-26	2.28	1.361		
	26-28	2.28	1.333		
	Total	2.35	1.380		

The above table no3 shows that the result of ANOVA test used to ascertain differences, if they exist between medical representatives high in self efficacy should be assigned higher sales quotas and age. The mean value in this case is less than 3, which indicates disagreement between medical representatives high in self efficacy should be assigned higher sales quotas and age. Further

the result of ANOVA shows that the value of significance is equal to .038 which is less than .05, hence significant differences exist between medical representatives high in self efficacy should be assigned higher sales quotas and age. Thus the null hypothesis is rejected and alternate hypothesis accepted.

**Table no 4**

Medical representatives high in self efficacy should be assigned higher sales quotas and experience.	experience	Mean	Std Deviation	F value	Significant value
	1-2	2.28	1.271		
	2-3	2.40	1.403		
	>3	2.41	1.508		
	Total	2.35	1.380		

The above table no4 shows that the result of ANOVA test used to ascertain differences, if they exist between medical representatives high in self efficacy should be assigned higher sales quotas and experience. The mean value in this case is less than 3, which indicates disagreement between medical representatives high in self efficacy should be assigned higher sales quotas and

age. Further the result of ANOVA shows that the value of significance is equal to .595 which is greater than .05, hence no significant differences exist between medical representatives high in self efficacy should be assigned higher sales quotas and experience. Thus the null hypothesis H4 is accepted.

**Table no 5**

Medical representatives high in self efficacy should be assigned higher sales quotas and age.	Age	Mean	Std Deviation	F value	Significant value
	<24	2.14	1.184		
	24-26	2.04	1.213		
	26-28	1.99	1.133		
	Total	2.04	1.184		

The above table no5 shows that the result of ANOVA test used to ascertain differences, if they exist between medical representatives high in task specific self esteem should be assigned higher sales quotas and age. The mean value in this case is less than 3, which indicates disagreement between medical representatives high in task specific self esteem should be assigned higher sales

quotas and age. Further the result of ANOVA shows that the value of significance is equal to .627 which is less than greater than .05, hence significant differences exist between medical representatives high in task specific self esteem should be assigned higher sales quotas and age. Thus the null hypothesis H5 is accepted.

**Table No 6**

Medical representatives high in task specific self esteem should be assigned higher sales quotas and age.	Experience	Mean	Std Deviation	F value	Significant value
	1-2	2.28	1.271		
	2-3	2.40	1.403		
	>3	2.41	1.508		
	Total	2.35	1.380		

The above table no 6 shows that the result of ANOVA test used to ascertain differences, if they exist between medical representatives high in task specific self esteem should be assigned higher sales quotas and sales experience. The mean value in this case is less than 3, which indicates disagreement between medical representatives high in task specific self esteem should be

assigned higher sales quotas and age. Further the result of ANOVA shows that the value of significance is equal to .263 which is greater than greater than .05, hence no significant differences exist between medical representatives high in task specific self esteem should be assigned higher sales quotas and experience. Thus the null hypothesis H6 is accepted.

**Table no 7**

If sales quotas are set after mutual consultation with the medical representatives, then higher sales quotas can be achieved and age.	Age	Mean	Std Deviation	F value	Significant value
	<24	2.40	1.345		
	24-26	2.00	1.044		
	26-28	2.06	1.187		
	Total	2.08	1.149		

The above table no7 shows that the result of ANOVA test used to ascertain differences, if they exist between sales quotas are set after mutual consultation with the medical representatives, then higher sales quotas can be achieved and age.. The mean value in this case is less than 3, which indicates disagreement between sales quotas are set after mutual consultation with the medical representatives, then higher sales quotas can be achieved and age. Further

the result of ANOVA shows that the value of significance is equal to .016 which is less than .05, hence significant differences exist between sales quotas are set after mutual consultation with the medical representatives, then higher sales quotas can be achieved and age. Thus the null hypothesis is rejected and alternate hypothesis is accepted.

**Table no 8**

Sales quotas are set after mutual consultation with the medical representatives, and then higher sales quotas can be achieved and sales experience.	experience	Mean	Std Deviation	F value	Significant value
	1-2	2.00	1.145	.845	.430
	2-3	2.15	1.193		
	> 3	2.12	1.100		
	Total	2.08	1.149		

The above table no8 shows that the result of ANOVA test used to ascertain differences, if they exist between sales quotas are set after mutual consultation with the medical representatives, then higher sales quotas can be achieved and sales experience.. The mean value in this case is less than 3, which indicates disagreement between medical representatives high in task specific self esteem should be assigned higher sales quotas and age. Further the result of

ANOVA shows that the value of significance is equal to .430 which is greater than greater than .05, hence no significant differences exist between sales quotas are set after mutual consultation with the medical representatives, then higher sales quotas can be achieved and sales experience and experience. Thus the null hypothesis H8 is accepted.

**Table no 9**

Employing activity quota leads to higher sales volume quota achievement and age.	Age	Mean	Std Deviation	F value	Significant value
	<24	2.45	1.548	.076	.927
	24-26	2.50	1.559		
	26-28	2.53	1.545		
	Total	2.50	1.550		

The above table no9 shows that the result of ANOVA test used to ascertain differences, if they exist between employing activity quota leads to higher sales volume quota achievement and age. The mean value in this case is less than 3, which indicates disagreement between employing activity quota leads to higher sales volume

quota achievement and age. Further the result of ANOVA shows that the value of significance is equal to .927 which is greater than .05, hence no significant differences exist between if quotas set are of intermediate level of difficulty then higher sales quotas can be achieved and experience. Thus the null hypothesisH9 is accepted.

**Table no 10**

Employing activity quota leads to higher sales volume quota achievement and experience.	experience	Mean	Std Deviation	F value	Significant value
	1-2	2.33	1.351	.587	.558
	2-3	2.48	1.267		
	> 3	2.36	1.291		
	Total	2.39	1.307		

The above table no8 shows that the result of ANOVA test used to ascertain differences, if they exist between employing activity quota leads to higher sales volume quota achievement and experience. The mean value in this case is less than 3, which indicates disagreement between employing activity quota leads to higher sales volume quota achievement and experience. Further the

result of ANOVA shows that the value of significance is equal to .558 which is greater than greater than .05, hence no significant differences exist between employing activity quota leads to higher sales volume quota achievement and experience. Thus the null hypothesis H10 is accepted.

**Table no 11**

If management encourages feeling of risk sharing with medical representatives, then it will lead to the formation of higher sales quota assignment and age.	Age	Mean	Std Deviation	F value	Significant value
	<24	2.58	1.364		
	24-26	2.46	1.387		
	26-28	2.39	1.320		
	Total	2.46	1.362		

The above table no11 shows that the result of ANOVA test used to ascertain differences, if they exist between if management encourages feeling of risk sharing with medical representatives, then it will lead to the formation of higher sales quota assignment and age. The mean value in this case is less than 3, which indicates disagreement between if management encourages feeling of risk sharing with medical representatives, then it will lead to

the formation of higher sales quota assignment and age. Further the result of ANOVA shows that the value of significance is equal to .587 which is greater than .05, hence no significant differences exist between if quotas set are of intermediate level of difficulty then higher sales quotas can be achieved and experience. Thus the null hypothesis H11 is accepted.

**Table no 12**

if management encourages feeling of risk sharing with medical representatives, then it will lead to the formation of higher sales quota assignment and experience.	experience	Mean	Std Deviation	F value	Significant value
	1-2	2.50	1.377		
	2-3	2.40	1.325		
	>3	2.49	1.392		
	Total	2.46	1.362		

The above table no8 shows that the result of ANOVA test used to ascertain differences, if they exist between if management encourages feeling of risk sharing with medical representatives, then it will lead to the formation of higher sales quota assignment and experience. The mean value in this case is less than 3, which indicates disagreement between if management encourages feeling of risk sharing with medical representatives, then it will

lead to the formation of higher sales quota assignment and experience. Further the result of ANOVA shows that the value of significance is equal to .748 which is greater than greater than .05, hence no significant differences exist between if management encourages feeling of risk sharing with medical representatives, then it will lead to the formation of higher sales quota assignment and experience. Thus the null hypothesis H12 is accepted.

**Table No 13**

Coaching and counseling medical representatives after unsuccessful quota performance will lead to higher sales quota assignment in future and age.	Age	Mean	Std Deviation	F value	Significant value
	<24	2.27	1.302		
	24-26	2.41	1.301		
	26-28	2.41	1.327		
	Total	2.39	1.307		

The above table no13 shows that the result of ANOVA test used to ascertain differences, if they exist between coaching and counseling medical representatives after unsuccessful quota performance will lead to higher sales quota assignment in future and age. The mean value in this case is less than 3, which indicates disagreement between coaching and counseling medical representatives after unsuccessful quota performance

will lead to higher sales quota assignment in future and age. Further the result of ANOVA shows that the value of significance is equal to .690 which is greater than .05, hence no significant differences exist between coaching and counseling medical representatives after unsuccessful quota performance will lead to higher sales quota assignment in future and age. Thus the null hypothesis H13 is accepted.

**Table no 14**

Coaching and counseling medical representatives after unsuccessful quota performance will lead to higher sales quota assignment in future and experience.	experience	Mean	Std Deviation	F value	Significant value
	<24	2.33	1.351	.584	.558
	24-26	2.48	1.267		
	26-28	2.36	1.291		
	Total	2.39	1.307		

The above table no14 shows that the result of ANOVA test used to ascertain differences, if they exist between if coaching and counseling medical representatives after unsuccessful quota performance will lead to higher sales quota assignment in future and experience. The mean value in this case is less than 3, which indicates disagreement between if management encourages feeling of risk sharing with medical representatives, then it will lead to the formation of higher sales quota assignment and experience. Further the result of ANOVA shows that the value of significance is equal to .558 which is greater than greater than .05, hence no significant differences exist between if coaching and counseling medical representatives after unsuccessful quota performance will lead to higher sales quota assignment in future and experience. Thus the null hypothesis is H14 accepted.

#### Conclusion

The result of the study shows that significant differences exist between if medical representatives high in self efficacy should be assigned higher sales quotas and age. Further the result shows that significant differences exists between if sales quotas are set after mutual consultation with the medical representatives, then higher sales quotas can be achieved and age. The results also show that some of the conditions and factors do not affect setting sales quotas across age groups and sales experience.

#### References

- Davis, O.A., & Farley, J.v., (1971). Allocating sales force effort with commission and quotas, *Management Science*. Vol , 18, no 4, part II, pp55-63.
- Chaudhary, J., (1993) The motivational impact of sales quotas on effort. *Journal of marketing research*, vol XXX, Pp28-41.
- Mantrala, M. k., Sinha, P., & Zoltner , A., A. (1994) Structuring a multi product sales quota bonus plan for a heterogenous sales force: A practical model based approach. *Marketing Science*, vol 13, no2(spring) pp 121-144
- Mantrala, M.K. Raman, K., & Desiraju , R.,(1997) Sales Quota Plans: Mechnism for adaptive learning . *Marketing letters* 8: 4 pg 393-405.
- Oyer, P. (2000) A theory of sales Quota with limited liability and rent sharing. *Journal of labour economics*, vol 18, no 3, pp405-426
- Schwepker ( jr) C.H. and Good D.J. (2004) Marketing control and sales force customer orientation . *Journal of personnel selling and sales management* vol xxiv no 3, pp167-179.
- Winer, L (1973) the effect of product sales quotas on sales force productivity. *Journal of Marketing Research*, vol x, pp180-3
- [http://en.wikipedia.org/wiki/Pharmaceutical\\_industry\\_in\\_India](http://en.wikipedia.org/wiki/Pharmaceutical_industry_in_India).