

IMPACT OF INFORMATION TECHNOLOGY IN IMPROVING THE PERFORMANCE OF DAIRY CO-OPERATIVE SOCIETIES IN JAIPUR DISTRICT OF RAJASTHAN

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ABSTRACT

The present study was undertaken in the purposively selected Jaipur dairy, which is the largest computerised dairy cooperative societies in Jaipur district of Rajasthan. From the Jaipur dairy two chilling centers were selected, and each selected chilling center; three milk collection routes were selected randomly. From the 6 computerised and 6 non-computerised DCSs, a total sample of 120 milk producers was selected for the present investigation. The results of study indicated that the computerised and non-computerised DCSs in all these indicators of general performance, financial performance and production related performance of the computerised DCSs are significantly superior as compared to non-computerised DCSs. The results also reviewed by use of information technology in improving the Performance of dairy co-operative societies are significantly and positive improvement in co-operative dairy sector.

INTRODUCTION

Information and Communication Technologies, if implemented in rural areas, have the power to facilitate rural development and empower rural communities with information, which will in turn enable them to contribute positively towards development of their national economics. The power of IT has immense potential to contribute to rural development. Information relating to various rural development programmes could be widely disseminated through the use of information technology. The Indian dairy industry faces challenges from the international dairy market. Chief among these challenges is that India extents have been influenced by the innovative use of IT at the milk collection centers. Addressing these challenges and increasing the competitiveness of the Indian dairy industry will require both improved technology and better management.

Pertinent to addressing this challenge the IT-based tools that could increase the efficiency and productivity of the Indian dairy industry at a grassroots level under developed that automate the milk collection process at local dairy cooperatives.

The system not only minimizes handling and increases efficiency, but also increases transparency, and creates a basis for improving the quality of the milk produced. In Rajasthan state two major dairies in Jaipur district namely Jaipur dairy and Lotus dairy. The Jaipur dairy covers highest number of dairy co-operative societies in Rajasthan State. Presently a total of 1236 dairy cooperatives are running in Jaipur districts.. Out of these 981 are computerised and 255 are non-computerised dairy co-operative societies are functioning.

To meet the present day challenges faced by dairy industry, the co-operative dairy sector has to further improve the production, collection, processing and marketing of milk and milk products. However, systematic studies assessing the impact on introduction of IT in dairy co-operatives in its functioning especially in management and performance were lacking in Rajasthan. Keeping all these views in mind the present investigation Impact of information technology in improving the performance of dairy cooperative societies in Jaipur district of Rajasthan was under taken.

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RESEARCH METHODOLOGY

The present study was conducted in Jaipur district of Rajasthan. The Jaipur dairy is the largest computerized dairy cooperative societies. Which is covers five chilling centers. Out of them two chilling centers namely Jaipur and Bindayaka were selected randomly by using simple random sampling technique. From each selected chilling center three milk collection routes were selected randomly by using simple random sampling technique. From each of the milk collection routes, one computerised and one non-computerised DCSs were selected randomly. Hence 6 computerised and 6 non-computerised DCSs were selected. From the selected DCSs, 60 milk producers

from computerised and 60 milk producers from non-computerised dairy cooperative societies were selected proportionately by using simple random sampling. Thus a total sample of 120 milk producers was selected for the study purpose. An interview schedule was prepared and the data so collected were classified, tabulated and analysed. The interpretations were drawn after subjecting the data to statistical analysis which led to the following major findings.

RESULTS AND DISCUSSION

The impact of information technology in improving the performance of DCSs was measured by measuring three parameters namely, general perfor-

Table 1: General performance of computerized and non-computerized DCSs n= 120

S. No.	Indicators	Years	Mean Score		Mean Difference score	Per cent Difference score	Z value
			Non-computerised DCSs (n = 60)	Computerised DCSs (n = 60)			
1.	Yearly increase in membership	2004	41.73	34.55	-7.18	-20.78	-7.57**
		2005	36.92	39.23	2.32	5.91	2.70**
		2006	30.08	43.92	13.84	31.51	15.02**
		Average	36.24	39.23	7.78	19.40	3.38**
2.	Average performance score of milk collection	2004	1394.17	1320.50	-73.67	-5.57	-3.19**
		2005	1317.17	1432.83	115.13	8.03	4.41**
		2006	1199.83	1535.67	335.83	21.86	12.51**
		Average	1303.72	1429.66	174.87	11.84	4.58**
3.	Percentage performance score of households covered by DCS	2004	95.83	94.83	-1.0	-0.10	-0.24 NS
		2005	82.92	100.58	17.67	17.52	4.43**
		2006	69.92	108.83	38.92	35.76	10.27**
		Average	82.88	101.4	19.19	17.79	4.82**
4.	Average performance score of inputs purchase	2004	515.83	489.17	-26.67	-5.45	-2.06*
		2005	459.17	546.67	87.56	16.01	6.88**
		2006	404.88	608.83	204.67	33.61	15.10**
		Average	459.71	608.83	106.30	18.35	6.64**
		Overall	470.70	529.63	58.93	11.12	4.86**

* Significant difference at 5 per cent level of significance

** Significant difference at 1 per cent level of significance NS = Non-significant

mance, financial performance and production related performance. The year wise comparison in computerised and non-computerised DCSs regarding different indicators under these parameters was made and the results were presented under following heads.

General performance of computerised and non-computerised DCSs

The finding presented in table 1 revealed that among the different indicators of general performance of computerised and non-computerised DCSs, the highest difference between the computerised and non-computerised DCSs (mean difference score 174.87) was found in the Average performance of milk collection, whereas the lowest difference (mean difference score 7.78) was found in case of Yearly increase in membership.

While highest per cent difference (19.40 per cent) was found in Yearly increase in membership, and the lowest per cent difference (11.84 per cent) was found in Average performance of milk collection.

The data in table 1 also indicated that the calculated overall Z-value (4.86**) between computerised and non-computerised DCSs are greater than the tabulated value (2.58) which as positively significant at 1 per cent level significance which meant that there was a significant difference between non-computerised and computerised DCSs are in general performance. Similarly, the Z-values of all the indicator of general performance of computerised and non-computerised DCSs are positively significant at 1%

Table 2: Financial performance of computerized and non-computerized DCS **n= 120**

S. No. Indicators	Years	Mean Score		Mean Difference score	Per cent Difference score	Z value
		Non-computerised DCSs (n = 60)	Computerised DCSs (n = 60)			
1. Average performance score of annual operational expenditure of DCS	2004	106250.0	107183.33	933.33	0.87	0.47 NS
	2005	95833.33	113316.67	17483.33	15.42	8.87**
	2006	85683.33	116603.33	30950.00	26.53	16.29**
	Average	95922.22	112377.77	16455.55	14.27	8.54**
2. Average performance score of annual income from milk sale	2004	191333.33	192416.67	1083.33	0.56	0.40 NS
	2005	183000.00	204500.00	21500.00	10.51	8.91**
	2006	169750.00	218816.67	49066.66	22.42	20.54**
	Average	181361.11	205244.44	23558.33	11.16	9.95**
3. Average performance score of net profit of DCS	2004	85083.33	86566.67	1483.33	1.71	1.37 NS
	2005	87166.67	93016.67	5850.00	6.28	5.85**
	2006	84066.67	102366.67	18300.00	17.81	15.40**
	Average	85438.88	93983.32	8544.44	8.60	7.54**
Overall		120907.41	137198.52	16291.11	11.87	8.68**

* Significant difference at 5 per cent level of significance

** Significant difference at 1 per cent level of significance

NS = Non-significant

level of significance except average performance score of inputs purchase in 2004, which is negatively significant at 5 per cent level of significance and percentage performance of household covered by DCS in 2004 which is negatively non-significant. Thus the hypothesis excepted in null from (H_0) was rejected and alternative hypothesis was accepted. It means there was a significant difference in all these indicators of provision of timely information in computerised and non-computerised DCSs except percentage performance score of household covered by DCS in 2004.

Financial performance of computerised and non-computerised DCSs

The data presented in table 2 showed that among the different indicators of Financial performance of computerised and non-computerised DCSs, the highest difference (mean difference score 23558.33) was found in the Average performance score of annual income from milk sale, while the lowest difference (mean difference score 8544.44) was found in case of Average performance score of net profit of DCSs.

The highest per cent difference (14.27 per cent) between the computerised and non-computerised DCSs was found in case of Average performance score of annual operational expenditure of DCSs, while the lowest per cent difference (8.60 per cent) was found in Average performance score of net profit of DCSs. The data in table 2 also indicated that the calculated overall Z-value (8.68**) between computerised and non-computerised DCSs are greater than the tabulated value (2.58) which is positively significant at 1 per cent level of significance which meant that there was a significant difference between non-computerised and computerised DCSs in financial performance and the computerised DCSs are significantly superior as compared to non-computerised DCSs in financial performance. Similarly, the Z-values of all the indicators of financial performance of computerised and non-computerised DCSs are positively significant at 1% level of significance except average performance score of annual operational expenditure of DCS, average performance score of annual income from milk sale and average performance score of net profit of DCS in 2004. Thus the

hypothesis formulated in null from (H_0) was rejected and alternative hypothesis was accepted. It means there was a significant difference in all these indicators of provision of timely information in computerised except average performance score of annual operational expenditure of DCS, average performance score of annual income from milk sale and average performance score of net profit of DCS in 2004.

Production related performance of computerised and non-computerised DCSs

The table 3 revealed that the highest difference (mean difference score 247.44) was found in the Average performance score of daily milk production by households, whereas the lowest difference (mean difference score 88.00) between the computerised and non-computerised DCSs was found in case of Average performance score of daily milk production per cow.

Whereas the highest per cent difference (22.80 per cent) was found in Average performance score of daily milk production per cow while the lowest per cent difference (11.16 per cent) was found in Average performance score of daily milk production by households. The data in table 3 also indicated that the calculated overall Z-value (9.46**) between computerised and non-computerised DCSs are greater than the tabulated value (2.58) which is positively significant at 1 per cent level of significance which meant that there was a significant difference between non-computerised and computerised DCSs in production related performance. Similarly, the Z-values of all the indicators of production related performance of computerised and non-computerised DCSs are significant at 1% level of significance except average performance score of daily milk production per cow and performance score of average milk yield per buffalo in 2004. Thus the hypothesis (H_0) was rejected and alternative hypothesis was accepted. It means there was a significant difference in all these indicators of provision of timely information in computerised and non-computerised DCSs except average performance score of daily milk production per cow and performance score of average milk yield per buffalo in 2004.

These results of study are similar with the study of Bhatnagar (2000), Chakravarty (2000) Prasad (2002), Meena (2005) and Singh (2005).

Table 3: Production related performance of computerized and non- computerized DCS

S. No.	Indicators	Years	Mean Score		Mean Difference score	Per cent Difference score	Z value
			Non- computerised DCSs (n = 60)	Computerised DCSs (n = 60)			
1.	Average performance score of daily milk production per cow	2004	308.67	315.83	7.22	2.28	0.96 NS
		2005	270.83	356.75	85.85	24.06	11.42**
		2006	234.83	405.83	170.93	42.11	23.27**
		Average	271.49	359.49	88.00	22.80	11.88**
2.	Performance score of average milk yield per buffalo	2004	1485.00	1509.80	24.80	1.64	1.49 NS
		2005	1383.50	1558.50	175.00	11.22	10.08**
		2006	1281.83	1638.50	356.67	21.76	20.86**
		Average	1383.44	1568.93	185.49	11.54	10.81**
3.	Average performance score of daily milk production by households	2004	2150.83	2060.33	-90.50	-4.39	-2.64**
		2005	1970.17	2176.75	206.59	9.49	5.90**
		2006	1823.83	2269.08	445.25	19.62	13.78**
		Average	1981.60	2168.72	247.44	11.16	5.68**
	Overall		1212.16	1365.71	153.55	11.24	9.46**

** Significant difference at 1 per cent level of significance

NS = Non-significant

CONCLUSION

The results of research finding it can be concluded that the computerised DCSs are significantly superior in all these indicators as compared to non-computerised DCSs. It was a significant impact of IT in improving the average annual income from milk sale. Regarding different indicators of general performance of computerised and non-computerised DCSs, the highest difference was found in the Average milk collection, whereas the lowest difference was found in case of Yearly increase in membership.

The financial performance shows that the computerised DCSs are significantly superior in all these indicators as compared to non-computerised DCSs.

The highest difference between the computer-

ised and non-computerised DCSs was found in the Average performance score of annual income from milk sale, while the lowest difference was found in case of Average performance score of net profit of DCSs. The production related highest difference was found in the Average performance score of daily milk production by households whereas the lowest difference was found in case of Average performance score of daily milk production per cow.

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Received : September, 2013

Accepted : January, 2014