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Development of a Kaizen series model: abducting a blend of participatory formats to enhance the development of process improvement practices

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The paper utilises a form of Action Research, known as the 'Constructive Research Approach' (CRA), to explore how project teams could engender the development of process improvement (PI) routines in a higher education context. The methodology of Mediated Discourse Analysis (MDA), an ethnographic approach to researching practice, is used to trace the development of PI routines over time. The findings showed that process owners and actors who were engaged because of 'power' of an initial pre-project Kaizen event, then became more passive participants in the ensuing traditional improvement project, with reduced performances of the PI routines. The main contrition stemming from the work was the abduction of a hybrid model of participatory engagement, that of a 'Kaizen series'. This extended series of events affords the development of two key routines, 'the working with a process map' and the process analysis routine, by increasing opportunity for actors to perform these routines both within and between events, and by balancing the facilitation and empowerment routines. In addition, the Kaizen series is not dependent on any individual PI methodology. The resulting Kaizen series offers PI practitioners an opportunity to blend the best aspects of two different modes of engagement, Kaizen events and project improvement teams.

Keywords: Kaizen events; continuous improvement; rapid improvement events; routines; practice; constructive research approach; higher education

Introduction

In a recent review of the literature relating to process and continuous improvement (CI) in higher education (HE), Cudney et al. (2020) suggest that there is no widespread adoption of these approaches, but an ongoing attempt by a vanguard number of institutions attempting to respond to commercial dynamics by focusing on improving effectiveness and efficiency. Taylor (2012) identifies the changes in improvement methodologies employed in HE over time, what he terms as the 'faddish' nature of Process Improvement (PI) in HE, which is similar to that of the general PI literature. For example, the use of a Total Quality Management (TQM) approach spans from Chadwick (1995) through to Venkatraman (2007), which then is overlapped but ultimately superseded by the experimentation and adoption of Lean, Six Sigma and Lean six sigma from Alp (2001), through to Cudney et al. (2020). Amongst these methodological categories are studies utilising a more generic CI methodology, related implicitly to its TQM antecedent such as Colling and Harvey (1995) and Thalner (2005). The literature can be characterised into three main

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streams of endeavour: firstly, discussion of the potential suitability and benefits of deploying the methodologies in a HE context, usually at the start of the methodological phase, secondly, reviews, reports, and case studies of implementation, and finally those papers that discuss critical success, readiness, or failure factors in adopting the relevant methodology. One significant gap across all streams is that they are usually framed at a macro level of management practices, for example, training, leadership, etc., rather than developing an understanding of how micro practices can lead to the development of these practices at a ground level in a HE institution (Cudney et al., 2020).

Although some authors (Cudney et al., 2020; Langer, 2011) assert that one of the problematic issues is the lack of relevant tools and techniques for HE, others such as Houston (2008) and Taylor (2012) argue for the creation of HE-contextualised meanings of improvement, rather than using what they term as 'imported' methodologies. Radnor and Bucci (2011) and Lejeune (2011) both conclude that HE Institutions (HEIs) need to develop internal 'capability' within their organisations for PI, which is a more [improvement] methodologically neutral position. There is a degree of consensus that capability, in an organisational sense, (Zollo & Winter, 2002) is constituted from what are termed organisational routines (Salvato & Rerup, 2011; Teece, 2012; Vogel & Güttel, 2012; Wollersheim et al., 2013). The predominant ideology in the field of routine dynamics is to conceptualise these routines through the practice lens (Feldman & Pentland, 2003).

Cudney et al. (2020) suggest that engagement and collaboration are key, but problematic factors, in the successful deployment of Lean and Six Sigma in HE. Connected to this debate, Langer (2011) suggests that the predominant methodology being practised is not Lean but is better characterised as 'participatory PI' (p. 66). A substantive number of studies across all different improvement methodologies (Antony et al., 2012; Comm & Mathaisel, 2005; Emiliani, 2005) identify that project teams are a consistent key mechanism by which HEIs attempt to deploy PI via participation.

The aim of this paper is to address the research gap of the development of PI practices at a micro level by investigating how these practices develop in a commonly occurring intervention of a PI project team, utilising both the perspective of practice in relation to routine dynamics and the notion that developing PI capability would be constituted from those routines. The resulting research question for this paper is: How can improvement teams engender the development of PI routines?

The paper aims to address this question by investigating the activities of a PI unit (hereafter referred to as the unit), within a UK University. The researcher, an academic with PI expertise, was partially seconded to support the unit in a similar fashion to that identified in Roth, Shani & Leary's work (2007, p. 51) where 'the internal consultant role can be thought of as a mix between the three roles of insider, outside researcher and an outside consultant'. The length of the researcher's secondment was unclear, but there was an institutional need to determine the optimum modes of operation early in the development of the unit. Based on this constraint, the study utilises a particular form of Action Research (AR), called Intervention Research (IR) (Jonsson & Lukka, 2005), which is differentiated from AR by the notion that it occurs around a singular intervention, rather than requiring two or more cycles. One subset of IR is the Constructive Research Approach (CRA) (Jonsson & Lukka, 2005). This is where the researcher and the actors in the collaborative context develop a new construction and then deploy and test this in the field. The CRA typically has three phases, the preparatory phase, followed by a fieldwork phase, and concludes with a theorizing phase (Baard, 2010).

The traditional structure of this paper is aligned to these three phases in the following manner. First is the preparatory phase, which includes an initial scoping Literature review to elicit a general and comprehensive understanding of the topic (Oyegoke, 2011). In this

instance, this contains a literature review of organisational routines and a cross-mapping of PI routines, from the HE to the general context, and an overview of improvement teams in a HE context.

The fieldwork phase is first aligned to the methodology section, which introduces the CRA in more detail and outlines the creation of an 'applied construct' [an improvement team], the research design for testing this construct and the analytic methodology, Mediated Discourse Analysis (MDA), which is an ethnographic approach to researching practice (Scollon, 2001; Nicolini, 2012) . The second aspect of the fieldwork phase is contained within the results section and summarises the empirical identification of PI practices from the literature and the tracing of their 'trajectories' through time and place (de Saint-Georges, 2005) .

The analysis and abduction section of the paper is aligned to the final phase of the CRA, the theorising phase. The implications of the results are re-examined through the theoretical lens, of Kaizen events, being a focused, structured, improvement activity with a cross-functional team, in an accelerated timeframe (Van Aken et al., 2010). This is accomplished by executing an additional literature review and an abductive process (O'Mahoney & Vincent, 2014) to derive a hybrid model of organisational engagement, that of a 'Kaizen series', based on abduction theory relating to Kaizen events and the research findings. The conclusion of the paper articulates the practical benefits and overall contribution including, examining the potential generalizability to the HE sector, more widely within the public sector, and the business PI field in general.

Literature review

Continuous improvement capability and organisational routines

One of the earliest definitions of an organisational routine was suggested by Stene (1940, p. 1129), who posited that it is 'that part of any organization's activities which has become habitual because of repetition and which is followed regularly without specific directions'. Nelson and Winter's (1982, p. 14) seminal article defines routines as 'regular and predictable behaviour patterns of firms', which then led directly to the school of thought that routines are black boxes on which [dynamic] capabilities are constituted (Salvato & Rerup, 2011). Feldman and Orliowski, the key architects of the utilisation of practice theory in the development of organisational routine theory, explain that 'the development of the routine occurs through the enactment of it' Feldman and Orliowski (2011, p.10). This development occurs through the mutually recursive connection between the idea of the routine, the 'ostensive', and the performance of the routine by the actions and interactions of multiple actors (Becker, 2004). Much of the subsequent empirical endeavour regarding organisational routines is to understand the various mechanisms that link and affect the two aspects of the routine and by which routines develop and change over time (Cacciatori, 2012; Miller et al., 2012) . Several writers identify that CI capability is constituted from a set of routines, Biesenthal et al. (2019) and other papers produce or utilise lists of these routines (Anand et al., 2009; Bakotić & Rogošić, 2017; Costa et al., 2019; Jurburg et al., 2017; Knol et al., 2019; Matthews & Marzec, 2017).

Potential improvement routines

Jones et al. (2019) catalogues the literature from PI in the HE sector across different methodologies, including Lean, TQM and Six Sigma, to produce a set of potential PI routines that could comprise improvement capability in a university. However, to substantiate that the context of this research has applicability beyond the HE sector, this list of potential

routines was cross-referenced to improvement literature in general. This was obtained using search terms based on critical success factor, routines and practices, within the domain of PI, CI, Lean, Six Sigma and TQM. However, the research question is focused on uncovering routines that can be enacted by PI practitioners, as opposed to more structural organisational and cultural factors, what Bendermacher et al. (2017) refers to as organisational context. Obviously, as these social technical routines are performed more, it can affect the organisational context (Costa et al., 2019), but this study is concerned with the immediacy of a micro and meso context.

To address this, the resulting output from the literature search was classified using a series of system levels, micro, meso and macro levels, as utilised in Coles et al. (2020) review of improvement initiatives. In a business or HE context, macro is defined as the institution/organisation level, meso is at the deployment level (e.g. a unit tasked with the deployment of CI) and micro is at the level of PI practitioners and process actors within functions or areas within an organisation. This classification was used to remove elements that were at an organisational macro level (e.g. senior management commitment). The resulting list was further graded in terms of system level from meso to micro and grouped in terms of coherence, inducted from the routines therein. The full table of the outcome is shown in Appendix 1, and a summary shown in Table 1.

This detailed table, Appendix 1, shows that there is significant evidence of similar PI routines in the general field of process and CI compared with that of the HE sector. The grouping and grading of the routines provides a suitable visible and viable reservoir of potential routines from which to explore the impact of improvement teams on the development of these PI routines.

Improvement teams

Improvement teams have been utilised in HE improvement settings since at least the inception of TQM, as identified by Hill and Taylor (1991, p. 9), who state, 'Effective improvement and problem solving comes from groups composed of all who have a bearing on the problem, and preferably from "teams" forged from those groups'. The perceived importance of utilising improvement teams has continued throughout the evolution of PI and changing 'fads' (Taylor, 2012) from CI and Lean (Comm & Mathaisel, 2005) as well as Six Sigma Kumi and Morrow (2006) and Lean Six Sigma, (Antony, 2014; Antony et al., 2012). However, the literature that spans this time is divergent when it comes to defining the scope and nature of the improvement team being studied. These can be categorised into four main types shown in Table 2.

Table 1. Routine groups.

Routine Group	Descriptor
Project Selection Routines	Routines associated with designing and prioritising PI projects.
Activity Governance Routines	Routines associated with monitoring PI activity within an organisation.
Organisational Engagement Routines	Routines about the relationships with individuals and work teams.
Activity Configuration Routines:	Routines about how interactions and PI activity are organised and deployed.
Technical PI Routines:	Routines that are technically distinct to PI deployment and usually enacted at the lower spectrum of the micro level.

Table 2. Types of improvement teams.

Type	Description	Source(s)
Leadership teams	Senior management leadership teams responsible for the deployment of PI/CI within areas of the HE institution	Salewski and Klein (2009) Antony (2014) Netland et al. (2019)
Work teams	Existing work teams that adopt improvement activities.	Thalner (2005) Comm & Mathaisel (2005)
Implementation teams	Teams of people employed to embed and implement process improvement methodologies across a HE institution.	Hines and Lethbridge (2008) Langer (2011) Thomas et al. (2015)
Project teams	Temporarily formed, often cross-functional teams, formed from process actors and stakeholders, usually supported with facilitator/experts.	Hill and Taylor (1991) Balzer et al. (2016), Radnor and Bucci (2011) Cudney et al (2020)

The latter group is the one most relevant to the study context, and within this group, there are two main subtypes, one as highlighted by Balzer et al. (2016) are numerous case study examples of improvement activities that use project teams as the participatory format, and secondly, papers that are either literature reviews or survey studies that designate project teams as an aforementioned macro factor of potential importance to the implementation and application of PI in HE. Langer (2011) does show how PI activities develop teamwork within existing teams and breaks down cross-functional barriers as well to develop cross-functional 'teamwork culture'. Therefore, the literature almost reaches the point of reification of project teams, as there is limited empirical investigation to establish how and why these types of participation are of worth, and how they might assist the development of PI routines or practices. Anand et al. (2009), albeit in a commercial setting, discusses the difficulties in achieving this, based on four connected aspects, the short-lived nature of project teams, the limited boundary of the internal team for cross-functional teamworking development, the role of the facilitator PI 'expert' and the fallacy of training staff in PI practices without an immediate, as well as ongoing, framework of actions for the actors to enact these practices. Garcia-Sabater and Marin-Garcia (2011, p. 37) outline one mode of project team framework as 'building the structure, a sequence of meetings'.

Literature summary

This general understanding provides justification that PI capability in a university can be comprised of a set of routines and provides a bank of potential routines to search for in the field data, as well as a frame from which to create the project team construct. As a result, the paper now outlines the research approach and methodological techniques used in the study.

Methodology

CRA and construct development

Jonsson and Lukka (2005, p. 11) describe a CRA thus

> Through strong intervention, the researcher – jointly with members of the target organisation – develops a new construction, tests its usability, and draws theoretical conclusions based on this process. (p.11)

The construction itself can encompass a wide range of interventions such as 'all human-made artefacts, such as models, charts, plans and strategies, organizational structures, commercial products and information systems' (Piirainen & Gonzalez, 2014, p. 8). In addition, Jonsson and Lukka (2005) are clear that the construction may, or may not work, as intended, but a theoretical contribution can still be made.

Piirainen and Gonzalez (2014) reiterate the views of Kasanen et al. (1993) and Jonsson and Lukka (2005) that this step, by its innovative nature, can be unstructured and occurs serendipitously through the examination of both the problem and the literature, rather than being directly constructed from the literature. Kekäle (2001) interprets this step as suggesting that the researcher proposes a solution to the researched problem based on pre-understanding built in the previous phases of the process, practical experience or theory. In this sense, CRA is differentiated from 'design research' (Jonsson & Lukka, 2005; Piirainen & Gonzalez, 2014) where the literature review stage is usually configured to produce a 'design' for testing.

Piirainen and Gonzalez (2014, p. 214) signal that CRA involves 'intimate teamwork between the researcher and practitioners where the aim is to learn through experience' and Oyegoke (2011, p. 592) states that, 'It is advisable that the people and the organisation that will eventually use the solution(s) should be involved both in its design and strategy for practical application'. The researcher, acting purely at that time as a member of the unit, had run two pilot projects with some participation from the two members of the unit. As the unit expanded in terms of both activity and personnel, it was agreed that the unit needed to develop its own competence in leading PI projects by utilising coaching provided by the embedded researcher. As a result, the potential construct of a coached improvement project was initiated, the coaching being primarily facilitated via a series of Action Planning meetings held on a weekly basis. The project team consisted of the project leader from the unit and core membership from a 'student management office' (SMO) as well as additional team members from related and associated departments from the institution.

Figure 1 shows both the conceptual construct and a segment of the applied construct, which includes a particular project meeting and two bracketed action planning meetings that formed the basis of how the construct was implemented in the context.

Figure 1 also highlights the unit of analysis for this paper, which focuses on how improvement teams can impact the development of PI routines; hence, the coaching aspect of the construct is excluded from the analysis in this article.

Construct testing: analytic methodology and research design

In order to identify and then determine the development of the PI routines, the methodology employed was that of MDA. Scollon and Saint-Georges (2001) consider MDA as a form of AR. MDA, like its genealogical predecessor, Activity Theory (Norris & Jones, 2005), postulates that all social actions are mediated through tools and artefacts. MDA is distinct from Critical Discourse Analysis, as MDA focuses on action and sees discourse as just one among many potential mediational tools. MDA is rooted in ethnography (Scollon, 2001), which has been used extensively for routine studies (Howard-Grenville, 2005). This occurs at what is termed 'sites of engagement' where there is an intersection of social practice and mediational means, enabling a mediated action (Scollon, 2001). Scollon conceptualises practice(s) as 'chains of mediated actions'. Therefore, following

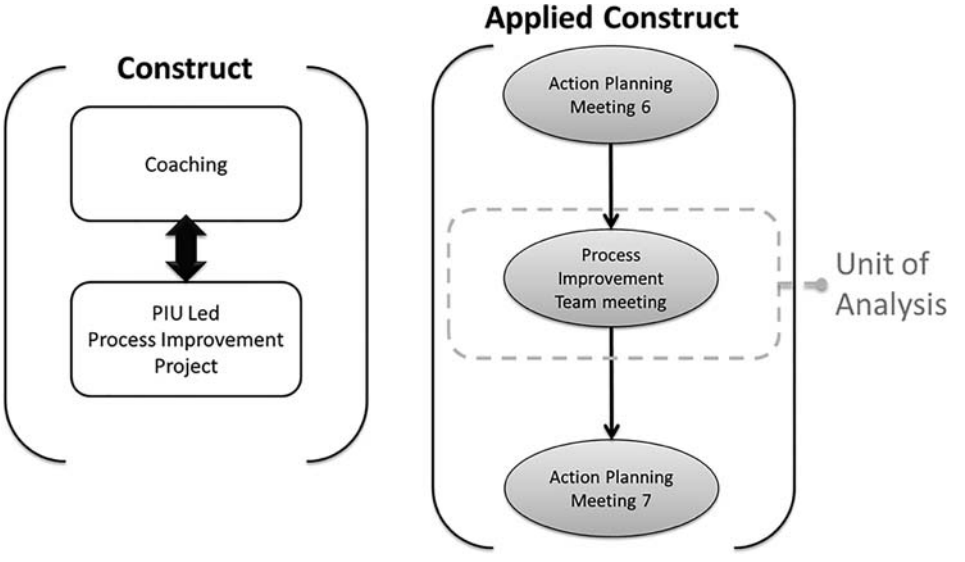

Figure 1. Construct – applied construct.

the practice perspective of routines (Feldman & Pentland, 2003), a routine is constructed from a chain of mediated actions, but these actions also constitute other social practices. This interconnectivity, referred to as an ecology (Deken et al., 2016) of routines, is expressed within MDA by the concept of a nexus, the intersection of multiple practices of groups of mediated actions, which can be represented in a diagrammatic form (Scollon, 2001). However, as MDA takes a practice perspective, no individual site defines a unique practice. As a result, MDA can reveal the intersection of different routines and their development across space and time via what is termed different trajectories (De saint George, 2005). A full exposition of the MDA methodology and research design can be found in Jones et al. (2017).

The central data collection in MDA is the observation of mediated actions at the site(s) of engagement; this is the project improvement meeting at the centre of the applied construct shown in Figure 1. The secondary data collection occurs by interviewing a range of participants before and after the event. This is to establish the potential mediational means and the trajectories of PI practices [routines]. Jones et al. (2017) provides an analytical pathway for deploying MDA, based on a set of heuristic questions that form the basis of the methodology (Scollon, 2001), and this was utilised in this project. The first step of this is to focus on the site of engagement and attempt to answer the following heuristic questions listed below:

1. What is the action?
2. What is the hierarchy of actions?
3. What is the relevance or importance of the action in the sequence?
4. What chain or chains of actions are important?
5. What are the practices that intersect to produce this site of engagement?

Results

The ethnographic field report for the PI team meeting was spliced into actions, which were coded against participants and whether they were low level, medium level and high-level actions (Scollon, 2001). Utilising the field notes, the actions were then catalogued in a hierarchy that produced an action summary table. The medium-level actions were categorised to produce an episodic journey through the event, which was used to thematically code the episodes against potential PI routines (Appendix 1). The results are shown in Figure 2.

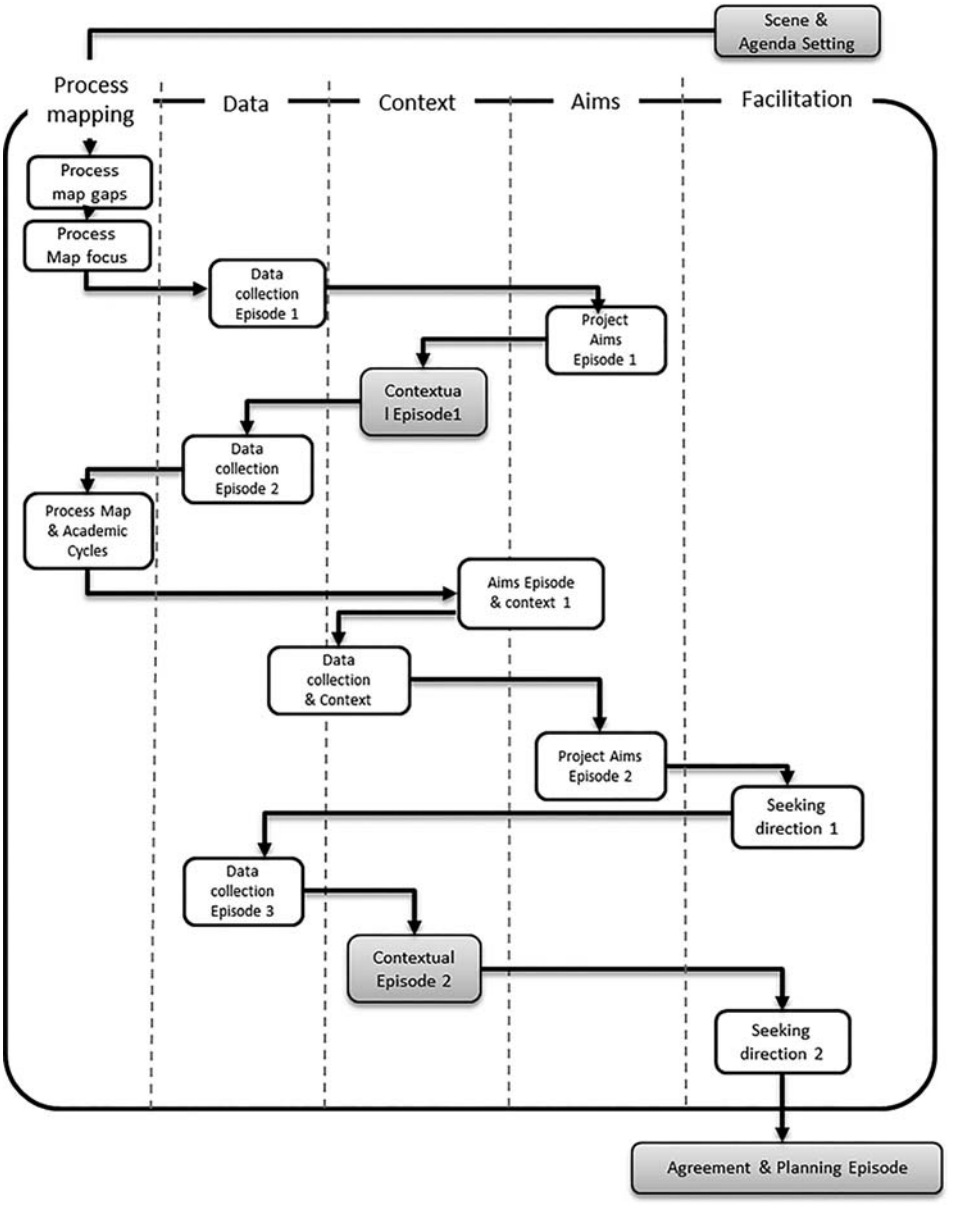

Figure 2. Chain of medium-level action groups for the PI project event.

The meeting started with a discussion of the process map but then moved to how to collect data, followed by a review of the aims and objectives of the project. The flow moved between these action groups during the meeting. The 'contextual episodes' refer to the development of discourse about what participants referred to as the 'external environment'. This was affecting their work and activity but was not relevant to the research project and was, therefore, removed from further analytical work.

The thematic columns in Figure 2 depict the five PI practices present at the project improvement meeting viz: process mapping, data collection, context, project aims and facilitation. Scollon (2001, p. 152) conceptualises a nexus as lines of practice that intersect, which represents the potential for these practices to intersect in any social action at that site of engagement. Hence the 'columns of practices' can be transposed into a nexus of practice for the event. The resulting nexus of practice for the meeting is shown in Figure 3.

The coded data revealed a nuance of discriminatory detail; the practices did not 'fit' exactly into the descriptors of the literature. The working code of gathering process data best fits Biazzo's (2002) term of 'process analysis', which is about collecting and investigating information about the process. Jones et al. (2019) introduces the idea of working with a process map, which 'sits' between defining and mapping a process, and adherence to a process. It is about revising and correcting a process map with key actors, as well as talking about the process, utilising the process map artefact. 'Scoping' refers to the practice of defining what the project aims and boundaries of activity should be.

Trajectories of PI practices

The next heuristic question in MDA is, 'What histories in Habitus to these practices have?'

Jones et al.'s (2017) MDA analytical pathway utilises De Saint George (2005) conceptualisation of practices as having trajectories that intersect at 'space/time stations' where sites of engagement can 'open up'. Participants were quizzed about their activity, as a means by which these space/time stations could be identified. These interviews were then coded for the 'space–time stations' for three of the practices identified in the nexus

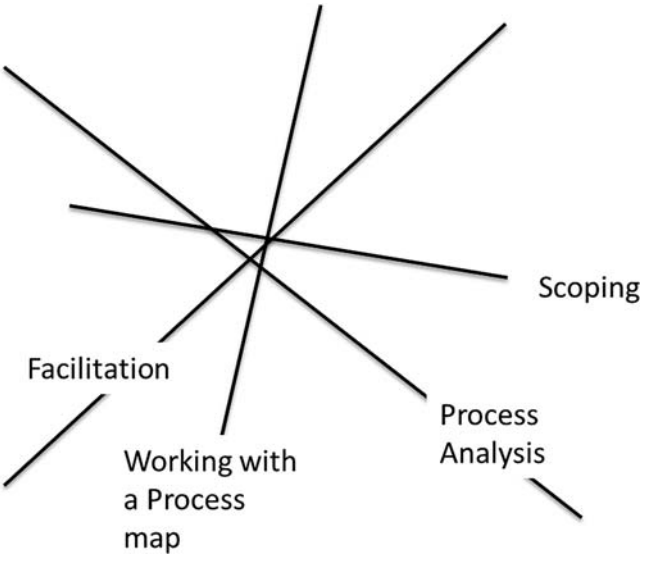

Figure 3. Nexus of practice for the PI project event.

of the project meeting, and data points were allocated a time/date index. Facilitation was not examined at this point as this practice was prevalent in the organisation. The researchers used the time indexes as the foundation to 'trace' the trajectories in space, that is where, and more particularly, with whom, the practices were enacted at the different sites of engagement. This was done by returning to the qualitative richness of the coded data, and where necessary, 'rippling out' from the coded point to the transcript around that point to capture the nature of the spatial context.

The analysis shows that 'working with a process map' practice had a relatively long history for unit participants stretching back into previous projects. What was most striking about this trajectory is that the members of the unit viewed the practice for this project as having started at the first project meeting, but the participants from the SMO saw the start of the process mapping practice as being from a value stream mapping event that was facilitated by the unit almost a year before. Three of the participant interviews validate this by referring to the first project meeting, where process mapping was started, as repetitive. The participants concurred that the scoping occurred as a result of the value stream mapping event but was conducted independently from the project team by their line manager. The aims and the scope of the project were discussed at the action planning meeting when the unit participants in this meeting were planning how to get the project team to collect relevant data from their process. However, it was established that project meeting 1 was actually split across two days, with a 'pre-meeting' held the day before. This was termed an orientation meeting in which the aims and objectives of the project were discussed, but no comments were made by the project team participants about this. Therefore, there are a number of discontinuities in this particular practice, and as De Saint George (2005) puts it, at times the practice *diverges*. This process analysis trajectory highlights one significant finding. The student management office as a result of the value stream mapping event had decided to collect some data about their process. However, they did not continue this practice, and perhaps of more significance, did not recall, or choose to share this at the project meeting 2.

It was clear that the value stream mapping event was significant for the participants of the PI project and so there was a need to identify other PI practices that might be significant as a result of the event. Scollon (2001, p. 170) suggests that 'once we have identified the significant practices we can study those separate practices at other sites of engagement'. As all the original interviews were conducted after the value stream event, they were utilised as a data source for retrospective analysis of the value stream event. These interview data sets were re-coded, and only one additional practice, 'empowerment', was traceable to the value stream event.

The trajectories of practice for the three original main practices were combined and partially simplified, and this is shown in Figure 4. The divergent nature of the trajectories means that a 'horizon line' can be conceptualised between the unit and the project team. This is meant to indicate that neither group had visibility or even awareness of those practices on either side of this line. The elements in the diagram represent the different aspects of the trajectories. The divergence of practices with independent space/time stations is shown in white and the convergence of practices in solid black. Interactions that occurred with particular individuals, or were supposed to cross the horizon line but did not, are shown in grey.

Both the empowerment and process analysis practices are divergent, in that they do not reappear in the space–time stations of the project once initiated. This is obviously of significant interest and will be explored next. The relevant heuristic MDA questions are as follows:

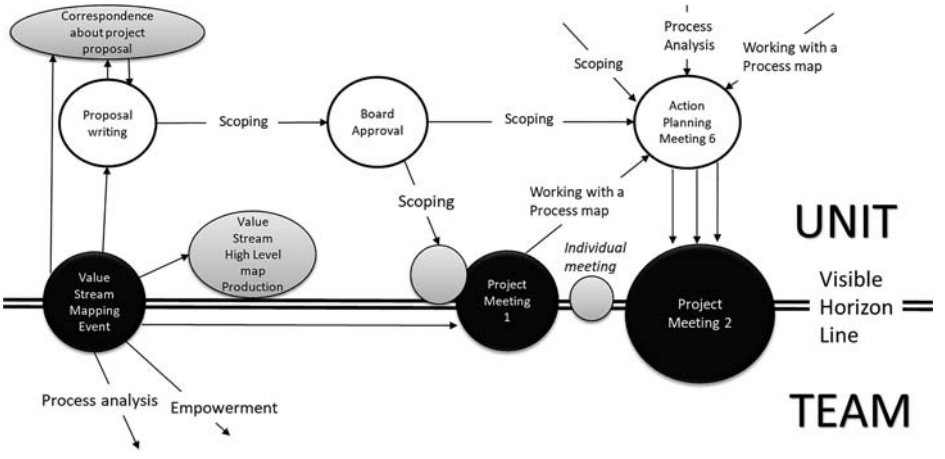

Figure 4. Combined practice trajectories.

- In what other actions are the practices formative?
- What histories in habitus do the practices have?
- What and how are the mediational means are used in the actions, and appropriated within the practice?

The linkage of the practices implied by the first of the above heuristic question is explored by examining the transcript of the interview with Participant 1 [PAR 1] and framing a mini trajectory of the empowerment practice based on the implied timings of her answers. This is shown in Table 3.

It is clear from this analysis that the mapping caused a change in the perspective of PAR 1, which facilitated her and her fellow officers being able to make changes to their process. This empowerment to change the process is corroborated by another team member PAR 2:

> and so we've got the team … ..making improvements along the way … ..Yeah, so I think the team's making changes where they can
>
> Just for our own process, I think we've managed to spot errors and parts of the process that we can improve and have improved … … … the parts that we can improve … … … … . Well it is yeah because I can make some immediate changes.

The trajectory analysis of the 'working with a process map' indicates that the actual artefact of the process map was not distributed to the team after the value stream event analysis. Therefore, the *mental representation* of the process map, which is the ostensive aspect of a process view routine, rather than the artefact itself, was pivotal in the empowerment of actors to change their process. What is interesting here is the contrast to the other routine, in that the ostensive aspect arose first (we can change it), followed by the performative (changing it). Here is evidence of the ontogenesis of that particular routine of empowerment. Here, the dual-process routines illuminated an unseen mechanism to actors that they were following constitutive rules (Iannacci & Hatzaras, 2012) of their work (a.k.a target) routine(s), but that rules could be changed, and they could be dissolved, thereby allowing the work routine greater flexibility to change in the future. Table 1 also provides some evidence where PAR 1 appropriated the mediational means of the process map into her habitus. In the interview, PAR 1 also twice indicated that they may have developed the

Table 3. Ontogenesis of the empowerment practice.

Timeline	PAR 1
1	It was really nice to see it on a wall chart from start to finish and that also as well may just think about certain aspects of the process, saying well actually why did we do that at that point and do we *need* to do that at that point? How can we improve it and things like that?
2	I think there's an element of 'we've always done it like that' we can't change it, I think the initial meeting … … … .I think at that point people realised, oh actually, we *can* change it if we want to change it; there's no definite rule that that's how we have to do it. (the process map)
3	But actually we've had it (the process map) in the forefront, well I have anyway, in the forefront of my mind, so when I've been doing things I've been thinking about that process that we went through and try and think, well actually, we don't necessarily need to do that at that point, we're doing that for the sake of doing it, or actually we do need to do this so why don't we put that in.
4	and things that we've actually changed through the process by having that (the process map) in our minds
5	We've been implementing little small elements of it … … .(the process) Yeah like the small things, but I suppose you have to start with the small things to make a bigger impact eventually
6	See if things have changed without us even realising it as well. I think the amount of things that have changed already without us actually realising it.

practice of empowerment to change a process, to a point where they were not even realising that they were making changes. Her explanation has resonance to some aspects of the definition of habitus, in that it becomes 'embodied history, internalized as second nature and so forgotten as history' (Bourdieu, 1990, p. 56).

However, the empowerment routine that led to changes to the work process did not have a reverse relationship to the process mapping routine. The process mapping routine was not re-enacted, to identify changes to the process. Actors initially did not appear to recognise the practice of 'working with a process map', but merely saw it is a pointless repetition of the practice of process mapping.

The following extracts are comments from a team member, PAR 3, on the project, rather than immediately after the initial event.

> I put my views, my opinion, and views and how we do things so that it will be easier for *your* [unit] to deal with those issues if there are any issues or how we do things.

This provides evidence of PAR 3's perception of her role as a participant, rather than an agent of change within her own process. PAR 3 did not recognise an empowerment practice – her habitus was more akin to a practice of participation than empowerment. This is in contrast to the explication of the empowerment practice from the event. Perhaps more significantly, PAR 1, who was previously empowered after the event, appears to move away from empowered practice towards a participative practice when she talks about the project;

> I think inputting how we do things, [the team] input thoughts and ideas of how to improve and change it … … .'So we need to give the input [to the facilitator] as well from our point of view.

The empowerment practice and the process view practice also appeared to open up a future site of engagement for enacting actions related to gathering process data"

> So we put some things in place and then recently we kind of logged how many applications we were doing and how many emails we were dealing with, how many applications are coming in, how many offers we were making.

What is interesting is that despite the second project meeting's main agenda item and the resulting numerous episodes of discussion, none of the project team identified this *in situ*, and only one afterwards in the post-project meeting interview. This suggests that although they may have carried out some of the actions that constitute the process analysis practice, the ostensive aspect of the routine was not present for them, or in another sense, not absorbed into their habitus.

A number of the participants had an initial negative perception of the project meeting, where they had in their view repeated the activities that had occurred in the value event, particularly around reviewing and refining the process map. However, the participants, when questioned more, identified a positive aspect from working with the process map, notably, cross-functional working. The first value stream event was held with participants mainly from the student management office. However, the project team meeting had participants from additional departments. A cross-correlation of the interview coding was carried out between 'working with a process map', and the cross-functional working. This smaller data set was then coded again, which identified that the cross-functional working could be conceptualised as a subset of more narrowly defined social practices and the role of facilitation.

Process mapping in this event appears to open up the possibility of a number of collaborative practices being actioned. Alternative views are where actors seek or welcome the views of others on the process as a whole or their part of the process. Gaining perspective is where, as one participant says, 'what their contribution was to a big process'. Seeking understanding is where actors embrace the opportunity to explain to others why they do the things they do within their process. PAR 1, in her interview at one point, concisely articulates many of these different aspects of the collaborative working practices:

> Question: Why was that good then, was that good for them or for you?
>
> PAR 1: I think both. Both sides it's good because it gave them an opportunity to question what we do and it gave us an opportunity to tell them why we do it, but at the same time you could have a discussion to maybe change elements of it because they have a different perspective on it.

The second positive aspect uncovered from the enacting of the working with the process map relates to the level of detail and accuracy of the process map. For example, one participant said of the revised process map

> This one went actually into the stages … . right down into detail … because I think it's the minor detail that we need to change.

This process map detail was generated with reference to the trajectory of working with a process map, by interaction by the project leader on individually revising the process map with different actors. PAR 3 discusses correcting the detail below

> PAR 3: Yeah, because there were a few things missing when she showed me. I said no this is not what we do, so there were some gaps need to be filled … … so yeah, I talked it through with her. [It's now better] because it's like more understanding about how you are seeing those and who is involved because this is like a proper map, agents, student management office and who has got what and what's, at what stage. It will be easier for everyone'.

This identified that the practice of working with a process map, and the detail of the actual artefact of the process map, helped her and others with gaining perspective practice and seeking understanding.

Analysis and abduction

The routine of working with a process map was initially difficult to engage actors in performing but was strengthened through agency, and the practice of facilitation, and the opportunity for actors to engage in cross-functional collaboration. Subsequently, the working with the process map routine enabled the subsets of the cross-functional, collaborative routine, that is, obtaining alternative views, gaining a perspective and seeking understanding from others of their roles in a process. Critical to the performativity of the two routines, working with a process map and the collaborative cross-functional routine, is the detail of the process map artefact.

Conversely, the defining and mapping of a process within the event, 'opened up' the process view routine, which, in turn, empowered the actors to change both their processes and attempt some initial actions that could form part of a process analysis routine. However, once the mode of CI changed to an improvement project, the empowerment appeared to dissolve and be replaced by a participatory practice entwined with the practice of facilitation by the project leader.

Therefore, it is clear there was 'power' in both the event and the improvement project to affect PI routines in different ways, but with both enhancing and diminishing effects. This raises the possibility of a hybrid approach to improvement activities, and the paper now turns to consider the results through the lens of the literature on PI 'events' as part of the final phase in CRA, to identify and show the theoretical connections and contribution. O'Mahoney and Vincent (2014, p. 16) succinctly describe the processes of abduction and retroduction as 'adding theory to data', and this has been used in CRA when considering divergent findings from the original construct (Jonsson & Lukka, 2005).

The mode of an 'event' has been widely used in PI (Montabon, 2005), particularly within the Lean methodology (Hines et al., 2004; Stone, 2012), where it is often called a Kaizen event, (Jones & Monks, 2011) or Kaizen Blitz or simply Kaizen (Schonberger, 2007). It has been adopted within the public sector (Radnor et al., 2006, 2012; Smith et al., 2012), where it is often referred to as a Rapid Improvement Event [RIE], or sometimes as a Rapid Improvement Activity [RIA] (Done et al., 2011) or Rapid Improvement workshops (Antony et al., 2012). It has been used within a HE context (Antony, 2014; Langer, 2011) but with variable success (Cano et al., 2014).

Smith et al. (2012) have a reasonable definition of a Kaizen Event (KE) (or a rapid improvement event), 'which typically require 4 to 5 consecutive days of improvement work focused on empowering frontline staff and utilizing their knowledge to create more effective and efficient processes' (p. 52). As Glover et al. (2014) found in their systematic literature review on Kaizen improvement events, there is a stable paradigm developing on the nature of these. This typically involves deliberately scoping a relatively small project for improvement (Glover et al., 2014; Radnor & Boaden, 2008) followed by a workshop that involves training, cross-functional teamwork, process mapping (Smith et al., 2012) and problem-solving resulting in a follow-up action list (Van Aken et al., 2010).

Van Aken et al. (2010) identify that there are many different types of KE and deployment of these is varied and should be tailored to the organisation. Glover et al. (2014) identify divergence of data within the literature over the deployment of KEs in terms of the frequency and the relatedness to the strategic aims and an unstructured or structured approach to KE deployment. In almost all systematic literature reviews, KEs are seen as a discrete problem-solving activity. In short, the main PI activity is not to be done in a sequence of events. The exception is within KE deployment within health care, where

the constraints of taking frontline staff away from their work, even for a day, are problematic (Culcuoglu et al., 2012). In this latter example, the Kaizen events programme was retermed Kaizen sessions, with short mini sessions of 1–2 h, run over a week.

Glover et al.'s (2013) survey-based research suggests that the outcomes from utilising a KE approach are mixed, even with those organisations that have been doing them for a sustained period of time. The KE literature, perhaps unsurprisingly given the links to PI literature, contains work outlining the success factors involved in KE (Farris et al., 2009; Glover et al., 2014, 2013) . Many of these are similar; however, notable differences include the autonomy and power of the KE team, the nature of the planning for the event, the follow-up activities and timeline for this, the event duration and the number of the people involved (Glover et al., 2014; Van Aken et al., 2010). Van Aken et al. (2010) like Montabon (2005) suggest difficulties in what they term performance analysis – similar to findings in this research, essentially process analysis routine, and when this should be done in relation to the event.

The literature also suggests that the scoping of the KE is one important factor in the long-term success of the KE approach, and the findings from this research showed the difficulty in enacting this practice and ensuring that all actors are involved. Both Glover et al. (2013) and Van Aken et al. (2010) stress the difficulty and importance of long-term sustainability and follow-up of the changes after the KE. Key factors in their conclusions are the significance of the facilitator to be involved in this and the benefits of a higher frequency of follow-up, and the need to invest in what are termed 'sustainability mechanisms' within the area being changed. This is congruent with the findings here in relation to the difficulties in actors performing the 'working with a process map' routine and the agency of the project leader in facilitating this.

Farris et al. (2008), in their analysis of less successful KE, found three main considerations: the need for appropriately scoped projects, the involvement of the relevant stakeholders and the need for the subsidiarity of power to the KE team. The findings suggest that an event has the power to develop improvement practices and help actors make changes, but the latter decreases if the activity morphs into a project mode. The findings also suggest that the trajectories of practice of the facilitating service and the area being improved need to me entwined so as to dissolve the 'horizon' line identified previously, particularly with reference to the scoping routine. The 'working with a process map' routine offers the opportunity to increase to cross-functional collaboration, which could also allow the practice of involvement of relevant stakeholders to occur.

Van Aken et al. (2010) produces a model for the design and deployment of KEs but go on to suggest that they may not be suitable in all cases and call for research into 'Hybrid improvement programs', but these are not specified in the paper. A key constraint of KEs and RIEs is that they are mainly suited to small-scale problems (Glover et al., 2014), and hence, a hybrid mode of improvement is potentially useful because it allows the power of events to be utilised in larger, more complex improvement opportunities or problems.

Therefore, the researcher proposes a new mode of 'Kaizen series', a sequence of *linked* events, one that allows PI routines and practices to be developed, but *empowers* actors to make robust process changes, within architectural coherence of a PI methodology. This model is synthesised from the findings from this research, which correlate with the critical success factors in the KE literature and the existing models of KE deployment.

This builds on the models of Kaizen deployment developed by Van Aken et al. (2010) and the notions of split sessions suggested by Culcuoglu et al. (2012). It also develops the alignment of a methodological framework initiated by Suárez-Barraza & Miguel-Dávila (2014) , which only linked the defined problem-solving methodology, in this case, Plan,

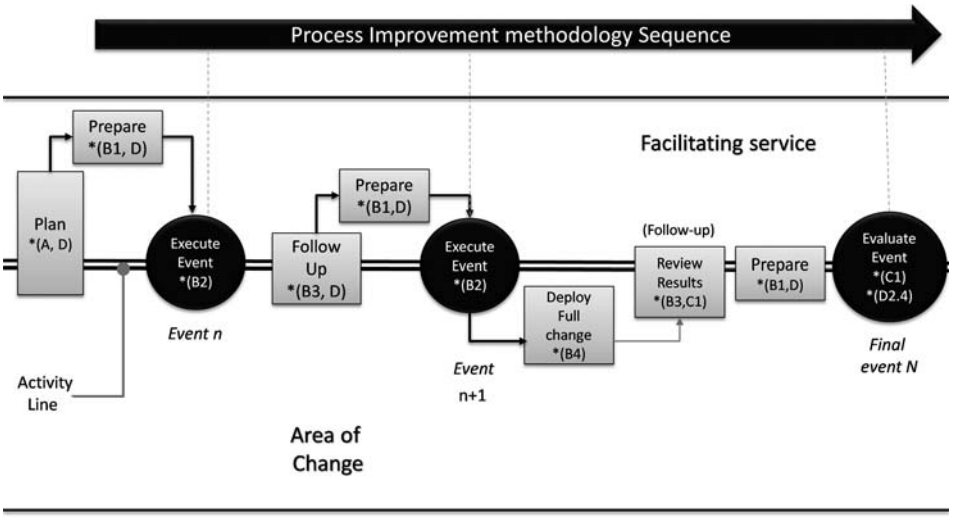

Figure 5. Framework for the Kaizen series.

Do, Check, Act, (PDCA) cycle, to a single KE, rather than a splitting PI activity into a series of Kaizen sessions. This revised framework is shown in Figure 5.

Figure 5 shows that this adaptation of the Van Aken et al. (2010) program framework envisages a number of events from n to N, being the final event. The events are sequenced according to whatever PI problem-solving methodology is being utilised (e.g. PDCA, DMAIC or customised hybrid). The line of visibility discovered within the findings is replaced by an activity line that articulates which activity is done (or has responsibility for) by either the facilitating service or the organisational area of change. The steps outlined within the Van Aken et al framework are reconfigured around the sequence of events, and the key feature is the repetition of the follow-up and preparing steps between the repeated executions of events. The framework includes the ideal scenario outlined in the literature where the area of change has the responsibility and is empowered to make what Van Aken et al. (2010) refers to as 'the full change'. This empowerment aspect also includes the area for change having significant ownership of measuring and reviewing the results and joint preparation for the final event, where an evaluation of the Kaizen series itself is under Van Aken; step D2.4 (Van Aken et al., 2010). The steps, D1, D2 and D3 within the support 'box' in the Van Aken et al. framework are dispersed throughout the series to occur within the plan, prepare and follow-up activities. The repeated sequence of prepare, execute and follow-up steps helps mitigate against the issues of timing and sustainability of changes, and extended follow-ups, in terms of frequency identified in the KE literature (Glover et al., 2013; Glover et al., 2014).

Conclusion

The study shows that the construct of a coached improvement project is a forum for the development of some PI routines, and two of them are inter-dependent, working with a process map and the collaborative cross-functional routine, and that the detail of the process map artefact is critical in their development. Secondly, the defining and mapping of a process within an event 'opened up' the process view routine, which, in turn, empowered actors to initiate the process analysis routine and to change their target

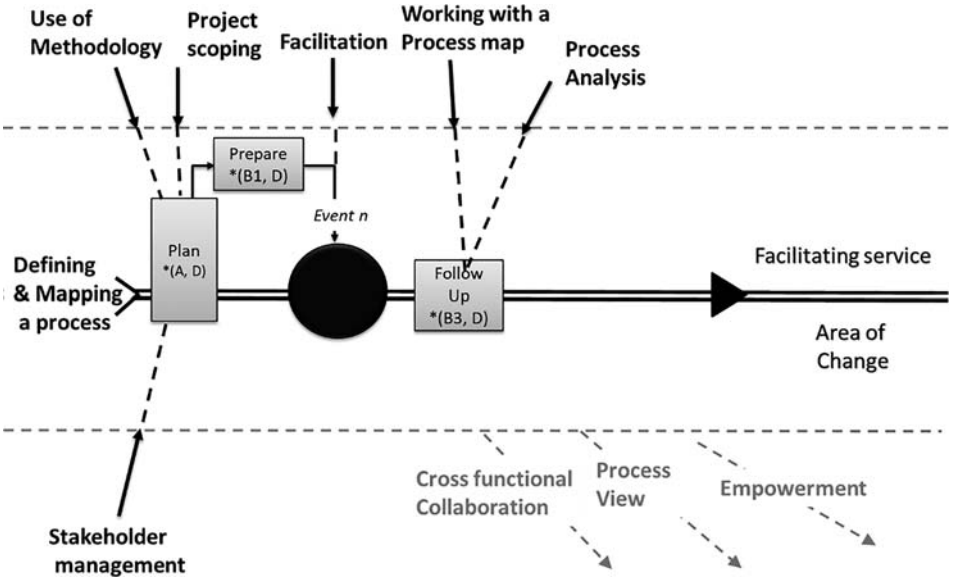

Figure 6. Configuration of the Kaizen series and PI practices.

work processes. However, critically, once the mode changed to an improvement project, the empowerment appeared to dissolve and be replaced by a participatory practice. As a result, the main theoretical and practical contributions of the study are a new mode of PI activity, termed 'Kaizen series', of hybrid Kaizen [rapid improvement] events.

One aim of the model is to compel the development of PI routines, so Figure 6 shows the overlaying onto the Kaizen series framework, of the trajectories of some initial PI routines, using the examples investigated within this research. This illustrates the potential as to where these routines could be initially performed.

The extended series of events linked to a PI methodology would allow the development of two key routines, 'the working with a process map' and perhaps more significantly the process analysis routine, problematic in KE's (Glover et al., 2013) and replicated in the findings. This framework of the Kaizen series allows the facilitating service and the area of change to develop their PI routines because of the increased *performances* of those routines not only within additional events, but also between events. Concurrently, the explication of the activity line and clarity of responsibilities, coupled with the 'eventness', is designed to allow an empowerment routine to be performed, whilst diminishing the ostensive aspect of the participatory routine, and the opportunity for that routine to be performed.

Kaizen series benefits and implications

The key characteristic of this model is to encourage empowerment via the 'power of the event', rather than process owners and workers becoming more passive participants, which might occur during a traditional improvement project. Conversely, the model also provides an ongoing path for trajectories of action for the same actors, mitigating some of the drawbacks for a traditional Kaizen 'event'. The delineation of roles across the conceptualised 'horizon line' means more opportunity for performance of PI routines for these actors, rather than relying on the PI facilitators. The Kaizen series could be configured to

align with any PI methodology, by defining the sequence of linked events in relation to the desired PI methodology, particularly useful for organisations with hybrid, niche or customised PI methodologies. The literature review showed that the routines and issues explored within the development of the Kaizen model are prevalent in other HE institutions, particularly engagement, facilitation, stakeholder management and cross-functional collaboration (Antony, 2014; Douglas et al., 2015; Cano et al., 2013; Cudney et al., 2020), thereby strengthening the case that the 'Kaizen series' concept could be utilised and tested in other HE institutions. The paper also identified the similarity between the PI routines in higher education and those from a wider context, providing significant validity to the argument that the findings from this work are applicable outside HE. Culcuoglu et al. (2012), in their revision to the Kaizen event design, highlight the difficulty in healthcare organisations, where the time and availability of process workers are difficult to secure. This issue applies to many organisations, particularly to the state of the public sector (Arnaboldi et al., 2015), and, therefore, this contribution can assist in improving outcomes whilst utilising limited resources of time and people.

Future development

The Kaizen series offers PI practitioners an opportunity to blend the best aspects of two different modes of engagement to engender the development of PI routines. A key next step is for future research to attempt to 'test' this revised construct of a Kazien series, to establish the efficacy of the model in generating PI routine performances and explore the practical ramifications of running this PI mode. Further work could also be considered the potential recursive relationship between the micro and the meso group of routines of the wider organisational macro context and already established PI critical success factors.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Appendix 1. Potential Routines.

Potential Routines	Higher Education	PI/CI/Lean/Six Sigma Literature
	Project Selection Routines	
Alignment of project to strategic objectives	Langer (2011) Antony et al. (2012) Holmes (2015) Taylor (2012)	Bessant and Francis (1999) Anand et al. (2009) Jurburg et al. (2017) Knol et al. (2019)
Use of projects to target specific PI goals		Anand et al. (2009) Siha and Saad (2008) Silva Borges et al. (2012) de Jager et al. (2004) Knol et al. (2019) Onofrei et al. (2019) Antony et al. (2019)
Prioritising projects	Langer (2011) Taylor (2012)	Siha and Saad (2008) Silva Borges et al. (2012) de Jager et al. (2004) Scherrer-Rathje et al. (2009) Manville et al. (2012) Desai et al. (2012) Jurburg et al. (2017) Knol et al. (2019) Juliani and de Oliveira (2020)
Project scoping	Antony (2014)	Antony et al. (2019)
Activity Governance Routines		
	Langer (2011)	Bessant and Francis (1999)

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Potential Routines	Higher Education Project Selection Routines	PI/CI/Lean/Six Sigma Literature
Monitoring & measurement of project outcomes against strategic goals	Comm and Mathaisel (2005) Jenicke et al. (2008) Antony (2014) O'Neill and Palmer (2004) Taylor (2012)	Anand et al. (2009) Bakotić and Rogošić (2017) Jurburg et al. (2017)
Governance of projects including multi-level steering	Antony (2014)	Jurburg et al. (2017)
Organisational Engagement Routines		
Use of participation	Radnor and Bucci (2011)	Bessant and Francis (1999) Bakotić and Rogošić (2017) Jurburg et al. (2017) Cho and Linderman (2019) Costa et al. (2019)
Use of highly motived employees as Improvement 'champions'	Cano et al. (2013)	Jinhui Wu et al. (2012) Anand et al. (2009)
Motivate employees in achieving organizational goals	Radnor and Bucci (2011) Cano et al. (2013) Loader (2010) Antony (2014) Temponi (2005)	Jinhui Wu et al. (2012) Oliver (2009) Jaca et al. (2012) Lok et al. (2005) Antony et al. (2019) Garcia-Sabater and Marin-Garcia (2011) Achanga et al. (2006) Delgado et al. (2010) Anand and Kodali (2010) Scherrer-Rathje et al. (2009) Jurburg et al. (2017)
Establish Openness and trustful relationships	Comm and Mathaisel (2003) Antony et al. (2012)	Onofrei et al. (2019)
Activity Configuration Routines		
Understanding and representation of key stakeholders	Antony (2014)	Parkhi (2019) Coles et al. (2020) Juliani and de Oliveira (2020)
Team work & Group problem solving		Jinhui Wu et al. (2012) Olsson et al. (2007) Bateman (2005) Jaca et al. (2012) Parkhi (2019) Knol et al. (2019) Costa et al. (2019) Antony et al. (2019)
Cross functional activity	Langer (2011) Antony (2014) Thalner (2005)	Bessant and Francis (1999) Coles et al. (2020) Knol et al. (2019) Antony et al. (2019)

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Potential Routines	Higher Education Project Selection Routines	PI/CI/Lean/Six Sigma Literature
Use of Rapid Improvement Event [RIE] type workshops	Radnor and Bucci (2011) Cano et al. (2013) Emiliani (2005)	Parkhi (2019) Costa et al. (2019)
Range of Training from Basic CI Tools, to leadership and change management	Radnor and Bucci (2011) Comm and Mathaisel (2005) Antony (2014) Cano et al. (2013) Taylor (2012)	Bessant and Francis (1999) Anand et al. (2009) Siha and Saad (2008) Jaca et al. (2012) Oprime et al. (2012) Delgado et al. (2010) Manville et al. (2012) Desai et al. (2012) Jurburg et al. (2017) Juliani and de Oliveira (2020) Onofrei et al. (2019) Antony et al. (2019)
Facilitation	Dragomir and Surugiu (2003) Kumi and Morrow (2006) Radnor and Bucci (2011) Emiliani (2004) Antony et al. (2012) Douglas et al. (2015) Loader (2010) Taylor (2012)	Jaca et al. (2012) Achanga et al. (2006) Easton and Rosenzweig (2012) Coles et al. (2020) Antony et al. (2019)
Technical PI Routines		
Use of a range of formal problem-solving processes	Radnor and Bucci (2011) Comm and Mathaisel (2005) Cano et al. (2013) Loader (2010) Thalner (2005) Taylor (2012)	Bessant and Francis (1999) Anand et al. (2009) Bateman (2005) Manville et al. (2012) Achanga et al. (2006) Desai et al. (2012) Bakotić and Rogošić (2017) Jurburg et al. (2017) Parkhi (2019)
Having a 'Process view' of an organisation	Radnor and Bucci (2011) Antony et al. (2012) Antony (2014)	Peng et al. (2008) Onofrei et al. (2019)
Attempt to map, improve, standardize and adhere to organisational processes	Cano et al. (2013) Doman (2011) Radnor and Bucci (2011) Antony (2014)	Peng et al. (2008) Anand et al. (2009) Parkhi (2019) Juliani and de Oliveira (2020)

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Potential Routines	Higher Education Project Selection Routines	PI/CI/Lean/Six Sigma Literature
		Cho and Linderman (2019) Onofrei et al. (2019)
Use of Visual management	Radnor and Bucci (2011) Cano et al. (2013)	de Jager et al. (2004) Jurburg et al. (2017) Laureani and Antony (2019)
Understand and use process performance indicators	Langer (2011) Comm and Mathaisel (2005) Jenicke et al. (2008) Antony (2014) O'Neill & Palmer (2004) Taylor (2012)	Oliver (2009) Jaca et al. (2012) de Jager et al. (2004) Parkhi (2019)
On-going Monitoring of processes	Radnor and Bucci (2011) Dragomir and Surugiu (2003)	Olsson et al. (2007) Parkhi (2019) Juliani and de Oliveira (2020)
Cause & effect analysis	Doman (2011) Cano et al. (2013) Antony (2014)	Olsson et al. (2007)
Pareto analysis	Antony (2014) Isa and Usmen (2015)	
Voice of the customer, a common feature of PI projects	Radnor and Bucci (2011) Comm (2003) Cano et al. (2013) Antony (2014) Isa and Usmen (2015) Holmes (2015)	Anand et al. (2009) Jinhui Wu et al. (2012) Parkhi (2019) Knol et al. (2019) Cho and Linderman (2019)