

# WHAT MAKES A PUBLIC IT PROJECT SUCCESSFUL ?

## EXPERIENCES FORM STATE OF MADHYA PRADESH,INDIA

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### **Abstract**

It is a widely held and perpetual belief that public IT projects make citizen-government interface transparent, responsive, and stress free. However, very few studies have objectively tested this premise. This paper evaluates the utility of e-governance initiatives of Government of Madhya Pradesh (MP) from citizens' perspective. Total of ten mass e-governance projects were analysed on basis of telephonic feedback. It comes out that this premise is valid only under restrictive conditions. If design and execution of a project is not monitored carefully it is more that it is not going to satisfy citizens. Based on analysis, a design template is proposed which can maximise chances of a project to fulfil public expectation.

### **Key words**

Public IT projects; Satisfaction of citizens; Design template; Execution fallacies for public IT projects;

### **Introduction**

Potential of Information Technology (IT) in reforming public service delivery has long been recognised. Indian federal government launched National e-governance program (NeGP) in 2006 with 27 mission mode projects to harness the potential of IT to enhance transparency, accountability, and accessibility of public services. Like various state governments, Government of Madhya Pradesh, a central province in India, also launched a vision 2025 to radically transform delivery of public service using IT. As on 30 June 2019, nearly 48 departments of MP government have functional websites. Most of these websites largely contain static information such as rules, procedures, and other administrative matters of the concerned departments. However, websites of fourteen departments<sup>1</sup> have IT platforms offering substantive services to citizens and, thereby, are having substantial citizen engagement.

Easing the life of a citizen and making citizen-government interaction corruption and stress free have always been core design principles of all these e-governance initiatives. Expectedly, after so many years in operation, these programs should have increased the satisfaction levels of citizens with the concerned departments. All these departments also claim so. However, no extensive study except some anecdotal evidences is available to support the assertion.

This paper undertakes evidence-based approach to evaluate utility of major e-governance project of Government of MP from citizens' perspective. For the purpose of study, I have selected ten major IT projects<sup>2</sup> accounting for nearly 95% of all digital transactions of Government of MP with its citizens.

Projects have been so selected as to ensure range of social background of users and level of complexity of services offered. For example, Right to Education (RTE) module involves student community while procurement of food-grains module relates to farmers. ‘Factory License’ portal of labour department links to investors and ‘E-nagarpalika’ module of urban development department concerns large poor households. Idea has been to explore whether user experience depends on strata of society to which he belongs to. To ensure large sample size, only projects recording more than 50,000 transactions since inception have been considered.

This paper evaluates these major ten e-governance initiatives from citizens’ perspective. Besides measuring satisfaction level of citizens, I have also explored the factors underlying such results. On the basis of analysis, a template has been proposed to design a successful citizen centred IT project.

**Results and discussion**

Table-1 shows level of satisfaction with projects. Clearly, only two projects namely “Right to Education” and “Factory License” cross threshold for ‘Accepted’ category. Five out of ten projects fall in category of ‘Not Accepted’. Rest falls in ‘Works in progress’ category. It clearly indicates that, on average, e-governance projects of government of MP are not able to meet public expectations.

Table-1: Percentage of responses regarding satisfaction on scale of 0-10

| Project                               | Highly Satisfied (10 to 8 Rating) | Modestly satisfied (7 to 5 Rating) | Not satisfied (less than 5 rating) |
|---------------------------------------|-----------------------------------|------------------------------------|------------------------------------|
| Right to Education                    | 100                               | 0                                  | 0                                  |
| Factory License                       | 90.91                             | 9.09                               | 0.00                               |
| Registration and stamp duty           | 86.67                             | 10.00                              | 3.33                               |
| Contract Labour                       | 83.87                             | 16.13                              | 0.00                               |
| New power connection                  | 82.35                             | 11.76                              | 5.88                               |
| Environmental clearance               | 75.00                             | 21.43                              | 3.57                               |
| Installation of Solar Roof top Module | 66.67                             | 28.57                              | 4.76                               |
| e-Nagar palika                        | 60.00                             | 10.00                              | 30.00                              |
| Procurement of food-grains            | 43.48                             | 43.48                              | 13.04                              |
| Pension Disbursal                     | 54.18                             | 5.42                               | 40.4                               |

To understand the causative factors behind such non-acceptability of projects, we need to look at Table-2, Table-3, and Table-4. These tables depict the percentage of responses that a project received for various questions of other categories<sup>3</sup>.

Table-2 : Percentage of responses for ‘Ease of access’ category

| Questions                             | Did you need an agent to use the portal? | Was a language of portal a constraint? | Did you feel that you must be computer literate to use the portal? | Was portal slow? | Did you go to relevant office to fill the form on computer? | Aggregate Score <sup>4</sup> |
|---------------------------------------|--|--|--|------------------|---|------------------------------|
| Answer                                | No                                       | No                                     | No   | No               | No  | -                            |
| Right to Education                    | 12                                       | 100                                    | 45   | 63               | 56  | 55.2                         |
| Factory License                       | 67                                       | 100                                    | 68.18  | 45               | 45  | 65.04                        |
| Registration & Stamp duty             | 2.6                                      | 100                                    | 0  | 13.33            | 0   | 23.19                        |
| Contract Labour                       | 4.8                                      | 96.55                                  | 0  | 6.9              | 12  | 24.05                        |
| New Power connection                  | 4  | 83.33                                  | 12   | 14.29            | 1.4   | 23                           |
| Environment Clearance                 | 1  | 100                                    | 12.2   | 12.5             | 0.4   | 25.22                        |
| Installation of Solar Roof top Module | 2.3                                      | 100                                    | 100  | 7.7              | 12  | 55.5                         |
| e-Nagar Palika                        | 1.7                                      | 82                                     | 3.8  | 3.2              | 7.3   | 19.6                         |
| Procurement of food-grains            | 0  | 87                                     | 1.4  | 2.6              | 0   | 18.2                         |
| Pension Disbursal                     | 0  | 88                                     | 2.5  | 3.4              | 12  | 39.38                        |

***Some general observations can be made as per Table- 2:***

- a) Every program except Factory license needs an agent. Thus, citizens are not accessing the e-programs directly. Language of portals does not appear to be a barrier. The perception that one needs to be computer literate appears to be crucial. Accepted projects score higher on this account as compared to ‘not accepted’ projects. For example, 68% of respondent feels that they need not be computer literate to use ‘factory license’ program; on other hand, only 1.4 % respondents feel so in case of ‘Procurement of grains’ program. This correlates directly with need of an agent to access the program. ‘Solar roof top’ program appears to be an anomaly. Here, users do not feel need to be computer literate but still do not access the programs themselves. Here, they may be preferring convenience over fee as they are largely investors. However, generally, it can be safely concluded that perception of need to be computer literate is an irritant in citizens’ eyes. It leads to increased dependence on an agent, thereby reducing the satisfaction.

- b) Need of going to office to access the service is another crucial indicator that correlates well with satisfaction level. ‘Accepted’ projects do not force citizen to go government offices to access it while ‘not accepted’ projects require them to do so. Here, the gap is very prominent between two categories. Nearly everyone has to go to office to access ‘Procurement of food grain’ and ‘Environment license’ systems. Data of table-2 indicate that e-governance projects, by and large, has not been able to avoid forced trips to government offices and this appears to be measure determinant for acceptability of a project.

Table-3: Percentage of responses in category of ‘Transparency’

| Questions                             | Did you get any notification where your application got rejected or some clarifications were asked? | Were documents other than those listed on portal were asked? | Did you pay more than what was notified? | Did you get the receipt of your payment? | Aggregate Score |
|---------------------------------------|---|--|--|--|-----------------|
| Answers                               | Yes   | No   | No                                       | yes                                      |                 |
| Right to Education                    | 100   | 98   | 97                                       | 100                                      | 98.75           |
| Factory License                       | 100   | 45.45  | 76                                       | 100.00                                   | 80.36           |
| Registration and Stamp duty           | 12.3  | 100  | 52                                       | 100                                      | 66.08           |
| Contract Labour                       | 100   | 6.67   | 48                                       | 96.67                                    | 62.83           |
| New power connection                  | 68.18   | 1.5  | 43                                       | 69.23                                    | 45.48           |
| Environment Clearance                 | 100   | 28.57  | 32                                       | 12                                       | 43.14           |
| Installation of Solar Roof top Module | 57.14   | 4.76   | 87.4                                     | 100.00                                   | 62.33           |
| e-Nagar Palika                        | 70  | 4.70   | 13.1                                     | 70.00                                    | 39.45           |
| Procurement of food-grains            | 78  | 8.2  | 23.7                                     | 98.5                                     | 52.10           |
| Pension Disbursal                     | 86.7  | 7.8  | 12.4                                     | 78.3                                     | 46.30           |

***Some observations can also be made from Table -3:***

- a) Our both ‘accepted’ projects stand out very prominently in ‘transparency’ category. Thus, transparency is big determiner of citizens’ satisfaction with a project.
- b) Notifications appear to be necessary but not sufficient for eliciting high satisfaction ratings. Projects of all categories received high rating for getting notifications. For example, Right to Education and Environment license both have 100 % rating in notification reception question, so, high rating in notification may not guarantee high satisfaction, but absence of it definitely elicits

poor satisfaction. In fact, stamp duty and registration system failed to make it to ‘accepted’ list only because they scored poorly on this account.

- c) Citizens feel very strongly about extra documents being asked. All poor performing projects score very poorly on this account. In fact, this is strongly correlated to phenomenon of extra money being asked. Thus, demand for extra money and documents seem to go hand in hand, and both are big determinants of citizens’ satisfaction.
- d) Surprisingly, getting receipt of extra money paid does not appear as an important variable in determination of satisfaction level of the project. Even the ‘not accepted’ category projects have higher rating on this parameter

Table-4: Percentage of responses in category ‘Utility’<sup>5</sup>

| Questions                            | Did you prefer new computer system as compared to old system? | Could you pay required fee through computer immediately? | Could you download final certificate from computer itself? | Was downloaded certificate accepted by other departments? | Did you receive service within period as notified on portal? | Aggregate Score |
|--------------------------------------|---|--|--|---|--|-----------------|
| Answers                              | Yes   | Yes  | Yes  | Yes   | Yes  |                 |
| Right education to                   | 100   | 100  | 100  | 76  | 90   | 93.2            |
| Factory License                      | 100   | 100  | 100  | 74.6  | 97.4   | 94.4            |
| Registration & Stamp duty            | 3.33  | 100  | 100  | 13  | 100  | 63.27           |
| Contract Labour                      | 22  | 100  | 100  | 27  | 34.7   | 56.74           |
| New power connection                 | 13.4  | 68.75  | 13.65  | 12  | 12.4   | 24.04           |
| Environment Clearance                | 23.4  | 100  | 100  | 23.4  | 3.57   | 50.07           |
| Installation of Solar Rooftop Module | 23.5  | 100  | 95.24  | 12.4  | 12.5   | 48.73           |
| e-Nagar Palika                       | 13.4  | 28.57  | 62.5   | 5.7   | 23.5   | 26.73           |
| Procurement of food-grains           | 17.4  | NA   | 76.7   | 1.3   | 2.7  | 24.52           |
| Pension disbursal                    | 14.3  | NA   | 56.9   | 13.4  | 4.5  | 22.27           |

*In same manner, some observations can be made from Table-4 also:*

- a) Relative usefulness of computer based new system as compared to old system, is the surest indicator of success of a project. ‘Accepted’ projects score decisively high on this count. Everyone prefers new systems in case of ‘Right to Education’ and ‘Factory License; while only around 13% people prefer new system in case of Pension disbursal or e-nagar palika.
- b) Every project has successfully executed ‘online payment’ facility for fee and ‘download’ facility for certificates. These facilities are no more a differentiator. However, their absence may be a strong irritant.
- c) Acceptance of downloaded certificate by other departments and time frame of delivery of services are determining criterion for public perception of the projects. ‘Accepted’ projects score more than 90% in timeliness while ‘not accepted’ projects scores very low on this count.

Lastly, table-5 summarises the aggregate scores of projects in various categories. ‘Accepted’ projects scores higher in all three criteria than ‘not accepted’ projects. Interestingly, it appears citizens do not give equal weight to ‘Utility’, ‘Ease of Access’, and ‘Transparency’ while evaluating a project.

Table-5 : Project wise aggregate scores

| Projects/ Scores                     | Utility Score | Ease of access score | Transparency Score |
|--------------------------------------|---------------|----------------------|--------------------|
| Right to education                   | 93.2          | 55.2                 | 98.75              |
| Factory License                      | 94.4          | 65.04                | 80.36              |
| Registration & Stamp duty            | 63.27         | 23.19                | 66.08              |
| Contract Labour                      | 56.74         | 24.05                | 62.83              |
| New power connection                 | 24.04         | 23                   | 45.48              |
| Environment Clearance                | 50.07         | 25.22                | 43.14              |
| Installation of Solar Rooftop Module | 48.73         | 55.5                 | 62.33              |
| e-Nagar Palika                       | 26.73         | 19.6                 | 39.45              |
| Procurement of food-grains           | 24.52         | 18.2                 | 52.1               |
| Pension disbursal                    | 22.27         | 39.38                | 46.3               |

None of the project including accepted ones, scores very high in ‘Ease of access’ category. Their score is in range of 50-60. Even ‘work in progress’ category projects like pension disbursement scores near 40. Similarly, ‘not accepted’ solar roof top receives high score of 55.5. Thus, ‘Ease of access’ for a project does not weigh very heavy on citizens’ mind as far as satisfaction level of the given project is concerned. Probably citizens prefer a computer-based system that is delivering on time and less discretionary even if it is difficult to access over old paper-based system. Moreover, problems of slowness and intermittency of internet appears to be all pervasive, so it is not a differentiating factor for citizens. However, situation may change once speed and reliability of internet improves.

But, all ‘not accepted’ projects have poor score on “Ease of access”. Thus, it appears as negative variable. Its presence may not make a project ‘accepted’, but its absence will definitely make a project ‘not accepted’.

However, ‘transparency’ and ‘utility’ appear to be crucial factors of citizens’ satisfaction level. Accepted projects scores are far higher on these parameters. On relative terms, ‘utility’ appears to be more critical than ‘transparency’. ‘Accepted’ projects scores around 94 in utility score while ‘not accepted’ projects score poorly around 25. It is expected also. Utility scores essentially measure the extent to which a citizen is able to get service without going physically to any government office. On other hand ‘transparency’ score measures the extent to which a citizen is getting service without bribing. It appears that people are willing to pay extra money to get service without hassles.

***Design and execution dependency:***

Till now, in our study, acceptance or rejection of e-governance projects has appeared as a post-facto detail. Once project is executed and is in operation only than its acceptance can be accessed. However, Analysis of Table-6 data can bring out certain variables which can be leveraged to maximise the chance of a project becoming ‘accepted’ even during its execution.

Table-6 : Design & Execution Parameter

| Design                               |  |                   |                                 |
|--------------------------------------|--|-------------------|---------------------------------|
| Project/Design Parameters            | Any BPR (Business Process Reengineering) | Were SRP laid out | Provision for Digital Signature |
| Right to education                   | Y  | Y                 | N                               |
| Factory License                      | Y  | Y                 | N                               |
| Registration & Stamp Duty            | Y  | Y                 | N                               |
| Contract Labour                      | N  | N                 | N                               |
| New Power Connection                 | Y  | Y                 | Y                               |
| Environment Clearance                | N  | N                 | N                               |
| Installation of Solar Rooftop Module | N  | N                 | N                               |

|                                      |                         |                                       |  |
|--------------------------------------|-------------------------|---------------------------------------|--|
| e-Nagar Palika                       | N                       | N                                     | N  |
| Procurement of food-grains           | N                       | N                                     | N  |
| Pension Disbursal                    | N                       | N                                     | N  |
| <b>Execution</b>                     |                         |                                       |  |
| Project/Design Parameters            | No of change requests   | On time completion                    | Objectives met                                 |
| Right to education                   | 33                      | Y                                     | Y  |
| Factory License                      | 25                      | Y                                     | Y  |
| Registration & Stamp Duty            | 12                      | Y                                     | Y  |
| Contract Labour                      | 15                      | N                                     | Y  |
| New Power Connection                 | 23                      | N                                     | N  |
| Environment Clearance                | 17                      | N                                     | N  |
| Installation of Solar Rooftop Module | 11                      | N                                     | N  |
| e-Nagar Palika                       | 27                      | N                                     | Y  |
| Procurement of food-grains           | 56                      | NA                                    | N  |
| Pension Disbursal                    | 47                      | NA                                    | NA   |
| <b>Feedback</b>                      |                         |                                       |  |
| Project/Design Parameters            | No of training sessions | Out these, attended by project leader | No of changed affected after training sessions |
| Right to education                   | 17                      | 9                                     | 28   |
| Factory License                      | 13                      | 7                                     | 21   |
| Registration & Stamp Duty            | 4                       | 1                                     | 3  |
| Contract Labour                      | 6                       | 1                                     | 3  |
| New Power Connection                 | 4                       | 1                                     | 1  |
| Environment Clearance                | 6                       | 1                                     | 1  |
| Installation of Solar Rooftop Module | 5                       | 2                                     | 3  |
| e-Nagar Palika                       | 4                       | 0                                     | 1  |
| Procurement of food-grains           | 6                       | 1                                     | 0  |
| Pension Disbursal                    | 3                       | 0                                     | 1  |

Clearly, both ‘accepted’ projects have detailed System resource planning (SRP) before execution. These documents detail out the path and target of projects and contain the various process such method of raising a change request, documentation mechanism, and details of changed processes. On other hand, none of ‘not accepted’ projects had any SRP documents. Thus, whole design of process was ad-hoc and personality based. Consequently, targets and processes kept changing as project leaders changed. Another notable feature is that ‘accepted’ projects have reformed the underlying processes. On other hand, all ‘not accepted’ projects merely digitised the old paper-based processes. This approach has not given much satisfaction to public as the project did not bring any substantial change in experience of a citizen. Government of MP still not has introduced digital signatures in any meaningful way in any project so its impact could not be measured. Thus, absence of SRP and BPR are sure indicators that the project might not be accepted.

Absence of SRP also affects the execution of the project as ad-hocism leads to large number of change requests. However, number of change requests per se is not a problem if they result from feedback. ‘Not accepted’ projects had large number of change requests, nearly 40 to 55, while ‘accepted’ projects also have around 25-35 change requests. But, crucially, in case of ‘accepted’ projects majority of such requests emerges in training sessions. 28 of 33 change requests emerged after training sessions for ‘Right to education’ project while none of the 47 change requests for pension disbursement emerged from training sessions of employees. Thus, change requests were largely change largely due to improper and non-sufficient planning. Large numbers of such change request further delay the projects, and, in end, such projects may not achieve targets at all. Both ‘accepted’ projects finished on time and achieved all their goals while ‘not accepted’ projects could not be finished on time, Thus, empirically, it emerges that large number un-planned change requests and delays should raise red flags to project team.

No project planning can be perfect. So, role of feedback-based correction mechanism is very critical. Employee provides the most potent feedback as only they are truly aware of executional issues of the project. They feel encouraged to air their views if such feedback is actually acted up-on. ‘Accepted’ projects were characterised by such strong feedback mechanism, which was clearly lacking in case ‘Not accepted’ projects. Resultantly, ‘accepted’ projects not only received larger number of suggestions during training sessions as compared to ‘not accepted’ projects but also executed them in larger numbers. This gives a sense of importance and ownership of projects to employees. And they keep attending such training sessions. Thus, large number of training sessions bode well for success of the project. Projects like pension disbursement, procurement, environment licenses have very few training sessions at all.

More crucial is fact that who chairs these training sessions. Number of training sessions chaired by project leader correlates well with acceptance of the project. Besides bringing sincerity it also helps to streamline the decision making regarding the acceptance or rejection of a particular suggestion received during training session. Table-6 data clearly indicate that it comes out as a deciding factor for public acceptance of a project. Both ‘accepted’ projects had 7 to 9 sessions chaired by project leader while ‘non accepted’ projects have one or no sessions chaired by project leaders. Interest shown by leader does matter.

So, it is clear that poorly attended training session is an indicator that project is not moving well. Further, if such sessions are not attended by decision makers it is sure recipe for final non-acceptance by people.

### ***Template of a successful IT project:***

Based on our analysis a basic template of an ‘accepted’ project may involve following steps:

1. A detailed SRP document before execution is must for a project. Special attentions need to be paid documentation of change requests. It was found that project of energy department could not achieve final process goals as change requests were largely undocumented. This not only hampered traceability of decision making but also delayed the payments to vendor as successive project leaders could not find verifiable payment milestones. Such approach created contractual issues resulting in non-completion of the project.
2. Decision makers must lead the project themselves only the project, at least in initial phases. All training sessions must be attended by him. Employee feedback received during such training sessions must be duly acted upon. One of the surest indicators for imminent failure of the project is over-delegation in initial phase of project itself.
3. Any delay in project must be viewed with utmost care and corrective steps should be taken immediately.
4. Detailed process review must be undertaken. Existing process must not be digitised. Special attention is paid to notification process, status update, and download ability of final certificates as these factors are very crucial for citizens’ satisfaction.
5. All changes in process must be supported by changes in laws and orders of government. Otherwise, the certificates issued by an IT system would not be accepted by other departments. In such cases, a citizen would be required to produce ink-signed certificate also. It will certainly reduce the public satisfaction with the projects.
6. Provisions for status notifications must be built into design as it has shown to be critical for public acceptance. All such notification must be in local language ‘Hindi’.
7. Provision of digital signature would become crucial for enhanced acceptance by citizens as it would free them form compulsion of visiting government offices. A project incorporating digital sign would definitely be more satisfying to public.
8. Speed of connection correlates positively with the better acceptance of the project. Thus, connectivity infrastructure must be given due importance in planning of the project.
9. Project should have an effective mass communication strategy. ‘Demand of extra-documents ‘is most common way to reduce the effectiveness of the project. Similarly, perception of ‘need to be computer literate’ is very detrimental to project. Thus, mass-communication strategy of the project must effectively counter these two phenomena.
10. Period of three months just after launch is very crucial to longevity of the project. It is during this phase the project is very susceptible to strong resistance from elements having vested interests in old system. Public feedback needs to be acted up-on carefully. Advantages of the project need to be communicated effectively to public. In fact, in case of all of ‘non-accepted’ projects, post-project management was not comprehensive. Post-project management strategy must be carefully planned to maximise the acceptance of project by the people.

## Conclusion

It has been clearly established that a successfully executed public IT project may not prove useful to citizens. Public acceptance of a project is decided by combination of three factors ; ease of access, utility, and transparency. Notably, citizens attach different weight to these factors. Interestingly, utility of a project appears to be more important than transparency it brings in. Citizens are willing to bear extra money provided a project deliver services faster. Citizens do not attach excessive importance to ease of access of the project. It appears as a base condition. Its presence is necessary but not sufficient condition for public acceptance.

Our study, further, establishes that pre-project activities are important determinant of final Design philosophy and execution strategy have critical bearing on final acceptance of the project. At design level, System resource planning comes out to be the most critical activity. Further, all processes must be re-engineered and backed by changes on laws and procedures, otherwise the project will add to compliance burden of citizen. Language, notification procedures, and robustness of connection are critical determinants for public satisfaction.

During execution phase, early delegation does not bode well with acceptance of the project. Engagement of top leadership should continue for longer time for faster decision making on mid course corrections due to feedback. It also helps to make training sessions more productive. Persistence delays appears to be sure indicators of imminent failure of project.

Post execution strategy can significantly impact public perception of the project. A good public relation management strategy is needed to tide over resistance due to inertia and vested interests.

## Methodology

Fifty respondents from recorded user list were randomly chosen to get the citizens' perspectives on each project. Each of these respondents was telephonically interviewed. The questions were designed to gauge satisfaction, utility, ease of access, and transparency aspects of a project. Each category has 3 to 4 questions. Answers were recorded in 'Yes' or 'No' to avoid any subjectivity in processing of results. A separate question regarding the overall satisfaction level with the project was also asked. However, for this question, citizen was not forced to give answer in binary but to record his satisfaction level on scale from 0 to 10 (0 indicating completely dissatisfied while 10 indicating completely satisfied). Respondents not giving answers to all questions were discarded.

Fixing cut-off satisfaction level for a project to be called 'successful' could have been an arbitrary exercise. Thus, we merely categorised projects as 'accepted', 'work in progress', and 'not accepted'. Percentage of responses giving a project satisfaction rating between 8 to 10 is used as an indicator. A Project receiving this number in ranges 90-100%, 75-90% or, less than 75% was categorised as 'accepted', 'work in progress', or 'not accepted'.

To understand the factors behind satisfaction responses, we further analysed the responses received by same project with respect to other questions. We also analysed relative importance that citizens attach to various attributes of a project to give it a particular satisfaction rating.

We also explored whether design philosophy or execution methodology of a project has any bearing on its satisfaction rating. For this purpose, each project was evaluated on relative rigour with which its DPR was designed, it was executed, and feedback was used for course correction.

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## References:

These departments are: School education, Energy (Power Distribution companies), Registration and Stamps, Renewable energy, Labour, Urban development, Environment, Food and civil supplies, Farmers welfare, and Social justice.

These IT projects are: Right to education (RTE) of School Education Department, Registration and Stamp Duty of stamp and registration department, New power connection of Energy Department, Module handling solar roof top of department of Renewable Energy, e-nagar palika of Urban development department, Factory license module of labour department, Module of contract labour of Labour department, Modules for environmental licenses of Department of Environment, Food grain procurement of Food Department, and Pension module of social services department.

I have taken higher score to indicate that given project scores well in that category. So, I have assigned the 'desired' type of answer that we associate with better ease of access. For example, large number of people must say "No" to question of whether site is slow or not. This practice we have followed in responses for all categories.

Aggregate score is average of individual scores.

Questions, "Could you pay required fee through computer immediately? Is not applicable to this project as there is no fees being charged. Final score in this category is just average of the four remaining parameters.

## Author

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