Toner drum based Network Duplex Printer (TDNDP) versus Laser jet printers

Cost effective use of technology is a big challenge in the field of health care as it deals with complex machineries, the maintenance of which spend a great percentage of its cost. Every organization today whether public or private faces growing challenges in managing, printing and documentation processes in its workplace. AIIMS was facing a colossal challenge in managing and maintaining inventory of the present cartridge based printers and was not able to prevent misuse of these printers.

Implementation phase

After the success of Network Toner Drum based Duplex Printers (TDNDP) at JPNATC it was decided to have them installed throughout AIIMS. There were 100 TDNDPs installed initially all across main AIIMS, BRAIRCH, RP Centre and Cardio neuro centre in 2014. A total of 142 printers are currently working in different centres in AIIMS. All printers are functional and have proved a boon for the computerization activities of AIIMS.

Advantages of TDNDPs

These printers have several advantages. As these printers are on 'per page' contract with the vendors which includes maintenance and toners, the overall printing cost is only 32 paisa per page which is frozen for the next 5 years. Moreover a single printer can be simultaneously connected with multiple computers in a location hence making it an ideal printer for a large set up. Most importantly, the misuse can be dramatically reduced as printing is allowed only from white listed applications. Lastly TDNDPs allows duplex printing, i.e. printing on both sides automatically thereby saving time and providing more prints.

Savings:-

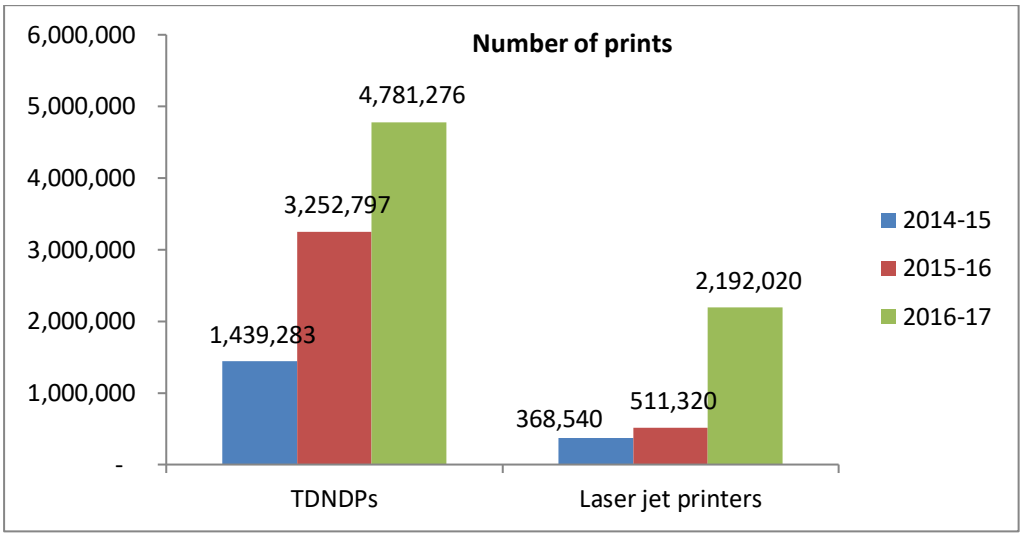
- In the present scenario both TNDP and Laser jet printers are used in both clinical and nonclinical areas of AIIMS from which a total of ~20 lakhs prints were taken in the year 2014-2015 which can be considered as the demand of the year. The same was ~37 lakhs in 2015-16 and ~69 lakhs in 2016-17.

- The estimated cost of TNDP (had there been no laser jet) was INR 9,29,064 giving us a saving of ~33 lakhs in the year 2014-15.This increased to ~61 lakhs in 2015-16 and ~1 crore in 2016-17 which is 85% of growth in savings in each year.

Year	Total no of prints	Estimated cost by TNDP	Estimated cost by Laser jet	Saving per year
2014-15	20,29,055	9,29,064	42,61,016	33,31,952
2015-16	37,64,117	17,23,514	79,04,645	61,81,131
2016-2017	69,73,296	31,92,933	146,43,922	114,50,989

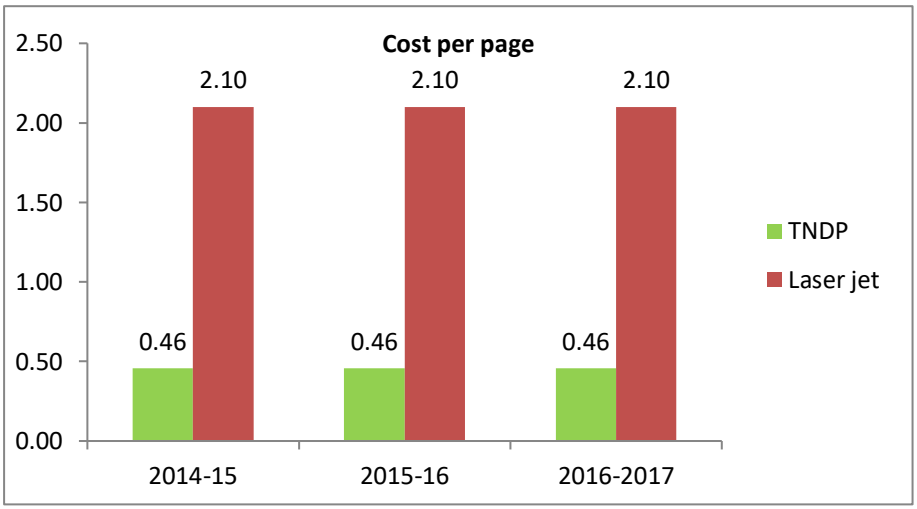
Number of Prints:-

- The number of prints taken from TDNDPs was 14.4 lakhs in 2014-15 which rose by 126% or more than doubled to 32.5 lakhs in 2015-16 and further increased to 47.8 lakhs in 2016-17. On the other hand, prints from Laser jet printers was around 3.68 lakhs in 2014-15 which increased to 5.11 lakhs in 2015-16 and 21.9lakhs in 2016-17.
- This suggests the efficiency in cost effectiveness coming from a smaller number of TDNDPs as compared to a higher number of Laser jet printers



Cost per page:

- The printing cost for TDNDPs is just 0.32 paise per page and this would be continued for the next 5 year contract. The actual cost per page (including the paper cost) is 0.46 paise for TNDP. This where compared to Laser jet printers was INR 2.10 per print (Calculations carried on the total no of prints of all cartridges; based on its respective page yields#, divided by the total cost of all the cartridges). The significant point worthy of mentioning is that the latter is 4.5 times more expensive than the TDNDPs.
- TDNDPs are very cost effective and produce more desirable results, both in quantity and per unit expenses.
- We can conclude that we are getting MORE prints from a SMALLER no. of printers at a CHEAPER cost if we continue using TDNDPs.



Future plans:

- To have one TDNDP standby in every department to ensure the smooth functioning of the system
- The long run objective would be to thus phase out the Laser jet printers and gradually replace them with the TDNDPs wherever possible. The key point is minimal utilization of the Laser jet printers keeping the overall costs to the bare minimum
- To address complaints related to TDNDPs by e-complaint module to make sure that all related printing issues are solved on time.

#Page yield is the number of pages a user can print with a given printer and cartridge, based on certain assumptions of the ISO/IEC 24711 standard for determining inkjet printer page yields.For all Deskjet, Photosmart and Officejet inkjet printers sold since July 2005, HP publishes page yield data based on the industry standard for measuring ink.. Highly "dense" documents, such as the text document, may yield fewer pages than the ISO standard, while less dense would yield more pages