e-Governence Initiative for Reforms in Admission Process

ONLINE ADMISSION PROCESS

Common Admission Form

DEPARTMENT OF COLLEGE EDUCATION

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PROFORMA OF MAIN APPLICATION FORM

NOMINATION FORM FOR
NATIONAL AWARDS FOR e-GOVERNANCE 2013-14

1. Name of the Organization: Commissionerate of College Education

2. Name of the Department: Department of Higher Education

3. Name of the State/UT/ Central Government/ Others: Government of Rajasthan

4. Name of the Project: e-Governance initiative for reforms in Admission process

5. Nature of the Project: **G2C**

6. Category of Award Applying for: 'EXCELLENCE IN GOVERNMENT PROCESS RE-ENGINEERING'

7. Objective of the Project:

The aim of the project was following:

i. To reduce number of trips to students and parents for admission activities
ii. To increase the reach of service to geographically scattered students across the state
iii. To reduce the actual cost of filling admission form for student
iv. To make the admission activity paperless
v. To reduce human error possibilities in merit generation
vi. To enforce implementation of the Admission policy of the government
vii. To make the strong database of students for college and government use
viii. To reduce the use of teaching staff in non-teaching activities
ix. To smoothen the process of admission and to make academic environment in colleges
x. To increase the operational efficiency of the colleges for admission
xi. Use of ICT to increase the efficiency of college administration

8. Date of Launch of Project: 05 June 2013 for session 2013-14

02 June 2014 for session 2014-15

9. Beneficiary of the Project:

In session 2013-14

(i) Students and Parents –

(a) Under Graduate level admission applicants for 63 Government colleges adopting Online Admission Process (**OAP)** for new admissions in Part-I and renewal of admission in Part-II, Part-III

(b) Applicants for Undergraduate and Postgraduate level admission in 66 Government Colleges adopting Common Admission Form (CAF) for new admissions in UG Part-I and PG (Previous) and renewal for admission in UG Part-II & Part-III and PG (Final).

(ii) Colleges and Directorate

To enforce Admission Policy of the government and could create strong database students

(iii) Scholarship sections of Colleges and Directorate.

To use the database for scholarship distribution and better decision making.

In session 2014-15

Under **Government Process Reengineering (GPR)** the renewal of admission was removed by the change in Admission policy 2014-15 of the government and one time Admission process was implemented in UG and PG i.e. student has to undergo admission process in UG Part-I and PG (Previous) only and in rest of the classes he/she will be promoted automatically only by completing simple formalities of deposition of fees/results etc.

PROFORMA OF AWARD SPECIFIC FORM

I. 'EXCELLENCE IN GOVERNMENT PROCESS RE-ENGINEERING'

e-Governance initiative for reforms in Admission process

Directorate of College Education

Government of Rajasthan, Jaipur (Rajasthan)

1. **Coverage – Geographical and Demographic**

i. Comprehensiveness of reach of delivery centres:

The initiative covered the admission process of 129 Government colleges spread across all 33 districts and 97 cities/towns of Rajasthan for session 2013-14. This number of government colleges under this initiative is increased to 176 in session 2014-15. Incidentally the State happens to be the largest State of India covering about 10.4% of geographical area of the country. The extreme West to East distance of colleges (Govt. College, Dholpur to Govt. College, Jaisalmer) is about 696 km and the extreme North to South distance (Govt. College, Sriganganagar to Govt. College, Kushalgarh) is about 743 km.

Table-A

Initiative	Districts		Towns/Cities/ village		No. of Colleges	
	2013-14	2014-15	2013-14	2014-15	2013-14	2014-15
Common Admission Form (**CAF**)	28	26	60	59	66	62
Online Admission Process (**OAP**)	28	33	46	79	63	110
CAF and OAP initiatives*	**33**	**33**	**97**		**129**	**176**

(* In some town/ district different colleges used either of two initiatives i.e. one college used **CAF** while the other college might have opted for **OAP**)

ii. Number of delivery centres:

The number of delivery centres cannot be counted exactly as ever internet connection can access the services for admission application no restriction was there and no formal fees of application was there in OAP. CAF is a pdf form downloadable free of cost and it can be deposited to college with required documents with some processing fees in session 2013-14 and without any processing fees from session 2014-15.

iii. Geographical

(a) National level- No of state covered –01

(b) State/UT level- No. of District covered- 33

iv. Demographic spread (percentage of population covered):

The project covered all government colleges under OAP and CAF. As in session 2013-14, 63 colleges covered in OAP and 66 colleges covered in CAF. In session 2014-15, 110 colleges covered in OAP and rest of the 66 colleges covered in CAF. CAF also includes law colleges and all PG courses of OAP implementing colleges from session 2014-15. Table-A above depicts the districts and town covered in this initiative.

The strategy of **Government-Process Re-engineering** was of two-folds-

- **Online Admission Process (OAP)** It is was introduced in session 2013-14 for Under graduate Courses for 63 Government Colleges where colleges have relatively better IT infrastructure and willingness. It is further increased to 110 colleges in session 2014-15.
- 66 Government colleges (for UG and PG courses) adopted an Offline-Online hybrid strategy in session 2013-14, where a **Common Admission Form (CAF)** was designed and introduced. Its ambit increased further in session 2014-15 by adding law colleges and all the remaining diploma courses and PG courses in all government colleges except two special colleges.

The Online Admission Process initiative targeted the following target group and number-

S. No.	Level of Education	Seats	No. of applications
2013-14			
1	Graduation Part I	72,390	1,59,621
2	Graduation Part II& III	82,526*	1,15,949
	Total	**1,54,916**	**2,75,570**
2014-15			
1	Graduation Part I	1,25,583	2,46,588
2	Graduation Part II& III	**Need for re-admission done away with under GPR initiative**	

(* On the basis of admissions in 2012-13)

The Common Admission Form (CAF) initiative targeted the following target group and number-

S. No.	Level of Education	Seats	no. of applications
2013-14			
1	Graduation Part I	46,920	92,390
2	Graduation Part II & III	55,566	67,112
	Total	**1,02,486**	**1,59,502**
2014-15			
1	Graduation Part I	**12480**	**15990**
2	Graduation Part II& III	**Need for re-admission done away with under GPR initiative**	

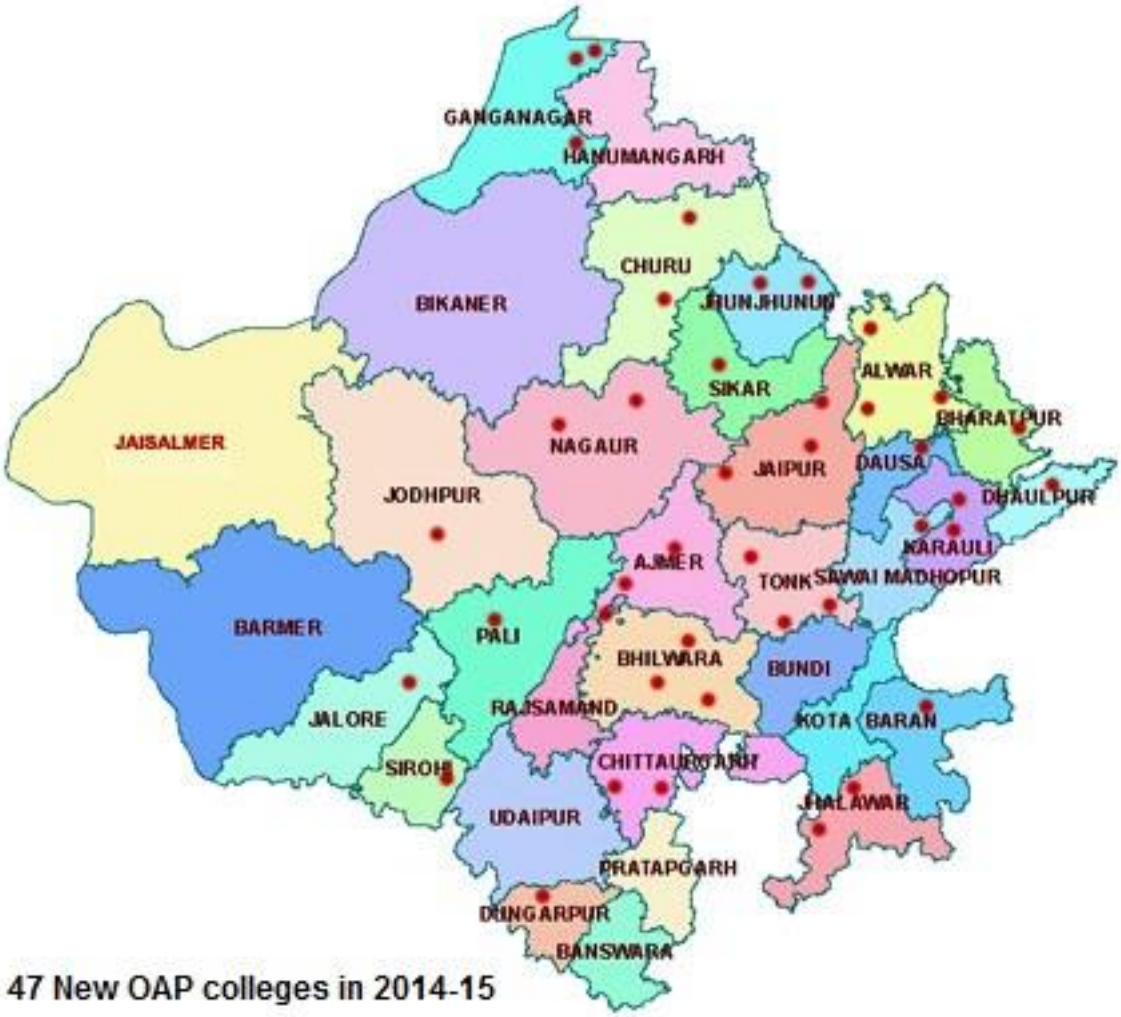
(* On the basis of admissions in 2012-13)

Access to both the initiatives was extended to applicants through single web portal *i.e.* **dce.rajasthan.gov.in.**

MOF RAJASTHAN SHOWING LOCATIONS OF GOVT COLLEGES 2013-14

MAP OF RAJASTHAN SHOWING GOVT COLLEGES UNDER OAP 2014-15

MAP OF RAJASTHAN SHOWING 47 NEW GOVT COLLEGES COVERED UNDER OAP 2014-15



2. **Situation before the initiative** (bottlenecks, challenges, constraints etc. with specific details as to what triggered the Organization to conceptualize the project):

The admission process in a college is an essential annual activity. The process of selling of admission form and receiving applications from applicants in a college was a cumbersome procedure for the applicants as well as for colleges. The difficulties faced by students and colleges were manifolds –

- An applicant had to visit the college physically at least three times, initially to procure admission form, then to submit it and next time to check his/her status in the provisional admission list and complete the formalities of admission. A candidate whose name did not appear in first list was required to visit the college again to check next provisional admission list.
- This process proved more tedious for a student who aspired to apply for more than one college situated in different towns.
- Earlier the college counters were the only access for buying admission forms. Even the forms were not made available by colleges on website.
- The College administration had to face various problems in completing the process of printing, supplying, accepting the admission forms. Each event in a long chain of events depended on earlier event which took a long time to complete and often prone to delays.
- Earlier there were myriad of forms such as different forms for different colleges, different streams (Arts, Science, Commerce), different levels of education (under graduation level or post graduation level), and different types of courses (govt. funded courses and Self-financed courses) and for fresh admissions or renewal of admissions. This required colleges to manage task of designing, printing, selling and receiving different types of admission forms. Thus earlier process was costly, complicated and time consuming for both students and colleges.
- Preparing provisional admission lists as per the rules of admission policy of the State government required a a lot of time and expertise. This task was done either manually or by first keying in crucial data of applicants in spreadsheets and then processing it, both the processes were time consuming and prone to errors.
- Displaying the admission list at the notice board of the college was the only means of communication with the applicants. There used to be long queues for examining provisional admission lists. Moreover, there was no surety that a physical list put up on notice board will be available till next day and the colleges needed to put a great effort on it either by making it secure or by re-pasting it on notice boards.
- Though the admission process was transparent earlier but was not directly under supervision of the Department of College Education and hence was prone to undue pressures exerted by student leaders, local politicians etc whereby Principal or Admission committee could be forced to accept documents or application forms after due date or to extend other illegal favours too.
- The Directorate had no access to status of admissions in colleges in real time. It took a long time to receive and compile information from all the government colleges. Specially when the exercise of increase in seats or sections was needed to carried out at government level.

3. **Extent of Process re-engineered** (Processes that have been re-engineered, services which depend on these processes, analysis/re-design of Process workflows – before (As-ls) and after (To-Be) re-engineering; changes in activities and their sequencing; level of automation (Extent of computerization in terms of number of services computerized, Extent to which steps in each service have been ICT- enabled) #)

The admission process in a college is an essential annual activity. The process of receiving application forms from applicants to finally admitting students to a college was thought as an ideal process to take in the ambit of e-Governance initiative due to the length and complexity of the process. The difficulties faced by students, college administration, monitoring cell of Directorate in traditional system of admissions were enormous. How the e-governance initiative was proved to be helpful in solving these problems is summarized in following table-

S. No.	Sub-part of the process	Earlier Process	After Re-engineering
		As-Is : Difficulties faced in routine procedure	To-Be: How a re-engineered process can be helpful
1	Getting admission forms and prospectus printed in adequate numbers	Inviting tenders: A minimum time is to be given for each sub-step as per GF&AR rules applicable to a government department.	No need for floating tenders for printing application forms at college level
		Estimating correct number of forms and prospectus to be printed: Although Colleges have fair idea on the basis of forms sold during the last year but a change in trend may result in either wastage or shortage of forms.	The possibility of shortage was ruled out in both the re-engineered processes of **OAP** and **CAF**. There was no question of shortage or wastage as no printed forms and prospectus were required in **OAP**. The **CAF** colleges were instructed to keep on publishing Prospectus for current year.
2	Distribution of forms	There may be a sudden spurt in number of applicants on counters of college so additional manpower is required to deal with it. This was managed by mutually exclusive phases of distribution, receipt of forms, verification and receipt of fee which makes the process long drawn. Sometimes delay at the end of the Printer may land the college in trouble.	**CAF** was made available on website in case of colleges accepting admission forms offline and web application link was made available for colleges accepting Online admission Process (**OAP**). This ruled out possibilities of delay in printing or shortage of forms or mismanagement at the time of distribution.
3	Long queues of applicants for procuring and submitting application forms	Long queues of students to procure admission have become a hallmark of Colleges for admission season. Such pictures may be representative pictures of colleges but reflect poor standards of services. The overcrowding and anxiety of applicants affects atmosphere of campus and may lead to rowdy behaviour at times.	The students were not required to queue up for procuring and submitting application forms in case of Online Admission Process (**OAP**). In other colleges, where Common Admission Form (**CAF**) was adopted they were not required to queue up to buy forms at counters of colleges. This not only ensured better and tension free service to students but also improved atmosphere of campus.

S. No.	Sub-part of the process	Earlier Process	After Re-engineering
		As-Is : Difficulties faced in routine procedure	To-Be: How a re-engineered process can be helpful
4	Receipt and sorting of received applications	The task has to be done simultaneous with distribution of forms which strains the system. The colleges adopt a strategy to print coloured forms so that sorting can be done without needing to read the forms. This is a sound strategy for offline mode but it makes the process vulnerable to shortage and wastage.	No need of colour coding the application forms in **OAP** thus wastage and shortage on account of this was totally avoided. In case of **CAF** the colleges were advised to adopt a strategy of simultaneous sorting of forms such as receiving forms of different streams at different counters. This not only made task of sorting easier but also managed crowd at counters of colleges.
5.	Processing of application forms and preparation of provisional admission lists	The process was done manually. The admission committees were expected to understand the rules of Admission policy correctly and apply them on applications received. It used to be a challenging task especially as the number of applications for a particular course could be well above 1000. The process requires sound knowledge of admission rules. As there are separate admission committees for each faculty at undergraduate level and each subject for post graduation level, so it was difficult to get enough expert hands. This either strains the experts or may make the process prone to errors.	Realizing that computerization process can be good, fast and error free for complicated calculation and that an e-governance initiative can go a long way in bringing transparency. It was decided that the complicated process of generating merit will be computerized. For **OAP** a module to generate **'merit lists' or 'Provisional Admission Lists'** was developed. All the rules of admission policy were incorporated in the logic of web-based application. The admission committees had to simply press a button, once the process of verification was over and the web-based application generated provisional merit list in fraction of a second. This made the task fast and error-free.
6.	Location of applicant and need to visit college campus for procuring, submitting forms and viewing his or her name in Provisional Admission Lists	The applicants may be located in geographically different locality from the college they are applying for. Distribution of application forms exclusively from counters of college compels an applicant to visit college at least twice, to buy application form and to deposit it, so physical movement of somebody was essential.	Receiving applications through **OAP** was an ideal solution and it spared an applicant from **2 visits** to college, one for buying application form and second for depositing it. Making a downloadable form Common Admission Form (**CAF**) reduced **one visit** of an applicant for buying admission form.
		Provisional admission lists were displayed on notice boards of concerned colleges so an applicant was required to visit the college campus either himself or through a representative.	In the **re-engineered process** need to visit college campus was made optional. In case of **OAP** the merit positions were made available on website through a dynamic page with "Search Merit" option, which required an applicant to provide his Application ID and Date of Birth. **"SMS were also sent to all applicants"** whose name appeared in Provisional Admission Lists.

S. No.	Sub-part of the process	Earlier Process	After Re-engineering
		As-Is : Difficulties faced in routine procedure	To-Be: How a re-engineered process can be helpful
			In case of **CAF** static 'Provisional Admission lists' were uploaded on "**Admission webpage**" of concerned college and applicant can see his/her name and thus re-engineered process **reduced one no. of visit to college.**
7.	Validation of claims of Marks of applicant	The applicants are not required to submit any original mark sheet/ documents along with their application forms which raises two-fold problem- the candidates are required to submit documents and the college management is required to verify the authenticity of submitted mark sheet /documents and calculate the marks for provisional admission list.	**A novel re-engineering intervention was introduced in OAP to solve this two-fold problem.** The validation became necessary as the documents uploaded by applicant could not be wholly relied upon. It was estimated at the time of conceptualization of **OAP** that about 95% of applicants were those who had passed senior secondary examination from either Rajasthan Board or Central Board (RBSE, CBSE). So the **OAP was linked to the database of these two boards of preceding 3 years** (i.e. 2011, 2012 & 2013 for session 2013-14 and 2012,2013 & 2014 for session 2014-15). With this novel re-engineering intervention the students were saved from burden and cost of uploading marks sheet of qualifying examination and colleges were saved from spending efforts on ensuring authenticity of marks in qualifying examination of applicants**. This was a perfect example of GPR which was proved fruitful to both applicants and colleges.**
8	Duplication of efforts	In offline or traditional mode of submitting applications the applicants are required to fill up separate forms for different subjects, streams or colleges.	The re-engineered process in OAP saved some burden of keying-in data afresh as some basic information was getting auto filled in online admission form from database of secondary boards. For **CAF** the common structure of form made the task easier for filling forms for a student as a student need not to meticulously go through different kinds of forms and instructions. The filling of second form would require change in one or two entries only and rest of the entries could be reproduced as it is.
9	Errors leaving columns blank in filling form	The applicants are bound to make errors or provide irrelevant information/blank which may make the application liable to be rejected for want of vital information.	The **OAP** has minimized chances of errors in filling application forms by using various strategies such as drop-down lists, applying validation, radio buttons, combo boxes etc. Also **OAP** has not accepted any form of an applicant without filling the mandatory fields.

S. No.	Sub-part of the process	Earlier Process	After Re-engineering
		As-Is : Difficulties faced in routine procedure	To-Be: How a re-engineered process can be helpful
10	Selection of stream/subject-combinations	The applicants were required to go through prospectus to know about streams, subjects and subject combinations available in a college. The college prospectus at times did not provide lists of subject combinations and gave groups and rules which made it difficult for applicants to identify valid subject combination for an affiliating university.	A unique feature of **"Subject Selection Module"** was incorporated in **OAP** wherein only valid subject combinations were made available in dynamic form for a college. Only available streams/subjects/subject-combinations were shown in the dynamic application form. There was no possibility of filling wrong combinations of subject in OAP. Moreover, each applicant was given a choice to select 5 subject combinations in stream of Arts. Here too all possible subject-combinations were displayed so the chances of filling an invalid subject combination were ruled out completely. A new web portal was designed and launched for the department previously wherein dynamic web pages for all govt. colleges were created. Each college had an **"Admission page"** where information related to seats, subject-combinations available, fee structures, downloadable forms, instructions, FAQs, provisional admission lists and Final admission lists were to be uploaded by the colleges
11	Delays	The offline procedure makes the entire process vulnerable to delays.	The time lines were strictly observed in case of **OAP** as it was software driven and unnecessary delays were avoided. In case of **CAF** it was avoided due to constant monitoring from DCE admission cell.
12	Help lines	No helpline provision at DCE and colleges	Two dedicated helpline numbers were made available for students at DCE. The functionaries of colleges were also provided with dedicated e-mail address to send softcopies and detailed information/queries. Colleges were also directed to publish their local help line numbers for students.
13	Transparency in whole process of admission.	Receipt/submission of application can be influenced by unwanted pressure tactics at college	**OAP** was IT enabled so no human pressure tactics could influence the system. In case of **CAF** it was observed through monitoring from DCE admission cell.
14	Linking choice of Co-curricular and extra-curricular	In conventional system either no information regarding choice of co-curricular or extra-curricular activities was sought or the information kept lying in application forms and did not	Both in **OAP** and **CAF** the choice of co-curricular and extra-curricular activities were captured from an applicant and a mechanism to provide the information to concerned Nodal officers (NCC, NSS, YDC, etc) was

S. No.	Sub-part of the process	Earlier Process	After Re-engineering
		As-Is : Difficulties faced in routine procedure	To-Be: How a re-engineered process can be helpful
	activities with database	reach the concerned nodal officers. The colleges spent a lot of energy and time in inviting applications for activities such as NSS/NCC/ YDC, etc, at times interested students missed activity of their choice.	made to ensure that efforts of colleges are not wasted in seeking choice of students. In case of OAP filling of these choices were in mandatory fields.
15	Linking database to potential applicants for scholarship	The State had introduced a new scholarship in session 2012-13 for candidates securing 60% marks in senior secondary examination. It was a novel scheme aiming to encourage excellence and increase GER in higher Education. One lakh awards were announced for year 2012-13. It became a mammoth task for the department to publicize the scheme and ensure that maximum number of eligible candidates got the advantage of the scheme.	All the potential candidates who fulfilled certain basic requirements for Chief Minister's Higher Education Scholarship were automatically brought to a form of the scholarship when the logged in to print their counseling letter. This ensured that no eligible candidate missed an opportunity to receive the scholarship due to lack of awareness/information. In addition to this the college also got a database to track the potential candidates.
Additional features in 2014-15			
1.	Need for Re-admission done away with	Since long all the students of graduation part-II, III and Post-graduation final year were required to submit an application form for re-admission.	All the students as per the **re-engineered process,** were required to fill up Admission form only once for a course. **No admission form of renewal is needed as per the Admission Policy 2014-15**
2.	Discontinuation of printing and sale of prospectus/**Waiver of Processing fee** for CAF colleges	All colleges had been printing and selling Prospectus and application forms since long. In the session 2013-14 CAF colleges were accepting downloaded forms but were charging processing fee at the time of submission. On payment of processing fee the applicants were given a printed prospectus.	**Printing of prospectus was discontinued** but colleges were directed to upload the same on their webpages on the portal from session 2014-15 by both OAP and CAF colleges. Moreover, **no processing fee was charged by colleges** thus a candidate could apply for any number of colleges without paying any charges on account of prospectus or processing fee.

4. **Strategy Adopted**:

i. Details of baseline study done

"As mentioned in the table of the point no. 3 in As-Is column"

ii. Problems Identified

"As mentioned in the table of the point no. 3 in As-Is column"

iii. Roll out/ implementation model

The IT policy of the Government of Rajasthan played an important role in conceptualization of the **OAP** project this policy emphasized taking up G2C e-Governance initiative to smoothen the service delivery to the citizens by the use of Information Technology. Keeping this policy in mind Principals of colleges

who drafted Admission Policy 2013-14 were consulted and were of the view that some IT solution for admission process should be introduced. However, IT infrastructure and willingness was not found in all government colleges. Introducing Online Admission Process in select colleges would have meant creating two classes of college; one class of beneficiary colleges and other of colleges deprived of such benefits. To reduce the gap between the two classes of colleges and to include all colleges in ambit of admission reforms from the very first year, a two-fold strategy of admission reforms through use of IT was planned:

1. **Online Admission Process (OAP)**: The letter to take the concern from the colleges was issued to all colleges in the month of March 2013 which indicated the target of 50 colleges to implement **OAP**. Later on willingness with the competency in IT hardware 63 Colleges were selected finally to take up the admission in UG courses through **OAP for year 2013-14**. For year 2014-15, 47 more govt. colleges were included in the initiative which brought the number to 110 under OAP. **OAP** was available to applicants 24x7 whereas in earlier offline mode students could purchase and submit application forms only during office hours that too on working days only.

2. **Common Admission Form (CAF)**: The colleges which had relatively weak infrastructure (availability PCs, 24x7 electricity & internet connectivity, etc) were included in **CAF** initiative. A study of various kinds of admission forms was carried out in order to design a Common Admission Form. The drafts of CAF were discussed with representatives of colleges and improvised. FAQs and Instructions were prepared for this form and it was decided that CAF will be made available on website of Directorate and also on admission webpage of colleges free of cost. It was also decided that all colleges included under this initiative will accept a single **CAF** for all kinds of courses, levels, types of seats etc. The colleges were instructed to put up matrices of available seats, streams, courses and subject combinations on "**Admission web page**". Web pages of all colleges were already launched through a single web portal of DCE facilitated this initiative. The colleges were also instructed to put up all provisional admission lists on **"Admission webpage".** In the year 2013-14 66 colleges used CAF for all courses ranging from diploma to post graduation.

In the session 2014-15 the CAF was modified further to include Law colleges also. This year number of colleges which exclusively used CAF was again 66 due to inclusion of law colleges and opening of new colleges. In addition to these colleges CAF was also used by OAP colleges for admission in post graduation level courses. Thus out of 178 govt. colleges of Rajasthan 176 colleges used CAF. Only two specialized colleges (Rajasthan School of Arts and Rajasthan Sangeet Sansthan) offering courses of performing arts and music were given exemption from using CAF.

Waiver of Processing Fee/prospectus fee from 2014-15-

In the year 2013-14 the colleges were instructed to publish Prospectus and CAF both and they have charged a processing fee from those applicants who submitted application on downloaded CAF form and in return applicants were given a copy of published prospectus. However, from year 2014-15 the processing fee was waived and the colleges were instructed not to get prospectus printed for distribution to students, however colleges have to upload the prospectus on their Admission page which can be downloaded by the applicant free of cost. With this waiver an applicant could apply for many courses in many colleges without paying any fee or buying any prospectus or CAF form.

iv. Communication and dissemination strategy and approach used:

The web portal of the college education dce.rajasthan.gov.in was already rolled out in which all the colleges were given their web page including one web page exclusively dedicated to Admission named as "Admission". Students were well versed from this portal. As a first time rollout of online admission press notes were issued from the DCE and colleges in the local newspapers and electronic media. Flexes and banners were placed in colleges and important places of city and towns of colleges. Some colleges have conducted the workshops for students, parents and cybercafé owners in local cities. Department of IT&C has advertised this service for e-mitras and CSC because concessional rates were fixed for filling the online form from these counters. Principals and nodal officers were instructed to give it a wider coverage at local level during training and through letters.

5. **Technology Platform used**:

Following technologically and architecture is used to develop the **OAP. It was decided with the technological guidance from Department of IT &C Government of Rajasthan.**

Web application framework: ASP.net 4.0

RDBMS: MS SQL 2008 R2

Internet server: IIS

Browsers: all browsers

i. Description: ASP.NET

The goal in application development is always the same: create the best possible software in the least amount of time. Yet the bar is continually raised, as demands from customers increase. To meet these demands, the platforms developers build on and the tools they use must get better and better—they must evolve.

The .NET Framework provides a clear example of this. First released in 2002, version 2.0 of the Framework appeared three years later. The .NET Framework 3.0, released in 2006, was a major update that added a number of new technologies, while the latest version, the .NET Framework 3.5, includes more useful additions. Alongside this evolution, Microsoft's flagship tool for creating .NET applications has also moved forward. The latest release, Visual Studio 2008, offers a range of improvements for creating .NET applications. Every step in this path has been aimed at providing a better and more productive environment for the people who create Windows software.

This overview provides a big-picture view of the .NET Framework 3.5. While a basic knowledge of the .NET Framework is assumed, this description focuses on the technologies added in the .NET Framework 3.0 and 3.5. The goal is to make clear what this widely used foundation for Windows applications provides today.

ASP.NET is a unified Web development model that includes the services necessary for you to build enterprise-class Web applications with a minimum of coding. ASP.NET is part of the .NET Framework, and when coding ASP.NET applications we have access to classes in the .NET Framework.

ii. Interoperability

Because computer systems commonly require interaction between newer and older applications, the .NET Framework provides means to access functionality implemented in programs that execute outside the .NET environment. Access to COM components is provided in the System. Runtime InteropServices and System. Enterprise Services namespaces of the framework; access to other functionality is provided using the P/Invoke feature.

iii. Securityconcerns

The design is meant to address some of the vulnerabilities, such as buffer overflows, which have been exploited by malicious software. Additionally, .NET provides a common security model for all applications. Outlined below are some common security problems and how our application will deal with them:

- **Buffer Overflow**: This is probably the most common security hole in compiled applications. Since we'll be working with the .NET runtime that was designed to run safely in memory, buffer overruns will be very unlikely.
- **Database Attacks**: Another common security hole might allow malicious users to gain access to the raw data stored in the database. To prevent hackers from gaining control of the data, we'll use stored procedures instead of "inline queries". This greatly reduces the chances of attacks that attempt to insert additional SQL commands into the input stream. We'll also use input validation at several points along the way to make sure all inputs contain only valid characters.
- **Cross-site Scripting Attacks**: Another common attack on web applications involves users adding client-side scripting into the input stream that will then execute additional dialogs and trick users into sending personal data to the hacker's own web site. To solve this, we'll be using a new feature of ASP.NET that will screen all inputs for this kind of malicious code and prevent it from posting into the system. We'll also include additional code in the display screens that will automatically disable any scripting or display mark-up that might make its way into the data store.
- **As the site and application is hosted on State Data centre at DoIT&C so "Safe to host" certificate has been procured from NIC as per the Government of Rajasthan norms at it was supervised by DoIT&C**.

iv. Any issue with the technology used:

No such issue is reported**.**

v. Service level Agreements (SLAs):

The admission process is a time bound process of colleges and the timelines were already defined in the Admission policy and the project has observed the pre-defined timelines successfully. No technical glitches could delay the dates of declaration of merits etc.

6. **Citizen Centricity**

i. Impact on effort, time and cost incurred by user:

(a) Impact on effort: Reduction in number of trips by end user (student/parent)

S. No.	Visit description	Earlier process	OAP	CAF
1	Minimum number of visits to college up to checking first provisional admission list	**3**	**0**	**1-2**
2	Minimum number of visits to college up to checking second provisional admission list	**4**	**0**	**1-3**

(b). Impact on time: <u>Average Time spent by applicants and reduction in time due to re-engineered process:</u>

S. No	Sub-head	**Comparison in Earlier and Re-engineered process** (time in minutes)		
		Earlier process	**OAP**	**CAF**
1	Average Time spent for travel to obtain a form/access to website	90	15	15
3	Average Time spent in standing in queue/cyber cafe for obtaining form	30	5	5
4	Average Time spent in filling the form	30	15	25
5	Average Time spent for travel to submit form	90	0	90
6	Average Time spent in standing in queue for submitting form	15	5	5
7	Average Time spent to check Provisional Admission list (including travel time)	90	0 to 15	90
8	Average Time spent in getting Counselling letter	0	15	0
	Total (in minutes)	**335**	**55 to 70**	**230**
	2013-14			
1	Reduction in time (%)	0	79 to 83.5%	31%
2	No. of applications Received		275570	159502
3	Overall saving for total applicants		77159600 man-minutes =53580 man-days = 146 man-years	16747710 man minutes =11630 man-days =31.86 man-yrs
	2014-15			
1	Reduction in time (%)	0	79 to 83.5%	31%
2	No. of applications Received		246588	15990
3	Overall saving for total applicants		69044640 man-minutes =47948 man-days = 131man-years	1678950 man minutes =1166 man-days =3.19 man-yrs

(*) Difference in travel to college and nearest access point to Internet (CSC/Cyber cafe). Applicants for a college are also from towns located 100 km away.

Average cost for one individual, the actual may be much higher for some applicants and slightly lower for others.

ii. Feedback/grievance redressal mechanism:

(a) Helpline for applicant

- Since the process of online admission was introduced for the first time it was expected that the students may need some kind of assistance from the department. Keeping this in view a helpline was created for the benefit of users of the module. Two helpline mobile numbers were made available for the benefit of applicants/users from the very first day of launching of the application (*i.e.* 5th June 2013 in 2013-14).
- The help line numbers were 8890663020, 9460875066 in session 2013-14 and 0141-2706106 & 9414336126 in session 2014-15.
- These numbers were publicized through –
    - Website's landing page of admission application.
    - Newspaper advertisement (by the Department: see Annexure)
    - Banners/newspapers printed/published by colleges.
- Though it was decided to offer helpline numbers only between 10 AM to 6 PM from Mondays to Fridays but the helpline numbers were operated beyond this period, both in terms of time and days of week.
- Apart from the two specified helpline numbers calls were also received on a landline number of office and personal numbers of DCE core team working on the OAP/**CAF**.
- During the specified hours 4 dedicated persons answered the calls. Out of these four two dealt technical issues and two were from background of education. The core team members also assisted in answering calls. In all, about 9 persons handled the calls at various times.
- A short informal 'on the job' training was organized for 2 persons of helpline team who were not involved in the project since onset.
- The broad profile of users who called helpline numbers is as following-
    - Applicants
    - Parent's of applicants
    - Cyber Cafe operators
    - College teachers
- The queries were wide ranging and did not necessarily include **OAP** module alone.

(b) Helpline for Admission Committees of colleges

A landline number and mobile number of Core committee and expert committee of Directorate served as helpline for Admission committee members of colleges.

S. No.	Mechanism	Earlier Years	OAP	CAF
1.	Helpline for students	No	Yes, (On all working days during office hours (0930 to 1800 hrs). However, the helpline was	Yes, (On all working days during office hours (0930 to 1800 hrs). However,

			functional beyond this limit also on holidays too.)	the helpline was functional beyond this limit also on holidays too.)
2.	Helpline for college committees	No	Yes, Available round the clock	Yes, Available round the clock

iii. Audit trails:

In OAP software module has the provision of keeping the audit trails of the online processing done on the admission form. Separate logins were given to college Principals and Nodal officers for verification of admission forms. From these logins the college users has been created and user permission has been allotted to them. Logs were maintained for each login and in case of need the same can be retrieved from the database and responsibility can be fixed of the activity done online.

iv. Interactive platform for service delivery:

On the web portal of college education a separate link of "Admission" was placed which leads to the admission home page. This page has two columns one is leading to CAF and other is for the OAP. From this page student can select the college for admission. All the state level information were made available here. Links of the admission page of college were also placed to access the college specific information. SMS integration on submission of form in OAP was there. Search merit option helped the student to know the merit status after the due date. Print and view submitted application was their so that student can take the print of the summary of application any time during the project.

v. Stakeholder consultation

- Students are the end user as well as the first stakeholder of the project and it is difficult to address them individually so the information required like admission policy, video help, FAQs, guidelines to fill the online form/CAF etc were made available on the main homepage of admission as well as on the admission page of the college web pages on the DCE portal. The help line through mobile/land line numbers at Directorate and colleges were made available to students round the clock.

- The second important stakeholder of the project is college administration so admin process of the software was designed in such a manner that the lecturers knowing simple IT can handle the **OAP** software admin activities in colleges. To build consensus and invite views of various stake holders (college functionaries) a series of meetings/trainings were held.

- A letter (dated 12th March 2013) was sent to all Principals of government colleges explaining the context and intent of the initiative. The consent of colleges willing to adopt online admission process was sought by 30th March 2013. As per the initial letter a target of 50 colleges was fixed. Consent was received from 43 government colleges by the due date.

- In addition to 43 colleges that gave their consent, 10 other colleges were also persuaded to go for this project looking at their strength of IT infrastructure. During the project was unfolding some more college expressed their desire to be a part of the project and thus the number grew up to 63 Government colleges to adopt **OAP**.

- The intention to introduce online admission process was also expressed before the officers of Directorate of College Education in a meeting and their views were invited regarding **OAP**. Their suggestions were sought on the options of both going for '**OAP** module' and also continuing with conventional application submission along with it. Consensus was evolved that dual mode of application for a same course in same college may not be a good strategy to implement.

- Directorate has a long tradition of inviting Principals from select colleges to review admission policy prior to commencement of academic session. The same issue was discussed with the invited Principals, they were also of the opinion that both the options of receiving admission applications (online and offline) for same course should not be allowed.

- Informal feedback was also received from other faculty members of colleges. Feedback received from all the sections was in conformity of principles of e-governance hence it was decided that only online applications should be invited for a particular course in college.

- Department of Information Technology & Communication (DoIT&C) is also an important stakeholder in the initiatives so at length consultations were held with it. The software developer for the **OAP** initiative was identified by the DoIT&C through RajComp Infoservices Limited (RISL). The basic infrastructure and other IT consultancy services such as server, domain name, hosting space, security audit, vulnerability testing of application etc was also provided by DoIT&C throughout the project.
- The budget for the project was also approved by DoIT&C under the IT policy of Government of Rajasthan *i.e.* "Utilization of 3% plan budget for e-Governance by Government Department of Rajasthan "

7. User Convenience (Give specific details about the following #)

i. Service delivery channels (Web, email, SMS)

The web portal of college education (dce.rajastha.gov.in) consist of separate link of "Admission" .It leads to the admission home page. This page has two columns one is leading to CAF and other is for the OAP. From this page student can select the college for admission. All the state level information were made available here. Links of the admission page of college were also placed to access the college specific information. SMS integration on submission of form in OAP was there. Search merit option helped the student to know the merit status after the due date. Print and view submitted application was their so that student can take the print of the summary of application any time during the project.

Instructions, FAQ, Video Instructions

Instructions, FAQ and their answers and video were provided on landing page of the website for the re-engineered admission process.

SMS Gateway Integration:

The Department of Electronics and Information Technology's Mobile Seva (http://services.mgov.gov.in/) was used to send sms to students and colleges. The sms were used as a means of sending rapid mode of reminders and instructions to admission committee members. User groups for **CAF** and **OAP** colleges were created for convenience. **Total 8,00,749 sms were used for communication**.

(i) SMS to students

The one of the unique specialty of the project is the SMS integration with the application. The SMS was sent to all applicants soon they submit the application for any course in **OAP** using colleges. It consists of information of successful submission of the form with the 15 digit unique Application No. Using this application No., applicants can take the print of the application submitted from the admission page of web portal.

The second SMS was sent to applicants when the merit is generated by the colleges and the name of applicant appears in provisional admission list. After the second SMS applicant has to

go the web portal and has to click Search Merit option and there he/she got a generated parent declaration and CMHE scholarship form (if eligible primarily).

(ii) SMS for coordination with college teams:

SMS gateway was also used as key component of communication with the college teams/Principals/Nodal Officers for the issues of urgent importance and it was proved to be a reason of successful project implementation across the state.

ii. Completeness of information provided to users:

Complete information need for student was provided on Admission homepage of DCE and also college specific information including prospectus was available on the Admission page of the colleges

S.No.	Component of information provided	Earlier years	OAP	CAF
1.	FAQ regarding filling and submitting applications	Partially to those who bought prospectus, not essentially on website	yes	yes
2.	Instructions regarding filling application form		yes	yes
3.	Video instructions regarding method of filling form on website	No	yes	no
4.	Subject combinations available in a particular college	Subject combinations given in prospectus	yes, in module and Admission webpage	yes, on Admission webpage

iii. Accessibility(Time Window):

DCE web portal dce.rajasth.gov.in was accessible from any internet connection 24x7x365

S.No.	Accessibility	Earlier years	OAP	CAF
1	Availability of form on website	No	yes	yes
2	24x7 Access of admission forms	No, only on working days during college hours	yes, 24X7	yes, 24X7
3	24x7 facility to submit filled application forms		yes, 24X7, SMS on successful submission	No
4	24x7 facility to see Provisional Merit List (status tracking)	No	yes, 24X7 and SMS	yes, 24X7

iv. Distance required to travel to access points:

OAP can be accessed from the internet connectivity at any place and so the applicant needed to approach nearest cyber café or the internet connectivity also even on mobile internet it can be accessed.

v. Facility for online/offline download and online submission of forms:

Applicants can fill the online application and a unique application ID was generated and sent on their mobile number. Using this application ID applicant can take the print of summary of application form at any time from the admission portal. Also the provision to apply again was made available to applicants if they find some wrong information filled in their previous application. In this case their earlier application gets inactive automatically and information in this regard was made available on SMS.

No.	Accessibility	Earlier years	OAP	CAF
	Applicant not required to visit college campus to obtain form	No	Yes	Yes
	Applicant not required to visit college campus to submit form	No	Yes	No
	Access of application forms at locations other than college campus	No	Yes, Any PC connected to internet, Common Service Centres (CSC))	Yes, Any PC connected to internet, Common Service Centres (CSC))
	Coverage of service through Common Service Centres (CSC)	No	Yes	Yes

vi. Status tracking:

Facility to check the merit online was available on portal in search merit option.

S. No.	Status tracking	Availability in		
		Earlier years	**OAP**	**CAF**
1.	Applicant not required to visit college campus to see Provisional Admission List	No	Yes	No
2.	Whether Information regarding successful submission of application form through SMS is available (status tracking)	No	Yes	No
3.	Access of application forms at locations other than college campus	No	Yes, (Any PC connected to internet, Common Service Centres (CSC))	Yes, (Any PC connected to internet, Common Service Centres (CSC))

Efficiency Enhancement :

i. Volume of transactions processed:

The number of online application received for the admission was 2,75,570 in session 2013-14 and 2,46,588 in session 2014-15 about 20 days and the submission of the application across the state was hassle free in both the years. The processing of the application for the online merit generation at college end was also worked well and the timelines as per admission policy was observed strictly. The data was stored on State Data Centre of Department of IT&C. So no technical glitches observed during submission of forms. The information to the students at the time of submission of application was integrated with SMS and also the SMS were sent to all applicants whose name appeared in merit successfully. The online generation of merit resulted full accuracy in merit generation too.

ii. Coping with transaction volume growth:

The volume of applications received for admission in a particular college is not solely or primarily dependent on the type of process adopted so the measuring volume cannot be a fair indicator of efficiency enhancement. However, the generation of error free and accurate merit list can be taken as a measure for efficiency enhancement on which the re-engineered process can be termed as successful for **OAP**.

iii. Time taken to process transactions:

The timelines as per the admission policy are predefined for admission process and these were observed perfectly as per the policy.

S.	Service/Process	Time taken per applicant (in minutes)		
		Earlier	**OAP**	**CAF**
1	Issue/sale form	5	0	0-5
2	Receiving form and issue receipt	5	0	5
3	Examine documents, award bonus marks, etc for one applicant	5	5	5
4	Preparation/Generation of merit list: Typing vital information of offline forms, arranging forms in order of merit, applying	15	0	15

	reservation rules (for each candidate)			
5	Preparing copies of provisional admission lists for showing to the candidates (displaying on notice boards/website)	1	0	1
	Total	**31**	**5**	**0-31**

iv. Accuracy of output:

The business rules like bonus verification etc in the college admin were done by the college users as per admission policy and accordingly the online generation of merit took place in every college. The complete accuracy was observed.

v. Number of delays in service delivery:
The OAP was completed without delay

Some observations regarding efficiency enhancement by re-engineered process are given below in tabular form:-

S.	Efficiency parameter	OAP	CAF
1	Distribution of forms	Efficiency increased as the process was no longer a manual process and applicants could get access to online application module/**CAF** anytime of the day. No scope for delays	
2	Submission of forms	The process was automated and applications could be submitted up to last second of closing time.	The form was common for all faculties/all courses/all colleges so it took lesser effort for one who intended to submit more than one application
3	Processing of forms	Became faster and accurate	No change from earlier process
4	Informing students regarding provisional Admission list	Through dynamic page on website and SMS	Through static page of website

8. Cost effectiveness

Cost incurred by users and reduction due to re-engineered process

S. No	Sub-head	Cost in earlier process	Cost after re-engineered process (Range in Rs)	
			OAP	CAF
1	Travel cost for obtaining a form*	50.00#	0.00	0.00 (Available Online on web portal)
2	Cost of form (direct/Indirect)	40 to 60	0.00	4 to 20$
3	Cost of filling the form	0.00	25.00	0
4	Cost of submitting form	0.00	0.00	20 to 30
5	Travel cost for submitting form	50.00	0.00	50
6	Cost of PP photograph/s	4-20	0.00	2-20
7	Cost of enclosures including uploading	20	0 to 25	5

	photo and scanned signatures			
8	Cost of travel to check Provisional Admission list	50	0	0
9	Cost of printing receipt and Counselling letter	0	10-20	0
	Total	**214 to 250**	**35 to 60**	**81 to 125**
1	Percent reduction	0%	72 to 84%	41 to 62%
2013-14				
2	No. of applications		275570	159502
3	Overall saving for total applications (in Rs)		4.24 to 5.92 crore	1.42 to 2.70 crore
2014-15				
	No. of applications		2,46,588	15,990
	Overall saving for total applications (in Rs)		3.80 to 5.30 crore	24.64 Lakhs to 34.36 Lakhs

(* Difference in travel to college and nearest access point to Internet (CSC/Cyber cafe)
Average cost for one individual, the actual may be much higher for some applicants and slightly lower for others as some applicants can be local and others may come from a town located 100 km away.
$ The application form comprised of 4 pages so direct prints would cost 20 Rs @ 5Rs/page and Rs 4 for photocopy @1Rs/copy)

9. Capacity Building and Organizational Sustainability (Give details about hiring skilled staff, imparting training etc.#)

The key success factor of the OAP project is not hiring any extra skilled staff for the implementation at college level only the IT friendly lecturers were trained to operate the OAP software module.

Trainings:

The procedure of online admission was to be implemented first time in Government colleges. Colleges were asked to appoint a Nodal officer (online admission). These were IT friendly Lecturers who were also well versed with admission rules. One round of training for **CAF** colleges and three rounds of trainings for **OAP** colleges were planned for Principals, Nodal Officers, and Admission committee members.

(a) Common Admission Form

2013-14

Two sessions of half-day each (9.30 AM to 1 PM and 2 PM to 5.30 PM) were organized on 24th May 2013 for all 66 colleges that adopted Common Admission Form. Two participants from each college were invited. The Principal/Vice-Principal/Senior most faculty member and Convener Admission Committee were invited for training. The training included (i) understanding new process of **CAF** (ii) managing and uploading information (Subject combinations, Prospectus, fee structure, Provisional Admission lists, and Final Admission lists) on Admission page of web-portal. The trainees were assigned task of conducting further training of college functionaries involved in admission procedure. Strategy regarding making wide publicity of new process was discussed.

2014-15

The procedure of admission using CAF is well known to most of the colleges this year so need of formal training was not felt and the instructions through circulars and orders were imparted to the all the nodal officers and Principals.

(b) Online Admission Process (OAP)

For session 2013-14

First training

It was organized on 8th May 2013 for Principals and Nodal officer (online admission) in which Director College Education, Software developer and the State Nodal Officer has elaborated the whole planning and architecture of the Online admission module and procedure in details. A Question-Answer session was also held in this training. The valuable suggestions were received which helped in fine tuning the software. After this training the Nodal officers of some colleges were invited personally at DCE to discuss the issues of admission policy.

Second training

The second training was held on 27th May 2013 to explain the procedure to one nodal officer each of three different streams available at graduation level in the colleges. The entire work flow, provisions of software, expectations from nodal officers of colleges etc was explain in this training.

Third training

It was organized on 15th June 2013, this was about explaining to the Nodal Officers (online admission) of the college for "college admin" changes incorporated during the application development and inputs received from the colleges from 27.5.13 onwards. By this time live data was placed on 'test' website and logics of the merits were explained live. The training was organized in a well-equipped computer lab and hands-on training was imparted to the nodal officers. These nodal officers were further advised to train the admission committees of their respective colleges. The trained Nodal officers were made a single point of contact for the colleges. They interacted with DCE during verification activity and merit generation at colleges.

For session 2014-15

First Training: 8th May 2014

The OAP training was essential for the newly included 47 colleges. Also training of the nodal officers of earlier 63 colleges was essential due to some changes made in the online admission module regarding including the masters modules like Subject master, Group Maters, Seat matrix, Merit date settings, College user creation etc. So first training was organized in May 2014. The test site dceapptest.rajasthan.gov.in was prepared and given to college nodal officers so that they can fill the test forms and get the online merit generation exercise done as a part of rehearsal.

Second Training: 22-23 May 2014

Second OAP training was done in the Department of IT computer lab to take the feedback from the nodal officers and also to resolve the practical problem faced by them at their end. This was an hands-on training session where the all the problems and issues raised by the college nodal officers were taken up by the directorate team as well as the technical team of IT vendor together at the same platform.

10. Accountability

OAP module had a component of "college admin" and the college nodal officer could create college users from admission team of college and they could be assigned the admission related task for the college faculty wise/class wise like bonus mark verification, category verification, PH verification, including some reset options etc.. A particular user can do the activity in college admin through his login and the logs were maintained about the work done by a particular user so that in case of some fraudulent activity done by some user same can be traced out and accountability can be fixed.

Feature	Details
Login accounts	Each admission committee got a login ID and a password and was responsible for all activities that were performed using that ID. A provision to get a log of activities performed by a user was also kept.
Master Admin	All the applications could be viewed from Master Admin account. Crucial activities/information such as category changed by colleges, bonus marks awarded, merit lists, etc were visible from Master Admin account which brought accountability and transparency. This may not be an innovation but keeping a provision for this in web-based application improved its utility from point of view of monitoring and governance.
Impact	Though there is no direct indicator to measure impact of these 2 features but these two must have had their impact. One of the observations that no complaints were received regarding malpractice or error in calculation of bonus marks also indicates that the task that was to be done manually was completed with sincerity and fairness.

11. **Innovation** (Give details on the extent to which re-engineered process is unique, compared to other common process re-engineering efforts, impact on number of steps required, identification and removal of bottlenecks/Irrelevant steps etc. #)

Project involved following innovations:

1. **RBSE and CBSE three year data integration** with the admission application this saved verification of marks activity in college also reduced fraud applicants in college.
2. **No Hard copy submission** of the application form at college which a unique feature as most of the online admission forms requires submission of hard copies at college end.
3. **SMS integration** both on submission of form as well as when applicant's name appears in college merit
4. **Online processing** of the application form in college admin.
5. **Online Generation of Merit**

S.No	Unique feature	Details
1	Two-fold strategy to broad-base the benefit of re-engineering	Usually the Admission reforms are done in a slow and gradual manner where a pilot is followed by a roll-out in some colleges next year and the number is increased gradually. This proves disadvantageous and discriminatory for colleges that are included in the last lag of reforms. The weakness or lack of resources of one stake-holder proves disadvantageous to other stake holder who is not at fault. In the present re-engineered model a two-fold strategy was adopted. None of the degree level college was left out. The ones that had powerful IT infrastructure and willingness were included in **OAP** initiative and rest in **CAF** initiative.
2	Validation from data of Boards of Secondary Educations in **OAP**.	As described earlier, the merit lists are based on marks obtained at eligibility examinations. The marks of Senior Secondary examinations are
3	Subject Selection Module	Usually the colleges that offer online admission facility provide three blank spaces for students to enter titles of subjects that they want to choose as Optional subjects at graduation level.
4.	Merit Generation	A look at the Admission Policy of the State will reveal that the State offers several types of provisions for admissions which includes reservation on seats as per the State's reservation policy (SC, ST, OBC, SBC, PH, Kashmir Migrants, wards of Defense Personnel, etc), awarding bonus marks for participation and excelling in sports, co-curricular and extra-curricular activities, bonus marks to girl candidates opting to study in co-ed colleges, giving seats to certain categories over and above stipulated number of seats, allotting outright seats to certain category of students, etc. All these put together make the task of preparing a Provisional Merit List quite complicated. Great care and experience is required to prepare an error free list. All these logics were incorporated in the module of generation of merit list. The college faculty knew the complications and was apprehensive about translating this task into logics of a web-based application and had fear that such an application would result in producing a list full of errors. However, all care was taken to eliminate logical errors in program and the end result was absolutely free from errors which surprised the veterans and experts.
5.	No outsourcing (both in **CAF** and **OAP**)	Except for the development of web-based application, the entire end-to-end process, (study of traditional process, design of interface and sequence of receiving data, design of Common Admission Form, design of training modules, implementation of training modules, etc) was completed with the help of existing man power and no additional manpower was hired either at the end of colleges or at Central level i.e. at DCE level.

12. Appropriate Delegation (Give details on whether a team involving employees from all levels has been deployed for the project implementation and maintenance, can employees be held accountable for their actions, etc. #)

The teams involved in the implementation of the initiative were located at the end of colleges and comprised of the following –

Online Admission Process	Common Admission Form
• Principal • Admission Committee of various faculties • Functionaries engaged in receiving fee. • Website Nodal Officer	• Principal • Functionaries engaged in receiving and processing application forms/fee. • Admission Committees of various faculties • Website Nodal Officer

Accountability in Online Admission Process:

S. No.	Process that requires decision making and accountability	Safeguards for ensuring accountability
1.	Access to data and its security: It is very vital that the details provided by applicants could be seen only by those who need to see it. The integrity of data provided by an applicant should be maintained and if any change is required a log of change should be maintained and only authorized persons should be allowed to make change.	• Access to data was provided at the level of Directorate or colleges only through login Ids and password. • A login ID was provided to an admission committee involved in OAP. • The team of Directorate was provided with login ID. • All changes made in category, bonus, and eligibility marks were recorded by the software and report for individual colleges can be generated from Master Administration ID. • The software also recorded IP addresses, time and login IDs through which any change was made in the data filled by a candidate.
2.	Verification of Marks of eligibility examination	• The marks of eligibility examination are crucial component for calculating merit position of a student. The software had a unique component of integrating data of Senior Secondary Examination from two major boards (RBSE and CBSE) for years 2011 to 2013. It was estimated that approximately 95% students will be from these two boards and these 3 examination years. An applicant was required to fill (i) one initial letter of his/her name and name of father (ii) year of examination and name Board and the application could retrieve the information from database. This retrieved information included marks, category, full name etc of a candidate in un-editable mode which ensured that need for validation can be done away with for the data that was already authenticated by the concerned Boards. If the candidates did not pass eligibility examination from the above mentioned two boards, they were required to upload scanned copies of marks sheet. Which were to be manually verified by the admission committee before generating merit list (provisional admission list) and finally from the original document at the time of admission/counseling.

3	Verification of category of student for the purpose of giving benefit of reservation	• A provision was made in the software application that no person could change category of a candidate using login ID of given to colleges. In case the same was required it could be done by only the administrative team of Directorate. A format for category change request was provided to colleges which they were required to send the administrative team of DCE through e-mail.
4.	Award of Bonus Marks for co-curricular and extra-curricular achievements	• The admission policy of Department of College Education provides for bonus marks for co and extra-curricular activities etc. The college admission committees were assigned task of examining the scanned copy of certificates that candidates have uploaded in support of claiming bonus marks and awarding bonus marks. The award procedure had component of automation/validation and thus no boy could get bonus marks reserved for girls or bonus marks above stipulated percentage. • If a college needed to make any change in bonus mark once awarded, the above mentioned process had to be followed.
5.	Generation of merit list	• The merit lists (provisional admission lists) were generated by the software and there was no manual intervention possible. No user, whether from college or Directorate, could insert or delete or make any other change in the process of merit generation.

Accountability in Common Admission Form Process

The **CAF** procedure was partial modification in traditional process hence the established principles of accountability were already in place. However, the publication of merit lists on website gave the process a wider scale or transparency.

13. Result Achieved/Value Delivered

(i)To Organization

a. Benefit to Directorate:

Online Admission Process

Because of implementation of OAP the directorate could make sure of implementation of the admission policy of the government in the colleges covered in it. Before OAP the role of directorate is to issue the policy and there was no process to ensure its implementation at college end.

Common Admission Form

With the implementation of CAF the uniform policy to take the input data of the applicants was made and implemented. On requirement from the policy makers directorate can make sure that the particular data could be retrieved from college. It proved to be very for new government colleges to start admission activity without much tender process etc.

b. Benefits to colleges:

Online Admission Process

- The manpower used to draft and process tender for printing prospectus and application form, for sale and receiving admission forms, processing of applications and preparation of provisional admission lists was spared for other productive tasks.

- The efforts for data digitization during generation of merit lists have been reduced in **OAP** adopting colleges. This further reduced the time spent in preparation of merit and also reduced the cost incurred at college level.

- The application of Merit generation module in **OAP** as per the Admission Policy of the DCE. No changes in merit can be made in it manually at college level as it was software generated in **OAP** which make the process of preparation of merit list fully transparent and as per policy of the government.

- The unwanted pressure tactics to get the admission in colleges used by local student's unions and others were no more exist in **OAP**.

- Every year the college admission committee consists of lecturers has to work for about 1 month. The colleges have to detain the lecturers for the admission work and in turn the government has to give PL for the days worked in the college. This increases indirect cost incurred to the government. This year the number of persons detained in **OAP** implementing colleges is further reduced.

Common Admission Form

- The manpower used to draft and process tender for printing prospectus and various kinds of application form for admission, for selling the different admission forms for different courses.

- The efforts for data digitization during generation of merit lists have been reduced in **CAF** adopting colleges because of streamlining of all forms for all courses in the college.

- The unwanted pressure on college administration during sell of form in colleges has been reduced as the **CAF** was also available on web and applicants can download it and in case if he/she has to apply for more than one course in a college or for any other college, he can use the photocopy of the same.

(iii) To Student:

Student being the end user of the department/colleges online admission module was conceptualized by keeping the benefits to the students in mind right from phase of conceptualization to implementation.

Online Admission Process

As described in above stated points OAP has made taking the admission in college very simple for applicants. It reduced number of trips, hassle free submission of forms, SMS integration reduced their anxiety of submission and also the SMS at the time of merit also made the communication faster. The accessibility of information from web made the whole system transparent for all students.

Some Feed Back statements from colleges:

From College Adopted OAP in second consecutive year:

Commerce College Kota:

1. The regular guidance of the team of DCE by SMS & other was very helpful to us.
2. The online admission process proved the valuable time saving of the students.
3. On the part of the college admission committee it was easy to feed the data and to declare the admission lists timely.
4. Process will be helpful to access the college data base like the statistics related to the number of Student for C.M. Scholarship SC, ST, OBC, CBSE, and RBSE. etc.
5. In the opinion of the students the Process is very comfortable and easy and it should be continued for the coming years in the benefit of students and parents

Government College Tonk:

"The feedback we received from the students and their parents/guardians was really exciting. One of the parent Panmal Pahriya shared that it was really a time saving and very easy exercise for his son in comparison to offline admission process which was a cumbersome exercise waiting in queues, carrying bunch of documents and sometimes repetition of the process. Similar views were expressed by students namely Prahalad Singh , Giriraj Singh, Mahendra Kumar , Rajesh Choudhary (all from BA Pt I) and many others."

Government College Kota:

1. It has been useful for applicants as they could fill the form from the place of their convenience (home, e-mitra kiosk or internet café) thus saving their time, energy and money.
2. It has entailed the ease of retrieval of information such as deadlines, requirements and subject combinations for students as it have become just a tab away.
3. It gives a ready to use database which is amenable to so many purposes both at central and college level such as administration, scholarship, election, examination and so on.
4. It brings transparency in the system as the applicant knows what exactly he/she has opted for and which enclosures they have attached.
5. It reduces influx of the aspiring applicants in the college by which there is visible decline in mob behavior, occasional violence, administrative and disciplining problems.
6. It brings pragmatic uniformity in the implementation of the Admission Policy of the Government across all the colleges in Rajasthan which reduces the possibility of variations/anomalies and idiosyncrasies.

From College Adopted OAP in First time in 2014-15:

Government College, Nimbahera

The Directorate of college education has started the on line admission process last year in many colleges and from this year in our college. It was a big step to facilitate to students in providing better services at their doorstep. It was an easy approach and process for students and it saved the time, energy & money of students. This process gives students a facility to apply in more than one college. The process was totally transparent and it provides quick information to its beneficiaries on mobile & web page.

The college administration was also benefited by this process as it was an easy & fast process. It provides easy & fast way of exchange of information among faculty members.

Dr Kamal Nahar Nodal officer

Certainly it was a big step for students in providing better services to provide better admission facility. They are in a position to get more & more facility to enter in higher education. A part from students the college administration also benefited in several ways. In On line admission process there is no need to publish forms & prospects and thus free from hectic tender & sales business. The admission task may be deal with short staff. There is a zero error procedure regarding seat matrix n merit generation. Another benefit is that this is a crystal clear transparent process thus it keep away the students unrest
One important suggestion is that there should be single merit generation instead of three or four.

M D MOONDRA, PRINCIPAL

Government College, Pali

1- In the process of online admission students normally get all the information of the different colleges on the same web portal. He/she can choose the college of choice.
2- Online admission process caters convenience for all the stakeholders i.e. college administrators, students and parents. Offline was more cumbersome process.
3- For the students it was really convenient. During offline process students used to come for purchase, deposit, merit and fee deposit. In the new process of online only those students come to the college who secured the admission.
4- Online process is a transparent system for all the stakeholders which minimize the scope of error (What so ever).
5- For admission committee it is very easy to verify the documents on the portal itself. As merit is generally centrally controlled so trust factor among students, teachers and administrators is very high.

Sushila Rathi Principal Govt. Bangur College, Pali

14. Extent to which the objective of the project is fulfilled-

The Admission through OAP & CAF in colleges is a G2C project where the end user was a student. The other stakeholders were their parents/guardians. The service providers are colleges and policy makers is government under the monitoring of Directorate. This reform has certainly provided convenience to students and parents as described in points covered above and it also indicated in feedback we have received. Colleges being the service providers in the field have benefitted in term of better administering the crowd and creating the better academic environment. Government and directorate could ensure the effective implementation of the Admission Policy.

15. Adaptability Analysis:

i. Measures to ensure adaptability and scalability

Online Admission Process:

This process has been successfully implemented in 63 colleges in 2013-14 and in 110 colleges in 2014-15. Shows that the module is scalable to the remaining colleges.

The masters developed and implemented this year in the OAP module have the options to add new college, new group, new subject and other similar option in DCE admin. Further these can be selected and saved in college admin by the college nodal officer and accordingly they get reflected on the college application form. Similarly flexibility to add the college user and delegating the user permission to these users will give flexibility to work in the college admin and make the process of verification and generation of merit smoother at college end.

Common Admission Form

CAF was implemented in the 66 colleges successfully for admission in session 2013-14. The form is designed in such a manner that it can be used by all applicants of Undergraduate and Post graduate courses of all colleges. In this session Law colleges and 2 colleges running special courses of fine arts and Music were exempted.

CAF has been adopted for the Law colleges with some modification from session 2014-15. It shows that the CAF is also scalable and replicable to all type of courses.

ii. Measures to ensure replicability

The masters developed this year in OAP module will be helpful in replicability of the project for new colleges and also new courses can be added in the any college.

iii. Restriction, if any, in replication and or scalability

No restriction was observed in replicability or scalability till now

iv. Risk analysis

The risk in implementing the OAP is observed very minimal because the standard of Department of IT &C to observe cyber security are of international standards and whole project is being run under the supervision of the DoIT&C where IT infrastructure and technological guidance is available round the clock.

16. Comparative Analysis of earlier Vs new system with respect to the BPR, Change Management, Outcome/benefit, change in legal system, rules and regulation

Comparative analysis of earlier Vs new system is presented in the points **3 "Extent of Process re-engineered"** the admission process is re-engineered in two folds one through applying OAP module and second through implementing CAF on remaining colleges.

Change in legal system, rules and regulations:

The one time admission for each course implemented this year is a good example of GPR and it is policy level change implemented in admission process.

Waiver of processing fees was also in favour of students as now poor student can apply for more courses at different colleges at a cost of downloading and photo copying of CAF in offline colleges. Fees for OAP was also zero since 2013-14. This policy helped the deprived class of society to apply for admission in higher education. This year due to large number of pendency of application in colleges government has decided to increase the number of seats in colleges for session 2014-15. This reform will definitely result in in increasing the GER in Rajasthan in near future.

Change Management:

Nodal officers were identified by the colleges and role of IT has increased in colleges. To train the nodal officers who are basically subject experts not an IT expert was a challenge DCE team has put on all to give clarification on their mobile as and when query is raised by college nodal officers. Principals and teachers were instructed to cooperate with new system.

Once implemented in 2013-14 change was acceptable to students and teachers both. This change in admission reduced the burden of college administrators and the policy of admission was implemented in a very transparent manner.

17. Other distinctive features/ Accomplishments of the project:

All the specialties of the project are covered in the points stated previously.
Following features are to be mentioned again here:

1. This year to make level playing field for RBSE students, government has decided to implement the admission in UG courses on percentile system and Government order was issued on 10th June 2014.

To implement percentile system the percentile data of about 13 state Boards were needed to integrate with merit module of OAP. This was a challenge to online merit generation in OAP. But it was meet out successfully with the timelines too`

2. SMS gateway integration with OAP and for merit information
3. RBSE & CBSE data integration with OAP form
4. Subject selection Module for each college
5. Online generation of merit
6. Public Grievance cell of the DCE
7. Identification and training to change enablers in colleges
8. Availability of a common web portal for colleges

An environment impact has also been calculated and presented in the following table:

Papers and trees saved (2013-14)

S.No	Sub-head	Papers used per applicant (A4 equivalent)		
		Earlier Process	**OAP**	**CAF**
1	Prospectus	30	0	30
2	Form & Instructions	4	1	4
3	Enclosure	20#	0	5
4	Counseling letter	0	1	0
5	Enclosures at the time of verification	0	5	0
	Total	54	7	39
A. Paper saved 2013-14				
1	Prospectus etc	0	12951790	2392530
	Total		15344320	
B. (i) Paper saved 2014-15				
1	Prospectus etc		11589636	239850
	Total		11829486	
B (ii) Paper saved 2014-15 on account of GPR of 'one-time admission'				
	All colleges (Part II, III and pg final year) on the basis of enrolment for 2013-14 =163503		163503 x 54=8829162	
	Grand Total (B(i) +B(ii))		20658648	
Calculation for 2013-14 and 2014-15				
S.No.	**Year**		**2013-14**	**2014-15**
1	A4 paper equivalent papers saved		15344320	20658648
2	Reams of 500 sheets each (2.6 kg)		30688.64	41317.3
3	Cost of papers in Rs. (@ Rs 150/ream (tag price Rs. 230.00 in 2014))		46,03,296	61,97,595
4	Weight of paper (70 gsm) (2.6 kg)		79790.464	107424.98
5	Trees saved (17 trees for each ton)		1356.43	1826.22
6	Hectare of 'forest' saved (976.56 trees/ha at 4m spacing)		1.38 ha or 13,889 square meter	1.87 ha or 18,700 square meter
# In the earlier process 2-4 copies of attachments were sought and the application forms were printed on a thicker paper (higher GSM paper) so an equivalent of 20 A4 paper is assumed.				