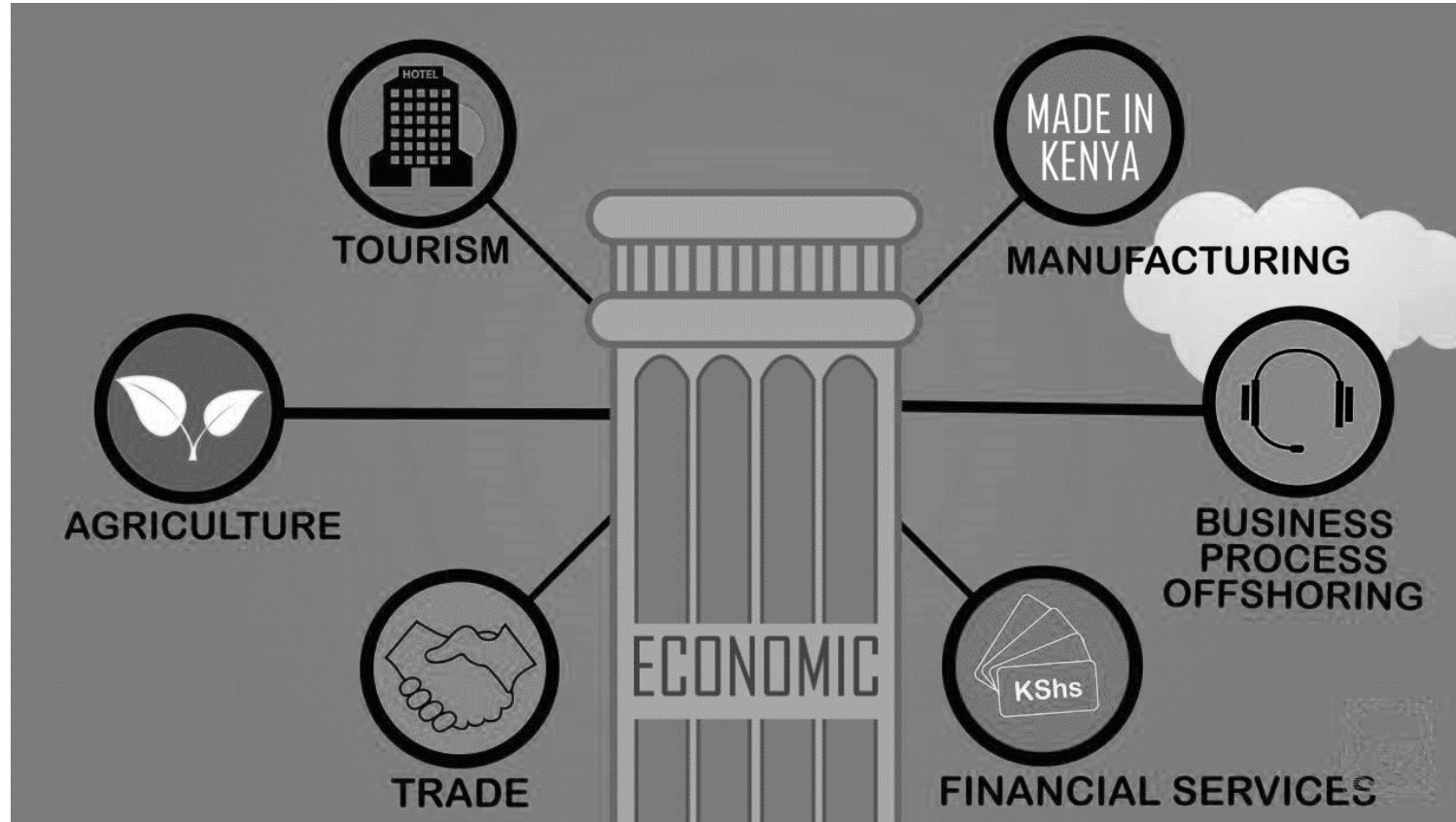


Business Process Management: Curriculum Development with Design Science Research Methodology

Agenda

1. Background
2. Contextual issues
3. Methodology
4. DSRM Phases
5. Activity Systems
6. Prescriptions
7. Evaluation of artefact
8. Limitations Future research

Background: Vision 2030 Economic Pillar



Background: Business process offshoring



Given that high-quality process outsourcing requires a high-level competence in BPM (Lacity et al., 2011; Mahmoodzadeh et al., 2009)



Much has been done with respect to BPO in Kenya (Jane, Aosa, Awino, & Njihia, 2018; Mann & Graham, 2016; Mann, Graham, & Friederici, 2015),



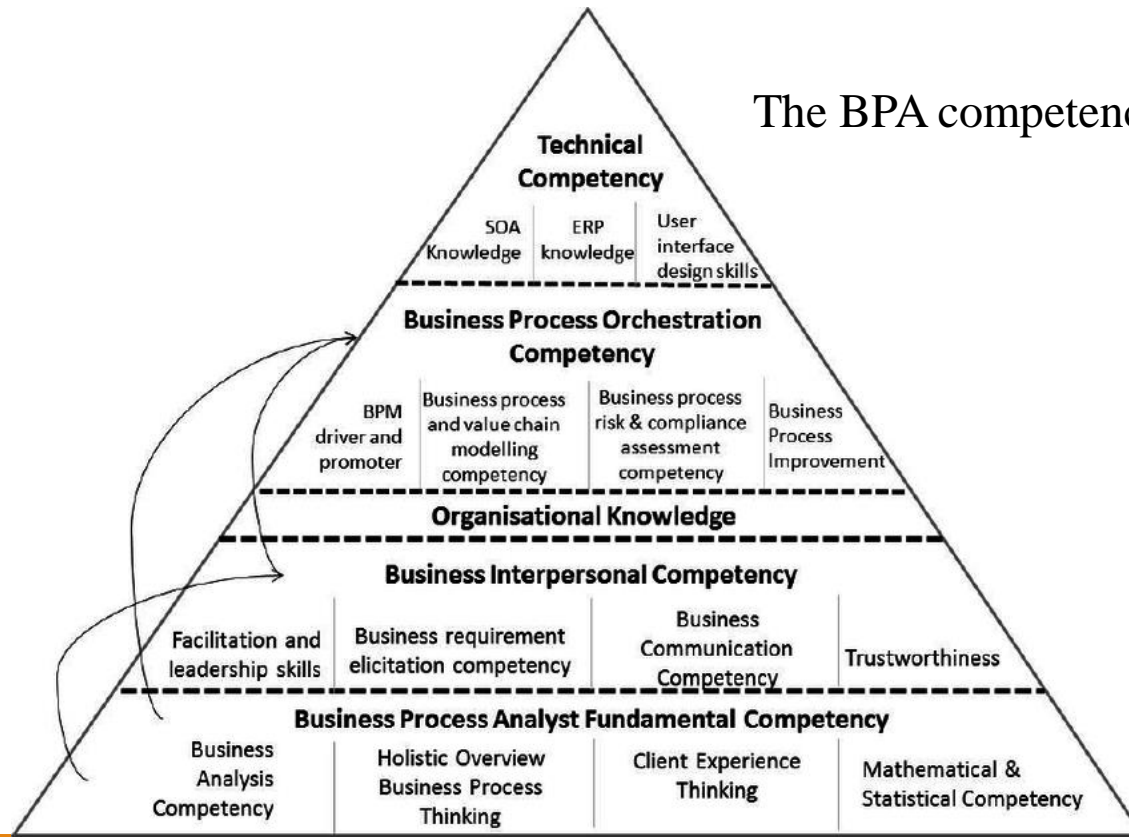
Hardly any research in BPM or BPM competency building had been carried out on the Kenyan context



One study suggested that a major pitfall of adoption of process outsourcing projects in Kenya was a lack of relevant competencies in the country (Chumo, 2015).

Contextual issues – The business process analyst role

Competencies that were deemed critical for process management from literature review were perceived to have been overlooked within the Kenyan context.



The BPA competency framework (Sonteya and Seymour., 2012)

Contextual issues



Further investigation indicated that most of these tasks below were handled largely by the IT team.



And that BPAs were mainly found in functional departments so they rarely had a big picture view.



Business Analysis



Business Process Improvement



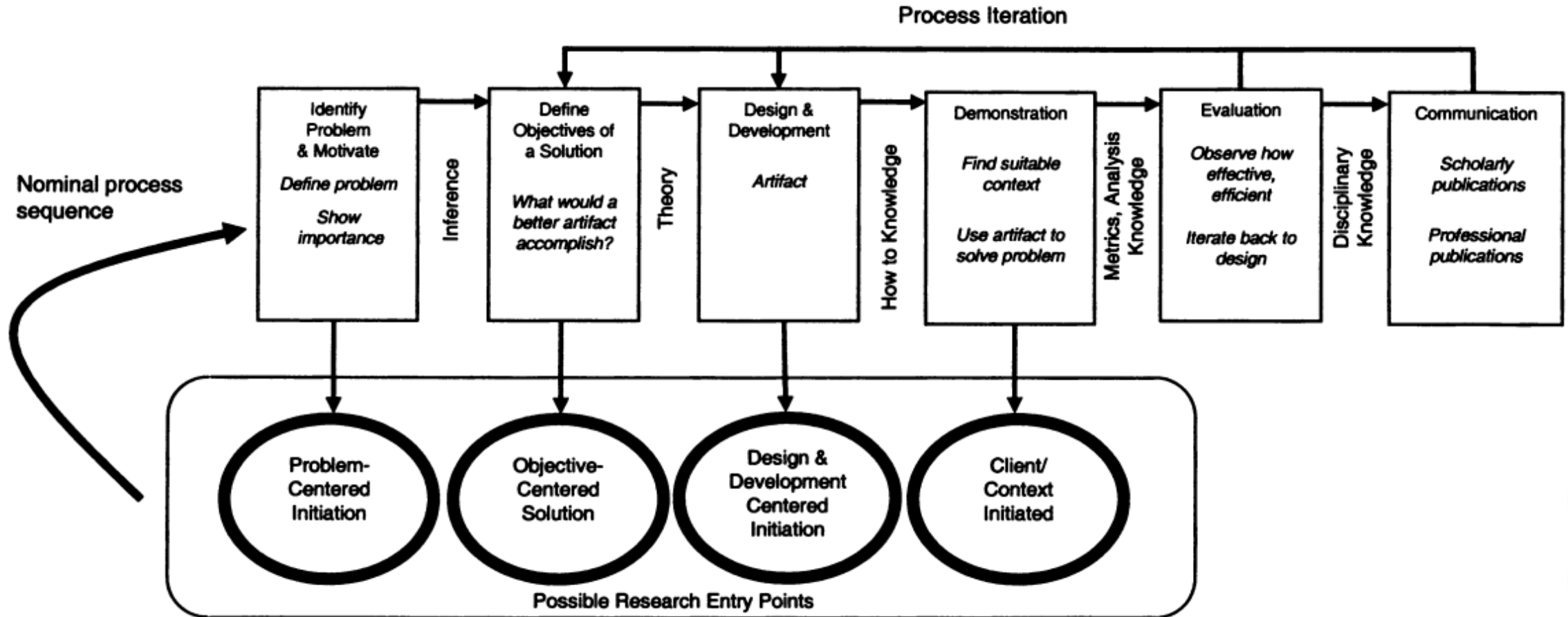
Business Requirements Elicitation



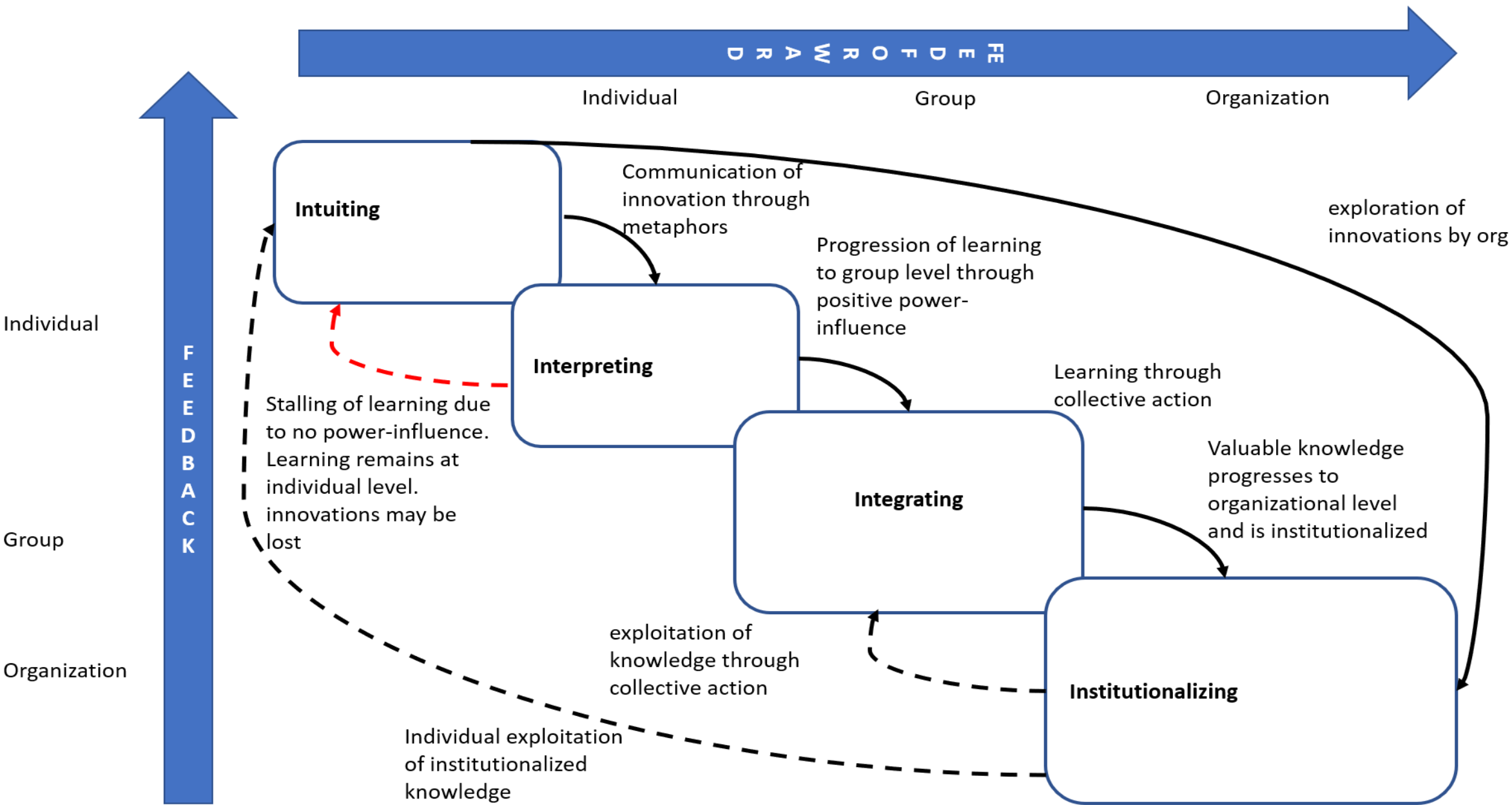
Holistic Overview of business thinking

Organizations in Kenya	Mean	Importance Ranking
BIC4 (Trustworthiness)	4.33	1
BIC3 (Business Communication)	4.29	2
BPA3 (Client Experience Thinking)	4.18	3
BFC1 (Business Analysis)	3.93	4
BFC2 (Holistic Overview of business thinking)	3.90	5
BPO3 (Business Process Risk and Compliance Assessment)	3.87	6
BPO2 (Business Process Improvement)	3.86	7
BIC1 (Facilitation and Leadership)	3.8	8
OK-Imp (Organizational Knowledge)	3.76	9
BPO1 (Business process and Value chain modelling)	3.70	10
BIC2 (Business Requirements Elicitation)	3.6	11
BPO4 (BPA drive and promotion)	3.41	12
TC2 (ERP systems Knowledge)	3.23	13
TC3 (User Interface design)	3.18	14
TC1 (Software Oriented Architecture)	3.04	15
BFC4 (Mathematical and Statistical competency)	3	16

Methodology	Stance
Research aim	To investigate the interventions that develop BPA competencies in organizations in Kenya and design and implement an artefact to be used in HEI to build BPA competencies in students.
Scientific contribution	Theory of designing
Research approach	Inductive-Deductive hybrid
Research strategy	Mixed methods
Time horizon	Cross-sectional with multiple snapshots
Research sampling	A homogenous sampling of participants with specific attributes and purposive snowballing
Data collection instruments	Semi-structured Interviews and surveys with a 5 point Likert scale
Data analysis tools	Nvivo for analyzing qualitative data, Statistica for analyzing quantitative data
Data analysis approaches	Thematic analysis Artefact development through DRSM



DSRM Phase	Description
Identifying the problem	<p>Most Business Process Analysts face a steep learning curve once they began working in their roles in industry.</p> <p>To compete in Business process offshoring, competency building is necessary</p>
Objectives of the solution	<p>Defining the concepts of the activity system</p> <p>Defining and assessing the outcomes of the activity system against the desired end result.</p>
Design of the artefact	<p>Interviewed 17 BPAs</p> <p>Established 12 interventions that the BPAs use to attain required competencies</p> <p>Interventions were grouped into 3 levels individual, group and organizational</p> <p>Developed activity systems from these levels</p>
Demonstration of artefact	Run activity systems for 10 weeks with 4 th year business process management class.
Evaluation	This was done in two iterations



Activity Systems Design



Thematic analysis from 17 BPA interviews produced 12 distinct interventions used to build BPA competencies these were categorized into 4 levels of learning derived from the 4I framework of organizational learning



Intuiting: *On the job, experiential learning*



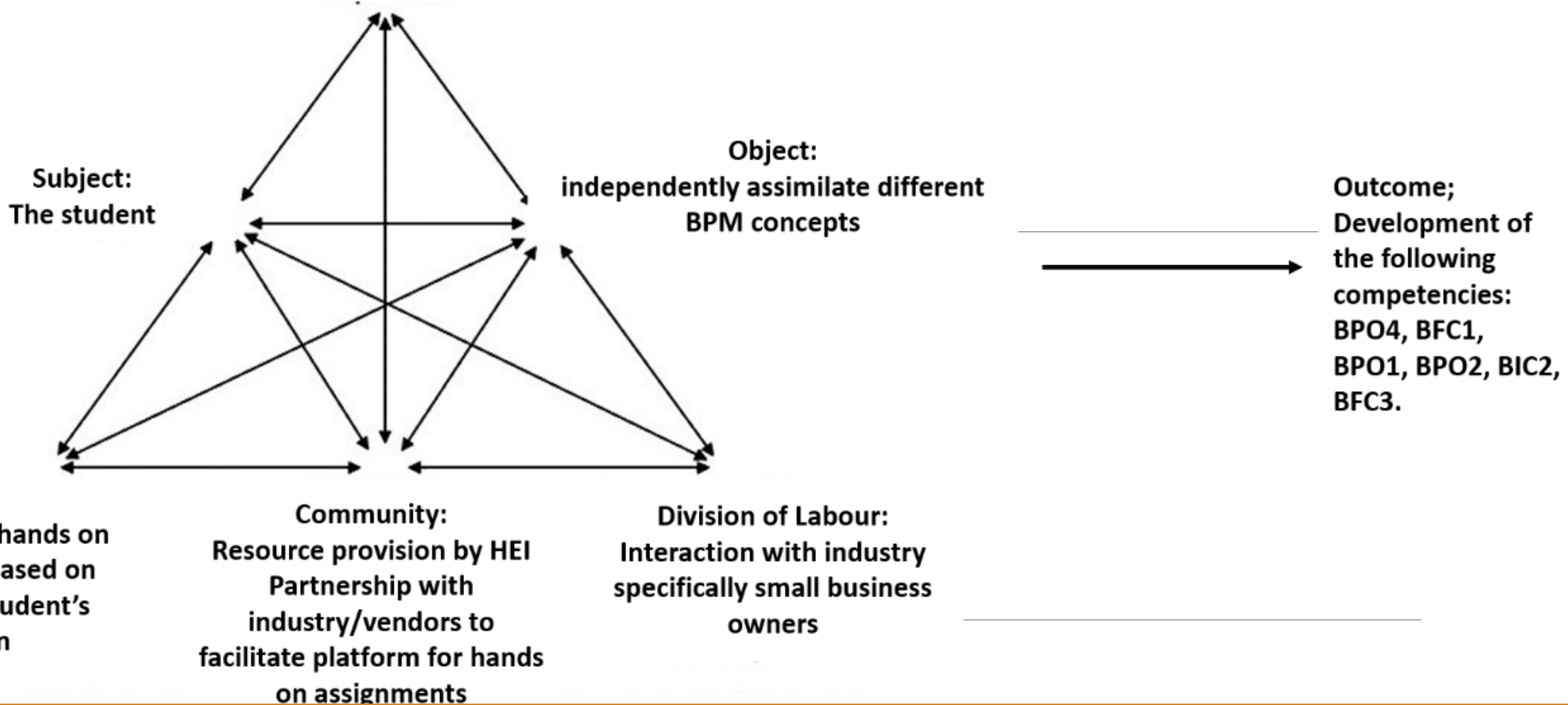
Interpreting: *staff to staff mentorship and job shadowing*



Integrating: *External Consultants, Stakeholder Engagement, Top management support, Vendor certifications, Vendor support tools and Inter-group collaboration*



Institutionalizing: *Employee Assessment, Internal Help desk, Organization run training programmes and Organization Software tools*



Example of a designed activity system in the study

Week	Activity	Activity systems demonstrated		Actual interventions implemented	
Week 1- 2	Introduction to the course and group formation	Institutionalizing Integrating		Structured learning ; Knowledge sharing; Intergroup; collaboration; Stakeholder engagement; top management support	
Week 3-4:	Introduction to BPMN, process modelling lab-work and the AS-IS process	Intuiting, Interpreting, Integrating, Institutionalizing		On-the-job-DIY; Student to student mentorship; Inter-group collaboration; External consultants	
Week 5:	Continuous assessment test 1 and process modelling	Intuiting, Institutionalizing		Integrating, On-the-job; Inter-group collaboration; Student (employee) assessment	
Week 6-7	Qualitative and Quantitative process analysis	Interpreting, Institutionalizing		Integrating, Job-shadowing, Stakeholder engagement, Inter-group collaboration, Structured learning	
Week 8-9:	Continuous assessment test 2, Process re-design and the TO-BE process model	Intuiting, Institutionalizing		Integrating, On-the-job, Inter-group collaboration, Stakeholder engagement, Student (employee) assessment	
Week 10	Compilation and presentation of final semester project output	Intuiting, Institutionalizing		Integrating, On-the-job, Inter-group collaboration, Student (employee) assessment, Knowledge sharing	

ACTIVITY SYSTEM DESIGNED

INTERVENTION

RECOMMENDED IMPLEMENTATION WITHIN HEI (PRESCRIPTIVE STATEMENTS)

Intuiting

On-the-Job

All students are required to undergo an individual assessment represented as a continuous assessment test

All students are required to complete 5 lab exercises. All the exercises will require hands-on problem-solving using a process modelling tool such as Bizagi or IBM Blueworks.

Interpreting

Student to student
mentorship

The lecturer is required to plan for tutor sessions during the modelling exercise. The lecturer must also promote consultative meetings between students when solving problems within their student groups

Job shadowing

As part of the semester project, students are required to observe, and record steps taken by process owners as they execute specific business processes

Integrating	Intergroup collaboration	Students are required to form groups of 5-6 persons as part of the semester project. For the project, students are required to analyse and redesign specific business processes of a small business owner.
	Stakeholder engagement	Students are required to interact with small business owners to analyse and redesign their business processes. Students are required to make visits to their selected businesses to collect relevant information on the business process
	Top management support	The lecturer is required to get top management support, specifically from the faculty academic director, for all course content of the BPM course. This is to be done through the director's approval of a course outline.
	Vendor software tools	The student groups are required to interact with modelling tools such as Bizagi and IBM Blueworks when modelling the AS-IS and TO-BE models of the semester project.
	External consultants	The lecturer is required to invite guest lecturers with strong backgrounds in BPM/ERP from industry or from specific software vendors
	vendor certifications	The lecturer is required to incorporate vendor certifications learning material especially those certifications for BPM and ERP systems.
Institutionalizing	Knowledge sharing	A Learning Management System (LMS) will be set up for students to access and share course material. The lecturer is required to upload past student projects for reference by future BPM students.
	Organization run training	The lecturer is required to prepare structured learning sessions. These lecture sessions are to be prepared and disseminated by the lecturer using the HEIs approved format and HEI approved core text. The lecturer's material
		is to be stored within the LMS of the HEI.

Competency Importance	BPM students (with artefact) – N=69		BPM practitioners (no artefact) – N= 65	
	Mean	Rank	Mean	Rank
BFC1-Business Analysis	4.52	1	3.9	4
BFC3-Client Experience Thinking	4.48	2	4.1	3
BPO1-Business process and Value chain modelling	4.46	3	3.7	9
BPO2-Business Process Improvement	4.39	4	3.8	6
BIC2-Business Requirements Elicitation	4.39	4	3.6	11
BIC4-Trustworthiness	4.38	6	4.3	1
BIC3-Business Communication	4.31	7	4.2	2
BPO3-Business Process Risk and Compliance Assessment	4.25	8	3.8	6
BIC1-Facilitation and Leadership	4.21	9	3.8	6
TC1-Software Oriented Architecture	4.21	9	3	15
OK-Imp-Organizational Knowledge	4.18	11	3.7	9
TC2-ERP systems Knowledge	4.16	12	3.2	13
TC3-User Interface design	4.09	13	3.1	14
BPO4-BPA drive and promotion	4.06	14	3.4	12
BFC2-Holistic Overview of business thinking	4.01	15	3.9	4
BFC4-Mathematical and Statistical competency	3.84	16	3	15

Limitations and future research



Data collection for this study was limited to the BPA role within organizations and Business and Information Technology students undertaking a BPM course in HEI within the Kenyan context.



Future research can extend data collection to other key staff members such as managers and human resource experts.



Further, the BPM curriculum artefact was evaluated in the last 2 weeks of a 4-month semester within which the BPM curriculum was run.



Therefore, a comprehensive evaluation could not be carried out due to time constraints.

Limitations and future research



Future studies can extend findings from this study by using a design science approach of artefact evaluation to implement a comprehensive and detailed evaluation of the BPM curriculum.



This can provide additional insights into the ways in which the BPM curriculum can be improved.



There is also an opportunity to use action research as a methodology to validate the educational interventions established in this study.