



Digital Governance of Moroccan School Establishments

Abderrazak Mazouak^{1,2}, Malika Tridane³, Said Belaouad¹

¹ Laboratory of Physical Chemistry of Materials, Ben M'sik Faculty of Sciences, Hassan II University of Casablanca, Casablanca, Morocco.

² Regional center of education and formation in professions, Taza, Morocco

³ Regional center of education and formation in professions, Casablanca Morocco

ABSTRACT

Digital technologies have come to shake up the traditional paradigm of learning, and to change the existing relationship of "know-teaching" to put in place a key concept of the time is "to accompany through digital tools Our intervention is part of a technical-pedagogical approach and will focus on an action research work in which we will try:

First, to present on line an accessible digital device that facilitates and organizes project planning and provides means to govern and control the quality of administrative acts.

Next, We will show the first results of the experimentation of this tool in our context of research represented by 355 directors of the secondary schools of the provincial delegation of Taza. Morocco, pointing out all the constraints and limitations that hampered its implementation.

Finally, we confirm that the use of this device by our sampling has caused a triple effect on their pedagogical practices: the professionalization of strategic planning on the one hand, and the governance of resources and the rationalization of pedagogical decisions on the other hand and immediate evaluation and regulation in the third phase.

Keywords: management, governance, digital world, professionalization, quality.

INTRODUCTION

This article is an action research that attempts to analyze the technological needs of educational managers with the aim of designing and implementing a digital tool intended for the management, piloting, governance and evaluation of educational establishments.

The frame of reference of our research demonstrates the institutional efforts provided to integrate digital within administrative practices while pointing out the existing managerial digital practices within national schools.

In this regard, we opted for a technical-pedagogical methodology based on the engineering of digital devices in order to create and experiment a digital tool intended for the four categories of educational managers (directors, censors, external general overseers and internal general overseers)

We can through our experimentation which took place in the province of Taza with a hybrid population of educational managers, confirm our conviction that the use of digital technology improves managerial performance in schools [1].

The problematic of our research then consists in identifying the needs of educational leaders in relation to managerial practices in order to design and set up a digital device capable of ensuring the optimal quality of management and governance of different resources of the school establishment.

In short, we point out that the establishment of an innovative policy within the schools has, as well as some functional resistances and obstacles, been noted.

*Email: mazouakabdo@gmail.com

THEORETICAL FRAMEWORK

The purpose of this part is to specify the theoretical approaches and to define the general conceptual framework in which our research works are inscribed.

In the first part, we will frame the digital concept [2]. while presenting a modeling of digital tools specific to the educational field.

In addition, the classification of ICTs has been the subject of several studies, notably in economics, some distinguishing between reverential and referential devices and computerized devices [3].

Then, we will go on to clarify the concepts of directors and managers of educational [4]. establishments while citing all the texts legitimizing their tasks and missions before making a comparative study of the currents of management and administration according to the schools.

we will define the concepts that specify the director's mission, in particular strategic planning, governance and institutional assessment [5], specifying the relationship between these three concepts and their relevance in the management of educational establishments. We note that their study and that of engineering approaches will be treated in our methodological part.

It is true that good governance is only possible through the establishment of a management and steering strategy involving all the actors and affecting all areas of the establishment, but it is the implementation of a set of tools which makes it possible to script the act of governing on a more scientific basis [6].

METHODOLOGY

The methodology chosen for our research work, is part of the hypothetico-deductive approach also known as empirical-formal research which then its foundations of experimentation. It is described by Claude Bernard as follows `` a method considered in itself, is nothing other than reasoning with the help of which we methodically subject our ideas to the experience of the facts ".

This approach is based on several methods: simulations, documentary research, investigation and experimentation. In our case, we have based ourselves on both investigation and experimentation according to the following sequence:

- In the first part, we will initiate a structured analysis of the context to bring out a relevant research issue.

- In the second part, we will set up deductions or hypotheses on the role of using the digital tool in improving the managerial practices of school leaders and particularly the strategic planning of educational projects, management and management of resources, programs, schooling and evaluation of the organization in all dimensions [4].

1. The engineering of the digital device

Technical-pedagogical engineering is a rigorous methodological approach structured over five stages namely [5]:

o diagnostic step: in which we screen the needs of our population on all levels and we study the different factors of success and failure of our experimentation.

o stage of the feasibility study or in other words it is a stage of fixing the design, the typology and the accessibility of our tool.

o design stage: in this stage we choose the tool development mode: In the background: (software, applications and programming stages), and In Shape (colors, links, mode of download ...).

o stage of experimentation or realization, also called the stage of conduct in which the monitoring of the tool is provided by means of grids and monitoring and control sheets.

An assessment and regulation step: this is the last step in the engineering process which aims to improve the design or operation of our tool.

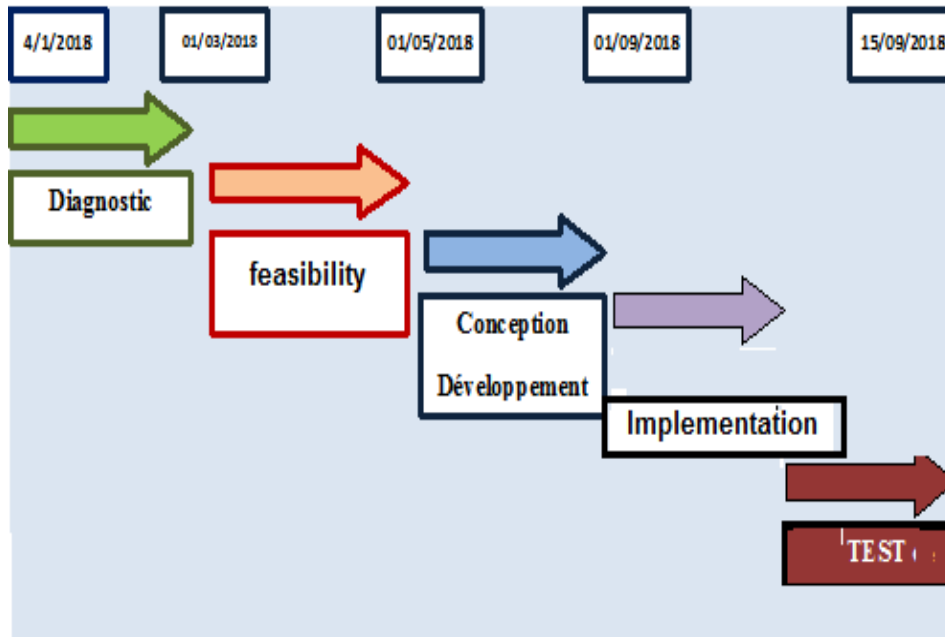


Figure 1-Programming of the engineering steps of our tool according to the Gantt diagram.

Our system is characterized by completeness and variety, it offers opportunities to plan in the short, medium and long term, plus its action of piloting and governing, as well as to evaluate in warm by referring to the legendary colors of the columns and the evaluated indicators or moving hands (red means an emergency of regulation, and the green reflects a controlled and mastered action). Figure-2 Each criterion in turn is represented by modifiable indicators adjustable according to the needs of the managers.

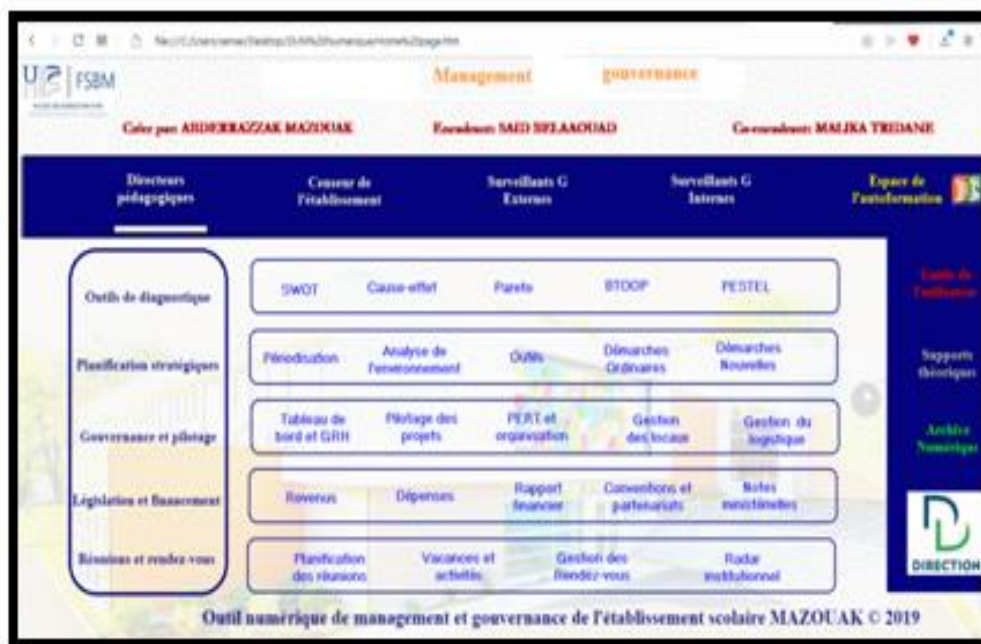


Figure 2-cover page of the digital device

In the following section, we present an example of digital tools designed to plan and program the managerial tasks of a school administrator. The tool offers a global and detailed view of activities. (Figure-3)

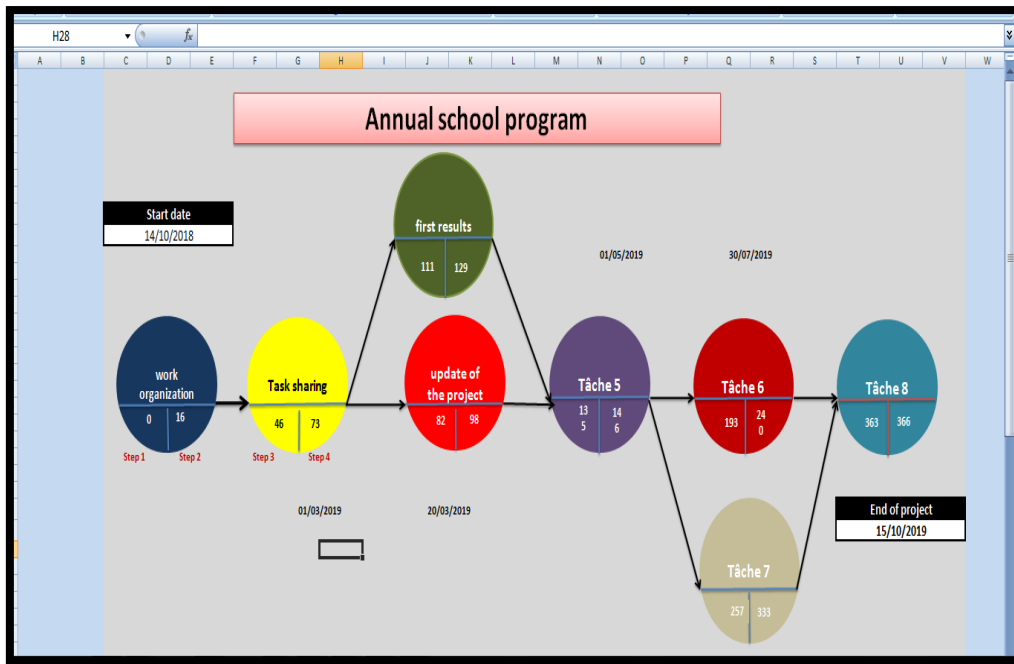


Figure 3-Example of an administrative planning diagram

In parallel, The dispositive also has several tools for tracking the school's life and performance of students; we present the following example which gives a vision of the assiduity during the month and during all the year (Figure-4)



Figure 4-follow-up pattern of assiduity

2. The scripting of the digital device :

Access to our digital tool is possible for all managers of all institutions and also other stakeholders in the field of education who want to develop their management and management of learning or institutions, with a wide margin of choice of language, colors and tools.

Our population is made up of 335 principals and supervisors of primary, college and secondary schools in Morocco, including both public and private education sectors. The members of our

population share the same expectations and destinies, governed by the same rules and they share several managerial practices, management, evaluation and regulation within schools. This is the privation of TAZA presented by 267 schools belonging to 38 territorial municipalities and divided between the three cycles of school education as primary, college and secondary as follows: year 2018/2019.

The request for information is made following 4 inquiries, two before the use of the device and two others immediately after.

Thus we left the free choice of indicators and criteria according to the needs of each director.

Enter your results in this section, summarize the collected data and the analysis performed on those data relevant to the discourse that is to follow. After presenting the results, you are in a position to evaluate and interpret their implications, especially with respect to your original hypotheses [6].

3. Times for dissemination of questionnaires

As we have already reported, our experiment began in September 2018. In order to give more credibility to our results and facilitate the task of receiving, returning and analyzing questionnaires, the dissemination of these was scheduled for a few months after using the digital tool according to the sending and receiving deadlines corresponding to each category of questionnaire, as indicated, the table below (Table-1).

Table 1-Type of questionnaire Sending period Return period Manager category

questionnaire	send	the reception
Verification questionnaire – A	From 01 to 15 January 2019	From 01 to 15 July 2019 All
Satisfaction questionnaire -B	From 01 to 15 January 2019	From 01 to 15 April 2019 All
Evaluation questionnaire- C	From 01 to 15 April 2019	From 01 to 15 July 2019 All categories

4. Analysis procedures

The analysis of the data recovered from the questionnaires followed six significant stages according to the model of (Krippendorff 2003) [7]:

- a- The identification of the results sought according to the choice of the sample.
- b- Gathering of relevant results.
- c- Understanding and interpretation of the results collected.
- d- Justification of the results.
- e- Corroboration or refutation of the research hypothesis.
- f- Communication of results.

4.1 Analysis tools

The analysis of the questionnaires is addressed by 2 computer software (Le Sphinx et trideux) and a digital application (Excel) in order to multiply the procedures and give more credibility and certainty to the analysis:

- a- the sphinx: is a data processing tool according to relevance or value. It gives multiple choices of diagrams and diagrams offering a possibility to choose, classify and categorize the collected data.
- b- trideux: is an analysis tool according to the categories or the area of information allowing to categorize and classify the processed data.
- c- Excel: it is an application that processes the data and transforms it into a diagram to facilitate comparison.

4.2 Interpretation procedures

The results will be interpreted according to three axes: First, we deal with:

we will process the data collected, from the 911 correct and complete questionnaires. We present them as follows:

- 303 Verification questionnaires (A) on the use of the product or tool and which will be analyzed as a global approach and also according to the analytical approach of each mission.
- 303 satisfaction questionnaires (B): these will inform us about the evaluation of the quality of the product by all users.

- And 305 evaluation questionnaires (C) of the impact of the digital tool on the management of educational establishments and which will be presented as follows

RESULTS AND DISCUSSION

1 . Frequency of consultation of the tool

In this section, we will show the frequency of daily, weekly and monthly exploitation of the digital tool by our research sample with the objective of judging the importance of the words of this device in administrative management.

The following results (Table-2) reflect the frequency of consultation of the tool in our experimental period.

Table 2-Frequency of consultation of the tool per day, per week and per month

More than once in day	once in day	day once to 3 times fo week	1 to 3 times in 15 day	1 to 3 times in month	once in month
10%	20%	35%	20%	10%	5%

We deduce that the frequency of consultation of the tool by the majority of users is within 3 times a week with a percentage of 35%.

In parallel, we observe that 20% of the research population consults the tool every day with a percentage of 10% of users who consult the tool several times a day.

In a second level, we detect a category of users 10% who consults the tool once or 3 times a month and another category representing 5% who consults it once a month. Diagram 21 explains the results of our analysis.

In conclusion, we therefore confirm that 65% of the population consults the tool weekly except for 35% of users who consult it monthly.

2. Results specific to the satisfaction of the digital tool

We will conduct a cross-sectional analysis of the items in questionnaire B intended to assess the degree of satisfaction with the digital tool.

We noticed from our analysis:

- **Satisfaction with the form and structure** of the digital tool, in this area we collect user feedback in relation to the presentation, structure, organization, interfaces and icons. sent 88% of population is on satisfaction

- **Satisfaction with the design and aesthetics** of the IT tool to judge user feedback on the design, typology, images, in this sense 92% of the research population has come up with contentment compared to the indicators presented.

- **Satisfaction with the content of the digital tool**, with this focus we will assess the reactions of managers with regard to the content offered in the tool who have shown a 91% agreement on the added value and the quality of the comments.

The results mentioned in Table 3 can only testify to the remarkable contribution of the proposed digital device to managerial practices, either creation of projects, management of the parameters of the establishment or also to regulate adapt and correct the contextual variables

Table 3-Satisfaction Relative To The Digital Device

Quality	Degree of Satisfaction		
	Yes	No	Without opinion
Accessibility	95%	5%	0%
Adaptability	100%	0%	0%
Completeness	80%	20%	0%
Personalization	100%	0%	0%
Self Evaluation	100%	0%	0%
Accompaniment	100%	0%	0%

Table-3 reflects a reality of appreciation of this device and strong appraisal of its impact on the development of skills governance planning and self-assessment of educational institutions. In addition, all practitioners appreciated the customization option (100%) offered.

3. Contribution of the tool on managerial practices and the quality of directors' management (Figure 5)

We recall that the survey of the impact of the digital tool on managerial practices was carried out by questionnaire C-1 which collected data according to five levels of management, namely:

3.1- At the establishment's diagnostic level

In this level of management, 80% of the directors confirmed that the digital tool made it possible to tackle a scientifically based diagnosis (according to universal references and proven models) and exhaustive in all areas of the school in the measure where he finds the meaning of the information obtained during the planning action and implements action plans.

3.2- At the level of project and program planning

The planning component is the component that occupied the interests of the directors given the legislative texts which insist on the accuracy of this operation. In the same perspective, we note that 100% of the directors in our sample positively assess the contribution of our system on their planning practices and on the implementation of programs.

3.3- In terms of steering and governance of the establishment

It is true that the management and governance of educational establishments are very ramified and diversified practices but, thanks to the help of the applications and means of our tool, 96% of directors declare that the use of the digital tool has allowed to facilitate the management of premises and logistics and to regulate projects and programs continuously and periodically

3.4- At the level of the basis of the decision

In fact, 94% of directors find it well to rely on the content offered to structure their decisions, whether in the area of internal resource management, including financial resources, or also to monitor and regulate agreements and partnerships.

3.5- At the level of the organization of meetings and appointments

In this sense, 100% of directors value the contribution of the tool on organizational practices which offers opportunities to manage time and organize school and extracurricular activities, meetings and appointments by indicating the added value of the options. Reminder and automatic update of important dates, placed in each program or scheduled appointment.

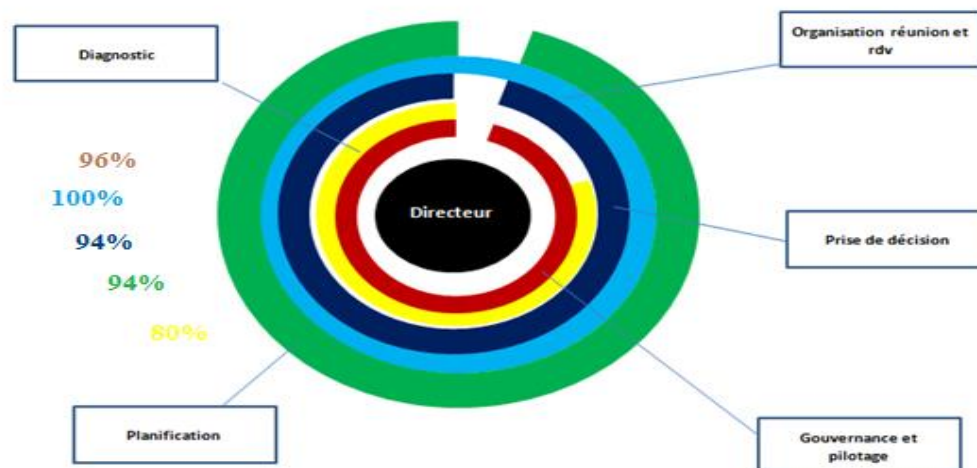


Figure 5-Diagram of mastery of management areas by directors after using the digital tool.

CONCLUSION

It is true that good governance is only possible through the implementation of a management and management strategy involving all stakeholders and affecting the entire area of the institution. In addition, the implementation of a set of tools makes it possible to script the act of governing on a more scientific basis.

Today we can no longer deny the blatant contribution of ICT on the improvement of the quality of

governance and the management of schools on managerial practices within schools.

Planning, Governance and Evaluating Institutional Projects with these tools has become not a demand of managers more than it is a demand of teachers and students, indeed a need of the people of this century.

The integration of the digital device confirms this reality since it has modified erroneous representations on technology. Moreover, its use makes it possible to decide with demotivating routines towards a scientifically demonstrated reorganization of daily administrative practices.

Finally, in-depth training in the use of ICT in the educational field is much desired in view of the growing gap between devices and applications that penetrate forcefully into the school sector and the limited technological skills of practitioners.

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