

Identifying agility enablers in context of Higher Education Institutions (HEIs): Conceptual framework

Priya Rath ^{*}

Sandeep Kumar Gupta [†]

Divya Gogia [§]

School of Management & Entrepreneurship

Shiv Nadar University

Greater Noida

Uttar Pradesh

India

Abstract

Higher Education Institutions (HEIs) must be agile to keep up the sustainable growth in the midst of increased competition and shifting skill set requirements. In this dynamic environment, when it comes to implementing agility at HEIs, it requires adjustments in processes and resources used to fit their context, and we have tried to understand this phenomenon through our research. The purpose of this research paper is to understand the facilitators of agility in higher education institutions to maintain competitiveness and achieve teaching & research excellence. This study used a qualitative approach to explore the concept of agility in the context of higher education institutions. In-depth, telephone interviews with subject academic experts were employed for the study.

Through our research, we noticed that there are four important enablers of agility in HEIs. We identified internationalisation, society-industry interaction, and technological integration as enablers that are required to achieve agility in HEIs to remain competitive. This helped us gain a multidimensional view of ‘agility’ by using the lens of sense & response framework to analyse it. Therefore, we recommend the enablers based on a conceptual framework to support the dynamic requirements of HEIs. The study highlights the need for integration of all enablers sensed from the environment through qualitative study with the HEI’s responding capabilities.

Subject Classification: 00, 58.

Keywords: Agility, Higher education institutions, Sense & response framework.

*E-mail: pr609@snu.edu.in (Corresponding Author)

†E-mail: sandeep.gupta@snu.edu.in

§E-mail: dg475@snu.edu.in

Introduction

Higher education institutions encounter several obstacles in an increasingly unstable and unpredictable environment, such as changes in market demands, diversification of student needs, technological progress, funding, international competition, enrolment ratios, equity, quality of education, infrastructure, policy, faculty accreditation, curriculum design, teaching pedagogy, research environment, and so on. Sheikh (2017) emphasises the need to do things better, faster, and cheaper. Moreover, HEIs are confronted with the unexpected difficulty of introducing new methods of engaging students and faculty through activities that stress reinforcing concepts and allowing for exploration (Salza et. al., 2019). Christensen and Eyring (2011) describe how HEIs strive to improve their prestige, scope, and competitiveness in addition to simply existing. To be effective, HEIs need to be agile, i.e., accept changes in requirements and encourage constant feedback from end users (Salza et. al., 2019). Implementing agile principles and procedures would be beneficial if they contributed to the organization's overall effectiveness.

According to Zhang and Shariff (2000), agile enterprises are capable of sensing, perceiving, and anticipating changes in the external environment and converting these changes into opportunities that benefit the firm. Agility is a process through which businesses accept change on a continuous basis (Conboy & Fitzgerald, 2004). In order to gain an advantage over competitors, organisations must sense and respond quickly to changes (Jayachandran et. al., 2004).

Sensing and responding are two main components of agility (Overby et. al., 2006). Both components are required for a firm to be agile (Overby et. al., 2006). This task of sensing and responding to an environment helps an organisation to achieve agility. Agility helps businesses adapt and perform successfully in fast-changing circumstances. Firms with strong research and development and technical departments can sense and understand the technological advancements relevant to their firm.

The sensing task involves carefully observing business activities that reveal alterations in the business environment that have a substantial effect on organisational strategy and future performance (Daft & Weick, 1984; Milliken, 1990; Thomas et. al., 1993). Firms with strong sensing capabilities can combat unprecedented situations by making proactive decisions that are strategically significant (Daft & Weick, 1984). Making decisions in this sense refers to the ability to continually and reliably gather information from its surroundings and analyse the events that were captured to

identify opportunities and threats (Thomas et. al., 1993). organisations by assessing the information obtained, determining the business significance of the documented events, and developing an action plan to maximise opportunities and reduce threats (Haeckel & Nolan, 1993).

According to Overby et. al., (2006), a firm's agility is a functional link between its sensing and responding capabilities, and the alignment of these two elements can maximise the benefits by reducing waste. In other words, an agile firm's ability to respond to a situation is not exclusively dependent on sensing activities. Since, in order to effectively address environmental change, an organisation must first comprehend its current resource capacities. So, it's right to deduce that the response activity of firms also depends on their operating capabilities. Therefore, this research is trying to achieve the following objectives:

- Aims to discuss the enablers of agility in higher education institutions, which helps in achieving the excellence in teaching and research.

The following are the sections of this research. The second part of the paper will look at the methodology used to collect participant replies in understanding the enablers. Third section discusses the results and findings. Last section highlights the conclusion and summarises the primary findings of the current investigation.

Methodology- Qualitative study using interviews

The current study aims to examine the enablers of agility in Higher education institutions to achieve teaching and research excellence. Insights are based on the sense & response framework to help understand and forecast these enablers and related outcomes.

Data: In order to meet our research objective, qualitative data was collected. We examined academic resources and processes from expert's lenses by using structured interviews. In-depth, telephone interviews were employed for the study. The interviewers began by informing the respondents of the purpose of the study and informed consent was duly sought from participants before recording the interviews. Interviews lasted between 30 and 75 minutes. Notes were taken during the interviews and were rewritten immediately as field notes after the completion of the interviews. The interviews were taken between May and July 2022. Audio

recordings were duly transcribed. We had 109 pages of transcript and field notes that were coded manually.

Sample: The purposive sampling method (Bryman 2008) was used to select the study participants. We managed to interview 22 academic experts from various public and private universities across India. The sample description of the interviewees has been provided in Table 1.

Table 1
Sample Description of Interviewees

Pseudonym	Duration of Interview	Type	Years of experience	Program
Sanchit	01:24:00	Private	30	Management
Riya	00: 54: 00	Private	24	Management
Aishani	00: 51: 00	Private	16	Management (Bachelors)
Mansi	00: 49: 00	Public	23	Management
Sara	00: 47: 00	Public	15	Management
Ritu	01:10:00	Public	17	Management
Rajat	00: 43: 00	Private	21	Management
Raj	00: 55: 00	Private	17	Management (Bachelors)
Muskaan	01:00:00	Public	18	Management
Pia	00: 56: 00	Private	19	Management
Kamal	00:48: 00	Public	23	Management
Karan	00: 35: 00	Private	22	Management
Amit	01:10:00	Private	19	Management
Sakshi	00: 54: 00	Private	18	Management
Vanshi	01:20:00	Private	17	Management
Rani	00: 55: 00	Private	18	Management
Amar	00: 50: 00	Private	17	Management
Ojas	01:02:00	Private	23	Management
Raman	01:14:00	Private	24	Management
Rohit	00: 57: 00	Public	22	Management
Anita	00: 55: 00	Public	21	Management
Sanjay	00: 49: 00	Private	17	Management

Methods: We followed open-ended probing as they are useful to seek new ideas, underlying themes, patterns (Creswell, 1994), and developing conceptual diagram. The data were analysed using line-by-line coding to

identify and note emerging themes and categories regarding the attributes of agility in HEIs (Strauss, 1990; Huberman & Miles, 1994). The coding process was manual and subsequently, themes and subthemes were established by categorizing the codes for their similarities. Thematic analysis was chosen for its flexibility in addressing the entire text as a potential unit of analysis and its ability to extract codes and themes (Nowell et. al., 2017; Braun, 2019). It helped us to summarize key characteristics of the large data set into thematic codes (Nowell et. al., 2017) and to analyze the data to form prevailing themes (Braun, 2019).

Results & Findings

Four broad themes emerged to explain the drivers in this study (Figure 1).

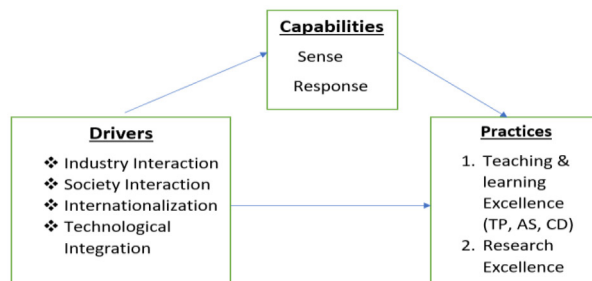


Figure 1
Drivers of Agility in HEIs

Technological integration

Higher education institutions must understand how to leverage technology in order to be more flexible and adaptable in their operations and beat their competitors (Chen & Denoyelles, 2013). Technology has also become an irreversible force driving the evolution of teaching and learning processes. As a result, HEIs are now incorporating technology into traditional learning, such as learning analytics, big data, and so on, in order to enrich and enhance the learning experience. Even a few respondents indicated that institutes must be able to perceive from the dynamic environment what new technical modifications are required to improve teaching-learning, such as:

“I feel faculties must bring transformation in students’ learning through discovering new teaching strategies with the appropriate use of technology” (Riya)

“As per my understanding technology is one of the important drivers of change in education industry as it integrates all operations required in education sector starting from being an integral part of teaching pedagogy, helps in designing curriculum & implementing various assessment strategies...in short modus of operandi entirely changes with usage of technology” (Sanchit).

In HEIs, infrastructure has been considered as one of the important input resources irrespective either its technical or non-technical. Building an adequate infrastructure is one technique for establishing a learning environment for students. Furthermore, Kim et. al., (2016) stated that integrating technology improves an organizations performance significantly. This clearly shows that infrastructure either technical or non-technical needs regular updating and acts as one important driver in responding the environment. The respondents view on technical & non-technical infrastructure as a resource are mentioned below:

“Institutes should investigate new technologies and keep on reconsider and redesign their technological infrastructure in order to improve the quality learning” (Rajat)

Industry Interaction

Through industry contact, HEIs help to understand the changing needs of the industry and aid HEIs in the construction of physical facilities such as entrepreneurial cells, incubation centres, and technological networks. (Misra, 2020). Borah et. al., (2019) categorized industry interaction as course-based teaching collaborations aimed at developing & delivering curriculum and teaching tailored degree programs. Recent studies have analyzed the dynamics of HEIs industry interaction and predominantly focused on the success elements of HEIs industry interaction in terms of teaching learning and research as they aid in organizing industrial value-added courses (Cavallone et. al., 2019) or project-based teaching (Rossano et. al., 2016). Industry interactions let institutes perceive what’s emerging in the market in terms of technologies, tools, and strategies to handle real-world problems. These real-time problem-solving approaches aid in the improvement of teaching-learning and research. The following quotations describe the importance of the same:

“Industry connect helps in establishing industrial relationships which makes educational institutions an opportunity to collaborate with these industry people and use their expertise for developing the new courses or revising the existing courses” (Sara).

“In education, quality of teaching manifests itself in two ways: one is employable pupils, i.e., students who are matched with industry needs, and the other is that whatever knowledge is generated must be communicated in such a way that it benefits the industry...in short whatever we are doing – real time application must be there” (Raj).

Industry university interaction also refers to the interactions between industry and HEIs to facilitate industry's participation in universities' teaching activities or technology transfer (Bekkers & Bodas Freitas, 2008). It's a sort of two-way collaboration that not only improves the student's employability but saves companies time and money involved in imparting on-the-job training to students and results in a win-win situation for both industries and HEIs (Borah et. al., 2019). Our respondents also suggested how institutes should respond to in order for industry-institute contact to be mutually beneficial for both the industry and the institutes:

“What is happening that we are not able to predict the industry requirements correctly, which is creating a gap between academia and industry.... for this industrial visit, industrial training and internship should be essential components of curriculum... Project fair should be arranged and experts from industry should be invited to provide feedback for improving viability / sustainability of projects” (Kamal).

“Our institute on frequent basis keeps on inviting people from industry to deliver talks on the recent practices prevailing in industry and share their experiences with the students, to give a holistic view to students and equip them latest know-how” (Sanchit).

Society Interaction

In our context we define academia-society interaction as collaborations between societies and institutions of higher education for the purpose of achieving an identified social change and promoting a culture of research or knowledge development at HEIs. It also includes equipping students with a sense of belongingness towards societies that ensures mutual benefit for the societies and participating students & HEIs (Best et. al., 2003). Each partner stands to gain substantially from collaboration in terms of strengthening their research and teaching capacity and by improving the quality of life of their nearby societies. Similar narratives are quoted by our respondents representing two-way society-academia collaboration and how this collaboration helps in sensing the changes in the educational institutes are as follows:

"For this student should be made curious about innovations / start-ups that ease lives of people and helps society" (Muskaan)

"Apart from making them employable, institutes must emphasize on imparting value-based education to students beyond their regular curriculum to develop good habits and make them better citizen" (Riya).

These interactions between academia and society hold enormous promise for developing creative research, fostering community development, and teaching the next generation of community and academic leaders. The community representatives are bringing their expertise to the design and management of the curriculum. Academia-society interaction is a win-win situation because these improvements both ensure the safety of neighbourhoods and strengthen institutional reputations by improving the quality of education, learning, and research, which aids in the production of educated professionals with practical experience in addressing society's challenges. The way the society- academia interaction responds to the changes sensed from the environment is evidenced in excerpt below:

"I tell you, collaborating with society is a big component of our course curriculum... In our institution, every student, just like two months of industrial training, must do a social project addressing any social cause and presenting the idea and their project contributions...during this project, students must spend some time visiting local villages" (Rajat)

"In my institute, students volunteer in community activities in addition to their coursework.... for example, they run a few clubs, some awareness camps, some drives to educate the society about prevailing issues, and so on....and the impact of these activities is reflected in the students' thoughts...in fact, I have observed in my long teaching career that many students have become successful entrepreneurs and addressed specific issues of the society..." (Sanchit)

Internationalization

Internationalization in our context refers to connections and transactions with international intellectuals and institutions. Internationalization of higher education aids in the development of relationships between and among nations, cultures, and countries, as well as the development of understanding about their diverse cultures in order to broaden their scope in terms of (i.e., teaching, research, service) and by offering courses or programmes in other countries. Internationalization of education integrates all dimensions related to cultural skills, academic skills, collaborative research, institutional ranking, economic incentives and enhanced

reputation (Knight and Liu, 2019). No doubt all these dimensions of the internationalization of education which are sensed from the environment to make any institute agile has all together widen students' perspectives and provide a competitive edge to HEIs. So, to make any institute agile it's necessary to fully utilise foreign associations for research, study, training, and other purposes. The same are narratives mentioned below by few of our respondents that how collaboration and cooperation is required with international entities to sense the changes from the environment:

"Like our institutes offers every year, 3 to 4 courses in collaboration with international partners...and courses offered both the ways...in few courses international faculties visit our campus, stays with us for 1 or 2 months or vice versa sometimes our students visit their campus for the said course duration...." (Ritu).

"Even our students collaborated with the internationally tied up universities for some collaborative projects...especially in understanding the purchasing patterns/ consumption behaviour/economic state etc are like few examples of those state/ countries" (Saman).

Conclusion

The study concluded by identifying the four enablers of agility in context of HEIs: internationalization, industry interaction, social interaction and technological integration. The results help us develop a conceptual model based on the themes generated from the thematic analysis.

The study helps us in concluding that enablers like industry interaction / internationalization helps the HEIs gain an upper edge against the competitors by enhancing the skills of faculties and equipping the students with the capabilities of handling the on time issues of industry and same is been quoted by one of our respondents as *"it gives faculty a cutting-edge output for research, which not only equips faculty with analytical capabilities but also helps the industry and society with their knowledge and solutions to the real time issues"* (Ojas, private). So, these enablers help give the state of art of training to students, which really makes the difference in students skills gained and their suitability to the industry.

Secondly, these types of collaborations and interactions help in the overall development of faculties and students, which helps to differentiate in the saturated market and the same has been quoted by one respondent *"increases the critical thinking capabilities for both the faculty and students"* (Amit, private) and other respondent complimented the same by stating,

“helps in beating the competition”. As there are lot of private colleges mushrooming nearby, so this proactiveness and agility helps us in differentiating institutes. As the institutes who are agile in their practices are focusing on the focal areas like strong & dynamic leadership, team working, flat structure, decentralized decision making etc.

Our study has a few limitations, too, like the fact that our data sample consisted of management institutes only. The size of our sample for the interviews was somewhat limited, as data saturation comes after the 17th interview. Also, this study is still in progress, and in line with thematic analysis and existing literature, the study has established a conceptual framework. This conceptual framework will be tested for the factors measuring perceived agility in the context of HEIs.

References

- [1] Best, A., Stokols, D., Green, L. W., Leischow, S., Holmes, B., & Buchholz, K. An integrative framework for community partnering to translate theory into effective health promotion strategy. *American Journal of Health Promotion*, 18(2), 168-176 (2003).
- [2] Bryman, A. Of methods and methodology. *Qualitative Research in Organizations and Management: An International Journal* (2008).
- [3] Braun, V., & Clarke, V. Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589-597 (2019).
- [4] Borah, D., Malik, K., & Massini, S. Are engineering graduates ready for R&D jobs in emerging countries? Teaching-focused industry-academia collaboration strategies. *Research Policy*, 48(9), 103837 (2019).
- [5] Cavallone, M., Manna, R., & Palumbo, R. Filling in the gaps in higher education quality: An analysis of Italian students' value expectations and perceptions. *International Journal of Educational Management* (2019).
- [6] Christensen, C. M., & Eyring, H. J. The innovative university: Changing the DNA of higher education from the inside out. John Wiley & Sons (2011).
- [7] Chen, B., & Denoyelles, A. Exploring students' mobile learning practices in higher education. *Educause Review*, 7(1), 36-43 (2013).

- [8] Conboy, K., & Fitzgerald, B. Toward a conceptual framework of agile methods: a study of agility in different disciplines. In Proceedings of the 2004 ACM workshop on Interdisciplinary software engineering research, pp. 37-44 (2004, November).
- [9] Creswell, J. W. Mixed-method research: Introduction and application. In Handbook of educational policy, pp. 455-472 (1999). Academic press.
- [10] Daft, R. L., & Weick, K. E. Toward a model of organizations as interpretation systems. *Academy of Management Review*, 9(2), 284-295 (1984).
- [11] Haeckel, S. H., & Nolan, R. A. Managing by wire. *Harvard business review*, 71(5), 122-132. Jayachandran, S., Hewett, K., & Kaufman, P. (2004). Customer response capability in a sense-and-respond era: the role of customer knowledge process. *Journal of the Academy of Marketing Science*, 32(3), 219-233 (1993).
- [12] Knight, J., & Liu, Q. International program and provider mobility in higher education: Research trends, challenges and issues. *Comparative and International Education*, 48(1) (2019).
- [13] Menon, S., & Suresh, M. Organizational agility assessment for higher education institution. *Journal of Research on the Lepidoptera*, 51(1), 561-573 (2020a).
- [14] Milliken, F. J. Perceiving and interpreting environmental change: An examination of college administrators' interpretation of changing demographics. *Academy of Management Journal*, 33(1), 42-63 (1990).
- [15] Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, 16(1), 1609406917733847 (2017).
- [16] Overby, E., Bharadwaj, A., & Sambamurthy, V. Enterprise agility and the enabling role of information technology. *European Journal of Information Systems*, 15(2), 120-131 (2006).
- [17] Rossano, S., Meerman, A., Kesting, T., & Baaken, T. The Relevance of problem-based learning for Policy development in university-Business Cooperation. *European Journal of Education*, 51(1), 40-55 (2016).

- [18] Salza, P., Musmarra, P., & Ferrucci, F. Agile methodologies in education: A review. Agile and lean concepts for teaching and learning, 25-45 (2019).
- [19] Sheikh, Y. A. Higher education in India: Challenges and opportunities. *Journal of Education and Practice*, 8(1), 39-42 (2017).
- [20] Thomas, J. B., Clark, S. M., & Gioia, D. A. Strategic sensemaking and organizational performance: Linkages among scanning, interpretation, action, and outcomes. *Academy of Management journal*, 36(2), 239-270 (1993).
- [21] Zhang Z, Sharifi H. A methodology for achieving agility in manufacturing organisations. *International Journal of Operations & Production Management* 20(4): 496-513 (2000).