

## The Role of Agile Teams in the Delivery of Distance Education in Saudi Universities Amid the COVID-19 Crisis: Qualitative Data Analysis

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### ABSTRACT

The objective of this study is to investigate the role of agile teams in the service delivery of Saudi higher education amid the COVID-19 crisis. The qualitative design of this study allows for an open-ended data collection instrument defined by a semi-structured interview process and thematic data analysis. The study employs a purposive strategy to sampling whereby direct engagements are administered between the author and individual participants. The study therefore analyzes data inductively and reports results where codes are defined, patterns are identified, and themes are generated. The first theme is that the future of Saudi higher education is learner-focused. The second theme is that the value of agile teams increases in the level of operational complexity of distance education. The third theme is that the COVID-19 crisis has left a permanent impact on the way higher education is delivered. The fourth theme is that the agility features of adaptability and responsiveness are highly desirable in Saudi higher education settings. The fifth and the last theme is the great potential for agile teams in the delivery of distance education to enhance learners' labor market competitiveness while augmenting their sense of responsible citizenship. The study implies that agile teams have great potential in the service delivery of Saudi higher education.

**Key words:** Distance Education, Agile Teams, COVID-19

### INTRODUCTION

Amid the current COVID-19 crisis, plans for reopening universities and higher education facilities are annulled indefinitely and direct education remain largely unclear in Saudi Arabia. This state of contingency and unpredictability raises questions about alternative ways to deliver higher educational solutions in Saudi Arabia (Naar, 2020). Indeed, the outbreak and worldwide spread of the novel Coronavirus, also known as COVID-19, has disrupted conventional activities across the globe (Sein, 2020). One of the sectors most directly affected is education. According to UNESCO (2020), as of May 20, 2020, 1, total number of 188,530,172 learner; that is, 68.5% educational careers were affected worldwide due to this corona virus pandemic, with 153 countries worldwide imposing school closures as part of their efforts to combat the virus' spread.

UNESCO (2020) estimates that 8,410,264 learners in the Kingdom of Saudi Arabia have been affected by the country-wide closure. Accompanying the announcement of the country-wide school closures by Saudi Minister of Education Dr. Hamad bin Mohammed Al Al-Sheikh "directed all educational institutions to implement distance learning through online platforms" (Khalid, 2020). College students in the

Kingdom affected by the country-wide closure by number 1,620,491 (UNESCO, 2020), and the success of the shift to online instruction is attested to by the fact that in early May are 1.4 million students were able to take 223,000 tests remotely as part of the first week of exams (Khalid, 2020).

In the light of the preceding presentation, the objective of this study is to investigate the role of agile teams in the service delivery of Saudi higher education amid the COVID-19 crisis. The qualitative design of this study allows for an open-ended data collection instrument defined by a semi-structured interview and a thematic data analysis. Toward this end, 'agile teams' defines a relatively new concept in Organization Management. Conventional organizations, including academic institutions, retain highly hierarchical organizational structures in which administration consists of department heads, division heads, and academic deans (see, e.g., Livorsky, 2016; Martins & Zacarias, 2017; Liao et al., 2018; Linders, 2019). As Valve Corporation (2012) explains in its employee handbook, "Hierarchy is great for maintaining predictability and repeatability. It simplifies planning and makes it easier to control a large group of people from the top down, that is why military organizations rely on it heavily" (p. 4). Agile teams require a

somewhat different conception of organizational structure. According to the Business Agility Institute (2020), agile teams share a specific set of common characteristics:

In general, they are small, cross-functional, and formed around business outcomes rather than traditional, skill-based, functions. To be successful, team members must have the “four A’s”: Alignment, Autonomy, Authority, and Accountability. Agile teams are mature organizations are self-organizing and have authority to identify their own membership and decide on the work to be done to achieve the given outcome. This demands a high level of collaboration within the team and, where appropriate, ultimately develops strong multidisciplinary members. (p. 1)

In view of the above, the value of agile teams for higher education systems may be worth investigating particularly amid the current COVID-19 crisis. In the higher education context, the principles and values of agile teams can be understood according to the agile manifesto developed in Denning (2016) in terms of: [1] holding the priority of satisfying student needs through the effective and sustained delivery of valuable education where the primary focus is driving intimate value and delivering innovation to students and receivers of higher education services; [2] welcoming changes, responding to demands and updates, and genuinely adapting to changing requirements and expectations in order to maintain a competitive edge in the delivery of valuable education; [3] frequent interaction and sharing information among team members; [4] dividing tasks and assignments in an iterative fashion and continuously interactive fashion along a clear and unambiguous time line while appreciating and recognizing the value of immediate and short term outcomes; [5] keeping all team member motivated and having them endowed with a supportive and trusting environment while adhering to autonomous, cross functional, and dynamically interactive model of service delivery; [6] designing team work based on the time honored economic principles of effectiveness (i.e., relating actions to objectives) and efficiency (i.e., best exercises of actions); [7] keeping team members focused on the notion that students are the essential and most fundamental element of higher education while enabling and embodying the values of transparency and continuous improvement; [8] promoting sustainable development and technical excellence; [9] formulating simple and intuitive work plans so as to maximize the level of output achieved for given and predetermined levels of inputs and resources; [10] creating and promoting a culture of self-sustaining teams, elevating the satisfaction of agile team members, and overcoming red tape and hierarchical bureaucracy; [11] incorporating a sustainable mechanism via which teams may always be able to adjust and better their behavior and performance. It thus follows that agility in higher education team work is centered on the values of interaction, collaboration, and responding to change. In fact, the adaptability and responsiveness endowed by agile teams coupled with eliminating waste, continuous innovation, and improving productivity may now be considered highly desirable features of the production of higher education services and products. In this sense, this introduction concludes with the following research questions:

RQ1: How do Saudi higher education service providers perceive agile teams?

RQ2: How do Saudi higher education service providers see the future of distance education in the light of agile teams and COVID-19 crisis?

## Literature Review

Academic interest in agility management during contingencies and crises is mature enough for a complete conceptual framework to be developed (Sein, 2020). In this regard, Beck et al. (2001) document that the ultimate end to agile teams and agility management is the generation of a quick response. Boehm (2002) describes that agile teams the most characteristic feature of agile management and teams is that of further and continuous development. Overby et al. (2006) illustrate that the term ‘agile management’ is native to software engineering, but was borrowed later in social and organizational studies. Hattfield-Dodds et al. (2007) locate agile management within management evolutionary theories that relate to the disciplines of political economy, game theory, complex systems analysis, ecology, and organizational theory. Talby and Dubinsky (2009) argue that agility management defines the future for crisis management. Alexandre et al. (2013) maintain that all types of organizations would benefit from the principles and culture of agile management and teams. Bronen and Chapin (2013) relate agile management and team building to adaptability and refer to the complex array of social issues involved. Janssen and van der Voort (2016) distinguish between agile management and adaptive management, and reiterate that the objective of agile management is to generate quick and efficient response in the face of crises. Merhout and Kovach (2017) developed the scaled agile framework for agile management and teams. The concurrent COVID-19 pandemic rekindled academic interest in agility management and agile team building (Janssen & van der Voort, 2020). For instance, Sein (2020) holds that the potential of research to learn from the current crisis can hardly be overstated. In view of the foregoing, though the agile management literature is extensive and multidimensional, the use of qualitative data analysis in different contexts and settings has been scant. This study complements the literature in this regard, and directly approaches the role of agile teams in the delivery of distance education in Saudi Universities amid the current COVID-19 crisis.

## METHODOLOGY

In this study, the two main research questions above will be answered via means of a qualitative research design that imperatively allows for an open-ended data collection instrument. Such data collection instrument is defined by a semi-structured interview process and thematic data analysis. Toward this end, this qualitative and context-oriented study employs a purposive strategy to sampling whereby direct engagements are administered between the author and individual participants. The study therefore analyzes data inductively and reports results where codes are defined, patterns are identified, and major themes are generated.

The rest of the study proceeds as follows: qualitative study, and concluding remarks.

The most discerning feature of this qualitative study design is “inquiring into the meaning individuals or groups ascribe to a social or human problem” (Cresswell, 2007, p. 37). Creswell (2007) notes that “Qualitative researchers tend to collect data in the field at the site where participants’ experience the issue or problem under study” (p. 37). To adhere to this principle of qualitative study design, the author approached decision makers of online education programs at Saudi Arabian universities to gather in-depth information about their understandings, perceptions, impressions, and understandings.

### Approach to Qualitative Analysis

As opposed to a deductive study analysis where an available predefined theoretical framework is based on preconceived themes, this study follows an inductive approach where themes are determined based on qualitative data analysis. This approach to qualitative data analysis is consistent with this study’s research questions. This is because the main concern of this study is to research and investigate the perceptions, views, and opinions of higher education service providers. In this fashion, this study’s choice of the approach to qualitative analysis allows for flexibly interpreting data and sorting it into broad themes. Moreover, this study adheres to a semantic analysis, which strictly focuses on the explicit context and stated contents. This is as opposed to a latent approach where the focus is on implicit subtext, meanings, revelations, and underlying assumptions. Furthermore, this choice of the approach further accommodates an inductive development of a framework that may be useful for future research.

### Data Collection

The objective of this study is to investigate the role of agile teams in the service delivery of higher education amid the COVID-19 crisis. The qualitative design of this study allows for an open-ended data collection instrument defined by a semi-structured interview process and instructed by the thematic analysis protocol identified in (Braun & Clarke, 2006).

### Participants and Sampling Strategy

The study employs a purposive strategy to sampling whereby direct engagements are administered between the author and individual participants. The selection process of higher education service providers participating in this study enters purposively a set of three rules: [1] the service provider has to be directly involved in distance and online education programs; [2] the service provider has to be holding a senior and permanent management position with a clearly defined line authority over the design and delivery of distance education and online programs; and [3] different participating service providers are affiliated on a one-to-one basis with different Saudi institutions of higher education. Whereas the first couple of selection rules are choice criteria, the third

rule is a condition that allows for a dataset that is more representative and information-rich. In this regard, this study is consistent with Patton’s (2002) logic of purposive sampling where a wealth of information on the research topic is collected at relevant subjects.

The author identified sixteen service providers and contacted them via phone during the formal work hours requesting their voluntary participation in a one-to-one phone interview regarding the role of agile teams in the service delivery of higher education. Ultimately, twelve service providers agreed to participate in the study with the objective of sharing their experiences, impressions, and perceptions on the subject.

### Ethical Conduct and Phone Interview Process

Phone interviews were conducted on prearranged basis and mutually-agreed upon hour and day in a fashion that takes consideration of the time availability and preferences of the participants. Three days before the phone interview, a study brief is sent to the participant’s e-mail to confirm the interview and clarify that the participant is free to withdraw at absolutely any time during the interview should they wish to do so. The twelve participants agreed to have their phone interviews recorded and transcribed. All data collected were stored to an encrypted computer with a security-protected file.

The semi-structured interviews were carried out under the guidance of this study’s research questions. Wherever possible and appropriate, the author encouraged participants to express their perceptions and expand on their experiences and views.

### Qualitative Analysis and Results

This study analyzes data inductively and reports results following the protocol developed in (Braun & Clarke, 2006). The protocol is made up of six steps: formalization, coding, generating themes, reviewing themes, defining themes, and writing up. Toward this end, this study’s phone interviews were transcribed while taking initial notes guided by the research questions. This is followed by highlighting a variety of phrases for every interview and identifying corresponding, matching, and recurring codes using a theme generator WordPress software where the cardinality of the set of codes increased within and among interviews.

### FINDINGS OF THE STUDY

Patterns were then identified among defined codes, and the following themes were generated:

#### Service Delivery: The Future Orientation of Higher Education in Saudi Arabia is Learner-focused

Almost all participants expressed that service delivery will instruct the future orientation of higher education in Saudi Arabia. Participants have communicated that COVID-19 crisis has made distance education (and most prominently online education) well-pronounced characteristics of the future of higher

education in Saudi Arabia. In the future there will be no substitute but to treat education as a service. In this current age of distance education, which is made a necessity by the COVID-19 crisis, providers of higher education will have to compete globally and beyond borders. This will largely drive the learner-focused and service delivery orientation of higher education. Some excerpts from the interviews are presented below:

- The COVID-19 pandemic made us all to become learner-focused. [Interviewee A. K.]
- Distance education greatly defines the future of college education in the kingdom. [Interviewee M. Q.]
- The current trend of online education puts a pressure on our universities to compete globally. [Interviewee F. G.]

### **Integration: The Complexity Involved in the Future Operations of Higher Education Demands Agile Teams**

Participants clarified that the complexity involved in the delivery of distance education solutions makes indispensable cross-functional, integrated, and multidisciplinary teamwork. Though many participants were not familiar with the term 'agile teams', they still repeatedly mentioned defining features of agile teams, e.g., integration, cross-functionality, multidisciplinary, alignment, accountability, and autonomy. Below are some sample excerpts from the interviews:

- Well-trained teams are needed for the efficient delivery of distance education solutions. [Interviewee M. B.]
- Appropriate delivery and management of distance education requires cross-functional and multidisciplinary teams. [Interviewee R. M.]
- Team work and autonomous team members are prerequisites to the effective delivery of online education solutions. [Interviewee R. Z.]

### **Permanent Changes and Permanent Impacts: The World is Always Changing, but the COVID-19 is Causing a Permanent Impact**

Participants noted that though the world is permanently changing, the current COVID-19 crisis will have a permanent impact on almost all walks of life (and most importantly education). As one of the participants rightly stated, "One thing we know for sure after the current crisis: online education will gain in terms of acceptability, recognition, and, ironically, safety." [Interviewee A. A.]

### **Uncertainty and Adaptability: Linking the COVID-19 to Agile Teams**

Participants have linked the COVID-19 crisis to the relevance of agile teams in higher education through the agility features of uncertainty and adaptability. The COVID-19 crisis has made higher education environments largely unpredictable, and instilled the value of adaptability and contingency management. Sample excerpts from two interviewees are presented below:

- Contemporary higher education places a demand on adaptable teams that can function in uncertain environments. [Interviewee R. M.]

- The current crisis taught us an unprecedented lesson in contingency planning. [Interviewee S. G.]

### **Labor Market and Responsible Citizenship: The Challenges for Distance Education**

Participants identified meeting labor market requirements and promoting the value of responsible citizenship may constitute challenges for distance education. One participant stated: perhaps a great potential for agile teams in the delivery of distance education is to enhance learners' labor market competitiveness while augmenting their sense of responsible citizenship. Below are two sample excerpts from the interviews:

- Satisfying the expectations of labor markets is the real challenge facing distance education. [Interviewee A. J.]
- Saudi higher education places a strong emphasis on responsible citizenship. This is the challenge facing online education solutions in Saudi Arabia. [Interviewee R. Z.]

## **DISCUSSION**

The five themes generated support that Saudi higher education service providers view agile teams favorably given the learner-focused orientation of higher education. Such orientation is made a necessity by a rapidly changing world owing to the COVID-19 global pandemic and the prominence of distance learning and online solutions for higher education. Participants have elaborated that: unlike traditional education, distance education requires a sizable level of complexity when education processes are designed and delivered. Such complexity places a great demand on cross-functional, autonomous, accountable, and multidisciplinary agile teamwork. The agile mindset and values of integrating and aligning the talents and skills of team players are indispensable qualities for the effective communication and efficient interaction processes of future solutions of higher education. Participants further relate the agile principles of incremental and iterative development to contemporary crisis management and mitigating the effects of unfortunate events (e.g., the COVID-19 pandemic). This is perhaps due to the fact that agile teams don't typically hinge on planning a priori but rather on a cycle of development and deployment that is based on requirements analysis (see, e.g., Bacea et al., 2017). Toward this end, the agile principle of responding to change and feedbacks rather than blindly following a plan is conducive and well-suited for the need for adaptability and managing uncertainty as entailed by the COVID-19 crisis. In fact, participants have strongly linked the COVID-19 crisis to the relevance of agile teams in higher education through the agility manifestos of uncertainty and adaptability for the COVID-19 crisis has made higher education environments largely unpredictable, and instilled the value of adaptability and contingency management. Moreover, agility principles of face-to-face interaction, collaboration, iteration, continuous attention to procedural (and technical) excellence, and efficient problem solving promote the labor market orientation of higher education while cultivating students' life-long learning and sense of responsible citizenship. In this regard,

a great potential for agile teams in the delivery of distance education is to enhance learners' labor market competitiveness while augmenting their sense of responsible citizenship.

### LIMITATIONS AND CONCLUDING REMARKS

This study investigated the role of agile teams in the service delivery of Saudi higher education amid the COVID-19 crisis. The qualitative design of this study allowed for an open-ended data collection instrument defined by a semi-structured interview process and thematic data analysis. The study employed a purposive strategy to sampling whereby direct engagements are administered between the author and individual participants. The study therefore analyzed data inductively and reports results where codes are defined, patterns are identified, and themes were generated revolving around the service delivery of higher education, the value of agile teams for higher education, the permanent impact that the COVID-19 crisis is leaving on distance education, the agility features of adaptability and responsiveness, and the potential for agile teams in the delivery of distance education. This study, however, is limited by the qualitative design, the thematic analysis, the semantic approach, the purposive sampling, and the choice of induction over deduction. Future research may employ the output of this study when developing a framework that may produce predictions regarding the impact of agile teams on the effectiveness (or efficiency) of the delivery of distance education solutions.

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