

Industry's Rendezvous with Higher Education and Universities Pakistan's Perspective

By Dr. Abdul Jabbar Khan

Industry's Rendezvous with Higher Education and Universities

Abstract: The purpose of this study was to examine the relationships between universities and industry. There has been a lot said at times about the industry linkage between media and the organisations engaged in public and private sectors in Pakistan in print, electronic media and social media. The media industry as such has been solely dependent, in the past, over the simple graduates, or those who had the skills of writing and reading, and of course translating into Urdu or English. The print media as such flourished over the skills of the educated persons but not that 'adequately educated and technically skilled' that today, the educational institutions are producing and providing to the industry in particular, and in other fields in general. There could be further studies in the field related to the curricular being adopted by different private and government institutions. A cross check of the same would provide enough room needed to be bridged as the present-day media outlets, especially in television sector (news channels) have not been reflecting contents that serve the cause of a country for prosperity and development. After all it is communication that has transformed the life across the globe and the globalization has proven that the world is a global village. A strong relationship now exists between the higher educational institutions and industry, media included, while in the field of medical, business management, advertising and marketing etc., are pioneering the sector through the educated youths, who are well skilled and having at time, done the internships in their respective pedagogic areas. So to speak the role of today's education has gone manifold in the interest of promoting trade and industry whether it is media (print or electronic), other social sectors or diplomatic channels. Even today the socio-economic development has become dependent over the 'development support communication'. The relationship between media and industry has been of late under discussion in the country, however neither the electronic media regulation authority, PEMRA, Press Council or the working journalists organisations could deliver good to the objectives of free, responsible and independent press and media. This study has attempted to discuss the relationship, linkage and tried to suggest some measures for the good of the same in larger media interest.

Keywords: Media Industry, Regulatory Authority; effective role of media, social values, higher education and media linkage

Introduction

The role of industry and the people have gone much complex in recognising their contribution in government and private sectors for a productive hand. This strong linkage has been quite effective and one could see that this appreciation would further boost the relationship and interdependence between the related sectors. In any society nothing could be developed in isolation. It is collectivism that provides room for individuals or a group and a society for their destined objectives. Presently one could see further that the media and business administration, sales and marketing, or development communication are all directly correspondingly behaving in fruitful and productive linkages and would continue in future without any impediment. This linkage

between the higher educational institutions and industry has been of immense benefit for growth and development of the sector. The Higher Education Commission at the federal level as well as provincial one should not hesitate in providing more research benefits to the institutions so that the modern input could provide stimulant to the industry and the persons engaged in the sectors having modern advanced education. Even of late the responsibilities of regulators, higher education authorities and the parliament are doubled where the media as such could not play an effective role on certain social or religious issues. Mind-set and extremism in the society are classical examples where media and legislature could through combined efforts create a constructive society with more harmony and understanding.

For obvious reasons credit goes to the leading media groups for organising the education-social sciences expo in order to further promote the cause of skilled and meaningful education, and having had strong relationship and relevance between the two sides. Yet one could see that commercial angles are more visible through such exhibitions where research orientation and proper education and training still lacks to a greater extent.

Though not much known this phenomenon so far, empirical studies of university-industry linkages have mainly focused their attention on technologically innovations and the developed countries. Because these linkages usually involve sophisticated research and innovation and the universities and educational institutions should not lag behind in moving upward in search of new dimensions. For a fair understanding about relationship between the industries, educational institutions and the society, a total of five leading industrial sector and few other media practitioners and government functionaries were discussed with a brief questionnaire for having a sizeable understanding about the linkage one could analyse and evaluate for further benefits.

In order to get a fair analysis and understanding the present situation in Pakistan regarding the relationship between university and degree awarding institutions and media, there could be seen vast difference in understanding the high level of intelligent assessment, theory and production. Even in research there could be an attempt for restocking the entire scenario in industry and the institutions who are teaching graduate and undergraduate media and mass communication studies. To understand the present state of relationships between university and industry in this study examined through interviews some highly relevant key informants in chambers of commerce and allied sectors. The analysis drew on in-depth qualitative data obtained and analysed. The analysis revealed the factors that obstructs or facilitate stronger university-industry partnerships, as well as the potential opportunities for future partnerships. The information from universities and industry/social sectors show

that there could be some cove between the two sides because of understanding about the use of technology. The two sides, however agreed that the present state of using satellite technology, Google, Internet and Social Media and the new tools and technologically advanced equipment have transformed the attitudes, behaviours and the productivity thereof. Even certain societies are talking of certain 'restrictions' on *Whatsapp*, or other applications including the Facebook etc.

Data from universities and industry acknowledge the cultural and class divide between both sectors, which generate a lack of confidence on the part of industry on universities as potential partners. In addition, the economic crisis related to power/energy shortage and higher cost of education have led to significant reduction in adding new institutions in education as well as more investment in industry as the regulating authorities seem to be indifferent over the case of cost escalation, poor relationship between the university graduates and their financial rights in serving the industry. In otherwise some data in the government sector with federal and provincial level shows an exorbitant increase in new universities being put up in public and private sector, not considering the quality of teachers, background and level of education students have had in their previous institutions and the question of following a quality standard and pursuit for a good academic output.

There has also been reference of state funding to higher education, it that in real terms increasing as against the cost of education that is going upward in the name of "big" or high ranking educational institutions? To say it, thus leaving behind the talented youths who really want to seek good education but are deprived due to cost factor. Informants were of the opinion that the government owned institutions, though having lesser cost yet have to review their policy in investing in good equipment, studios and human development at the institutional level which have affected their research capacity and infrastructure.

A robust research and development environment has to be created by the HEC

and provincial HECs so that the political interferences should be replaced by proper use of technological advancements and creating strong bond in education and industry with no governmental intervention. Though there has to be a research needed to see the logic in setting up provincial higher education commissions wherein the fact remains the federal HEC had effectively rendered its best having no conflicting zones in the past. The present law under the constitutional amendment required an impartial study of this issue. The role of the government should be supplementary to the cause of promoting education, technological advancement and providing more funds to the universities, be they operate in private or public sectors.

Pakistani universities, though doing their best, yet lack a 'robust and active' research environment. Recently the HEC has taken into account thematic research, yet the process be kept open and easy for the researchers without restricting the regular and visiting faculty members. Besides so-called referral system needs a thorough review whereas its existing proposition resulted in inordinate delays in research projects award and grants sanctioning. This discrimination will not be productive rather it would defeat the very purpose of higher research that could be undertaken by any scholar. May be this active and large in spectrum the research mission should be expanded further and the government should directly as well as through the existing HEC mechanism provide funds for this exclusive regime.

The data also reflect that from higher education, industry and government do not seem to have high expectations when it comes to the benefits of university-industry partnerships. They do not believe that these organisations can contribute to a globally competitive knowledge production and innovation. Lack of reliance on domestic innovation could also be the factor that needs to be addressed by researchers and scholars. This aspect has been may be because of globalisation and its impact over the society. Local elements, society and indigenous

industry have the potential that could be properly exhausted for the good of society, education and industry, and should be seen as being dependent on imported themes and technology. The informants urged for more indigenous and local background and contextualized university-industry partnerships thus being helpful and advantageous to community.

The respondents emphasised on the need to create interfaces to bridge the gap between the business and academic sectors. Many believe that the state has a central role to play in this process, acting as a facilitator and provider of funding and incentives to develop and encourage university-industry partnerships. In the absence of a proper conduct and rules of business confusion has added to the role of media technicians and journalists. Pakistan is a classical case in point. Where print-based journalists have performed exceptionally well and responsible contribution as against those who just carried the flags and became the 'anchors' leading from the front. Furthermore, there is some optimism among interviewees about the potential for enhancing such activity. The economic conditions having direct bearing over the state of affairs and the education sector linked with the industry keeping in view its social obligations still require more attention by all stakeholders. Mere the researchers, institutions and the higher education commission officials alone could not be blamed as there has to be a national environment for research and development and a "volunteer" corps of competent PhD/MS researchers to keep doing their best by brain-storming, interactions with industry and society figures so that a tangible contribution could be there helping out all the members of the society.

The on-going terrorism and counter-terrorism move has been of reference in place where the media and researchers should have an in-depth study and drawing triggers and tools and a model of communication reflecting the causes and countering measures for this menace that has ruined the society. The educational sector is seemingly the "target" of terrorism. Or otherwise the educational

institutions need to be abreast of current situation and future strategy to change the under-attack 'mind-set' development to an extreme. Media and academics too have joint responsibilities to address extremism especially in the educational institutions. The study has also revealed the role played by international aid agencies in the given context. In order to achieve a sustainable development it was recognized that the contribution of university-partnerships is of paramount importance and should continue for the growth and development of society and the media, industry and allied sectors. It would give a virtuous environment for attaining sustainable socio-economic development goals.

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Overview

For over many years, governments around the world have stimulated linkages between academia and industry. In recent years this trend has gained ground (Vught, 2013). Stimulating technical advance in industry is viewed as a necessity to promote economic growth. The policy makers seek to stimulate universities to become more enterprising and are found engaged more actively.

As universities become more involved in promoting economic development, there has not been strong thrust from officials working with governments for more relevant research and training. One way to address this call for relevance is by encouraging more linkages between higher education institutions and the business sector. The aim of this study was to have a better understanding of university linkages with the economic sector. Indeed, the literature on university-industry partnerships remains concentrated on advanced industrial economies, while very little appears to be known about university-industry linkages here however the work done by scientific research has been quite encouraging for trade and industry while for media now the skilled and qualified staff from universities is taking good proposition in media industry.

Literature Review

There is a large literature on university-industry relationships focusing on Western countries, particularly in the US and Canada. There are clear indications that the universities can contribute to technological innovation in several ways, including: that of conducting research in technological fields that are relevant to industry, providing technical assistance to local firms, educating well trained professionals, and supporting faculty to engage in consulting and commercialization activities¹

In the corporate sector, there is a trend in high technology industries towards more and closer linkages with university research. Firms' readiness to seek out multiple sources of knowledge is viewed as critical for their

success in fiercely competitive markets. This drives large companies to establish more partnerships with research institutions. (Coleman) discussed idea of developmental university. Although the material has not been found positively in quantitative in Pakistan the informants did provide valuable insight to this study.

The public sector universities in Pakistan though have their significant role in producing qualified and educated persons, yet the private sector universities to provide good forum to the students for industry using good equipment available to them through the university labs and studios. The FMs phenomenon too provides good opportunity to the students for broadcast journalism. The data on the state of university-industry linkages revealed relevant findings that could be examined through the following factors:

- University research output is limited by the low percentage of academic staff with PhD training and qualifications, and brain drain of qualified scientists;
- Many institutions though have attempted to foster linkages with firms through the creation of offices and staff positions in charge of such affairs. However, such offices lack material resources and expertise to handle industry partnerships and technology transfer effectively, though the first ever attempt for placement was made by IBA, that too in non-media sector, mostly business administration and management sciences;
- One could see a lack of or a very low number of *science parks* and *technology incubators* in academic institutions. Only a small percentage of universities surveyed reported being involved in managing science parks and engaging in technology transfer;
- The study suggests that support for establishing and managing business incubators and science parks would respond to the needs.

There is a dire need for healthy competition and not for the sake media-rating by certain groups, however the industry has its own dynamics where the linkages with higher educational institutions could help in hiring professionals, though with less or no experience, yet with new approach and educational kits and tools.

¹ SA Media is a leading source of newspapers clippings based over three million news clippings on social, political and technological advancement: Access ydbergh@ufs.ac.za

Key findings include

- The informants were inquired about who were optimistic with growing interest in the creation and support of university-related Science Parks and Business Incubators in recent years.
- There are multiple organizational models to be experimented with. The Universities should establish their own units, usually in partnership with other stakeholders, and also collaborate with ventures created by government and industry.
- University researchers and students are an important audience for science parks and business incubators that could be utilised in the best industry gains and benefits, ultimately that goes to the institutions and the human development.
- The most important issues identified include ambivalent academic culture, lack of funding/financial incentives for R&D partnerships, lack of industry interest in university partnerships, lack of industry R&D capacity, and mismatch between university research strengths and industry sectors.
- Reflecting the somewhat embryonic nature of many of such *parks and incubators* identified, most experienced difficulties could be related to the overall environment for business development, as well as with sustaining their budgets.
- The study suggests that though there could be the opportunities that must be explored in the best interest of industry and academics.

Research Questions

The aim of this study was to have a better understanding of university-industry linkages. The following research questions were addressed:

- Factors that inhibit successful university-industry linkages and research?
- Which factors strengthen partnerships between industry and universities?
- What are some opportunities for future partnerships?
- What benefits can be derived by both sides from successful linkages

In this paper, *university* refers to higher education institutions including some institutional type's degree awarding set-up

that are chartered and recognised by the HEC and federal/provincial governments.

In contextualizing *industry*, it is important to highlight the size that could be small, medium and big houses.

Methods and Data

Process for Research

Informants from higher education institutions, industry, and government were targeted. The key criterion for selection was their direct knowledge of university-industry partnerships. Snowball sampling was utilized to identify experts throughout the study. During the interview stage, informants from development were added to the sample, because they play an important role in university-industry partnerships. Following *grounded theory* methods, the project gathered in-depth qualitative data from these key informants in order to obtain detailed accounts of their experiences. As usual in this methodological approach, the focus was on obtaining maximum insight from uniquely positioned individuals who could clarify the phenomenon under investigation.

As a beginning of the research it was aimed as to establish initial contact with potential informants. They were approached through email invitations and/ telephone calls. The recruitment of some informants posed a number of challenges. It took longer to recruit participants from industry and government, partly because the public unavailability of their contact information. Busy schedules also made it time-consuming to schedule interviews. Once engaged the informants were given the choice to participate in a telephone interview or to reply through a web-based questionnaire. Most respondents chose to participate in the interview.

Description of the sample

The research plan for this project was to identify and interview experts through snowball sampling until saturation was reached. The total sample for this study was 12 as three respondents from international agencies were also added to this phenomenon.

Analysis of Data

Standard qualitative data analysis techniques were employed to organize, code, and analyze the data. The first step entailed the open coding of interview data, generating a list of initial categories emerged. The second step involved axial coding, where those categories were merged into fewer groups,

forming a coding paradigm. These new categories reflect themes involving the key factors and issues involved in university-industry linkages. Finally, the selective coding approach was used to integrate the categories, interpret data and present the research findings.

Inhibiting Factors in University-Industry Linkages

The study finds that university-industry partnerships suffers from a number of factors, among which is what some actors identify as a educational and edifying difference between academia and the business sector. In addition, there is a lack of confidence of the population in general and industry in particular, in the ability for university to contribute to economic development. This lack of confidence seems to have been exacerbated through low investment and also by those involved in teaching in academia. The need for a synchronising approach in industry and academia is of paramount importance that needs to be overcome. The seniors in the industry should lead this proposition by lending support for those upcoming people.

Economy and research infrastructure

Despite the fact the national economy remained under pressure for over the years, the opening up of electronic media outlets allowed foreign and local investors, or joint ventures have given ample scope for the media organisations. In Pakistan the media flourished, especially the electronic one, however community radios did not work in general terms wherein this could have been an exceptionally good for society for development communication. The gross domestic product, impact on trade and industrial sector including that of media related industry, advertising companies, PR concerns etc do have a relationship in terms of infrastructure, investment and benefits in return to the investor and the human resource engaged in the sector. Although international influence in the industry is there, yet there has to be a degree of responsibility in dispensing

with the national obligations, domestic environment, society and their people to be honoured by the media industry. In addition to the role played by multinational companies in different industrial sector, media has been mostly found indigenous that generally do not provide R&D funds to the universities.

Edifying Differences between higher education and the private sector

The view that universities behave as Ivory Towers is common across African countries. Interviewees referred to the university in Africa using terms such as “academic empire” or “exclusive community”. A private sector informant from Tanzania argues that there is an attitude among some in the university that there is nothing to learn from industry. He argues that university professors make themselves hard to get in touch with, which inhibits contacts from external stakeholders.

It was gathered that the business sector has little awareness of academia as well. Some indicate that many media business owners lack university training and knowledge to understand the context and culture of universities. As an industry informant from put it, it is within universities’ mandate to provide the resources that industry needs, “after all they receive money from the taxes we pay.” However, this is not a widely held perception.

As part of these educational and edifying differences, informants shared the usual view that academia and industry have different goals and priorities. Even one of the informants referred to the commercialism in “leading” universities in Pakistan saying that they are not imparting education, rather minting sizeable money.

While the private sector is concerned with the bottom-line and relatively short-term goals, too often the impact of higher education activities can only be measure in the long-term. University officials and academic staff seem to prioritize long-term partnerships. As an industry informant from South Africa put it, “academics like to theorize, which takes time.” Academics have the tendency to look at multiple angles of an issue, while industry is concerned with solving specific problems

with commercial implications. This was pronounced by an official of a donor agency who was critical saying that mostly university-industry relationship is not existent, having very little room for basic research or more creative types of investigation.

These views show the divide that exists between academics and people in the business community. Some research reference carries that industry does not generally have an intellectual understanding of the academics and their activities. Or otherwise, industry men speak of weak structure and invariably irrelevant courses being taught to students. They also speak critically that the overall stuff of BS, MA or MS is not that of calibre and needs basic understanding to a national/international basic information to an extent that the new incumbents not 'considered' to be ignorant.

Trust Deficiency: Industry and Academia

With educational differences among the sectors, respondents described a lack of trust and confidence on the part of businesses in higher education institutions as potential partners. This deficiency in trust and confidence appears to have multiple causes. First, there is a psychological dependence on foreign technologies and some suspicion of local innovations. Universities are therefore not viewed as sources of useful information and expertise. Second, the lack of experience of firms in dealing with universities prevents a more informed understanding of potential avenues for cooperation.

Industry seems reluctant to enter in relationships with universities, not only because of the costs involved, but also because of a lack of confidence in the ability of universities to deliver relevant outputs. They complain about what they perceive as an excessively theoretical emphasis of university activities and also the poor journalistic studies and more concentration on being technical workers than the genuine emerging journalists and presenters. It has been observed for a longer time that the leading media organisations like CNN and BBC do hire the new journalists as apprentice, get them trained to a certain level of required

maturity and then placing the presenters and analysts, anchors not less than the experience of 20 to 25 years at time.

There are perhaps no cases of successful innovations and contribution of academics to the economy. As a result, businesses are hesitant to engage in what they perceive as costly experiments. The lack of confidence affects university-industry partnership, because it is motivated by the suspicion about the ability of university to make relevant contributions to real-world problems.

Weak Institutional Capacity

There comes the question of institutional capacity. There is either no trust in universities and its product (students) or the private sector institutions do not want to provide funds for educational research and development. Another major barrier to the development of partnerships is related to the higher educational institutions and their capacity. Informants indicate that universities do not have the structures and personnel to engage productively with industry. Specifically, this lack of capacity includes limited human resources and poor infrastructures. Informants from universities, the private sector and government, they all recognize the lack of expertise inside universities. They believe that universities do not have enough qualified academic and management staff to engage with productively with industry.

This absence of expertise affects not only academic professionals, but also the staff who are unable to deal with all aspects related to relationships between the university and the outside world. When asked about their support staff, informants revealed that some institutions have established positions similar to that of a research officer to deal with matters related to intellectual property and commercialization of research, while others do not yet have a university-wide office in charge of industry liaison or technology transfer.

The informants observe that higher education institutions are not equipped with the necessary infrastructure to meet the demand of the private sector and the community.

University officials interviewed complained about the chronic underfunding of research and physical infrastructures necessary to appropriately train their students. They admit that the concerns of the industry and government are legitimate. However, they believe that they are not provided the financial and physical resources to address these problems.

Overall, university informants think that their institutions are not equipped to fulfil the missions the society has assigned to them. A persisting lack of internal structures and human resources to engage with the productive sector inhibits the expansion of university-industry ties. This is a bottleneck for the expansion of partnerships. Trained staffs that can support such interactions are critical components for universities seeking to contribute more intently to innovation.

Absence of strong leadership for university-industry linkages

Interviewees commonly referred to the lack of appropriate leadership at many institutions to initiate, guide and support university-industry linkages. Some business leaders, faculty members interviewed responded that university senior administrators do not see their role to facilitate the establishment of partnerships with the industry. They suggest a lack of "champions" for this kind of activity on campuses, which could not only signal to their desirability, but also provide systematic administrative support to them. Without such leadership, industry engagements are often viewed as peripheral activities conducted at the sole initiative of a few individuals.

Many believe that the role of university administrators is also to find ways to increase the human and financial resources of their institution, rather than to simply manage limited resources. The governance model of higher education can partly explain this reported lack of initiative on the part of university administrators. The private sector universities are managed more on a 'private limited' mode whereas the public sector (government) universities are either influenced by political parties and their

students wings, thus now allowing the 'few professionals' to perform and serve independently.

There are observations that there has to be a national policy for research and development viz relationship and strong linkage between industry and the universities. This is what required for the good of society, education and the industry.

Issues involving Governance and Management

People involved in research pattern show there indifference over the management of universities saying there are commercial aspects in awarding degrees with certain educational institutions. Informants also raised the issue of bad governance and corruption at many institutions. According to informants Transparency International has referred to corruption in Pakistan and there seems to be no exception in industry or the educational sector.

Factors for strong university-industry partnerships

The government should play a central role and not the provincial HECs. The provincial higher education commissions must be in line with the central commission, though they should remain independent in assisting provincial educational institutions, i.e., universities and degree awarding institutions. This was observed during the interviews. This would certainly strengthen the cause of industry and academia so that the benefit would ultimately go to the society, students and the institutions. It could be done through the mechanism in distribution of funds through the third party that could be either the education commission or any other set-up the government and legislatures could work out.

- It would help build good human resource and enrich the human capital in a productive way.
- This will promote, generate and develop good academic staff equipped well according to the need of the hour in terms of theory, general knowledge, specialised beats, application and equipment/technology.
- Making use of international institutions and international partners in industry and higher educational institutions for training and

possible joint ventures in research and development.

- Enhancing communication between the industry and academic and sharing curriculum.
- Stressing on training and research for the staff of industry through the institutions in education.
- The federal as well as provincial commissions or the central government should have a direct role in providing funds for laboratories, technological parks and incubators for educational institutions with the funds from the government and providing tax relief to the industry for diverting funds for this head.

Recommendations

There is no shortcut to promoting strong university-industry linkages without strengthening the academic and managerial capacity of universities. University research cannot be expected to deliver prompt solutions to immediate problems. Rather, it is through sustained research and education efforts that expertise is built in disciplinary and interdisciplinary fields. Such expertise, if aligned with the knowledge needs and demands of national and local industry, can have a meaningful impact in economic activity.

To have the benefits of university research and its effects on industry carrying long term implications and this could not be just left to the ORIC at different universities. This has to be enhanced and enriched to the genuine benefits to the students and the industry. To harness the potential of university research and education to industry, universities also need to be supported and funded in such a way as to allow them to build the administrative capacity for industry and community engagements.

The federal and provincial Governments should address the governance of higher education institutions. If industry linkages are to happen, universities need to have the autonomy and transparency to be able to pursue their own partners.

For partnerships to take root, it is not enough to call for greater interaction across the sectors or establish vague national goals. Careful

implementation of policy instruments aimed at stimulating university-industry linkages is essential. The multiple actors involved have specialized and disparate needs. Higher education institutions need to build and strengthen their research and education infrastructures. Firms need greater R&D capacity and incentives to invest in partnerships with universities. Greater awareness across the sectors of their needs and capabilities is also needed. Fundamentally, governments need to establish predictable funding mechanisms for university research, business R&D, and specifically for partnerships involving the two sectors.

For universities, there are many actions that could be taken to improve the development of partnerships with industry. Fundamentally, universities have to better define and frame their potential contribution to national economic development for internal and external audiences. Too often, university and industry informants could not find a common ground on what the role of each other should be in promoting innovation and supporting regional economies.

Once universities can identify their place and potential contribution to national development, senior officials might engage with local industry from a clearer position on how to advance the university mission. The quality of university outputs (e.g. graduates, research findings, teaching) is a strong determinant in the success of university-industry linkages. Furthermore, better communication among universities and industry would be helpful.

The universities have to be able to provide more evidence on the expertise and projects, which might increase industry awareness and interest to invest in partnerships.

Industry

The industry could better tap the skills and knowledge available inside higher education institutions, even though there appears to be reasons for doubting their potential. Several steps might be taken to discover what higher education institutions have to offer and tap into that potential.

As universities are both in public and private sector, industry should tap into the public

knowledge and know-how that they make available to society.

Industry should also work with higher education institutions to improve their research and training capacity. This can be done in multiple ways. For example, businesses may provide internship positions for students, and make their staff available for guest lectures, bringing their expertise to universities.

More sustained forms of engagement can also be pursued. Individual firms, or even business associations, may work together with higher education to establish educational standards to inform the curriculum and educational experience of students in relevant fields. In the world today emphasis is more on international diplomacy, development and socio-economic growth.

Such initiatives might contribute to addressing the perceived irrelevance of university education to the industry.

Finally, following the example of their peers internationally, industry can also be a supportive partner in the creation, support, and staffing of research laboratories through gifts, donations, scholarships local and foreign, and research funding. Through these kinds of practices, industry can be a stronger partner in the process of strengthening the academic quality and relevance of African universities.

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*Author is a Media practitioner, Peer Reviewer
Associated with Riphah Intl. University Islamabad
Visiting faculty with various Islamabad & Karachi
Email: theglobalpoverty@gmail.com*

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