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ORIGINAL ARTICLE

The Continuity in the Concept: A Concept Analysis of Quality Culture in Complex Adaptive Systems

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ABSTRACT
In this article we define the concept of quality culture in a complex higher education context. The article aims to start a creative dialogue on the conceptual continuity of the concept of quality culture in the form of a literature review. The concept analysis follows the method of Walker and Avant. We present the method first and thereafter the literature review (&2). The first step of the method is a broad general search on the internet (&2.1.) and a literature review. Numerous articles were selected based on the snowballing strategy and berry picking. The special interest in quality culture in a complex context called for three extra searches. Fifty-eight articles were selected. Two concepts of Quality culture are discovered: quality culture as the creation of shared values and quality culture as ownership of all. There is little literature on quality culture and complexity. In the literature review, little is found about quality culture in a complex context. Only when the definition of the concept of quality culture is known and agreed upon, can we effectively facilitate a quality culture in the complex context of higher education. There is no concept analysis on quality culture available and little research done on the phenomenon of quality culture in a complex context.

1. INTRODUCTION

Quality Culture is a very popular concept in the literature on quality management. Scientists agree on the fact that a quality culture is beneficial. Srinivasan and Kurey (2014) interviewed the quality function leaders at more than 60 multinational corporations, conducted an extensive review of academic and practitioner research, and surveyed more than 850 employees in a range of functions and industries and at all levels of seniority. They conclude that having a quality culture is very beneficial. Employees who ranked their company in the top quintile in terms of quality reported addressing 46% fewer mistakes in their daily work than employees in bottom-quintile companies. And: *"A company with a highly developed culture of quality spends, on average, $350 million less annually fixing mistakes than a company with a poorly developed one"* (Srinivasan and Kurey, 2014, page 1). Interesting in this respect is also the notion of Hildesheim and Sonntag (2020) concerning higher education that *"Whereas academics often disagree on the comparability of quality criteria (e.g. bibliometric indicators), quality culture could well become a concept with which they can all identify, regardless of their discipline"* (pp. 892-893).

The concept, however, is ill-defined. We can refer back to quality gurus like Juran. Juran and Godfrey (1979) define quality culture as *"A culture throughout the organization that continually views quality as a primary goal. It is the pattern - the emotional scenery - of human habits, beliefs, commitments, awareness, and behavior concerning quality".* Crosby (1986) emphasizes that a culture of quality is one in which everybody in the organization is responsible for quality. Malhi (2013) provides the following definition, derived from the concept of organizational

culture: "A Quality Culture is a system of shared values, beliefs and norms that focuses on delighting customers and continuously improving the quality of products and services". Shared values, beliefs and norms are regularly mentioned. There are many more and the available definitions are seldom shared. If it is defined, there are many interpretations (Lagemaate et al., 2021).

That lack of definition of quality culture is also visible in the context of higher education (Hildesheim & Sonntag, 2020). It is, however, even more important in that sector than elsewhere (Ehlers, 2009). Harvey and Green (1992) follow Crosby (1986) stating that a culture of quality is one in which everybody in the organization, not just the quality controllers, is responsible for quality. Harvey and Stensaker (2008) acknowledge that applying 'quality culture' in a higher education setting should be done with caution. Their main conclusion is that 'quality culture' first and foremost can be a tool for asking questions about how things work, how institutions function, who they relate to, and how they see themselves. The dominant problem with quality culture as it is used today is that the concept is thought of as the *answer* to challenges, while in reality, it is a concept for *identifying* potential challenges. Ehlers (2009) distinguishes four basic components of a quality culture. However, that does not lead to a definition. Bendermacher et al. (2017) state that the exact meaning of the concept is subject to debate. They mention quality culture constitutes a complex social-constructivist phenomenon of which the contours are shaped by the organizational context, values (cfr. Berings, 2010 Harvey and Stensaker, 2008) and the development phase of dealing with quality management in which the organization resides (cfr. Bollaert, 2014). Hildesheim and Sonntag (2020) develop a useful way to measure quality culture in higher education (the Quality Culture Inventory) but provide no concept analysis. In the rapid review done before the decision to execute this research no systematic concept analysis was found.

Another concern regarding the definition of quality culture is that the concept changes overtime. Organizations can be considered as Complex Adaptive Systems (e.g. Holland, 1992). That certainly is the case with higher education institutes (Lohmann, 2006). The discussions on quality culture in higher education seldom seem to take this complexity into consideration. The main question of research then is: *How can we define the concept of quality culture in complex higher education systems.*

2. MATERIALS AND METHODS

Since the aim of this research is to carry out a literature review to scientifically define a concept, the method of Walker and Avant (2014) is used, as it is particularly suitable to analyze a concept for scientific purposes (Nuopponen, 2010). Walker en Avant (2014) proposes to search many sources in a wide area: dictionaries, thesaurus, colleagues, and available literature. The authors broke down the task in eight steps (see table 1). Step 1 and 2 have been described in the introduction of this article. Step 3, the broad use of the concept has been divided into two substeps: general sources (&3.1) and scientific sources (&3.2). Paragraph 4 describes the attributes of the concept (&4.1), antecedents (&4.2) and consequences (&4.3). Paragraph 4.4 relates the findings to the issue of complexity.

Table 1. Steps for concept analysis according to Walker & Avant (2014)

1. Select a concept (introduction)
2. Determine a purpose of the analysis (introduction)
3. Identify the uses of the concept (&3.1 and &3.2).
4. Identify the defining aspects of the concept, meaning the attributes that are most often associated with the concept, including related concepts (&4.1).
5. Describe a model case (which is a real-life example of the construct)
6. Describe borderline, related, contrary invented and illegitimate cases
7. Identify the antecedents (&4.3) and consequences (&4.4), which are events that occur before or after the occurrence of the concept
8. Define empirical referents (the occurrences in the real world that help the clinician diagnose the concept) (&4.5)

The description of cases (step 5 and 6) and empirical referents (step 8) are excluded from this article because of the word number limitation.

To identify uses of the concept (step 3), a search has been done in general sources (the visual thesaurus, databases Google, Wikipedia and online dictionaries) by entering the keywords 'quality' and 'culture'.

To investigate the use of the concept 'quality culture' in science, a literature review has been executed. A search was done on February 2nd, 2023, in EBSCO Essentials. Quality culture was searched in the title and higher education in the abstract. Thereafter an iterative search was executed. This was done through snowballing (Polit and Hunger, 1999) to find the most relevant and applied sources on quality culture in higher education by investigating the references of the selected articles on the inclusion criteria. To guarantee saturation, another search was added, using the 'berry picking-method' (Bates, 1989).

The literature was analyzed searching for attributes (aspects of the concept), antecedents (what precedes the concept) and consequences (what follows on the concept). The findings were grouped by the author in themes, based on similarities.

3. LITERATURE REVIEW

3.1. Literature review: general sources

Dictionaries do not present a definition of the combined concept of quality culture. It also can not be found on Wikipedia or the visual thesaurus. We here describe the concepts separately.

Culture

In 1952, Kreuber and Klockhohn conducted a critical review of concepts and definitions of culture and already at that time found 156 different definitions. It raised Jahoda's (2012: 299) worry that: "more than half a century after Kroeber and Kluckhohn, and a literature that could easily fill a sizable library, the most striking feature of these definitions is their diversity". A survey by Faulkner et. al. (2006) identifies 313 definitions of culture in the scholarly literature, comprising seven distinct themes. One of these is culture as a means for achieving some ends (the functional approach), and another culture as an ongoing process of social construction *(the process approach).* Chatman and O'Reily (2016, p. 214) state that most researchers, at least to some extent, agree with Schein's conceptualization of culture as including cultural artifacts, supported by norms and values, beneath which exist assumptions and beliefs. Schein (1996) speaks of a culture as "shared norms, values and assumptions" (p. 229).

Quality

Quality also has many diverse definitions, which leads to Harvey and Green's (1992) conclusion that quality (in higher education) is a 'slippery concept'. Katiliute and Neverauskas (2009) state that quality has quickly become a 'buzzword' in the higher education community. Quality is 'a multi-faceted concept', 'difficult to define and it must be contextualized' (p. 32).

Van Kemenade and Hardjono (2018) relate the definitions of quality to four paradigms: Quality as conformance to requirements (Crosby, 1979); Quality as fitness for purpose or fitness for use (Juran, 1951); Quality as an event (Pirsig, 1974). In the fourth Emergence Paradigm, quality is defined in a dialogue of all stakeholders. It is about making decisions based on the best knowledge of today, having investigated everything, to the best of our knowledge, it is a dynamic concept (Pirsig, 1991).

Quality Culture

With so many different concepts of culture and many diverse definitions of quality the intersections between the two concepts are potentially vast, as Harvey and Stensaker (2008) argue. Crosby, Imai and Juran provide a definition of the combined concepts of quality and culture. Crosby (1986) emphasizes that a culture of quality is one in which everybody in the organization is responsible for quality. Kaizen is everyday, *everyone,* everywhere improvement (Imai, 1986) (See: https://www.youtube.com/watch?v=WqKMlRJUAJk). Hilman (2017) conceptualizes quality culture as the system of attitude, values, customs, procedures and expectations which promote quality, in an environment-oriented organization towards continually maintaining and improving the quality level of services of an organization.

Quality Culture in Higher Education

Quality culture is often mentioned in higher education (Harvey & Green, 1992; Yorke, 2000; Ehlers, 2009; Harvey & Stensaker, 2008; Bendermacher et al., 2017). It is interesting that quality culture is also mentioned in governmental documents about quality assurance and accreditation. The Vietnamese Ministry of Education and

Training (MOET, 2019) states in an official document, section I.1.d that HEI's should *"effectively operate the internal quality assurance system, towards the goal of gradually forming and developing a quality culture inside the institution*" (o.c., p. 1). Many Vietnamese universities perceive it as a prerequisite for accreditation and quality improvement (Thai et al., 2022).

In Europe, quality culture is one of the principles for quality assurance in Higher Education, mentioned in the European Guidelines: *"Quality assurance supports the development of a quality culture"* (ENQA, 2015, p. 8). They talk about a quality culture in which *all internal stakeholders assume responsibilities for quality and engage in quality assurance at all levels of the institution* (ENQA, 2015, p. 11). Landgars et al. (2022) state that QC is mentioned in the national QA guidelines of Denmark, Finland, Norway and Iceland, but it is not mentioned at all by the Swedish guidelines for QA of education.

Quality culture in higher education and complexity

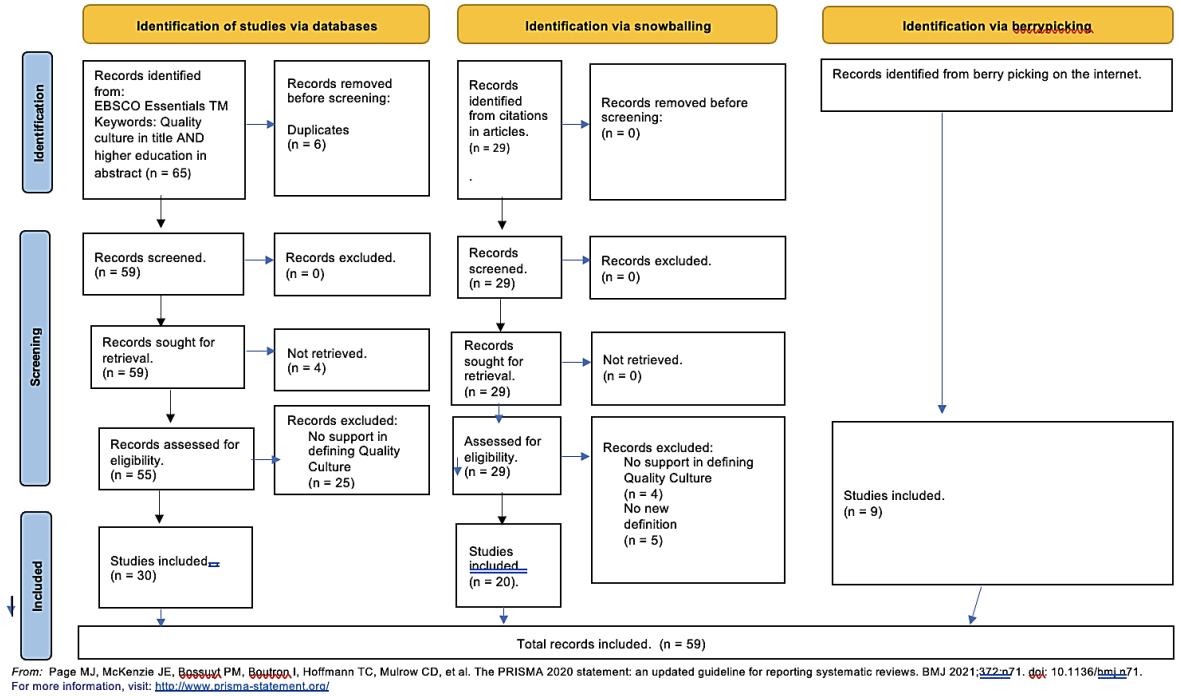
Our modern world is characterized as complex, or rather 'VUCA'. The notion of VUCA was introduced by the US Army War College to describe the more volatile, uncertain, complex, and ambiguous, multilateral world that resulted from the end of the Cold War (Kinsinger and Walch 2012). The acronym VUCA was thereafter used by strategic business leaders to describe the chaotic, turbulent, and rapidly changing business environment and later also used by researchers (e.g. Saleh & Watson, 2017).

Since 2010, more research has been undertaken to study this complexity from the perspective of Complex Adaptive Systems. Holland (1992) defines CAS as 'comprised of interacting agents that constantly and mutually affect each other.' In that sense, higher education institutes are complex adaptive systems (Ueland et al., 2021; Zhu & Lu, 2019; Martin, 2019; de Lourdes Machado-Taylor, 2011; Lohman, 2006). Also, higher education systems must constantly adapt to ensure survival in response to ever-changing system dynamics. In this article on quality culture in higher education, the focus is on the relation between quality culture and the increasing complexity it is in.

3.2. Literature review: scientific sources

The search in EBSCO resulted in 65 articles. Thirty-five were excluded. Through snowballing 29 more articles that did not show up in the original search were selected. The berry picking search on the internet provided 9 more articles. That pushed the total to 59. It is assumed that in this way saturation has been achieved. The review is reported in Table 1.

Table 1. PRISMA report review



From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71.
For more information, visit: http://www.prisma-statement.org/

To answer the research question, special attention is given to the complexity of the context. New search terms were added (to 'quality culture in higher education') in EBSCO. A search was done using 'Complex Adaptive Systems' in all fields and another using 'complexity science' in all fields, both of which did not achieve any result. The next search was conducted, adding 'complexity' in all fields. Seven articles then were identified with a touch upon the relation between the organization and a complex context (Harvey & Stensaker, 2008; Harvey, 2009; Henard 2009; Ehlers, 2009; Bendermacher et al., 2017; Cardoso et al., 2018; Legemaate et al., 2021).

4. RESULTS AND DISCUSSION

According to Walker & Avant (2014) a good concept analysis provides attributes, antecedents and consequences. In practice however, especially in the case of quality culture, attributes, antecedents and even consequences are mixed up. Legemaate et al. (2021) mention a considerable divergence in the scientific literature on characteristics versus enablers of quality culture; while according to Walker and Avant (2014), attributes versus antecedents. Quality management systems are sometimes seen as characteristic (part of the structural element) of quality culture (EAU, 2006), as the antecedent that is preceding it (e.g. Mail et al., 2014, Do et al., 2020) or a quality culture seems to be, as Todoruţ & Bojincă (2013), Rahnuma (2019) and Idris (2020)) state in different wordings, crucial to the success of quality assurance.

In line with Yorke (2000), we consider elements like a quality management system and leadership to be antecedents, not attributes. The effect of a QMS on QC might be mutual.

4.1. Attributes of quality culture

The literature on quality culture in higher education shows roughly two different sets of attributes, namely: *shared values around quality* in the organization and *ownership*. Harvey and Stensaker (2008) speak of two schools. 'On the one side, culture can be defined as something an organization *has*, i.e. culture as a potentially identifiable and manipulative factor and, on the other side, culture as something an organization *is*, an integrated product of social interaction and organizational life that is impossible to differentiate from other factors' (p. 431). According to Faulkner et al. (2006), we can discern the creation of shared values as a function concept (culture as a means for achieving some goals) and a process concept the process of ownership (culture as an ongoing process of social construction). Legemaate et al. 2021 see these as two ends of a spectrum. However, in the aspect of 'commitment' - as we will see later on - the two correspond to each other.

Collective responsibility: ownership

Following Crosby (1986) and Imai (1968), Harvey and Green (1992) state that a culture of quality is one in which everybody in the organization, not just the quality controllers, is responsible for the quality of their work or task. Harvey and Stensaker (2008, 13) posit that 'quality culture is nothing if the people who live it do not own it'. Quality culture meaning responsibility for everybody arises in many scientific articles on higher education (Yorke, 2000; Cardoso et al., 2016; Legemaate et al., 2021). We adopt here the term 'ownership', since taking responsibility can be externally enforced and that is just not the intention (Bendermacher et al., 2017; Cardoso et al., 2018; Legemaate, 2021). Ownership requires academic involvement in the design of the programme and course syllabi (Huong, 2018). Legemaate et al. (2021) choose for the term collective ownership. This is rather a process than a functional achievement of an objective. Harvey (2009) concludes that quality culture is not a process that can be imported and imposed. Developing a quality culture is synonymous with developing a self-critical and reflective community of practitioners. This does not occur by imposing compliance requirements. Creating collective ownership might be such a process that cannot be (fully) planned, but rather something that 'emerges'.

Shared values around quality

Malhi (2013) provides the following definition of quality culture: "A Quality Culture is a system of shared values, beliefs and norms that focuses on delighting customers and continuously improving the quality of products and services". 'Shared values' are mentioned in many articles about quality culture in higher education (Harvey & Stensaker, 2008; Berings et al., 2010; Ehlers, 2009; EAU, 2012). Hildesheim and Sonntag (2020) as well as Sattler and Sonntag (2018) state that the first comprehensive definition of quality culture in higher education relating to the construct of organizational culture was given by the EAU report. However, as mentioned above, Harvey and Green (1992) were the first.

Since 2006, the wider scope of quality culture as 'shared values' has become more popular, and the EAU report surely plays a role in that. The EAU report is often cited by researchers (e.g. Huong, 2018; Sattler & Sonntag, 2018; Legemaate et al., 2021). The EAU report (2006) mentions communication, participation, and trust as shared values. It states that*: "Quality culture refers to an organizational culture that intends to enhance quality permanently and is characterized by two distinct elements: on the one hand, a cultural/psychological element of shared values, beliefs, expectations and commitment towards quality and, on the other hand, a structural/managerial element with defined processes that enhance quality and aim at coordinating individual efforts"* (p. 10). Several scientists mention responsibility or commitment as one of the shared values (Do et al., 2019; Hildesheim & Sonntag, 2020). Thus, the scope is wider, yet something like commitment or responsibility is often mentioned in this concept as well.

The model presented by the European University Association (EAU) is an example of a top-down and bottom-up process. Ehlers (2009) states that the combination of top-down and bottom-up interactions is of key importance to a successful development of quality culture. The EAU is an example of *planned* change towards a quality culture. Others also view establishing a quality culture as a planned activity (see Stamelatos and Stamelatos, 2004). Mahli (2013) even proposes an eight-step model for creating and sustaining a quality culture. According to Harvey and Stensaker (2008), this is an example of quality culture as something manipulative, 'designed' and something that can be imposed on an organization' (p. 432).

The following definitions of quality culture are proposed:

1. Quality culture is the functional phenomenon of mostly planned change with a structural element (with defined processes that enhance quality and aim at coordinating individual efforts) and a psychological element (shared values, beliefs, commitment, norms and expectations).
2. Quality culture is the dynamic, mostly emergent process of feeling responsible and taking collective ownership of your work or task.

4.2. Other related concepts

Organizational culture

Related to quality culture is organizational culture. Organizational culture refers to a system of shared assumptions, values, and beliefs that show people what is appropriate and inappropriate behavior (Chatman & Eunyoung, 2003; Kerr & Slocum, 2005). Similar to quality culture, organizational cultures vary greatly in the higher education sector (Lomas, 1999, Šedžiuvienė & Tamutienė, ,2016, Ehlers, 2009). Most researchers consider quality culture a part of organizational culture (e.g. Cameron & Sine, 1999; Šedžiuvienė & Tamutienė, 2016; Ehlers, 2009; Do et al., 2019; Rahnuma, 2019). Organizational culture is a key determinant in promoting critical thinking that facilitates innovation (Pietersen, 2017).

Organizational climate

Organizational culture and climate have inherent similarities. Organizational climate has been defined as "the shared meaning organizational members attach to the events, policies, practices, and procedures they experience and the behaviors they see being rewarded, supported, and expected" (Ehrhart et al., 2014, p. 69). Research in organizational climate often is focused on the shared perceptions of employees and specific climates for service or safety. Organizational culture is broader and relates to every aspect of the organization.

Total quality culture (TQC)

The term Total Quality Culture is derived from Total Quality Management (TQM), an approach to management where the goal is to achieve long-term success by way of focusing on (one important value): customer satisfaction or customer delight (Kanji & Yui, 1997). The relation between TQM and organizational culture is also researched by Dellana and Hauser (2015). Maznocheri et al. (2012) researched TQC in higher education.

4.3. Antecedents

Antecedents are *"events or incidents that must occur or be in place prior to the occurrence of the concept"* (Walker & Avant, 2014, 117).

Ownership

Legemaate et al. (2021) aim to explore how to enhance a quality culture in higher education. They mention: clarity about the objective (performance indicators), a strategic external orientation towards performance aspects, the

design of whole task groups with an integral responsibility for a part of the performance indicators; creating a shared and lived clear team vision; sufficient control capacity of the team, minimum critical specification; an optimal fit between social elements of the organization (people and culture) and technical elements (systems and structure), called joint optimisation. Regarding people, a quality culture requires quality literacy, regarding culture as a participative approach. Regarding structure, a control capacity at team level is required, including a pivotal role of leaders in stimulating employees to take ownership. Regarding systems, a quality culture requires supporting information and feedback systems. Bendermacher et al. (2019) state that their findings highlight the paramount importance of a 'human relation' value orientation within HEI, as this orientation contributes to staff empowerment and commitment, indirectly impacts on ownership (through empowerment) and has a positive effect on satisfaction. Cardoso et al. (2018) state that the sense of ownership of quality by academics is influenced by their participation in it. Academics need to be empowered, formulate their own quality improvement activities and get incentives, if they do. Henard (2009, p. 11) states that '*a quality culture at institutional level can be better achieved through diverse initiatives, the consolidation of bottom-up initiatives, small-sized experiments at course or programme level, replication of success stories, the evaluation of quality teaching as a vehicle of discussion, and the participation of technical and administrative staff to provide mediation between academia and students*'. Irvine et al. (2016) argue that co-designed and open deliberative dialogue are antecedents of the establishment of a quality culture.

Creation of Shared values

In the concept of quality culture as the creation of shared values we can discern the following antecedents. Maznocheri et al. (2012) came to the insight that teamwork, increased quality of service, performance, and increased competitiveness can be considered as the strongest driving forces for a (total) quality culture in educational institutions in Qatar.

The EAU seems to consider quality management an attribute of quality culture. The relation between quality culture and quality management or internal quality assurance activities or quality management system is often mentioned. Mail et al. (2014) conclude their research with the finding that in order to increase quality culture, it is advisable to pay more attention to the process of internal quality audit systematically and continually. Also, Do et al. (2020) consider self-assessment to be the backbone activity. They see the effect both ways. The internal quality assurance activities are a vital element of a HEI and a foundation to form a quality culture, but a quality culture also has positive effects on the QA activities.

The EAU (2006) mentions *leadership* as a success factor, especially the capacity of the institutional leadership to provide room for a grass-roots approach to quality (wide consultation and discussion). A mission is the point of departure for quality assurance. This is supported by many others (Henard, 2009; Bendermacher et al., 2017; Militaru & Pavel, 2013; Bello et al., 2015). Bendermacher et al. (2017) mention human interaction (*people management*). Also, *strategic planning* has been identified as a main factor for the successful embedding of quality culture in an institution (Gordon, 2002; Bello et al., 2015). Quality improvement requires a continuous investment in *financial and human resources*. There needs to be a clear *process* in place that will only be successful if there is a widespread and shared vision among members of the institution or at the very least, a sufficient degree of agreement about overarching institutional aims. *All stakeholders*, including staff, students and external stakeholders, should be included in the planning process (Bendermacher et al., 2017).

It is not difficult to recognize the excellence model of the European Foundation for Quality Management (EFQM) translated to higher education (Van Kemenade, 2009) in the antecedents mentioned. In addition, publications (QAA,2006, Popa et al., 2013) show that external evaluations are likely to create a quality culture that will entice academics to embrace quality teaching as a normal aspect of the institutional culture.

4.4. Consequences

According to Walker and Avant (2014, p. 17) consequences are *"a result or outcome of the concept or phenomenon of interest'.*

Idris (2020) concludes in his research that organizational culture has empirically proven to be one of the most important factors in encouraging high organizational performance. Hilman (2017) found out that quality culture is a determinant of university performance, based on a.o. teaching, internationalization, and research. Several researchers mention enhanced education as consequence of a quality culture (Do et al., 2020; Ali & Musah, 2012; Harvey, 2009; Henard, 2009; Njiro, 2016; Kowalkiewicz, 2007). Do et al. (2020) see renovation of education and cost reduction

(following Wagenaar, 2011) as consequences of a quality culture. Petruța (2013) states that quality culture represents a key for continuous improvement, sustainable competitive advantage and excellence in the context of the knowledge-based society. Quality culture is the main ingredient in a successful TQM program. An organization with a 'quality culture' can be defined as one having clear values and beliefs that foster total quality behavior (Westbrook, 1993, Blouin 2019). In brief, QC leads to TQM, whereas we also conclude that QM leads to QC.

Bendermacher et al. (2017) mention, as outcomes of a quality culture apart from continuous improvement of teaching and learning, increased staff and student satisfaction, and student, academic staff and administrative staff learning and development. Ali and Musah (2012) searched for the relation between quality culture and workforce performance. They concluded that a QC leads to high job satisfaction, high work performance of academic staff together with better education.

4.5. Quality culture and complexity

The research question specifically focuses on quality culture in higher education in the actual complex environment. In the literature search on 'complexity', just seven articles were identified with the relation between the organization and a complex context (Harvey, 2009; Henard 2009; Ehlers, 2009; Harvey & Stensaker, 2018; Cardoso et al., 2018; Bendermacher et al., 2020; Legemaate et al., 2021). That is in line with the analysis of Sanchez-Franco et al. (2022). Their research analyzes the intellectual structure of research publications on Quality Movement (1980-2020), indexed in the Scopus database. As a result, the study identifies 48 topics and 13 meta topics for Quality Movement. None of these have a clear relation towards complex adaptive systems or complexity science.

A key element in complexity science is emergence. A concept analysis of emergence (Van Kemenade, 2019) clarifies that emergence is a reaction to a complex context. "Out of a network of interacting internal and external elements, in the course of time a coherent new pattern can arise, that is different from its parts, irreducible to the separate parts, unpredictable, unexpected and unplanned" (Van Kemenade, 2019).

It might be the case that a quality culture is the most effective as it 'emerges' in contrast to being planned. Lifvergen et al. (2011) make a fundamental distinction between planned change and emergent, unplanned change (see Table 3).

Table 3. Planned change versus emergent change according to Lifvergen et al. (2011)

Planned change	Emergent change
Almost always accompanied by unexpected consequences	The outcome is not the preconceived solution, but the development of the most appropriate solution for the stakeholders concerned
Appropriate for structural changes	Appropriate for cultural changes
Appropriate for economic-based change	Appropriate for organizational capacity building
Appropriate for new organizational structures	Appropriate for change process target-ing work processes

The quality culture of shared values is one of planned changes. The EAU-model of shared values stresses that the development of a quality culture should be a combination of a top down and bottom up process. Lueger and Vettori (2008, p. 15) add that the approach demands the involvement of multiple internal and external stakeholders, underlining the fact that a quality culture cannot be implemented from above, yet on the other hand, ambivalently stating that strong leadership may be necessary for starting and promoting the process in the first place. It is just this ambivalence concerning the relationship of top-down and bottom-up ideas (or differing management ideologies, respectively) that will pose one of the major challenges for the approach in future years". However, Ehlers (2009) sees that in recent times the field of quality management in higher education has changed. The new generation uses different and more holistic quality approaches to develop an organizational culture of quality. It is focusing on *change* instead of *control*, *development* rather than *assurance* and *innovation* more than standards *compliance*. The latter - traditional understanding of organizational management, inherently represents the belief that strategies can be pre-determined and precisely planned. The former and new generation of approaches affirms that change in organizations is *emergent* and resulting from employees' competences and organizational culture.

Self-organization

Greven (2019) talks about a second characteristics of complexity thinking: self-organization. Emergence can occur, when there is self-organization (Goldstein, 1999; Mitleton-Kelly, 2003; Chester & Welsh, 2005; Van Kemenade, 2019). In the quality management paradigms of Kemenade and Hardjono (2018), three paradigms each have their 'masterbrain' that steers quality improvement, being respectively the manager, the customer and the professional (cfr. Freidson, 2001). The Emergence Paradigm, however, has no individual behind the wheel. Emergence is unplanned, unlike what we know from the PDCA-cycle (empirical paradigm) or PDSA-cycle (reference paradigm).

Goldstein calls it like this: *"In complexity theory, the term 'self -organization' refers to the creative, self-generated, adaptability seeking behavior of a complex system*" (Goldstein, 1999, p. 56). Mitleton-Kelly: *"In an organizational context, self-organization may be described as the spontaneous coming together of a group to perform a task (or for some other purposes); the group decides what to do, how and when to do it; and no one outside the group directs those activities"* (Mitleton-Kelly, 2003, p. 20).

Legemaate et al. (2021) pay attention to significant contemporary challenges 'such as dealing with complexity of interdependent factors within the organization' (p. 5). They look for answers in the role of leadership. 'Managers should be aware of and reflect on their own behavior, create collective ownership together with lecturers, stimulate them to take ownership and adhere to continuous improvement in facilitating effective teamwork.' However, a centrally imposed obligation could only promote a culture that developed coping strategies for compliance, rather than improvement at the local level (Huong, 2018).

Shared needs rather than shared values

Furthermore, creating shared values might be hard to achieve. "While the difference between shared need and shared vision (goal) may appear subtle, the implication is not: it suggests that, in leadership, focusing attention on getting alignment around a shared vision or goal may be a waste of time or even undesirable (it may dampen creativity by fostering homogeneity over heterogeneity). It suggests that interdependence is a more powerful force for changes than alignment around a "single" vision (or shared goal). The implication of shared vision suggests "changing" someone's needs to match the leader's vision - a task that becomes quite lofty, and often unattainable in reality. Shared need instead starts with the "what's in it for me?" question and whether it is advantageous to work together to accomplish personal goals; it understands that if interdependence is not inherent or acknowledged, the likelihood of fully engaging others is slim. In this way, Complexity Leadership Theory recognizes the powerful motivating force of interdependence" (Uhl-Bien & Marion, 2009, p. 642).

5. CONCLUSION

One can discern two concepts of quality culture in higher education: the shared values approach and the ownership approach. The concept analysis in this research resulted in attributes and two definitions of quality culture. A quality management system can be considered as an antecedent of quality culture, but a quality culture can - the other way around - also improve the (adherence) to the quality system.

When the context is complex, in the state of disorder or VUCA, something else is needed rather than planned change and shared values. We need to foster self-organization to enable the emergence of novelty, of innovation. Where the quality culture of creating shared values is mostly an example of planned change, the quality culture of collective ownership is more self-organized and focused on shared needs rather than shared values. That is confirmed by the example of Vietnam. Huong describes a reactive quality culture, the empirical paradigm (Van Kemenade and Hardjono, 2018), and pleads for more self-organization, for more autonomy. Do et al. 2020 note a difference in quality culture in Vietnam between private and public universities. They found that higher autonomy of private universities can explain the higher scores in development of a quality culture compared to public universities (Thai et al., 2022). More research on higher education institutes being complex adaptive systems is needed, focusing on the role of leadership and autonomy to increase their quality culture.

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