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Rapid Changes in Business Education 4.0: Exploring the Role of the Higher Education Commission

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Abstract

With the advancement of technology, particularly smart technologies driving the evolution of Industry 4.0, the demand for changes in business education has significantly increased. These changes are very rapid and abrupt, which need prompt response. Higher Education Commission of Pakistan, as a regulatory body for Higher Business Education, has a mandate to fulfill the skills market demands in a timely and efficient manner. In this period of rapid technological change, the role of the Higher Education Commission in education and curriculum reform needs to be explored and understood. This study examines the mechanisms through which the Higher Education Commission initiates and implements changes in business education and curriculum. Given the exploratory nature of the study, an inductive approach is adopted to understand this phenomenon within the context of HEC's role in Pakistan's higher business education. The study reveals that the Higher Education Commission has demonstrated considerable flexibility in curriculum design by empowering higher education institutions to make discretionary choices in course development. Universities have greater authority in course selection, allowing them to include more technology-based courses in the business curriculum. However, certain gaps remain in the effective implementation of these courses. The implementation is not standardized across institutions due to the non-mandatory nature of these provisions, which has led to negligence in compliance. The study significantly contributes to the HEC role analysis of business education governance and management.

Keywords: Business Education4.0, Higher Education Business Curriculum, Industrial Revolution 4.0, Business Education, HEC Role in Business Education

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1. Introduction

The transformation of the curriculum is essential to upskill students with the latest competencies required to efficiently utilize modern tools and techniques in the environment of Industry 4.0. The requirement of Education 4.0 needs a prompt response (Williams et al., 2020). In the Pakistani context, the responsibility for curriculum changes is the responsibility of HEC (HEC, n.d.). Therefore, the curriculum change mechanism needs exploration and evaluation to align with the abrupt changes happening in Business Education 4.0.

These abrupt changes need a prompt and continuous response in business education to align with education 4.0. This demands to investigate HEC's role and mechanism under such conditions, how it ensures modifications to the Business Curriculum rapidly and persistently? The study is significant for the governance and management of business education in ensuring that the skill requirements of the market are addressed in the context of Education 4.0. The insights and findings highlight key gaps in the processes of change and transformation.

2. Literature Review

Industry 4.0 is continuously evolving. These Sustained and accelerating changes blur the real shape of the current Smart Revolution (Schwab, 2016). In the face of such challenges, the education system requires continuous and timely transformations to adapt to emerging demands (Kumar, 2025). Higher Education Management has to formulate various policies and strategies to transform the Curriculum, infrastructure, and digitize university teaching and learning processes, including innovative and applied research initiatives (Amghar & Benchekroun, 2025).

Due to the complexity and volatility of the current revolution (Klingenberg et al., 2019), it is hard to predict the real shape of its outcomes (Culot & Sartor, 2020). But it is sure that changes are imminent and effects are multidimensional in nature, influencing every social and professional discipline (Koh et al., 2019). In such a landscape, professional roles in organizations demand hybrid and agile competencies, which are possible through the merger and intersection of cross-academic disciplines (Amghar & Benchekroun, 2025). Consequently, agile and frequent changes in the business education system are required to adapt to this shift.

Changes in Curriculum and policies differ from country to country. Administrative processes also vary across global educational systems. Delayed and strict formalities in administrative systems often create barriers in the swift and successive course modifications to align with industry skills needs (Gkrimpizi et al., 2023).

2.1. Higher Education Commission

In Pakistan, the HEC is the mandated body responsible for guiding and supporting higher education institutions(Government of Pakistan, 2002). Curriculum reform is one of the core responsibilities of the HEC (HEC, n.d.), which reviews and updates the curriculum every three years. However, the rapid pace of technological change and technology-based skill requirements makes such prolonged intervals between revisions a potential challenge (Ra et al., 2019; Yang, 2025)

Recently, HEC has made changes to the Management and Business Curriculum (Higher Education Commission, 2025). HEC has subcommittees, which are called National Curriculum Revision Committees (NCRCs), and these have the responsibility to make reforms in the specified disciplines' curriculum (Higher Education Commission of

Vol. 3 No. 12 (2025)

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Pakistan, n.d.). The reforms to the Business curriculum have been made under the supervision of Business NCRC with the support of other stakeholders, including representatives from universities and Industry.

2.2. Business Education

The National Qualifications Framework (NQF) for higher education has 5-8 levels (HEC, 2016). These degrees are Associate, Bachelor of Business Administration(BBA), Master of Business Administration(MBA), Master of Science (MS), and Doctor of Philosophy (PhD. The BBA degree is a four-year program and offers a wider range of courses compared to other degree programs. Our focus will be more on bachelor 's-level business degrees (HEC, 2023).

3. Methodology

This qualitative study is explorative, employing the phenomenology based on the constructivist paradigm (Creswell & Poth, 2024).. The in-depth interview method is used for the collection of data from business teaching faculty in higher education institutions in Pakistan. The reflective thematic analysis method has been used for the analysis of findings (Braun & Clarke, 2006). With the researcher's interpretation and reflection on the theme at the latent level (Patton, 2014).

4. Finding and Analysis

The findings are coded, and relevant codes are grouped in self-explanatory themes. Many reviews have been made to create final themes. In the process, many themes have been broken, merged with other themes, or completely new themes have been generated. Wherever the need is felt to explain a coded statement, the researcher has incorporated their own view. In the process of reflection, conscious efforts have been made to avoid any discussion initiated by the researcher; rather, the participants' opinions have been discussed for elaboration purposes.

4.1. HEC's Role in Business Education Transformation

This theme encompasses participants' reflections and interpretations regarding governing bodies, policies and procedures in curriculum management, aimed at ensuring reformation aligns with Education 4.0 and Smart Technology-based skills inculcation in the curriculum. *HEC issues directives followed by the Universities. HEC regularly makes reforms the curriculum. In line with these universities develop syllabus. in case of new course development HEC has to be just informed. (P6)*

Universities are not fully autonomous, as HEC provides directives on many issues, including curriculum. Through the National Curriculum Review Committees (NCRCs), HEC designs curricula for various disciplines and degree programs. NBEAC plays a vital role in curriculum design by providing input on the latest industry trends, both nationally and internationally. NBEAC also ensures the quality of education by monitoring and auditing syllabi and instructional strategies, in collaboration with universities' Quality Enhancement Cells (QECs). Participants stated that universities must inform HEC when introducing new courses in business degree programs to seek approval.

Curriculum has given us the possibility. It is up to the institutions to implement both technical courses and on social and political issues too. Thus, it varies institution to institution in the choice of interdisciplinary courses. This regulation is not too old, hardly two years old since 2023. But still, the tech sector is missing. No doubt I have the option in interdisciplinary, so I can include it there. But another university will not. A few changes would be needed, so that Digital Transformation and latest technologies courses should be

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made mandatory for all graduates. In this, there is no one who does not know the use of a smartphone, computer, or laptop. This is the age of digitalization and data science. (P3)

Table 4.1: ***HEC's Role in Business Education Transformation***

Secondary Concepts (from Codes)	Theme
Institutional Autonomy in Curricular Adaptation (P6) Institutional Stewardship of Smart Business Education (P3) Traditional IT Focus without Smart HRM Integration(P14) HEC Encouragement for Technology-Enhanced Curriculum(P5) HEC Minimum Criteria Compliance for Course Approval (P2) Flexibility in Curriculum Implementation under HEC Policy(P2),(P3) HEC Encouragement for Technology-Enhanced Curriculum(P7), (P9) Traditional IT Focus without Smart HRM Integration(P14) Gradual Decentralization in HEC Curriculum Oversight(P16) HEC Defines Scope, Universities Shape Learning(P16) Promoting Innovation Without Enforcement(P9) The Approval Maze in Rapid Tech Change(P12)	**HEC's Role in Business Education Transformation**

The participant highlighted that HEC has provided sufficient flexibility to include tech-related courses in the syllabus. At the same time, expressed concern that these courses are not positioned as mandatory. Implementation and course selection vary across institutions. The respondent acknowledged that the regulations are only two years old; however, it is evident that most institutions are not opting for digitally integrated courses. The experiences of P3 is in agreement with (Mavrouli, 2024) that the norms and rules, when not enforced, are often ignored. The interviewee recommended that IT-embedded courses should be made mandatory for all institutions for students to receive market-ready skills.

HEC has a forum for this, which I think is the National Curriculum Committee. It is tasked to review the curriculum every two years. It gives suggestions for changes in the curriculum. So such a committee exists and is functioning. They encourage people to opt for market-oriented courses instead of traditional courses that students don't select, and even those that have no place in the market. So, such courses should be started that are market-oriented. They want technologies to be used in all the disciplines, like business, sociology, or statistics. They want the use of technologies to start everywhere. They want to start market-oriented courses. But there is no such kind of facilitation that is required. They try to create awareness, but they do not do anything to enhance the skill level of the students. (P7)

The participant expressed optimism about the positive role played by HEC. Their statements illustrate HEC's commitment to introducing digitally oriented courses into the syllabus. Universities are encouraged to include market-driven courses and replace those with low market demand with more relevant and promising options. However, the participant also raised concerns that awareness is being created, but concrete efforts to enhance students' skills are still lacking.

HEC plays an active role. I am part of the focus group for curriculum discussions. Now they did one thing in the curriculum for both graduate and undergraduate students. They split

Vol. 3 No. 12 (2025)

Journal of Social Signs Review

Online ISSN 3006-4651

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the courses into two. They introduced some general courses. We split the curriculum into different categories. It aims to give students diversified knowledge. Still, AI is missing. The basics of AI are missing. Just an IT course was included. Now you tell a child about MS Office. But MS Office is different now. Now MS Office is AI. AI Excel and AI PowerPoint. Now people work on 360. But there is no information about that. Now, HEC has realized that this content is important, and it encourages universities, but in reality, there are still no such things. (P14)

The HEC curriculum division for different grades has been discussed by participant 14. The General Courses to be studied at the start of the degree include IT basic skills, which are not sufficient in the Tech-Driven Ecosystem. HEC encourages universities, but the real effect is missing. Here, the words of P3 sit true, to make the digital courses compulsory in the curriculum designed by HEC.

Yes, in such large courses, HEC approval is required because it is a legal requirement. It is a legal requirement for both public and private sectors. I have not been through this process. But so far, I have had discussions with my friends and colleagues, and it is not too difficult. They have a particular requirement; if one fulfills it, they can get it approved. In such a case, they will be more motivated. Because they think that if something is beneficial and can be started, they will approve it. (P5)

HEC sets requirements standards for specific courses; upon meeting those standards, approval is granted for the new courses. Universities are required to seek prior approval from HEC and make the necessary arrangements for the commencement of the new course.

"It is not very easy to bring a new subject. We have to take approval from the HEC and the relevant registration bodies. We have to take it from them." (P4)

The participant mentioned that obtaining approval from HEC is not easy. Participants P14 and P5 reflected that HEC encourages the introduction of new courses, provided they meet the required standards. These views appear to conflict with P4's perspective; however, upon closer examination, the difference is understandable. The interviews with positive remarks focus on HEC's encouraging policies for introducing new courses, while P4's view highlights the bureaucratic procedures involved in seeking approvals, which are often time-consuming.

If you want to introduce a new program, you must obtain approval from the HEC. The university has to submit all its requirements, such as its curriculum, infrastructure, and faculty. You have to follow its procedure. (P2)

This statement supports P4's point of view that, before the commencement of a new course, all requirements must be met by institutions, along with adherence to the approval procedures prescribed by HEC's Standard Operating Procedures (SOPs). Following these lengthy and complex procedures often leads to discouragement, regardless of how welcoming the announcements for innovations may seem.

"HEC has a basic outline, then it gives the option to the universities to add what is required, on which HEC will have no objection." (P2)

HEC undergraduate policy 2023 (HEC, 2023) divides the curriculum for business education degrees into three domains: General Education Courses, Major Courses, and Interdisciplinary/Allied Courses. General Education Courses are of 30 credit hours, with broader areas (HEC, 2023, p.3): Arts and Humanities, Natural Sciences, Social Sciences, Functional English and Expository Writing, Quantitative Reasoning, Ideology and

Vol. 3 No. 12 (2025)

Journal of Social Signs Review

Online ISSN 3006-4651

Print ISSN 3006-466X

Constitution of Pakistan, Islamic Studies, Applications of Information and Communication Technologies (ICT), Entrepreneurship, Civics and Community Engagement. 72 credit hours are for the Major discipline or specialized area, in this case, Business Administration (HEC, 2023, p. 2). Interdisciplinary/Allied Requirements are for 12 credit hours to broaden horizons in a specialized area. In addition, students must complete a 3-credit-hour Field Study/Internship and a 3-credit-hour Capstone Project (HEC, 2023, p. 3).

Universities have the discretion to include courses that address broader areas. Their choices are largely influenced by the resources available and the ease of implementation. In such situations, institutions are not strictly bound to include any specific subject in the syllabus. The norms are not mandatory, mostly ignored (Mavrouli, 2024). Consequently, they often opt for routine courses, as these do not require acquiring new skills or knowledge for teaching and assessment. As a result, the incorporation of modern technologies remains limited to foundational knowledge and skills.

I have 8 years of experience in accreditation and curriculum design. There is a difference in mindset. Many things we want to do at the university level do not fit within the parameters defined by the HEC. We are bound to follow the HEC curriculum. Over time, I have observed that the HEC is also flexing its muscles. Before, it was just mentioning the subjects that were to be taught. But now they have increased the pace of curriculum change. We approve a curriculum and a plan for implementation, and when we implement the curriculum, the HEC suggests changes. (P16)

The participant stated that HEC's role is to serve as a bridge for universities' innovative initiatives in course introductions. Though accept the recent HEC changes made through the Undergraduate Policy 2023, which leave subjects to the university's discretion. HEC is trying to give institutions more authority over course offerings. The interviewee complains about the rapid changes made to the curriculum. Although it is mandatory to review the curriculum every three years, the changes made are still very rapid.

As a reflection on this statement, the point of view can be accepted if the overall framework has not been changed. Course revisions are a necessity in a fast-changing world and must be addressed promptly. Secondly, the approval process for new courses initiated by universities should be diligently carried out, subject to the fulfillment of all requirements.

The HEC provides a model curriculum and asks you, through your committees, to base your curriculum on it. So I do not blame the HEC much. We are in the era of IR 4.0, and we are passing through it. With it, AI has also prevailed. So the developments are rapid and in seconds. Now it is beyond the AI, and now the work has started on agents and Super Artificial Intelligence. The problem with the public sector is that if we want to change the curriculum and submit a proposal, it takes a year to work through the bureaucratic process, while the world has progressed further in that year. For example, if I want to make changes in the HR curriculum, I will submit the proposal to my HOD in writing. He will call the board of studies, which will take at least 3 months. After that, it will go to the board of faculty and then to the academic council. From the academic council to the syndicate and senate. So this will take a year, and only then will you be able to incorporate changes. Throughout Pakistan's universities, it is like this. (P12)

The participant, in a detailed way, elaborated on the process of taking approval for a new course introduction. The HEC provides a framework; universities, within that framework,

Vol. 3 No. 12 (2025)

Journal of Social Signs Review

Online ISSN 3006-4651

Print ISSN 3006-466X

develop the syllabus and decide what courses to be taught with course outlines. Introducing a new course requires navigating the Approval Maze from the HOD to syndicate approval. In times of Rapid Tech Changes, quick and fast action is needed, but in most cases, months are taken to go one step forward.

I will give you an example. Recently, Google has introduced a tool for researchers, Google Agent. It is in the developmental stage or Beta stage. It is particularly for research purposes in science and technology. It is still in the Beta stage and has been issued to just a few selected researchers or organizations to check its performance. There are seven agents in it, though it looks like one. For example, you ask the question what the problems are in talent hiring in HR, or you ask the question what the causes of cell damage in the pancreas. The first agent checks the question quality. Then it reviews literature on this basis. Then it sends that literature to another agent. That agent checks whether it is taken from authentic sources or not. Thus, it goes step by step to a final agent that checks the overall method--question quality, literature review, sources, and research design. This is in the beta stage, and it has still identified causes of some diseases and identified medicines for them. Its research was published in renowned journals. All this is in the beta stage. Just imagine when it is launched all over the world, what would be its level? So if I want to integrate it into our research, curriculum, or business research methods, I will have to go through a laborious bureaucratic process. So, what do you think Google will halt for one year? Definitely it will go further ahead. Google focuses particularly on academics to collaborate with, but how can I collaborate when I am entangled in a bureaucratic process? (P12)

The research participant has done a long and thorough discussion. The modern AI tool used for research has been discussed. Such initiatives require approval from the curriculum management entities. Approval is not only needed on a single platform with a few simple steps; it also requires approval from many bodies and multiple phases of subcommittees.

The universities are autonomous, but so-called. Their process is defined. You will have to pass through the board of studies, the board of faculty, the academic council, the syndicate, and the senate, and you will have to get your minutes and proposal. And at the same body meeting, you will need approval. Only then is it approved. For example, in 2017, when I joined the university, it had no statutory body as it was in the project phase. We started the MBA program, and we adopted it from its parent university. So the students who graduated from it, we could not award them degrees for three years. Even still, in the last syndicate, the 2017 proposal was awaiting approval. However, we went through the laborious process of obtaining HEC approval to award degrees to students who enrolled in 2017 and completed in 2021. We passed through a difficult process. So when there is a bureaucratic process, there is no cooperation. (P12)

Another example further explained the Approval Maze problem. In this example, a long-awaited decision remains under discussion to date. The participant explained how long and laborious the process was to obtain approval from educational bodies. The significance of degrees for students is obvious for entering a professional career, yet the degrees take years to earn.

I will start with HEC because you mentioned we are bound to it. So HEC designed a curriculum in 2012. HEC has also told the universities that you can make changes from time to time as required. Universities or Business Schools also have a national council, the National Business Education and Accreditation Council (NBEAC), which focuses on

Vol. 3 No. 12 (2025)

Journal of Social Signs Review

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Print ISSN 3006-466X

ensuring that universities or business schools use the latest technologies and establish linkages with industry and organizations, and that they can make judgments about which technologies are to be used in business. They should look at the market trend and the requirements of the industry. But there is no such thing in our curriculum, defined by HEC, which ought to be taught. There is no such thing as mandatory. (P9)

HEC has consistently introduced curriculum modifications and adjustments to the National Qualifications Framework (NQF) to meet evolving needs. To upgrade the quality of higher education, HEC established NBEAC. The functions of NBEAC include monitoring HEIs for syllabus design, curriculum delivery, student recruitment processes, and fostering linkages with industry. NBEAC also works to bridge the gap between industry and academia. The HEC Business Education NRCC provides recommendations for curriculum adjustments to align with market needs. While these efforts are driven by HEC, one gap remains: the integration of modern technology courses is left to the discretion of universities. Consequently, important but non-mandatory courses are often not taught. This statement from P9 reflects a consensus with other interviewees' observations.

5. Conclusion

Towards the digital transformation, the HEC has initiated a project for the complete SAP ERP, Student Lifecycle Management (SLCM) implementation (HEC, n.d.-b), funded by the World Bank (P12). However, these initiatives are not yet fully materialized or implemented. Now, this is up to the university management and leadership to determine how effectively they can materialize this endeavor and ensure the successful digital transformation.

HEC provides guidelines for curriculum design and development. Following the given directives of HEC, Universities make sure the implementation of the curriculum. Universities are empowered in discretionary course choices in various disciplines (HEC, 2023). The recent revision of the Business and Management curriculum offers greater flexibility by increasing discretionary choices for universities in course selection (Higher Education Commission, 2025). It is left to the universities to take stewardship of incorporating more smart technology-based elements in business curriculum (P3).

However, the HEC's endeavor for the enforcement of technology-based courses has shown discrepancies over the course of time (P3). For example, once an enforced Oracle ERP course has been discontinued, rather than including more such courses. The fluctuation in practices is also observed in universities, due to the non-mandatory status of courses (Sharif *et al.*, 2025). Despite all these discrepancies, there is hope for right on track progress, as one of the participants has stated an HR analytics course initiation (P18). While an HR Analytics program is already offered in another university (P20). Yet another university introduced a Business Analytics course for all business majors. Though specialized courses for various business studies majors are not offered (P7).

The HEC has a pivotal role in business education framework development. In a recent review, HEC's National Curriculum Review Committee (NCRC) for Business studies has incorporated numerous ICT-based courses in already taught majors (O7; P5) , in addition to two separate streams of business degrees solely based on trending digital technologies (Higher Education Commission, 2025). The revised framework also promises greater autonomy for Higher Education business institutions in course choices (P2; P3; P6).

The recent curriculum updates suggest that HEC is working on decentralization of curriculum design and implementation (P16). Universities are more empowered to make choices in business course design and delivery. The participants also revealed that there is

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a necessity for provincial HECs to address local needs. The findings also revealed certain worries regarding the implementation of digital-based courses, considering past trends, that the same negligence in course choice may happen. The Higher Education Commission (HEC) establishes an educational framework for course design, while flexible choices are left to universities. In addition, it is the responsibility of universities to design courses and manage their delivery. The National Business Education Accreditation Council is a quality assurance body to enhance business degree standards. As the accreditation is voluntary, concerns have been raised by participants about the monitoring and evaluation of business education transformation to meet the market standards.

6. Summary

HEC appreciates digital inclusion in courses through the recent reformation in the revised curriculum for Management and Business studies. However, the issue of bureaucratic delay in new courses approval still has to be solved. The flexibility in courses also raises concerns for the negligence of Digital courses, looking at past practices. The gap for monitoring and oversight in the course delivery needs to be resolved.

6.1.Limitations and Further Research

The study has used a convenience sample strategy. Other sample strategies to be incorporated for having participants from various other universities in Pakistan. The purposive sampling for teaching and administrative staff involved in curriculum review will be a better choice. The scope of this study is situational analysis. Further studies are required to study the whole governing and management body in business education for identifying gaps and later on suggest recommendations for the transformation to Education 4.0.

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