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**Academics' e-learning adoption in Higher Education Institutions: a matter of trust**

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## 1 Academics' e-learning adoption in Higher Education Institutions: a matter of trust

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3 **Purpose** - This paper examines how academics enact trust in e-learning through an inductive  
4 identification of perceived risks and enablers involved in e-learning adoption, in the context  
5 of Higher Education Institutions (HEIs).

6 **Design/methodology/approach** - Grounded Theory was the methodology used to  
7 systematically analyse data collected in semi-structured interviews with sixty-two academics.  
8 Data analysis followed the constant comparative method and its three-staged coding  
9 approach: open, axial and selective coding.

10 **Findings** - The resulting trajectory of trust factors is presented in a Grounded Theory  
11 narrative where individual change, integration through shared collective understanding and  
12 institutionalisation are discussed as stages leading to the overcoming of e-learning adoption  
13 barriers.

14 **Originality/value** - The article proposes that the interplay between institutionalism and  
15 individualism has implications in the success or failure of strategies for the adoption of e-  
16 learning in HEIs, as perceived by academics. In practical terms, this points to the need for  
17 close attention to contextually-sensitive trust building mechanisms that promote the balance  
18 between (1) academics' commitments, values and sense of self-worth, and (2) centrally-  
19 planned policy, rules, resources and exhortations that enable action.

20  
21 **Keywords:** E-learning; Trust; Information Systems; Adoption; Perceptions; Grounded  
22 Theory; Organisational learning; Institutionalism; Individualism

### 23 24 1. Introduction

25  
26 This paper discusses the emergence of the issue of trust in relation to e-learning adoption  
27 decision by academics in Higher Education Institutions (HEIs). It provides an inductive  
28 explanation of how academics concentrate on developing a trusting state that reduces the  
29 perceived contextual complexity, and the costs associated with incorporating the use of  
30 instructional technologies - typically Virtual Learning Environmens - in their academic  
31 *praxis*. More specifically these academics work in Portuguese public, campus-based HEIs,  
32 where face-to-face instruction, typified in the lecture model, is the dominant mode of  
33 educational delivery.

34 Framing the issue of perceived barriers and catalysts to e-learning adoption as a  
35 problem of trust (or distrust), is a direct response to the challenge of advancing organisational  
36 research through conceptualizing trust in "new and unexplored management information  
37 systems contexts" (Bensabat et al., 2010). It is also an attempt to expand the conceptual  
38 understanding of e-learning adoption beyond the confines of Education studies, by aiming to  
39 achieve a deeper understanding of "the dynamics of trust and distrust relations - one which  
40 makes specific provision for conditions of ambivalence" (Lewicki and McAllister, 1999).  
41 Therefore, the core contention contained in this paper is that academics' adoption of e-  
42 learning is a prime example of such ambivalent circumstances, since academics' e-learning  
43 adoption is a consequential decision-making situation subject to outcome framing,  
44 conditioned by aspirations of procedural justice, and ultimately shaped by the engendering of  
45 institutional dialogic spaces.

46 The framing of outcomes and adoption effects is not entirely new in the e-learning  
47 literature, with studies focusing on the identification of critical success factors (e.g.  
48 McPherson and Nunes, 2008), the influences of institutional policies and practices  
49 (Parchoma, 2009), or the conceptualisation of e-learning adoption in HEIs as a disruptive  
50 form of innovation (e.g. Hardaker and Singh, 2011). However, an interpretation of the issue  
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3 51 as a trust problem as presented in this article is innovative within the organisational studies  
4 52 literature.

5 53 Laurillard (2007) alludes to the costly transition of Higher Education Institutions to  
6 54 the digital paradigm. Costs are eminently related to what Laurillard (2007) describes as  
7 55 “the immensely difficult task of changing a culture in which the drivers of curriculum  
8 56 and assessment requirements, stakeholder demands, career rewards, and funding  
9 57 models, are all geared to old technologies”. Accordingly, the inductive reconstruction of  
10 58 academics’ perceptions about their position within the structured social context of the  
11 59 university – as presented in this paper – can provide pathways to the “proximal processes  
12 60 that lead to trust” (Messick and Kramer, 2000) in e-learning. Naturally, the focus is not on  
13 61 anthropocentric conceptions of trust, which traditionally define the concept as the willingness  
14 62 to accept risks in inter-personal relationships. (Sheppard and Sherman, 1998). This paper  
15 63 steers away from an interpersonal dimension to approach trust in more calculative and  
16 64 strategic dimensions, taking stock of how academics process “information about  
17 65 outcomes, uncertainties, risks and combining this information with the decision  
18 66 maker’s preferences, risk attitudes, levels of aspiration, and willingness to tolerate  
19 67 uncertainty” (Messick and Kramer, 2000). Finally, in analysing trust as the result of  
20 68 institutional arrangements (Zucker, 1986), this paper is situated at the intesection of  
21 69 managerial and sociological approaches to information technology adoption.

22 70 In terms of structure the remainder of this paper develops as follows. The next section  
23 71 provides a theoretically-sensitising literature review on perceived barriers to adoption. This is  
24 72 followed by a methodology section, in which the Grounded Theory research design employed  
25 73 in the study is explained. The subsequent findings section takes the shape of a Grounded  
26 74 Theory narrative, in which theoretical propositions are illustrated with a selection of  
27 75 representative quotations extracted from interviews with informants. The discussion section  
28 76 situates the contribution of the proposed theory of trust in e-learning within the wider  
29 77 organisational studies literature. Finally, the concluding section puts forward suggestions on  
30 78 how to spur trust in e-learning through organisational learning, which entails creating and  
31 79 diffusing knowledge across HEIs, and developing satisfactory social exchange mechanisms.

## 32 80

### 33 81 **2. Academics’ resistance to e-learning adoption**

## 34 82

35 83 When engaging with e-learning, academics should be equipped with an enhanced set of skills  
36 84 and attributes that transcends the transference of subject-specific knowledge, in order to  
37 85 successfully meet the possibilities open by online delivery, namely the development of high-  
38 86 order cognitive skills related to negotiation of meaning, meta-cognition and life-long learning  
39 87 (Nunes and McPherson, 2003). This set of responsibilities involves elements of technical but  
40 88 mainly educational expertise, which offer challenges in the selection and preparation of  
41 89 academics because the evidence of possession of such skills is not certified by the academic  
42 90 or professional institutions that accredit subject matter expertise.

43 91 As McPherson and Nunes (2004) argue, academics’ role in e-learning imply the  
44 92 additional ability to set collaborative learning agendas; moderate conferencing behaviour;  
45 93 provide leadership and guidance to individual learning needs; and organise delivery in such  
46 94 as way that learning objectives are aligned with methods, assessment and expected outcomes.  
47 95 These new dimensions of the scholarly activity go well beyond disciplinary knowledge and  
48 96 the knowledge derived from face-to-face teaching, emphasising the dimension of social  
49 97 engagement and challenging longstanding assumptions regarding scholarly work, judgements  
50 98 in quality, and ownership of work (Benson and Brack, 2009). At the organisational level of  
51 99 analysis, there is also the need for “personalised support and a deeper dynamics of collective,  
52 100 evidence-based sense-making to avoid situational ambiguity” (Martins and Nunes, 2009).

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3 101 The wider literature on e-learning and the roles of academics identifies a range of  
4 102 difficulties commonly felt across HEIs, which may negatively impact on academics'  
5 103 perceptions and confident adoption of e-learning. The sources of academics' resistance  
6 104 typically include (1) having to deal with increased process-related demands of teaching; (2)  
7 105 making extended provisions for the negotiation of teaching and learning activities; (3) facing  
8 106 an overwhelming flow of content, questions and answers from students (de Vries et al., 2005;  
9 107 Kester and Sloep, 2009); (4) and the intensified need to improve closeness and cognitive  
10 108 learning through mechanisms of instructor immediacy (Nagel, 2010:46).

11 109 Many of these new tasks are perceived to be time-consuming, being tightly tied to a  
12 110 new set of responsibilities that pertains no longer exclusively to students' skills acquisition  
13 111 and construction of knowledge (Goodyear, 2006, Martins and Nunes, 2016). Academics feel  
14 112 increasingly committed to the demands of monitoring and moderating students' activity  
15 113 online, and to interactional learning design requirements that are growing in sophistication  
16 114 and complexity (Spector, 2005). In general terms, academics struggle with the production of  
17 115 "transactional presence" – the connected and continuous availability of academics to  
18 116 students' requests. (Shin, 2002:132).

19 117 Most of these difficulties are not alleviated at the organisational level. To this regard,  
20 118 Birch and Burnett (2009) indicate that a "perceived lack of reward and a lack of recognition  
21 119 from management and peers has consistently inhibited academics' willingness to develop e-  
22 120 learning environments". Similarly, Green et al. (2009) purport that "seldom will faculty  
23 121 participate in activities that take time and resources away from their careers, especially when  
24 122 trying to get tenured at an institution". In addition to academics' already overloaded teaching  
25 123 and administrative workloads, e-learning brings to the equation deterrents such as increased  
26 124 time commitments (Carlson et al., 2002; Orr et al., 2009), "lack of tenure considerations, lack  
27 125 of course releases and lack of training and support" (Cook et al., 2009:151). Because of this  
28 126 lack of institutional rewards and incentives, academics find it uninviting to consider e-  
29 127 learning adoption (Loureiro-Koechlin and Allan, 2010).

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### 33 131 **3. Methods**

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35 133 Grounded Theory (Glaser and Strauss, 1967) was selected as the methodology in this study  
36 134 for its ability to inductively extract and theorise academics' perceptions, the assumptions  
37 135 underlying their behaviour towards e-learning, and the richness of lived experiences.

38 136 A sociomaterial, practice-based approach that would highlight the practical,  
39 137 embodied, and situated (Orlikowski and Scott, 2008; Feldman and Orlikowski, 2011)  
40 138 dimensions of e-learning adoption was also considered a viable research approach. However,  
41 139 symbolic interactionism, with a clear focus on meaning making in social situations (Charon,  
42 140 1979; Potter, 1996; Woods, 1992), provided the most appropriate perspective for this  
43 141 research study. Blumer (1969) has described symbolic interactionism as being based on three  
44 142 fundamental principles: individuals act "towards things on the basis of the meaning things  
45 143 have for them"; meaning "is derived from, or arises out of, social interaction one has with  
46 144 one's fellows", meaning is dynamic and changes as one acts and modifies it as a result of  
47 145 ongoing interactions (Blumer, 1969:3). Therefore the meaning that a process like the  
48 146 adoption of e-learning has for academics is "constitutive, not accidental or secondary to the  
49 147 experience" (Bogdan & Biklen, 1992:36). Meaning is intentionally constructed, it is dynamic  
50 148 and will change as a result of ongoing interactions, because individuals act, perceive,  
51 149 interpret and act again – in a continuous dialectic process.

52 150 Sampling efforts focused on the identification of a relevant community of practice,

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3 151 composed of academics in Portuguese public HEIs, teaching at BA/ BSc Level, and affiliated  
4 152 with Faculties where e-learning appropriation manifested itself in considerable depth.

5 153 Data collection efforts developed in two stages: a first interview round comprised 14  
6 154 interviews; and a second interview round comprised 51 interviews. The total number of  
7 155 participants is 62, but 3 informants that participated at the first interview round were again  
8 156 interviewed during the second data collection stage, as part of the theoretical sampling  
9 157 process and in order to support the validity of ongoing coding and analysis.

10 158 Following the proposal of Strauss and Corbin, this research preserved the defining  
11 159 feature of grounded theory - the inductive generation of theory. However, it is acknowledged  
12 160 that prior knowledge of the relevant literature is important to develop theoretical sensitivity.  
13 161 Accordingly, a general review of the literature was of assistance to identify issues in the  
14 162 particular area and find gaps in available knowledge to be filled up by an inductively-built  
15 163 theory.

16 164 In Grounded Theory research the idea of conducting a literature review is  
17 165 occasionally problematic, since the inductive nature of the method recommends minimising  
18 166 researcher's exposure to bias. Therefore the function of a literature review must not be the  
19 167 generation of any a priori framework or model, which is commonly, adopted as the  
20 168 theoretical foundation and starting point for data collection and analysis in deductive research  
21 169 designs. Consequently, a general review of the literature took place at the beginning of the  
22 170 research project to provide background knowledge for the global sorting and ordering of the  
23 171 topics that composed the interview guide (*vide* Appendice 1 for the interview guide used for  
24 172 data collection). The literature review served the purpose of enhancing the researchers'  
25 173 theoretical sensitivity (Glaser, 1978). Interviews were semi-structured and lasted between 1  
26 174 hour and 1 hour and 30 minutes. They were conducted in Portuguese, but the results of data  
27 175 analysis are expressed in English.

28 176 A purposeful approach to preliminary informant selection was deemed necessary  
29 177 during the first round of interviews to, as Glaser (1978) admits, gain rapport with  
30 178 "knowledgeable people to get a line on relevancies and leads to track down more data and  
31 179 where and how to locate oneself for a rich supply of data", whilst maximizing "the  
32 180 possibilities of obtaining data and leads for more data in their question" (p. 45). During this  
33 181 stage, 14 academics of Portuguese Higher Education Institutions were interviewed (3 of  
34 182 which held concurrent responsibilities as e-learning administrators, 2 as e-learning strategists,  
35 183 and 2 as governmental officials). The researchers had no previous relationship with the  
36 184 participants. In the course of data analysis conducted during the first interview round, the  
37 185 researchers have found that emergent theoretical propositions related to academics' e-  
38 186 learning appropriation pathways could be refined and modified through comparison with  
39 187 other cases. This acknowledgement consequently dictated the decision to refine and extend  
40 188 the sampling strategy, basing the procedure on analytic grounds.

41 189 As the study developed into a second round of interviews, theoretical sampling -  
42 190 employed as an inductive, systematic approach to extract theoretical formulations out of  
43 191 informants disclosed cognitions followed by validation and consolidation, i.e. the initial  
44 192 theoretical constructs were used in this stage to guide further data collection.

45 193 The strategy for theoretical sampling relied on pursuing referrals made by early  
46 194 informants to potential study participants that in turn were also recognised e-learning  
47 195 practitioners. These referrals often crossed disciplinary boundaries (disciplines included  
48 196 Education, Computer Science, Communication Studies, Information Science, Maths,  
49 197 Management, Pharmacy, etc.). During this second stage of data collection, a total of 51  
50 198 academics were interviewed. Data collection and analysis coexisted until no new open codes  
51 199 emerged from the data analysis. This indicated that theoretical saturation had been achieved.

52 200 The analytical process involved open, axial and selective coding strategies (Strauss

201 and Corbin, 1998), which translated into breaking down interview transcripts into units of  
202 meaning, starting with descriptive categories, reappraised for sets of irradiating relationships,  
203 ultimately condensed – through the analytical steps of constant comparison – into higher  
204 order categories of holistic explanatory power.

205 The concerns raised by informants in the course of interviews were representative of  
206 their professional category. They addressed change management practice, as globally there  
207 was the perception that HEI had not adequately positioned themselves for the introduction of  
208 e-learning systems. In terms of theory building, the most significant categories emerging  
209 from interviews referred to erroneous institutional mainstreaming policies and change  
210 burdens resulting from changes in practice and learning materials required by e-learning.  
211 These change burdens result in disruptions to academics' professional praxis and require  
212 changes in institutional attitudes, management and reward schemes. It emerged strongly  
213 from data that an unrewarded extension of the teaching presence and the fading of traditional  
214 expectations for engagement in teaching and learning is a source of anxiety, stress and  
215 mistrust in e-learning by academics.

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#### 217 **4. Trajectories of trust in e-learning**

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219 In order to describe and explain barriers to e-learning adoption in a systematic manner, an  
220 explanatory model was developed based on the three stages of coding proposed by Strauss  
221 and Corbin (1998), previously explained in Section 3, and now detailed in Appendix 2. More  
222 specifically, open coding developed as a process of identification or mapping of barriers to  
223 trust in e-learning, as perceived by academics.

224 As the level of abstraction in coding progressed, trust barriers were aggregated  
225 according to whether they reflected either an agentic or an institutional orientation (axial  
226 coding), and then grouped in sequentially progressive levels of trust that culminate in a  
227 conceptualisation of trust in e-learning through organisational learning (selective coding).  
228 Organisational learning is understood here as organisationally regulated collective learning  
229 process in which individual and group-based learning experiences concerning the  
230 improvement of organisational performance and/ or goals are transferred into organisational  
231 routines, processes and structures, which in turn promotes academics' trusting adoption of e-  
232 learning.

233 Ultimately, the model presented here – and summarised in Appendix 3 - conceives e-  
234 learning as a means of strategic renewal in HEI. It attempts to explain e-learning adoption as  
235 a process. The dominant perspective is therefore psychological-organisational, by  
236 simultaneously focusing on the overcoming of individual and organisational behaviours that  
237 prevent or hinder e-learning adoption.

238 The multilevel character of the model is evidenced by bringing together individual  
239 and organisational levels of analysis – this duality was very vivid across interviews with  
240 academics - further conceptualised through coding as actional-personal or structural-  
241 organisational spheres. This multilevel nature is particularly important to understand the  
242 tension between academics' individual experiences in a changing environment and HEIs'  
243 response, actionable in the strategies employed to transfer experiences from individual level  
244 into organisational routines, structures and processes. Tables 1-3 below present in detail the  
245 emerging main themes that reflect academics' perceived barriers to trust in e-learning,  
246 accompanied by representative quotations extracted from interviews. Furthermore, the tables  
247 present three processes by which the different levels of trust in e-learning (individual and  
248 organisational) are bi-directionally connected:  
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3 250 1. Trust to change: this is the process of developing new insights and ideas concerning e-  
4 251 learning based on personal experiences. It is located within individuals and it is  
5 252 extracted through analysing the ways in which academics explain their insights  
6 253 through words and actions to themselves and to others:  
7 254

8 255 “An effective change in practice is achieved through systemic  
9 256 interventions and we are missing that. The outlook needs to be  
10 257 integrative and sustained by leadership, supervision and  
11 258 determination of quality standards, because online practice also needs  
12 259 to be evaluated. This means going beyond the technological  
13 260 dimension of e-learning (Q33:33:51)”  
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15 262 INSERT TABLE 1 HERE  
16 263

17 264 2. Trust to integrate: this step takes place when a shared understanding among  
18 265 individuals is achieved, allowing for coherent and collective action across the  
19 266 organisation, yet not forcefully:  
20 267

21 268 ”Both the administrative and the pedagogical uses of e-learning can  
22 269 only be fully exploited if some sort of guidelines or recommendations  
23 270 are available. But I don’t think these should be too prescriptive or  
24 271 imposing. If the use of e-learning was fully mandated and regulated  
25 272 by institutional norms, there would be attrition and resistance”  
26 273 (Q14:27:39).  
27 274

28 275 INSERT TABLE 2 HERE  
29 276

30 277 3. Trust to institutionalise: this state refers to the consolidation and implementation of  
31 278 shared understandings in systems, structures, rules, procedures and strategies, which  
32 279 guide organisational action. To be more specific, the institutionalisation of e-learning  
33 280 implies embedding it in the structures, routines and strategies of the organisation.  
34 281

35 282 ”E-learning implementation requires negotiation, the concerted effort  
36 283 and search for solutions that please everyone. The management needs  
37 284 to employ powers of political persuasion, whilst directing all the  
38 285 attention to reconciling the cultures, interests and singularities of  
39 286 different disciplines, academic departments, and academics (Q5:9:6).”  
40 287

41 288 INSERT TABLE 3 HERE  
42 289

43 290 The three processes of changing, integrating and institutionalising are used to characterise the  
44 291 overcoming of the specific barriers to e-learning adoption that they aggregate. They were  
45 292 identified during the selective coding stage (see Appendix 2).  
46 293

47 294 However, there is a deeper dualism permeating all three stages, which was identified  
48 295 during axial coding (see Appendix 2). It deals with power, identity and influence, and it  
49 296 affects the perception of costs and benefits that academics associate with e-learning. This  
50 297 dualism is that of agency versus structure, i.e. the capacity of individuals to decide and act  
51 298 independently of social structures versus the mechanisms that serve as constraint on the  
52 299 activities independently pursued by subjects (procedural rules, material resources, resources  
53 of authority) (Giddens, 1984).  
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3 300 On the one hand, there are barriers to trust in e-learning that fall under an 'actional-  
4 301 personal' sphere (agency). These are marked by individual thinking, attitudes and behaviour,  
5 302 and by self-interested/ self-governed action.

6 303 On the other hand, there are barriers to trust in e-learning that fall under a 'structural-  
7 304 organisational' sphere (structure). These are characterised by existing routines, structures and  
8 305 practices and are expressed culturally in the formulation of strategic intent, in formal  
9 306 regulations as well as in the processes of decision-making, dominance and discipline.

10 307 Subsequently, this sphere is divided into 'strategic' and 'operational' levels. The  
11 308 'strategic level' refers to how HEIs envision their leadership position and how, in response to  
12 309 this vision, they establish the criteria that will be used to chart progress. This requires an  
13 310 active management process that includes the ability to focus organisational attention on the  
14 311 essence of a shared vision, the ability to motivate people by communicating the value of  
15 312 targets, the ability to make room for individual and team's contribution in the formulation of  
16 313 targets, and the ability to sustain commitment by providing operational definitions and  
17 314 allocating resources.

18 315 Turning to operational performance, the 'operational level' refers to how  
19 316 organisations translate strategic direction into operational reality, creating competitive  
20 317 advantage in the process. It describes how initiatives that are closely associated with  
21 318 organisations' strategic direction are targeted to receive increased managerial attention,  
22 319 greater financial and technical support, and additional resources in the form of staff training  
23 320 and motivation, which are necessary to sustain high-priority endeavours.

24 321 The components of the external organisational environment were not ignored and  
25 322 were assimilated into the 'structural-organisational' sphere, as it is considered that the  
26 323 environment represents parts of the social and material world that the organisation perceives  
27 324 as relevant. The organisation filters out perceived changes and developments in the external  
28 325 environment (for example technological innovations, governmental policy or new ideas  
29 326 generated by specific groups in society) and decides whether or not to integrate them as  
30 327 organisational products and practices. This decision is not dissociable from culturally  
31 328 endorsed forms of authority, rather being its reflexion, hence the importance of analysing  
32 329 societal-environmental factors as components of the structural-organisational sphere.

33 330 In building theory researchers should aim at understanding the phenomenon under  
34 331 investigation as fully as possible, situating it within a complete range of macro and micro  
35 332 conditions in which it is embedded. To address this challenge the research reported in this  
36 333 paper made use of Strauss and Corbin's (1998) conditional/ consequential matrix to  
37 334 diagrammatically represent the theory's narrative story and to successfully and logically  
38 335 access, integrate and portray the complexity and deeper textures of academics perceptions as  
39 336 conveyed by the findings presented in Section 4.

40 337 The conditional/ consequential matrix contributes to expanding the dimensions of the  
41 338 analytic work, through a balanced representation of structure and process. Immediate and  
42 339 broader contexts of the phenomenon are integrated in the analysis, contributing to a denser  
43 340 reconstruction of data, as patterns of interaction are identified, and connections to influential  
44 341 macro and micro conditions are established (Corbin and Strauss, 1996).

45 342 Using the matrix as a framework to analyse social processes of change permits the  
46 343 localisation of a social world, understood in this study as a group "with shared commitments  
47 344 to certain activities, sharing resources of many kinds to achieve their goals, and building  
48 345 shared ideologies about how to go about" business (Clarke, 1991:131).

49 346 In this particular study, the social world is composed of academics and their  
50 347 perception and attitudes regarding the adoption of e-learning. The data collected in interviews  
51 348 revealed the existence of what Strauss (1993:227) describes as "whirlpools of argumentative  
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3 349 action" - a symptom indicating that social arenas disputing e-learning appropriation and  
4 350 embedding strategies are at interplay.

5 351 The matrix allows the formulation of an explanatory sociological theory by relating  
6 352 "the context of conditions, one with the other, of a structuring process that is ongoing in the  
7 353 form of an arena within or between social worlds" (Hildenbrand, 2007:544). In this specific  
8 354 case, the matrix reproduced in Figure 1 illustrates that the overcoming of actional-personal  
9 355 and structural-organisational barriers is a condition of trustful adoption of e-learning,  
10 356 following a progressive integration of: (1) individual academics' capacity to develop new  
11 357 insights and ideas concerning experiences of e-learning (trust to change); (2) academics'  
12 358 capacity – as a professional group - to achieve shared notions of validity for e-learning  
13 359 experiences; and (3) the institutional capacity to embed e-learning in HEIs' structures,  
14 360 routines and strategies (trust to institutionalise).  
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16 362 INSERT FIGURE 1 HERE  
17 363  
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## 19 365 5. Discussion and conclusion 20 366

### 21 367 5.1 The issue of trust 22 368

23 369 Emergent trust has been inductively identified as a desired state of successful e-learning  
24 370 adoption – trust to change, trust to integrate, and trust to institutionalise. The findings indicate  
25 371 that e-learning adoption in HEIs is the result of academia's strategic renewal of practice, or in  
26 372 other words it requires that HEIs take a strategic approach to organisational learning that  
27 373 enhances trust in organisations.

28 374 Consequently, if e-learning is to be fully exploited in the delivery of Higher  
29 375 Education, academics will need to revise patterns of practice and behave differently.  
30 376 Nonetheless, academics, as social actors, "do not behave or decide as atoms outside a social  
31 377 context [and] their attempts at purposive action are embedded in concrete, ongoing systems  
32 378 of social relations" (Granovetter, 1985:487). Therefore, eliciting academics' cognitions about  
33 379 their position within the structured social context of the university can potentially provide  
34 380 pathways to the "proximal processes that lead to trust" (Messick and Kramer, 2001) in e-  
35 381 learning.

36 382 Although the meaning of trust is intuitively understood by the common citizen, the  
37 383 findings presented in this paper transcend the anthropocentric conceptualisations that  
38 384 traditionally posit a view of trust as the willingness to accept "risks associated with the type  
39 385 and depth of the interdependence inherent in a given relationship" (Sheppard and Sherman,  
40 386 1998).

41 387 The concept has traditionally been addressed by the literature on social psychology  
42 388 (Blau, 1964), sociology (Luhmann, 1979), and economics (Sako, 1992), but the most  
43 389 consensual definitions have defined it as a mix of interpersonal and impersonal dimensions.  
44 390 Mayer et al. (1995) and McNight et al. (1998) define it as the positive expectation an  
45 391 individual has about the competence, reliability and benevolence of fellow organisational  
46 392 members, combined with the organisation members' trust in the organisation's vision,  
47 393 strategy, and procedures. Accordingly, in its interpersonal form, organisational trust refers  
48 394 mostly to individuals' "ability, capability, integrity, truthfulness and goodwill" (Ellonen et  
49 395 al., 2008:161). In its impersonal form, organisational trust refers to the efficiency and  
50 396 procedural fairness of the organisation-wide systems such as reward systems and human  
51 397 resources policies (Costigan et. al., 1998; Pearce et al., 2000; Atkinson and Butcher, 2003).

52 398 In the study reported in this paper, trust moves beyond a strictly interpersonal  
53 399 dimension into more calculative and strategic dimensions, following Smith's (2001)  
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3 400 argument that trust concerns “uncertainty about outcomes, ambiguity of objective  
4 401 information and exercise of discretion about action”. The focus of interest is academics’  
5 402 consequentialist decision making – a deep process that, according to Messick and Kramer  
6 403 (2001) entails “processing of information about outcomes, uncertainties, risks and combining  
7 404 this information with the decision maker’s preferences, risk attitudes, levels of aspiration, and  
8 405 willingness to tolerate uncertainty”.

9  
10 406 The conceptualisation of trust presented here derives from academics’ identification  
11 407 of systems and methods that allow them to make assessments and decisions regarding the  
12 408 dependability of e-learning adoption, framed as a transaction that involves a certain degree of  
13 409 risk and difference to the traditional academic environment and practice.

14 410 Therefore, the principal aim of this section is to connect the psycho-social foundations of  
15 411 academics’ trust with the macro-bases of organisational processes that are set in motion to  
16 412 accommodate e-learning.

17 413 Trusting behaviour is triggered by initial salient value, potentially erodible. Research  
18 414 on motivators for academics in e-learning conducted by Cook et al. (2009) identifies several  
19 415 sources of enthusiasm and trusting behaviour: a personal proclivity to use technology; the  
20 416 ability to reach new audiences; the opportunity to improve teaching and develop ideas.  
21 417 However, initially ascribed meanings may change as academics learn about or experience  
22 418 uncontrolled risk. That is frequently the case of academics who display a mistrusting  
23 419 behaviour after having experienced the time-consuming task of interaction with students and  
24 420 contents’ moderation (de Vries et al., 2005; Nagel, 2010; Kester and Sloep, 2009). Indeed, in  
25 421 appraising the fragility of trust, Kramer (1999) alerts for the widespread of trust-destroying  
26 422 events, which may “carry more weight in judgement than trust-building events of comparable  
27 423 magnitude”.

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30 424 The frequency and intensity of e-learning time-consuming tasks and the combined  
31 425 absence of adequate organisational response contradict the notion that e-learning can set  
32 426 academics free of temporal constraints (Goodyear, 2006:84) and operate as a trust-destroying  
33 427 nexus.

34 428 Although trust “simplif[ies] the social world by allowing actors to differently  
35 429 manage” (Marsh and Dibben, 2005) uncertain contexts, it cannot give them absolute  
36 430 confidence. As further posited by Weber et al. (2005:76), trust operates at the level of anxiety  
37 431 reduction, being a psychological state that helps individuals and organizations process  
38 432 information more rapidly, based on positive expectations of a third party’s behaviour.

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40 433 Interestingly, a study of personal relationships with extended impact in the relational  
41 434 and social dimensions of trust conducted by Murray and Holmes (1994:61), discovered that  
42 435 people often develop optimistic narratives and cognitive frames “to preserve feelings of  
43 436 confidence and security in face of the inevitable risks posed by interdependence”. Initial  
44 437 trusting behaviour in e-learning, by extension, seems to follow along the same lines, and  
45 438 entail accepting vulnerability in the hope or expectation of gains extractable from  
46 439 incorporating educational technology in teaching practice.

47 440 However, another variant contributing to the heterogeneity of experiences and  
48 441 expectations of use is entrenched distrust, which Marsh and Dibben (2005) qualify as the  
49 442 human response to insufficient information, resulting in the need for evidence. Across  
50 443 informants’ accounts, this was manifested when academics held no expectation of benign  
51 444 outcome based on inference of e-learning’s distinctive marks. In particular, it was reported  
52 445 that the expansion of available instructional possibilities offered by e-learning faces the  
53 446 obstacle of academics’ self-complexity and entrenched conservatism. That is especially the  
54 447 case of more senior staff, for whom “changing mindset and role description to that of a  
55 448 service provider can certainly increase workload and reduce status” (Shurville, Greener and  
56 449 Rospigliosi, 2008).

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3 450 A more rational approach to e-learning appropriation derives from the existence of  
4 451 trust management systems committed to ensure academics are aware of possible e-learning  
5 452 outcomes and are consequently able to take cost-effective actions, enhance benefits and  
6 453 mitigate appropriation risks. These systems reflect a gain-oriented rationality, rooted in the  
7 454 capacity to trigger academics' confidence and assurance. Accordingly, acceptability of e-  
8 455 learning can be increased by identifying and emphasising benefits, thus generating  
9 456 consistency among academics' beliefs.  
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### 11 **Rewards strategy**

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14 460 Structural-organisational assurance can be leveraged through the establishment of clear pay-  
15 461 off and reward structures, which are currently stifled by (i) career regulations that ignore the  
16 462 time applied by academics in e-learning development; and (ii) the traditional configuration of  
17 463 the university as a social system around excellence in research, at the expenses of quality in  
18 464 teaching and pedagogical innovation.

19 465 The participants involved in this study generally reported online teaching activities to  
20 466 be personally rewarding, but perceived discrepancies between personal and institutional  
21 467 rewards for using e-learning, and most sharply between university rewards for teaching and  
22 468 scholarly activity. Despite the fact that a wide range of instructional technologies and e-  
23 469 learning development programs was endorsed by management, top rated options referred to  
24 470 institutional recognition of research excellence.

25 471 From this comparatively lower endorsement given to online instructional skills  
26 472 emerges an imbalance in the effort-reward chain, which may determine that academics  
27 473 become less agreeable to considering online instructional development activities because  
28 474 institutional incentives don't communicate the message that teaching online is serious  
29 475 business, despite the increment in teaching loads and the heavier burden of designing,  
30 476 tutoring and advising responsibilities.

31 477 Similar concerns are echoed in the literature. A lack of guidelines for evaluating  
32 478 online teaching and the absence of supportive institutional response makes online teachers  
33 479 "concerned about how their online teaching is regarded in the context of promotion and  
34 480 tenure" (Spector, 2005). Valuable time can otherwise be allocated to better rewarding  
35 481 activities such as research and publishing.

36 482 A fairer reward system, academics argue, must be able to go beyond symbolic  
37 483 incentives and impact in the research culture in such a way that the scholarship of teaching  
38 484 and learning offers equivalent compensation, thus ensuring an integrated approach to  
39 485 academic careers. Such an integrated approach should bring to the academics' assessment  
40 486 equation dimensions not traditionally considered such as the development of teaching  
41 487 practices based on the learning perspective; teachers' effort to develop students' learning  
42 488 online; discipline-relevant pedagogical reflexivity; and special attention to the integration of  
43 489 learning philosophies and teaching activities (Martins and Nunes, 2010).

44 490 An examination of organisational theory literature further emphasises reward as a  
45 491 mediating process through which employees are motivated and resources allocated. Ferrin  
46 492 and Dirks (2003) examined perceptual routes through which rewards influence trust to  
47 493 conclude that "reward structures are a powerful element of the organizational context, and  
48 494 represent a potentially useful tool for managers who wish to change employees' behaviours,  
49 495 perceptions and beliefs". In addition to this, a stream of management research emphasises the  
50 496 use of extrinsic rewards in an effort to stimulate employees' creativity (Fairbank & Williams,  
51 497 2001; Van Dijk & Van den Ende, 2002, Eisenberger and Aselage 2009).  
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**Practice alignment**

The dimension of individuals' sensemaking cannot be obliterated from a theorisation of e-learning adoption. Actional-personal confidence in e-learning can be fostered through relying on academics' agency and on their ability to understand evidence of salient value. From perceived benefits, academics will be able to mainstream what they consider to be appropriate guidelines, procedures and goals of introduction of e-learning in pedagogical practice. Confidence is, as purported by Marsh and Briggs (2009), "often achieved through rules and regulations that are backed up by a trustworthy legal or social system".

If, as outlined above, university-wide norms of virtual presence, accounting for and adequately rewarding academics' time allocated to the scholarship of e-teaching provide a solid basis for the conscious calculation of adoption consequences, confidence is on the other hand predicated on shared institutional understandings regarding that very system of rules and the affordances of e-learning. A normative system can only foster trust if sustained within an organisation "not [by] an explicit contract (...) [but] by socialization into the structure of the rules" (Marsh and Olson, 1989).

Consequently, consistency in guidelines provided by management and the collaborative negotiation of individual expectational assets are fundamental in the process of articulating academics' perceptions, motives and aspirations in order to control the specific transformations introduced by e-learning.

Comprehensive and clear communication about the reasons for appropriation, reinforced with the diffusion of knowledge regarding embedding strategies and consequences is also needed to avoid irrational resistance. Research on trust validates this assertion, underlying the role of communication in successful projects, and indicating that "communicating one's reasoning and expectations via explicit statements that describe intentions and expectations can be effective in clarifying the dynamics of a trusting act" (Messick and Kramer, 2001).

Research conducted by Mansvelt et al. (2008) generated similar conclusions, suggesting that poorly linked technology infra-structure, policy and social connections may result in frustrated and confused staff. Practice misaligned with policy, uneven e-learning experience implementation, and unsupportive management are inimical to confident adoption.

Additionally, availability of support structures can help academics feel confident to freely compose the most adequate technologically-enhanced pedagogical solutions. Institutionally flexible technology-enhanced learning environments that value locally nurtured knowledge and networks of contacts can reduce complexity, organizational conflict and staff anxiety. Shurville, brown and Whitaker (2008) concur with this approach, calling for the provision of "institutions and their developers with facilities to adapt and integrate the product with local administrative processes, IT platforms and teaching culture".

To avoid divergence and tension between managerial and academic practice, devolution should increment disciplinary-driven innovation and achieve what Snyder et al (2007:200) define as the "alignment of planets": the generalisation of technology-mediated pedagogical initiatives through the secure enabling of conditions for academics' creativity and productivity i.e. "resources, systems, discursive practices and other conditions that facilitate complementarity" between innovations across the institution and compatibility of values and goals.

In terms of managerial principles aimed at shaping trust, this proposal appears to match the human investment philosophy as described by Creed and Miles (1996), most notably the importance of interventions designed to "enhance the technical competencies,

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3 549 business understanding, decision-making abilities, and the self-governance capabilities of all  
4 550 members”.

5 551 The emergent trust theory is also aligned with Blomqvist & Ståhle’s (2000) model of  
6 552 organisational trust. The model posits that trust is built by the convergence of individual and  
7 553 organisational structures, which are signalled through actions. In turn, actions are evaluated  
8 554 as signs of trustworthiness. The interplay between structure and action produces the dynamics  
9 555 of trust. Trust-building is iterative and results from the convergence of organisational and  
10 556 individual actions. For example, the experience of mutual orientation is a signal that both the  
11 557 organisation and the individuals are committed to norms and values that promote reciprocity.

12 558 This achievement of shared values maximises the chances of joint effort and increases  
13 559 individuals’ “will to stretch his/her roles in the organisation” (Blomqvist and Ståhle, 2000).  
14 560 Similarly, the articulated communication of organisational goals and individual intentions  
15 561 signals that both parts are able to “state their needs and expectations openly”, which results in  
16 562 a better understanding of what are the goals, what is needed to reach them, and what is  
17 563 requested in terms of rules and commitments (Blomqvist and Ståhle, 2000).

18 564 With the issue of e-learning adoption in HEIs, a similar convergence is necessary: the  
19 565 voluntary engagement of management and academics in a transformative exercise through  
20 566 collective inquiry, negotiation and consensus building as a means of enabling both parties to  
21 567 reflect about e-learning as a common area of concern.

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#### 24 570 *Framing e-learning adoption decision between institutionalism and individualism*

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26 572 In face of the findings presented in the previous section, the necessary trust to confidently  
27 573 adopt e-learning is seen to reside in the relationship between academics and the context in  
28 574 which they find themselves. This is so because academics are simultaneously institutionalised  
29 575 subjects and institutional architects. It is the unfolding of the inter-relationship between the  
30 576 two dimensions – the institutional context *vis a vis* academics’ creative subjectivity and  
31 577 calculation – that produces contingent functional means of reducing uncertainty and  
32 578 bolstering trust.

33 579 An immediate consequence of this proposition is the overcoming of limitations  
34 580 traditionally linked to rational choice and sociological institutionalism: the former being  
35 581 pervasively voluntarist, associating individual actors to self-interest and the maximisation of  
36 582 self-serving utilities; the latter subsuming individualism under institutionally-sponsored  
37 583 preferences. Such overcoming occurs through the dialectical convergence between  
38 584 academics’ strategic (instrumental) action and structure (the institutional context), the  
39 585 outcome being deliberation and negotiation of political strategies. The filtering of academics’  
40 586 instrumental individual action through active participation in the shaping of e-learning  
41 587 strategies results in stronger identification, affiliation and appropriation of a fair structured  
42 588 institutional context, which favours adoption.

43 589 The dialectical convergence between academics’ instrumental action and the institutional  
44 590 context as route for trustful e-learning adoption resonates with a structuration theory  
45 591 (Giddens, 1984) perspective on trust building.

46 592 Sydow (1998), in particular, argues that despite the fact that trust is very difficult to  
47 593 develop and sustain, it is nevertheless possible to manage the conditions (processes, routines  
48 594 and settings) affecting the development of trust. Having extensively addressed the issue of  
49 595 trust (Sydow, 1998; Sydow and Windeler, 2003; Sydow, 2006), Sydow’s main contribution  
50 596 to the field is “a practical plea for more trust-sensitive management of organisations and  
51 597 inter-organisation” relationships (Sydow, 2006:378), which fits the theory of trust through  
52 598 organisational learning dialectic’s plea for collaborative production of social and technical

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599 norms that produce shared knowledge and a common understanding of what is expected  
600 practice in e-learning.

601 The constitution of trust according to Sydow's structuration perspective on trust building  
602 (Sydow and Windeler, 2003; Sydow, 2006) entails the development of interpretive schemes,  
603 resources and norms to which social actors refer interactively, thereby producing a social  
604 structure of signification and legitimation in which the object of trust is constituted and to  
605 which further action will refer.

606 In this sense, the production of trust is contingent on:

- 607 (i) organisational learning, as academics revise their perceptions of the affordances of  
608 e-learning, as they assimilate information, realise goals and reorient future  
609 strategies;
- 610 (ii) a transformation of the institutional environment, with an emphasis on processes  
611 of participation, access to strategic resources, and ability to shape institutional  
612 trajectories.

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614 The integration of these findings with the wider organisational studies literature can be  
615 achieved through the concept of legitimacy, since academics as organisational actors are  
616 more likely to pursue e-learning as a valid course of action, if it is tied to strong perceptions  
617 of internal legitimacy. Theorists of legitimacy (Farndale and Paauwe 2007, Suchman 1995)  
618 have defined it as powerful concept in organisational analysis because it drives the  
619 combination of strategic and institutional factors that influence decisions in organisations.  
620 More recently, Mason (2012) acknowledges how institutional legitimacy resonates with  
621 actors' belief systems, which should prompt organisations to make decisions that are in  
622 accordance with stakeholders' shared values.

623 Similar arguments can be found in the e-learning literature. Parchoma (2009)  
624 proposes addressing e-learning implementation challenges – e.g. academics' motivations,  
625 pedagogical praxis, organisational cultures, organisational structures and function,  
626 organisational economies - through promoting a distributed approach to leadership via  
627 "internal negotiation of members' multiple life spaces and their associated perspectives [to]  
628 produce more effective and timely results that can be achieved by consistently applying macro  
629 or mezzo-level policies or procedures" (Parchoma, 2009:156-157).

630 More recently, Hardaker and Singh (2011:221) propose that the "dialectical nature of  
631 adoption of e-learning", operates a synthesis between academics' agency and the  
632 "institutional structures such as strategies, training, access to technology, technical support  
633 and time resources". The core argument contained in Hardaker and Singh (2011) is that the  
634 local context lived by academics and the top-down strategic change need to be conceptually  
635 and pragmatically bridged. In practical terms this happens when academics "perceive they are  
636 able to influence the e-learning initiatives within institutions" (Hardaker and Singh,  
637 2011:230). They need to be involved in "strategic change that is likely to have an influence  
638 on their academic roles. Failure to acknowledge this call by lecturers is likely to result in  
639 rejection or false compliance to top down directives" (Hardaker and Singh, 2011:230).

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### 642 *An organisational learning perspective*

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644 In order to maintain viability and thrive in the new knowledge economy, HEIs must employ  
645 effective learning processes. HEIs should remain open systems and their prosperity depends  
646 on their ability, as organisations, to learn and adapt to threats and opportunities presented by  
647 dynamic external environments, in particular the reported growing pressures to adopt e-  
648 learning.

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3 649 The e-learning related pressures for change presented throughout the previous  
4 650 subsections raise questions about the nature of the learning processes that are associated with  
5 651 organisational change. Consequently, the purpose of this subsection is to examine  
6 652 “organisational learning” as theoretical framework used by organisational science (Huber,  
7 653 1991) to understand individual and collective learning processes, and their contribution to  
8 654 organisational change.

9 655 A comprehensive review of research in this area is beyond the scope of the purpose  
10 656 here, yet the diversity of fields in which connections between learning and organisational  
11 657 change occur - Argyris and Schon (1978); Levitt and March (1988); Senge (1990); Brown  
12 658 and Duguid (1991); Weick and Westley (1996); Easterby-Smith (1997); Gherardi and  
13 659 Nicolini (2001); Boreham and Morgan (2004) - warrant the effort in (1) synthesising  
14 660 organisational learning concepts and practices, (2) reviewing thematic tensions, (3)  
15 661 identifying dominant frameworks, and (4) relating the processes of organisational learning to  
16 662 organisational politics.

17 663 The attempt to synthesise organisational learning concepts and practices is in the first  
18 664 instance conditioned by the realisation that most definitions appear to be complementary  
19 665 (Matlay, 2000), although different orientations may suggest a more nuanced understanding of  
20 666 different aspects covered by general principles of organisational management. It is in this  
21 667 vein that Wang and Ahmed (2003) defend a taxonomy of organisational learning according to  
22 668 differences in focus: focus on the transformative potential of accumulated individual and  
23 669 collective learning; focus on a process view that stresses the importance of systems thinking;  
24 670 focus on an understanding of collaborative culture as an enabler of improved performance;  
25 671 focus on a knowledge management perspective; focus on a managerial aspiration for  
26 672 incremental and continuous improvement.

27 673 The focus on the transformative potential of accumulated individual and collective  
28 674 learning is epitomised by the assumption of individuals as agents of learning, contributing  
29 675 through experience and interaction to improved performance (Argyris and Schon, 1978).

30 676 The focus on a process view that stresses the importance of systems thinking draws  
31 677 significantly on information processing stages (i.e. acquisition, interpretation, storage,  
32 678 distribution) and postulates the existence of sequential stages - some emphasising leadership  
33 679 (e.g. Popper and Lipshitz, 2000), some emphasising cognitive processes (e.g. Crossan et al.,  
34 680 1999) - whereby organisations understand and manage experiences (Glynn et al., 1992).

35 681 Similarly, a focus on knowledge management is centred on the ability to acquire  
36 682 information, share common understandings that allow the exploitation of knowledge (Fiol,  
37 683 1994) and the extraction/ derivation of insights (Fiol and Lyles, 1984) with future strategic  
38 684 impact: “learning is the process of linking, expanding, and improving data, information,  
39 685 knowledge and wisdom” (Bierly et al., 2000:597).

40 686 A complementary understanding of organisational learning emerges from the cultural  
41 687 perspective, in which collaborative team working and employee empowerment and  
42 688 involvement are presented mechanisms that enable organisations to best utilise knowledge  
43 689 and achieve desired goals (Drew and Smith, 1995).

44 690 Finally, when improved performance is pursued as a continuous process rather than a  
45 691 single product, we are in presence of an understanding of organisational learning as iterative  
46 692 engagement of employees to incremental innovation, which entails intentional “devot[ion] to  
47 693 the facilitation of individual learning in order to consciously transform the entire organisation  
48 694 and its context” (Pedler et al., 1991).

49 695 In an attempt to synthesise the variety of perspectives, organisational learning is  
50 696 understood here as an inherently complex adaptation process. It requires the conjunction of  
51 697 networks of individuals and groups – often with conflicting views - but also the conjunction  
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of functions and processes. This resonates with the latent tensions in the organisational learning literature, expressed in a series of dichotomies identified by Peck et al. (2008):

- (1) The place of the individual vis a vis the place of the collective, and related contributions to the process of learning and change in the organisation (Lehesvirta, 2004);
- (2) The opposition between learning understood as “acquisition” (e.g. Huber, 1991; Honig, 2008) and learning understood as “participation” (e.g. Boreham and Morgan, 2004). The former is interested in the trajectory through which cognitive skills develop in individuals, whereas the latter is interested in cultural practices and socially negotiated processes of change;
- (3) The co-existence of normative (prescription-based) and empirical perspectives (descriptive and analytical) to organisational learning.

Being a means of achieving strategic renewal through making adaptations to objectives and routines, organisational learning may additionally entail readjusting goals, governance and operational rules. By engaging academics and managing authorities in appreciative inquiry of the aforementioned conditions, it potentially contributes to the processing of information that changes and aligns the range of behaviours.

Ultimately, the process is geared towards generating plurivocal understanding and harmonised outcomes regarding e-learning. What prevails is therefore an instrumental and output perspective on dialogical practice, the objective being the rationalisation and aggregation of collective views into a coherent whole. What changes as a result of the organisational learning process is academics’ behaviour and cognitive system. Trust in e-learning as a desired state or behavioural change goal occurs with negotiated changes to organisational routines and HEIs’ standard operating procedures.

This is essentially a reflection strategy that emphasises how academics as change agents make sense and socially construct understandings of the buzzing changes they experience when confronted with e-learning. The organisational learning endeavour is a meaning-making exercise, with a view to changing mindsets through the revision of structures, procedures and behaviours. Getting academics to share and socially construct cross-understandings and shared understandings of e-learning will increase the likelihood of collective learning and help manoeuvring the change journey.

However, strategic renewal as a consequence of e-learning adoption is complicated, as it depends upon individual, jobs and structural characteristics, as well as on existing culture and reward/ recognition systems. The contention here is that HEIs will become more apt at managing the change introduced by e-learning as they adopt practices to promote the dynamic move of knowledge repertoires through a series of evolving stages involving the individual academic, academics as a professional group and the wider HEIs as an organisation.

This is achieved through negating the traditional bureaucratic structure in which individuals had no space for learning and were consequently tied up to a repetitive set of forms, rules, conventions, activities, technologies and procedures that underpinned organisational functioning. An organisational learning dialectic is aimed precisely at developing the knowledge base necessary to question the repetitive set of organisational activities and existing protocols.

Critical aspects of cultural analysis are essential in this questioning. It is especially important to: (1) establish and question which discourses are more visible and accorded most power by groups; (2) understand how academics are represented within HEIs; (3) elucidate what borders define the territories of academic practice, including what identity is

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3 748 constructed for those within such borders; (4) determine what cultural capital is attributed  
4 749 dominant status. Academics weigh up evidence from these multiple sources in the aggregate  
5 750 to make their decision as to trust or not in e-learning, acting as auditors of the trustworthiness  
6 751 instilled by HEI's decisions, arrangements and organising procedures. This is the main  
7 752 reason why the organisational learning dialectic should seek to identify the larger problems in  
8 753 academics' work lives and environments, with a view to making local productive changes in  
9 754 dysfunctional patterns of e-learning appropriation.

10 755 A focus on academics' interests will link cognition at individual, group and  
11 756 institutional levels and help HEIs to find, select and organise both information and expertise  
12 757 needed to achieve organisational vision and integrated action. The approach starts with  
13 758 academics' articulation of their experiences with e-learning. They then move on to problem  
14 759 identification from those experiences, they gradually progress to critical analysis of forces  
15 760 contributing to problems, and finally they collaborate with managing authorities to action  
16 761 responses to address the problems detected.  
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## 21 764 **Conclusion**

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23 766 This study provides valuable insights for those who are confronted with the need to appraise  
24 767 academics' experiences and practices, in the context of e-learning implementation. Due to its  
25 768 interpretive nature, the findings cannot be representative of all academics and all HEIs  
26 769 However, in the qualitative tradition of organisational research, they provide understanding  
27 770 and knowledge into the world of lived experience (Denzin and Lincoln, 2005).

28 771 Both academics and the managing authorities of HEIs need to look at the limitations  
29 772 and possibilities for *praxis* introduced by e-learning. This is only possible under an  
30 773 institutional arrangement that respects the capacity for human agency, and the possibility for  
31 774 heteroglossic discourses regarding what it means to be a good academic under the  
32 775 affordances of e-learning.

33 776 Additionally, this demands the recognition that material structures and power  
34 777 structures may operate as barriers, hence the need to stimulate collective inquiry, negotiation  
35 778 and consensus building as a means of enabling managers and academics to reflect about e-  
36 779 learning as a common area of concern.

37 780 The expectation is that the clash of polarities evidenced in the data collection operates  
38 781 as a trigger for change, bringing heretofore latent forces – either anchored in or contesting  
39 782 historically constructed inconsistencies – and engaging them in the dialectic reconfiguration  
40 783 of organising procedures to accommodate e-learning.

41 784 The objective is to spur trust in e-learning through organisational learning, which  
42 785 entails creating and diffusing knowledge across HEIs, and developing satisfactory social  
43 786 exchange mechanisms that act as trust catalysts. To accomplish this end, it is necessary that  
44 787 both academics and managing authorities appreciate and value the current aspects of HEIs  
45 788 (what they are), envision what they might be, dialogue about what they should be, and  
46 789 innovate about what they will be.

47 790 Further research should continue to explore the ways in which “trust can be profitably  
48 791 approached in organisation theory through the interaction of organisational forms and  
49 792 managerial philosophies” (Creed and Miles, 1996:34). It should pursue the conceptualisation  
50 793 of e-learning adoption as a mixed-motive process - posing dilemmas to academics' individual  
51 794 self-interests and institutional structural interventions and solutions - focusing more  
52 795 specifically on understanding how can organisational and psycho-social factors converge to  
53 796 jointly shape positive sentiments and a sense of professional accomplishment.  
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797 At a deeper level of analysis, the interactive relationship between the steps and  
 798 processes of e-learning adoption on the one hand and the persistence of typified and  
 799 symbolised spaces of action within and around HEIs Institutions on the other could be  
 800 expanded in the light of Strauss's (1993) Social Arenas theory, in an attempt to grasp and  
 801 represent "the perspectives and properties of all major actors (including collective social  
 802 worlds and nonhuman actors) in a particular arena of mutual concern in which certain actors  
 803 are implicated" (Clarke and Casper, 1996:602). In the case of e-learning adoption this would  
 804 imply extending the scope of the study to capture and understand the perspectives and  
 805 properties of HEIs' management structures, the sentiment of students' towards the role of  
 806 educational technologies, and the dimension of educational policy.

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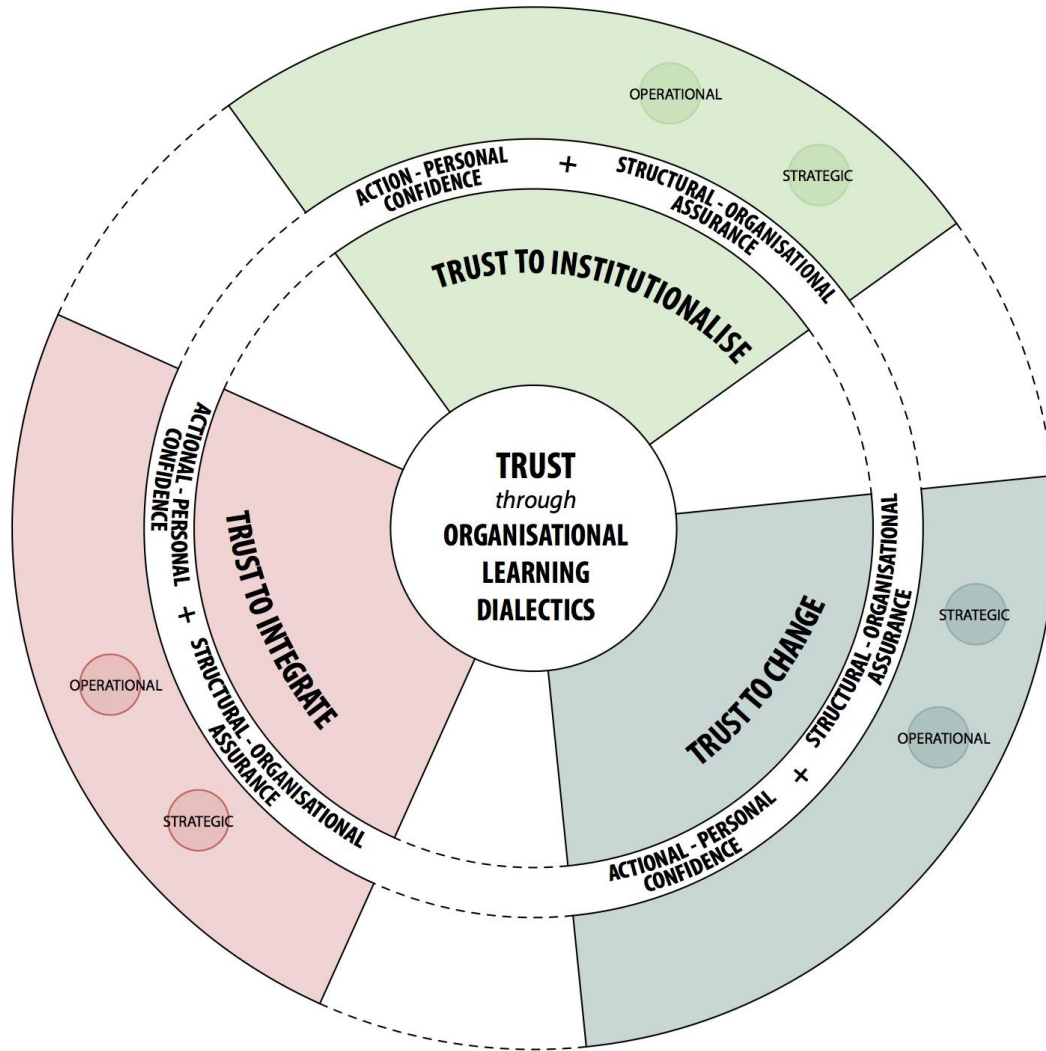
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The Learning Organization

Figure 1 - The conditional/ consequential matrix



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**Table 1** - The presentation of emerging main theme, barriers and representative quotations  
(Trust to change)

Categories		Barriers	Representative statements	
Trust to change	Actional-personal confidence	Perceived lack of relative advantage	"They were unable to perceive any usefulness in its existence and found it extremely complex and time-consuming to use" (Q21:2:2).	
		Student-centred learning paradigm	"This entire buzz about student-centred learning sounds fabulous but to me it is all too idealist and it does not fit day to day teaching" (Q15:11:20).	
		Unrealised pedagogical value	"The willingness to adopt e-learning is, in my opinion, dependent on how much teachers understand why it is worth doing it" (Q19:16:26).	
		Unrealised managerial and delivery efficiency	"I would say the problem lies with a perception of value, it takes personal conviction that e-learning brings about more gain than pain" (Q30:29:56).	
		Insufficient intrinsic motivation	"It is absolutely fundamental to have an intrinsic, genuine belief in the potential of technology or in the ability of new technology and services to generate benefits" (Q48:5:8).	
		Epistemological disagreement	"One of my concerns is that e-learning platforms typify and reproduce traditional delivery models that resemble programmed instruction, which I have always avoided in my practice as a teacher" (Q1:15:19).	
		Technological determinism	"My fundamental issue with e-learning is the systematic fascination and the irrational allure that new technology exerts over people" (Q9:7:8).	
		Risk avoidance culture	"Fear and distrust are the most general feelings I can sense in academia regarding e-learning" (47:48:102).	
		Defensive routines	"A poor teacher can easily get away simply with spending their time reading notes loud in a lecture theatre" (Q15:23:42).	
		Diverse knowledge bases	"Disciplinary differences are an obstacle to a smooth mainstreaming of e-learning" (Q18:21:44).	
		Ownership and control of knowledge	"They are not willing to give up control and property without expecting some sort of benefit" (Q3:25:50).	
		Occupational mindsets	"The objective of e-learning policies is to erode the professional standing of academics, to undermine their credibility, which was solidly established in societies as the creators of knowledge" (Q1:19:24).	
		Definitional profusion	"E-learning is a very complex entity, not easily definable. It's not possible to encapsulate all that it means in a simple sentence" (Q29:2).	
		Resistance to innovation	"There is a resistance against technology and there is resistance against the status of knowledge or the representation of knowledge status" (Q3:7:11).	
		Erosion of high status professional identity	"The erosion of professional status is one of academics' main concerns. I would dare to say that these are political and ideological matters" (Q7:30:50).	
	Prejudice	"The simple suspicion that e-learning may cause breaches in reputation or prestige is enough to dissuade take-up" (Q32:41:70).		
	Structural-organisational assurance	Strategic	Monolithic academic culture	"Ideas and processes remain unchangeable and people are so comfortably accommodated to their habits that they claim for continuity" (Q2:16:23).
			Cost-cutting driven policy	"It may be very risky to develop e-learning in Higher Education if the strategy is purely economically-driven" (Q42:29:57).
			Governmental patronage	"The government's vision does not translate into a clear strategy. I would dare to say that it seems that a coherent vision for the Higher Education sector is actually missing" (Q14:43:70).
			Market-driven adoption	"There are good expansion opportunities for our traditional student base. These opportunities are afforded by e-learning. There is clearly an e-learning market" (Q24:40:207).
Outdated management-held core values			"Most of the e-learning systems that are now being implemented are outdated, square, old-fashioned and useless" (Q1:40:51).	
Operational		Bureaucratic overload and internal fragmentation	"The administrative demands are so extenuating that our relational and social identities as academics are obliterated" (Q34:30:32).	
		Measurable goals and performance feedback	"I welcome any change to current performance appraisal procedures, which I consider to be amoral and decredibilising for the academics' profession" (Q29:15:26).	

Table 2 - The presentation of emerging main theme, barriers and representative quotations  
(Trust to integrate)

Categories		Barriers	Representative statements	
Trust to integrate	Actional-personal confidence	Extended teaching presence	"We are busy day and night, all the time, even during weekends. Working rhythms and patterns are intensified are very distinct to traditional teaching (...)" (Q3:35:70).	
		Temporal frames of work	"E-learning changes the temporal dimension; it imposes a new temporal regime and imprints new rhythms to the teaching practice" (Q11:43:79).	
		Lack of functional and technical expertise	"(...) Over and over I hear the same excuse: academics don't react positively towards educational technology; they barely used the systems that were being tested (...)" (Q7:3:3).	
		Unprepared students	"Students are generally unprepared to deal with the degree of self-regulation imposed by e-learning. E-learning emphasises emerging autonomy and responsibility of students to take charge of their own learning" (Q16:29:108).	
		Self-interest and opportunistic behaviour	"The issue of self-interest is related to the personality characteristics of each individual. Some individuals are naturally competitive and all they worry about is the speedy advancement of their careers. It's legitimate" (Q4:27:32).	
	Structural-organisational assurance	Strategic	Low learning and teaching-oriented values	"(...) Anyone who favours excellence in teaching will end up being penalised in terms of career advancement" (Q44:37:53).
			Pervasive research culture	"It is undeniable that academics' career is geared towards scientific output. All aspects related to the scholarship of scientific research are documented in institutional regulations" (...) (Q15:15:31).
			Lack of recognition	"I am actually perceived as a threat or an aggressive agent that undermines the status quo. It exposes my peers' debilities if I use online learning environments and my colleagues do not. So internally there is not a shred of recognition or appreciation" (Q3:36:74).
			Low levels of participation and communication	"There is no public, open policy, there is no discussion. There seems to be a closed private script, and we should be a community that works collaboratively around shared objectives (...)" (Q11:60:113).
			Power structures and relations	"The Pedagogical Council is blocked and unable to advance because its mandate and standing is not at the decision-making level. It is the ideal place to make e-learning actionable but the power structured block decisions from this body. It has a consultative status" (Q10:35:62).
		Operational	Insufficient incrementalism	"(...) It is an incremental process in which academics adapt to new functions, gradually learning how to respond to demands from students and how to monitor students' work (...)" (Q10:48:98).
			Perceived incompatibility with work rules and regulations	"Formally, there is no administrative instrument to count my teaching contribution online. Nothing is regulated, and consequently there is very little accountability (...)" (Q8:5:6).
		Forced top-down change	"Vertical imposition of e-learning will only lead to wealth of superficial and dissatisfied users" (Q20:10:19)	

Table 3 - The presentation of emerging main theme, barriers and representative quotations  
(Trust to institutionalise)

Trust to institutionalise	Actional-personal confidence	Bounded rationality	"I don't want anything too complicated. I want a system that makes my life easier. And everyone thinks in these rational terms. If e-learning makes my life harder and if because of it I take longer to complete my tasks, the I say no to it (...)" (Q6:28:51)	
		Past experiences of failure and conflict	"I witness incredible situations such as colleagues of mine being desperate because they had lost their contents online due to system failures (...)" (Q9:35:42).	
		Increased visibility	"To some teachers the idea of greater openness and increased visibility introduced by e-learning works as mental barriers to adoption" (Q39:12:39)	
		Reputation risk	"(...) Students' pressure on academics to adopt e-learning will lead to widespread adoption, even amongst resistant staff" (Q19:24:37).	
		Leakage of confidential information	"There was no way I could rest assured the learning management system operated in strict conformity with my data safety and confidentiality expectations" (Q9:9:10).	
		Unfulfilled autonomy to design learning experiences	"Academics need to be empowered agents, enjoy creative freedom and take responsibility for their learning designs with e-learning systems" (Q40:24:68)	
		Misconceptions of successful adoption	"Technology can propagate the continuation of erroneous teaching and learning models, hundreds of static boring pages and no interaction" (Q22:28:47)	
	Structural-organisational assurance	Strategic	Lack of clear mandate for implementation	"The implementation of e-learning cannot be approached carelessly or left to the personal will of agents. A clear political commitment from management is necessary (...)" (Q3:14:25).
			Lack of organisational homophily	"E-learning implementation strategy needs to be responsive to a collegial dialectic. Otherwise, it will face individual resistances and barriers. And it's undeniable that universities revolve around the individuality of the academic" (Q5:9:6).
			Turfism	"Universities are balkanised and departments operate as barricades. People think according to affiliations (...) It's difficult to get academics to think laterally about pedagogical problems that are common to us all" (Q45:59:87).
			Fear of administrative control and disciplining	"I believe that e-learning instils fear of an increased control over what is taught and how it is taught. Some teachers did very little and with e-learning there is no possible escape because there is a record of every activity" (Q19:35:60)
			Inconsistent organisational strategy	"There is duplication of processes and a general lack of articulation. Rules are not clearly defined and no one really knows about e-learning terms and conditions. The result is chaos (...)" (Q16:1:3).
			Misalignment with educational strategy	"There are no attempts to establish a vision for teaching and learning or a concern to align this with an e-learning strategy" (Q8:38:57)
		Operational	Lack of a responsive normative system	"It is essential to make normative principles explicit to foster academics' trust in e-learning. It is a principle of transparency, of knowing what they are committing to (...)" (Q36:40:88)
			Intellectual property rights	"Many academics are sceptical about the initial investment associated with the production of online content, and concerned with the property of that content" (Q5:18:16).
Insufficient reward			If an institution's intention to mainstream e-learning is to be taken seriously, it is essential to implement responsive reward systems (...)" (Q5:12:7)	
Inadequate specialised services			"Specialised services dedicated to support the development of technology mediated learning objects are absolutely necessary" (Q9:23:27).	
		Underestimated organic development	"(...) an organic model of development would work well and contribute to a practical implementation of e-learning at local level more rapidly, operating by cross-fertilisation" (Q15:34:60).	
		Inconsistency between adoption goals and success criteria to evaluate them	"There is no coherent sense of direction or policy or agency empowered to regulate e-learning and critical aspects such as online teaching times" (Q5:14:10)	

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3 Appendix 1 – Interview guide  
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7 *Stage 1 Interview Guide*  
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9 1 – Can you describe your personal experience as a user of e-learning?  
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11 2 – As a teacher, what would you define as the major benefits associated with the  
12 implementation of e-learning systems in Higher Education Institutions?  
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14 3 – Which factors determined your decision to adopt e-learning systems?  
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16 4 – Do you feel your institution encouraged you and supported you in the decision to adopt e-  
17 learning? How?  
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19 5 – Have you felt any resistance or do you sense any barriers to e-learning adoption? What in  
20 your opinion are the most significant barriers to a more generalised mainstreaming of e-  
21 learning at institutional level?  
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23 6 - Do you feel you had to adapt or change your teaching style and teaching philosophy as a  
24 consequence of adopting e-learning? How would you describe this process?  
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26 7 – How do you describe the level of support available at your institution? Is there adequate  
27 technological support, training, and content development support?  
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29 8 – How do you think universities can stimulate the adoption of e-learning by academics?  
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33 *Questions introduced in Stage 2 Interview Guide*  
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35 1 – Reflecting on your personal and professional practice, and also in your identity as an  
36 academic, what do you think are the most fundamental barriers and enablers to successful e-  
37 learning adoption?  
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39 2 – Why do you think e-learning was adopted in this university?  
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42 3 – Can you describe any institutional initiative that you feel has influenced your decision to  
43 adopt e-learning?  
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45 4 – Were there any changes in your institution with a view to preparing the implementation of  
46 e-learning?  
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48 5 – From the point of view of academics, what do you think are the greatest challenges and  
49 opportunities related to an effective use of e-learning in universities?  
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51 6 – In your opinion, should e-learning be considered as an indicator or as requirement in the  
52 recruitment, performance appraisal and promotion of academics?  
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7 – Do you feel personally and professionally fulfilled and adequately rewarded for your choice to adopt e-learning? Do you feel your investment is adequately acknowledged and compensated?

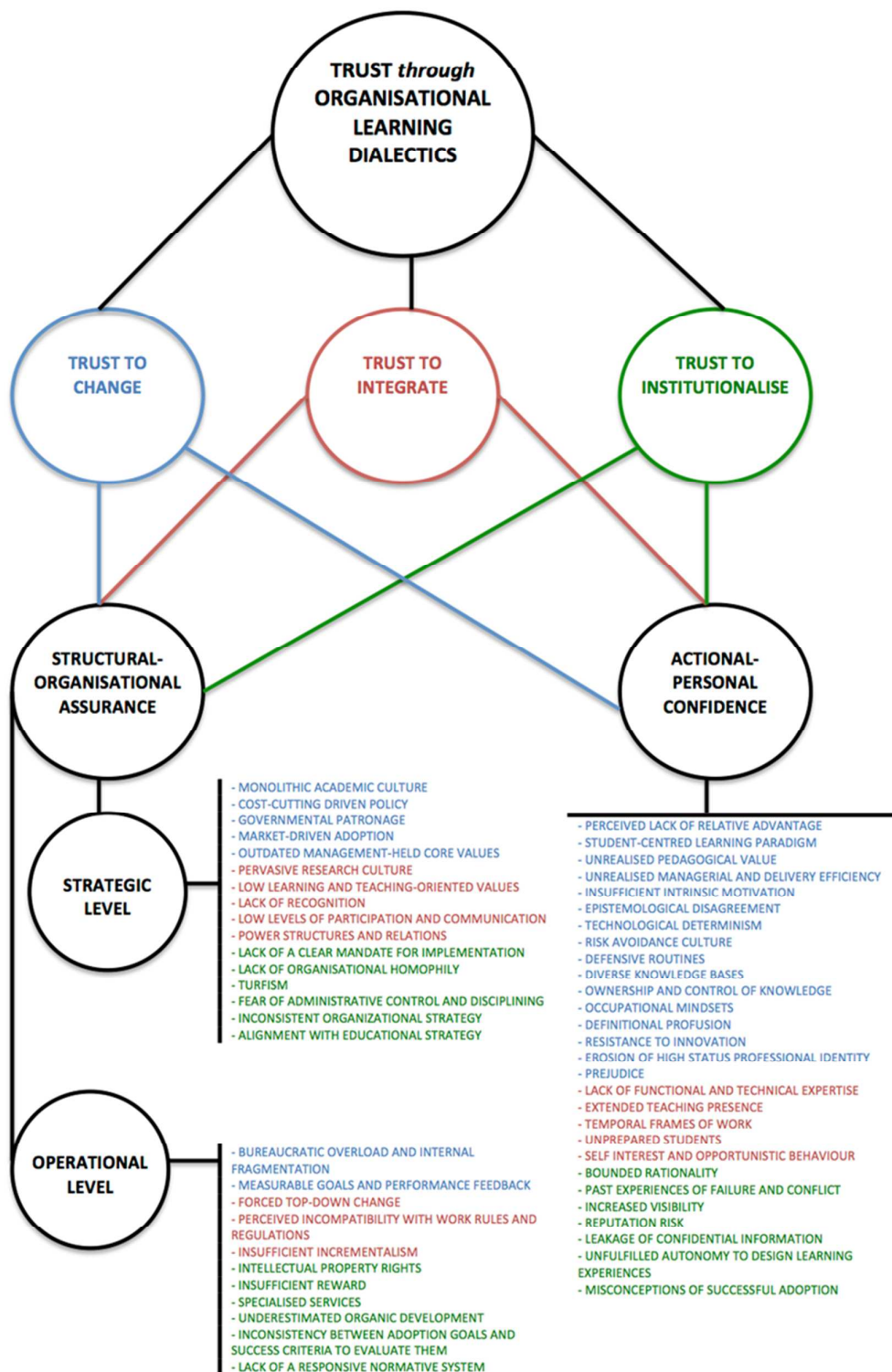
The Learning Organization

**Appendix 2** - Coding stages and the emergence of codes, categories, near-core categories and core category

SELECTIVE CODING	AXIAL CODING		OPEN CODING	
TRUST THROUGH ORGANISATIONAL LEARNING DIALECTICS	Trust to change	Actional-personal confidence	Insufficient intrinsic motivation Definitional profusion Perceived lack of relative advantage Unrealised managerial and delivery efficiency Unrealised pedagogical value Epistemological disagreement Technological determinism Occupational mindsets Student-centred learning paradigm Diverse knowledge bases Ownership and control of knowledge Defensive routines Risk avoidance culture Resistance to innovation Prejudice Erosion of high status professional identity	
		Structural-organisational assurance	Strategic	Monolithic academic culture Outdated management-held core values Cost-cutting driven policy Governmental patronage Market-driven adoption
			Operational	Bureaucratic overload and internal fragmentation Measurable goals and performance feedback
	Trust to integrate	Actional-personal confidence		Lack of functional and technical expertise Extended teaching presence Temporal frames of work Unprepared students Self-interest and opportunistic behaviour
		Structural-organisational assurance	Strategic	Pervasive research culture Low learning and teaching-oriented values Lack of recognition Low levels of participation and communication Power structures and relations
			Operational	Perceived incompatibility with work rules and regulations Forced top-down change Insufficient incrementalism
	Trust to institutionalise	Actional-personal confidence		Unfulfilled autonomy to design learning experiences Misconceptions of successful adoption Past experiences of failure and conflict Bounded rationality Reputation risk Increased visibility Leakage of confidential information
		Structural-organisational assurance	Strategic	Fear of administrative control and disciplining Lack of clear mandate for implementation Inconsistent organisational strategy Misalignment with educational strategy Turfism Lack of organisational homophily
			Operational	Lack of a responsive normative system Insufficient reward Intellectual property rights Inconsistency between adoption goals and success criteria to evaluate them Inadequate specialised services Underestimated organic development

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Appendix 3 – The three-layered model of trust, integrating codes, categories, near core categories, and core category.



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