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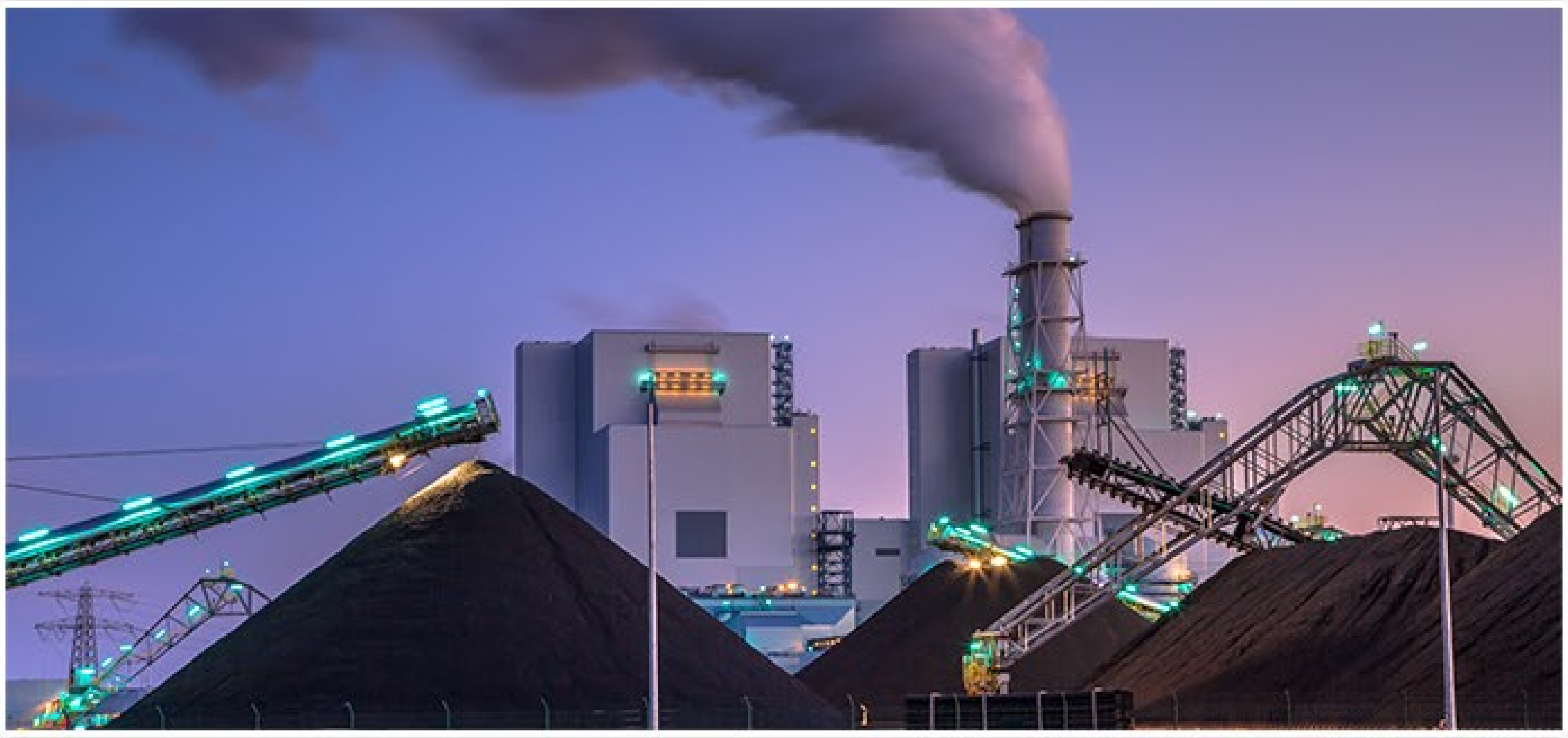
SDSB IMPACT

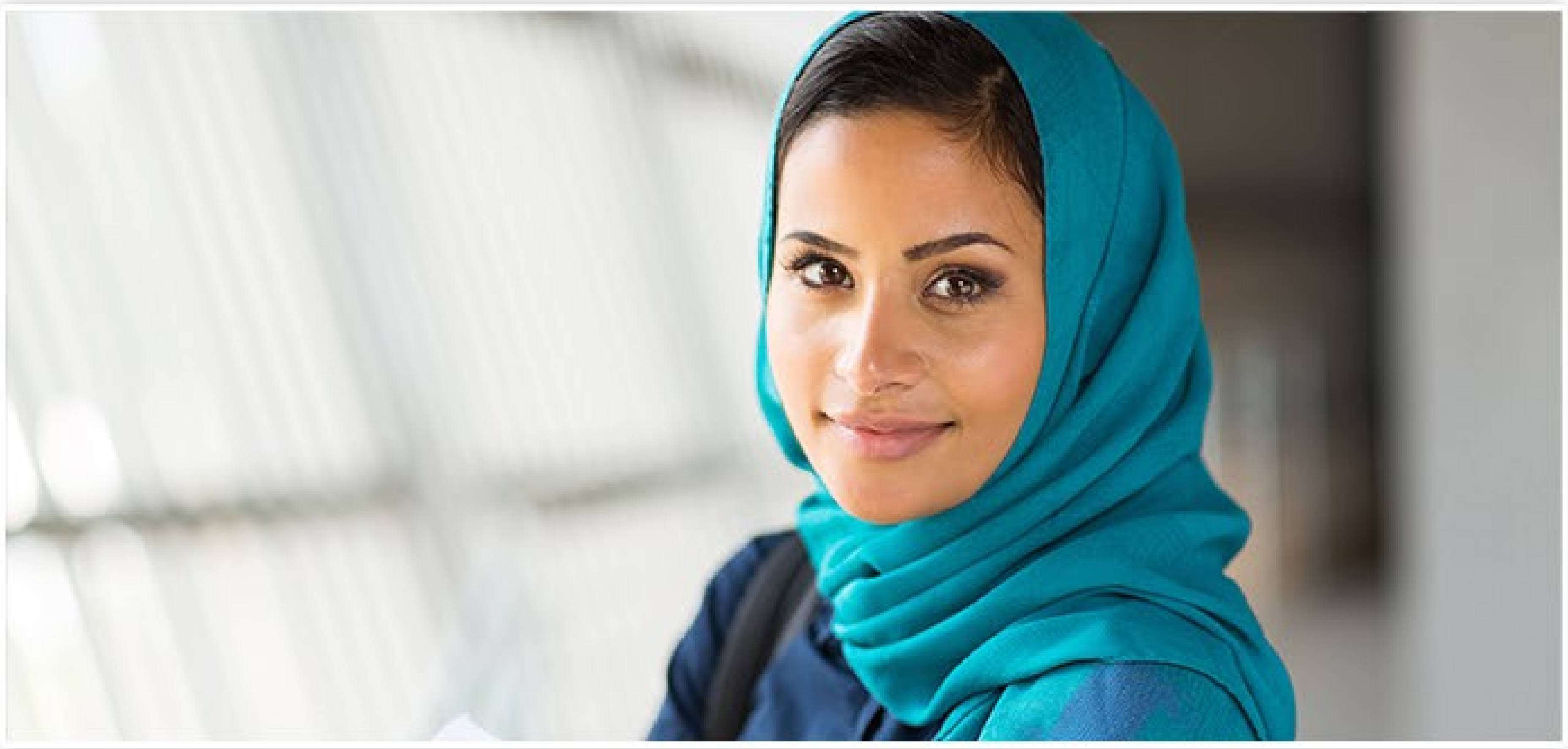
MAKING RESEARCH ACCESSIBLE

Energizing Pakistan's Energy Sector



To Formalize or not to Formalize?

Arab Women's Work Engagement



About SDSB Impact

***SDSB Impact* is the newsletter of the LUMS Suleman Dawood School of Business.**

The SDSB faculty engages in cutting-edge research in all major fields of business studies. *SDSB Impact* summarizes the findings of the faculty's research for the benefit of the larger public—especially managers, executives, entrepreneurs, and policy-makers. These findings emerge from pioneering research conducted by the SDSB faculty and published in the world's best journals and case hubs. The newsletter attempts to distill the most important or practically relevant lessons from these findings and share them with its readers.

SDSB Impact will facilitate the sharing of knowledge and dialogue between the academia and the industry, thereby bringing LUMS one step closer to its goal of creating synergy between theory and practice.

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Energizing Pakistan's Energy Sector

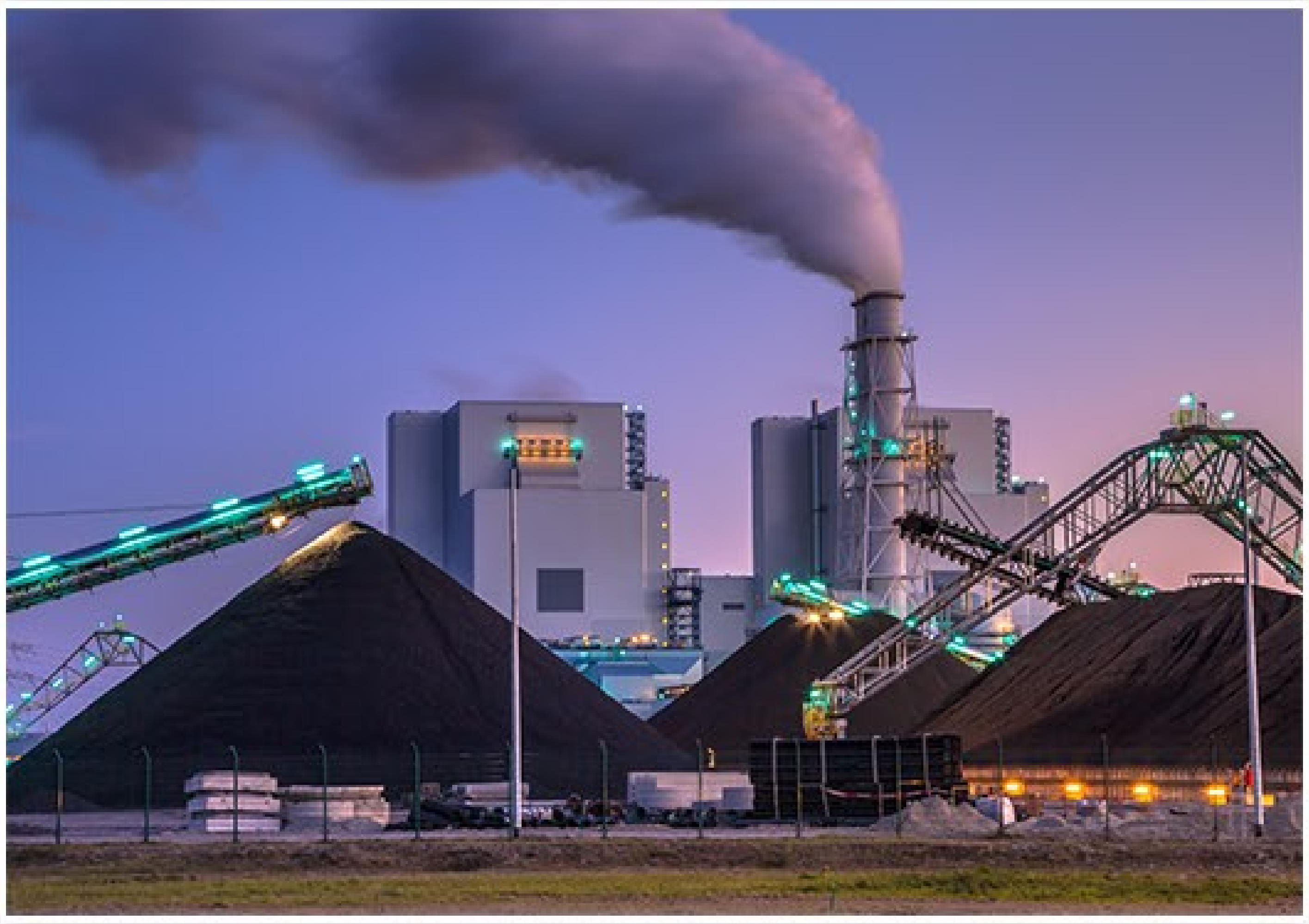
"Resource rich, energy poor" — this is how economist Peter Kiernan labeled Africa's energy woes. And this description fits well on Pakistan, a country with the world's 5th largest coal reserves and a severe energy shortage. Pakistan, like many other developing countries, is caught in an energy-economy cycle whereby it is in deep debt, and thus can secure limited budgets for the development of energy infrastructure; this results in ineffective energy supplies, which further worsens the country's budget. Raza Rafique, along with Kwon Gi Mun and Yao Zhao, designs a new energy supply chain for coal utilization that has the potential to break Pakistan's worsening energy-economy cycle.

Pakistan possesses 185 billion tons of coal, equivalent to almost 300 billion barrels of oil, exceeding the combined oil reserves of Saudi Arabia and Iran; this coal is nearly untapped. A coal-fired energy supply system has five major tiers: (1) coal mines; (2) railway networks; (3) power plants; (4) transmission networks; and (5) demand zones.

Pakistan has three major coal reserves, accounting for 98% of its total: Thar; Sonda/Lakhra; and Salt Range. Thar is the largest reserve, located in an area of the Sindh province, far away from all major demand zones, requiring the greatest amount of investment. Salt Range is the smallest reserve, located in close proximity to the largest demand zones in the Punjab province, and requiring the least amount of investment. The Sonda/Lakhra reserves in Sindh fall somewhere between the two.

While the plan of the Pakistani government is to exploit the distant largest reserve at Thar and build all power plants near demand centers in Sindh (a gigantic investment), it will require 800 miles of transmission lines to carry that power to the Punjab and to the rest of the country. This will result in unbearable line losses that will increase the costs of meeting the energy requirements in the long run. Moreover, considering that Pakistan needs a strong injection of energy in the short run to kick-start its economy, using the resources at Salt Range are more feasible than the ones at Thar.

Using a multi-period mixed integer linear program (MILP), and in contrast to the government's plan, Rafique et al. come to the conclusion that there is a first best and a politically best solution to Pakistan's energy woes. In order to jump start the energy sector and the economy at large, Pakistan should invest in the Salt Range reserve first. This is the first best option coming out from the mathematical model that takes into account the construction of power plants near the reserves, among numerous other factors. As opposed to the government's take on the Salt Range reserve, Rafique et al. think of it not as a resource waste but as a worthy and necessary investment. The politically best solution proposes the use of the Sonda/Lakhra reserve with a budgetary split of 60–40 between the Punjab and Sindh, respectively.



When compared with the government's plans, it turns out that the aforementioned solutions significantly increase cost efficiency, significantly increase net GDP in the 15th year from $382 billion to $512 billion, reduce the country-wide energy gap from the government-proposed 25% to zero in the optimal situation, and reduce the burning of coal by 16% to produce the desired level of energy. Overall, this new supply chain, rigorously produced through mathematical models, can go a long way in addressing the energy crisis in Pakistan. While it is true that in the long run Pakistan must think of its environment and rely more on renewable resources like hydro, solar, and wind, this proposed coal energy model can help the country get back on its feet in the short run, something that is desperately needed.

Reference

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To Formalize or not to Formalize?

Thinking in terms of strict dichotomies makes things easier. However, such artificial dichotomies rarely stand up to evidence. In business studies, categorizing the entrepreneurial world into formal and informal sectors had been the practice for many years. As expected, this neat dichotomy breaks down in the face of data. Colin C. Williams and M. Shehryar Shahid, in their research article published in *Entrepreneurship & Regional Development: An International Journal* (2014), have done exactly that. In the process Williams and Shahid have also been able to provide an answer to the question: why do entrepreneurs prefer to operate in the informal sector? Their answer has far-reaching implications for policy-makers in Pakistan.

To begin with, Williams and Shahid reject the strict dichotomy between the formal sector (characterized by codified laws) and the informal sector (characterized by norms and values). They argue that the following classification is a more accurate one in light of the evidence that they have collected: wholly informal, largely informal, largely formal, and wholly formal. After interviewing 300 entrepreneurs in Lahore, the authors found that 62% (almost two-thirds) of them worked wholly informally. This meant that they were neither registered as a limited liability company, nor did they keep their accounts in compliance with the Companies Ordinance 1984; they were not registered with the government under the Income Tax Ordinance 2001 either.

Interestingly, the other 38% (more than one-third) of the entrepreneurs worked either largely informally or largely formally. Conversely, and equally importantly, this meant that 0% (none) of the entrepreneurs interviewed during the research worked in the wholly formal sector. These data confirm what has been dubbed as a major impediment in Pakistan's development: despicably low tax revenues.
As to why entrepreneurs prefer to operate in varying degrees of informality, Williams and Shahid advance the existing explanation that claims that the more difficult it is to formalize and abide by all the rules and regulations of the government, the greater the number of entrepreneurs who decide to operate informally.

Going beyond the conventional explanation, however, the authors have identified the key characteristics of entrepreneurs that determine the degree of formality or informality with which they operate. The authors tell us that entrepreneurs who are young, who are less educated, and who earn less tend to operate wholly informally. As these factors increase, so do the odds of them attempting to formalize.

Furthermore, the entrepreneurs who prefer to work informally perceive their chances of getting caught as low and they also have little motivation to pay their taxes. Conversely, the entrepreneurs who operate completely formally perceive their chances of getting caught as high and have greater motivation to pay their taxes. What is interesting, though, is the fact that almost all entrepreneurs perceive the public sector as corrupt.

For government policy-makers who are serious about bringing more business and people into the tax net, these findings by Williams and Shahid provide a roadmap for the future. By investing in the education sector and intellectually empowering the entrepreneurs of tomorrow, the government can ensure greater income for them. This will in turn encourage them to formalize. Similarly, by countering public sector corruption—as well as challenging the perception of it—the government can ensure that more entrepreneurs would want to come into the formal fold. Lastly, by eliminating tax unfairness and the perception that the tax collected by the government is ill-spent and does not benefit an overwhelming majority of the country, the government can ensure greater tax collection as it will encourage more entrepreneurs to register with the government and pay their dues.

Reference

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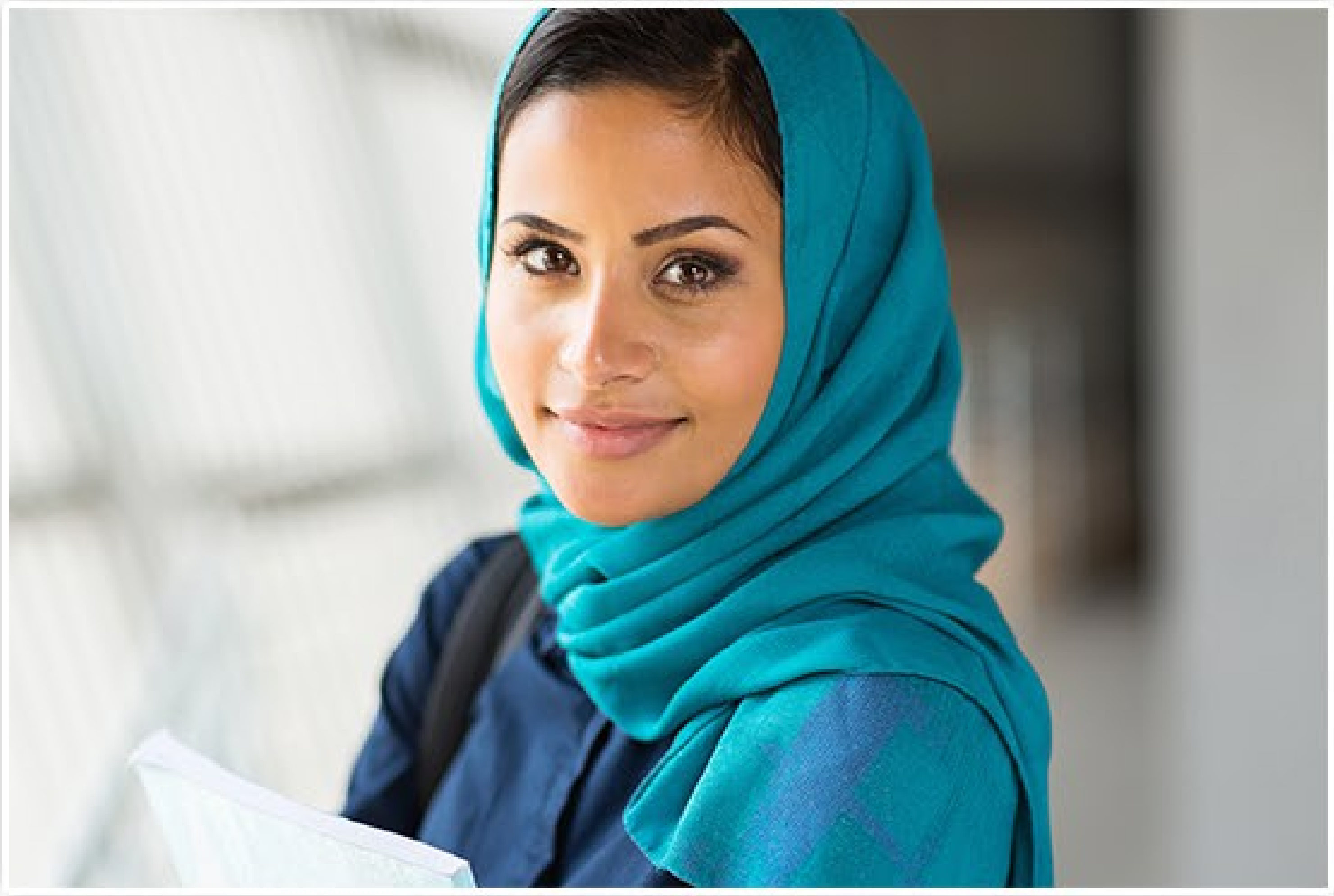
Arab Women's Work Engagement

While it is difficult to find academic studies on how gender plays a role in organizational behavior, what is even more difficult is to locate how gender affects employee engagement in the Arab world. Drawing on literature from multiple Arab countries and focusing specifically on Jordan, Muntaha Banihani and Jawad Syed analyze how macro-national factors affect Arab women's work engagement. Macro-national factors comprise economic, socio-cultural, and legal frameworks that affect Arab women's level of engagement in the workplace.

Economically, the Arab world is heterogeneous, with the GDPs of oil-rich countries much higher than the rest. In this economic milieu of the Middle East, 43.9% women are unemployed (as opposed to 22.9% male unemployment). In Jordan, where the literacy rate has risen impressively from 46% in 1990 to 85% in 2012, and where more women than men attend universities, women's participation in the workplace is abysmally low at 23% (as opposed to 77% participation by men), to the extent that once corrected for educational attainment, female participation in the workplace is actually on the decline. In general, Arab women are predominantly found in lower-level jobs. And they usually find employment only in select professions like education and social care.

Why is it the case that while female education is on the rise in the Arab world, female employment is on the decline? Some socio-cultural factors help explain this. The ideas that the onus of preserving the family as a unit falls upon women, that the man solely is responsible for providing for the family, and that the women have to observe modesty, set the stage for men getting priority over women in the workplace. Also relevant is the stereotype that a man needs a job to provide for the whole family, while a woman's role is primarily that of a homemaker. Women also face restrictions on their everyday mobility in many parts of the Arab world. Some of these restrictions arise from cultural stereotypes; some take the form of written law.

Laws in many Arab countries take a serious toll on women's participation and engagement in the workplace. For instance, the Labor Laws in the UAE place specific restrictions only on women: these include women not being allowed to work at nights, or take up jobs that could be perceived as hazardous to their safety, or work without the consent of their male guardians. In many Arab countries, while the laws mandate maternity and childcare benefits for women in the workplace, they place the onus of these benefits on the employer, thereby discouraging them from hiring women in the first place. The laws lack in other respects as well. For instance, the Jordanian regulatory framework does not prohibit sexual harassment. Examples like these abound, making it difficult for women to engage meaningfully in the workforce, many a time not at all.



Considering how important female engagement in the workforce is to the overall development of a society and a country, policy-makers and executives need to take account of the factors that limit it, and advance policies, both at the organizational and national levels, that remove these limits and allow women to engage more productively at the workplace. It can only work to the advantage of the economy. And while the realities of different countries in the Arab world—and even of countries like Pakistan—may differ on the exact factors that restrict women's work engagement, careful yet important lessons can be drawn from them for the benefit of all.

Reference

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