

The philosophy of energy consumption in North Africa, contribution of artificial intelligence

S.BOUREKKADI¹, S.HMAMOUCHE², L. EL ASRI³, O. EL AMRANI³,
A. MOSLIH²

¹Poitier University, Poitier France. - EFSI Sarthe, France.

²Ibn Tofail University, Morocco.

³Abdelmalek Essaadi University, Morocco.

Abstract.

Some people in North Africa have been accustomed to getting everything, from the consumption of various goods, to luxurious housing, to travel from one country to another, unaware that the necessities of this way of life are very energy intensive. These countries, too, are unaware of the importance and necessity of opening up to each other in order to work together to raise awareness of energy consumption. Through this research, which is based on a scientific approach combining technology, human and social sciences and statistical studies, we have tried to highlight the importance of logical energy consumption while explaining that the consequences will be unexpected in the future in the event of an energy shortage in North Africa.

Index Terms— energy shortage, North Africa, energy consumption, artificial intelligence.

1 Introduction

There are many subjects that study energy consumption of all kinds, including research that deals with the awareness part, research that tries to orient the consumer towards the economy to the maximum in this consumption, especially since it negatively impacts the budget of small but large companies too. That said, there is almost no research that has looked at awareness of energy consumption and the philosophical background it entails. This, based on the current technological renaissance in this field, and in particular artificial intelligence.

This research was carried out by three different laboratories, one specialized in computer science, and another specialized in humanities and social sciences, and the last specialized in the field of economics and management. It aims, as part of the policy of the Moroccan State, to raise society's awareness of energy consumption and its diversity, especially after the major transformations that the world has been experiencing since the outbreak of the Russo-Western war. These transformations are affecting the countries of the world, and in

particular the developing countries, including those of North Africa. In this sense, this research tries to create a collective awareness of the need for a logical treatment of the energy bank, adopting an approach based on the philosophy of science and the foundations of the construction of scientific knowledge in general. By adopting a tripartite approach (philosophy, technology and economics) totally absent, at present, in the countries of North Africa.

Through this research, we will include primary objectives such as focusing on extending the life of the energy bank in North African countries, and we will include secondary objectives such as imposing some sort of extension of awareness in other areas such as water and food bank. Moreover, to achieve these objectives, we had to integrate several sciences, and work to create a consensual and consultative solution with a group of stakeholders, energy distribution companies on the one hand, and consumers on the other, through a statistical study that measures both societal awareness in this area, and the willingness to engage in this energy saving policy and its diversity.

With this research, we will try to fill a set of gaps, especially at the level of research laboratories in North African countries, which operate in silos without opening up to other laboratories and benefiting from their experiences. In this work, we managed to work according to a multidisciplinary and complementary approach by explaining the importance of philosophy in the collective awareness of the wave of unregulated energy consumption. Thus, this research proposes added value in the field of energy and societal stability in the economic field by adopting technological development, and more particularly artificial intelligence.

2 Methods

The research methods are many and varied, but their purpose remains to remove certain doubts and lead to valid scientific research. For this study, we relied on a statistical and algorithmic study. This choice is justified by our approach that combines human, social and technical sciences. This study was conducted in the first half of 2023, on a population that varies according to age, gender and cultural level, which forced us to diversify data collection methods and mix between traditional and modern methods. That is, through direct dialogue with some illiterate respondents, as well as through modern communication technologies [1, 2, 3]. In addition, to make the data we collected easier to read, we relied on modern applications provided by the Google platform, including those for free and paid. Our approach was based on the use of a modern-generation computer with a Windows operating system version 2023.

2.1 Data collection

When collecting the data, we relied on a set of direct questions that accept a set of choices. In meetings and direct dialogues, it was difficult for us to narrow down the list of issues. But for the electronic questionnaire, the questions were predetermined within a limit of ten targeted questions. We present the most important of them: the first: the second: Third: Seventh:

There were also questions to identify the socio-demographic profile of respondents.

3 Results

Data collection and analysis provided a set of explanations. It can be seen that all respondents agree that societal stability and security at all levels depend on the availability of energy, and that increasing its financial value in markets contributes to increasing purchasing power in society. The results also confirmed that the role of philosophy in development is unreliable, which remains a fairly dominant phenomenon in the Arab world [4].

That said, the participants questioned highlighted the possibility of overcoming this obstacle if the philosophy came up with a strategy that would help them reduce their energy expenditures, in part because these expenses have increased in the last two years at the global level [5]

It is in this sense that we understood the need to propose solutions that combine philosophy of science and artificial intelligence, especially since the relationship between them is strong. Together [6], they will contribute harmoniously to developing an energy awareness strategy among members of society [7]

4 Discussion

The study highlighted the need for research laboratories operating within universities in North Africa, that despite the diversity of their fields, it is necessary for them today to get involved in multiple research projects that open the door to multidisciplinary collaboration. Various scientific approaches and references in different fields show the importance of including other areas of energy for more deepening, and thus considering [8], in addition to the energy field addressed in this research, electrical energy [9]

5 Conclusion

The research question was somewhat unusual, wondering what role philosophy will play in developing a new strategy combining various sciences with the aim of rationalizing energy consumption in North Africa, particularly Morocco. Study participants emphasized the importance of integrating philosophy and technology to build an approach to address the energy threat [10]. This is what will open the door to other research that brings together and unites various fields of scientific research as different as complementary evolving at the level of the multiple universities deployed in North Africa, with the ultimate aim of combating this introversion that research laboratories are experiencing today[11].

Thanks

We extend our thanks to the Laboratory of Human Sciences of the Faculty of Humanities and Social Sciences, the Computer Science Research Laboratory and the Research Laboratory in Economics and Management, all affiliated with Ibn Tofail University in Morocco.

References

1. M. Ben Rabha, M.F. Boujmil, M. Saadoun, B. Bessaïs, Eur. Phys. J. Appl. Phys. (to be published)
2. F. De Lillo, F. Cecconi, G. Lacorata, A. Vulpiani, EPL, **84** (2008)
3. L. T. De Luca, *Propulsion physics* (EDP Sciences, Les Ulis, 2009)
4. M. Ben Rabha, M.F. Boujmil, M. Saadoun, B. Bessaïs, Eur. Phys. J. Appl. Phys. (to be published)
5. F. De Lillo, F. Cecconi, G. Lacorata, A. Vulpiani, EPL, **84** (2008)
6. L. T. De Luca, *Propulsion physics* (EDP Sciences, Les Ulis, 2009)
7. M. Ben Rabha, M.F. Boujmil, M. Saadoun, B. Bessaïs, Eur. Phys. J. Appl. Phys. (to be published)
8. F. De Lillo, F. Cecconi, G. Lacorata, A. Vulpiani, EPL, **84** (2008)
9. L. T. De Luca, *Propulsion physics* (EDP Sciences, Les Ulis, 2009)
10. M. Ben Rabha, M.F. Boujmil, M. Saadoun, B. Bessaïs, Eur. Phys. J. Appl. Phys. (to be published)
11. F. De Lillo, F. Cecconi, G. Lacorata, A. Vulpiani, EPL, **84** (2008)
12. L. T. De Luca, *Propulsion physics* (EDP Sciences, Les Ulis, 2009)