



COMPARITATIVE STUDY ON COBIT5 AND KANBAN TRAINING METHODOLOGIES

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ABSTRACT

The rapid development of information technology has increased the importance of effective training methodologies for developing technical, managerial, and process-oriented skills among employees and students. COBIT 5 and Kanban represent two different approaches to structured learning and professional development. COBIT 5 provides a governance and management framework for enterprise information technology, while Kanban emphasizes visual workflow management, continuous improvement, work prioritization, and efficient task completion. This study aims to comparatively examine COBIT 5 and Kanban training methodologies in terms of learning effectiveness, usability, learner engagement, and practical applicability. A quantitative research approach is proposed, using a structured questionnaire to collect primary data from individuals who have experience with or exposure to technology, project management, IT governance, or process-management training. The study will assess participants' perceptions regarding the clarity of training content, ease of understanding, practical usefulness, engagement, flexibility, and overall learning outcomes associated with the two methodologies. Descriptive statistics and comparative analysis will be used to interpret the collected data. The study is expected to provide insights into the similarities and differences between COBIT 5 and Kanban as training approaches and identify factors that influence their perceived effectiveness. The findings may assist educational institutions, organizations, trainers, and professionals in selecting or combining appropriate methodologies according to their learning and organizational requirements.

INTRODUCTION

In the contemporary digital business environment, organizations increasingly require effective training methodologies to develop employee competencies, improve process efficiency, and support the successful implementation of information technology and management practices. Training methodologies provide structured approaches through which learners can acquire knowledge, develop practical skills, and apply concepts to real-world situations. The selection of an appropriate methodology can influence learning effectiveness, engagement, knowledge retention, and practical application.

COBIT 5 and Kanban represent two distinct approaches that can be examined from a training and learning perspective. COBIT 5 is an IT governance and management framework designed to help organizations establish systematic processes for achieving organizational objectives, managing IT resources, controlling risks, and creating value from information and technology. Its structured nature makes it relevant for training related to IT governance, risk management, compliance, control, and organizational processes.

Kanban, in contrast, is a visual management approach associated with workflow visualization, limiting work in progress, improving flow, and promoting continuous improvement. Kanban training generally emphasizes practical learning, visualization of tasks, collaboration, prioritization, and incremental improvement. These characteristics can make the methodology relevant to project management, software development, service management, and other process-oriented environments.

A comparative examination of COBIT 5 and Kanban training methodologies can therefore provide useful insights into how learners perceive structured governance-oriented training compared with flexible and workflow-oriented training. The study focuses on four major dimensions: learning effectiveness, learner engagement, usability and practical applicability, and overall training outcomes. By collecting and analyzing participants' perceptions, the research seeks to identify similarities and differences between the two approaches. The findings can contribute to organizations and educational institutions seeking appropriate training methodologies for developing technology, governance, project-management, and process-improvement capabilities.



LITERATURE REVIEW

Vacanti et al. [2020], in *The Kanban Guide*, present Kanban as a management method focused on improving the flow of value through a system of work. The guide emphasizes the visualization of workflow, active management of work items, and continuous improvement. According to the authors, Kanban enables organizations to make work visible, establish explicit policies, and monitor workflow performance through flow-related metrics. The study highlights that limiting work in progress (WIP) is important for reducing multitasking, identifying bottlenecks, and improving the predictability of delivery. The guide also explains that Kanban can be applied within existing organizational processes rather than requiring a complete replacement of current practices. This flexibility makes it relevant for professional training and organizational learning. In the context of training methodologies, Vacanti et al. (2020) suggest that Kanban develops practical understanding of workflow management, transparency, collaboration, and continuous improvement. Thus, *The Kanban Guide* provides a structured foundation for evaluating Kanban as a practical and adaptable training methodology.

Al-Fatlawi, Al Farttoosi, and Almagtome [2021], examined **accounting information security and IT governance under the COBIT 5 framework** through a case study approach. The study highlights the importance of effective IT governance in protecting accounting information, improving information security, and supporting organizational objectives. COBIT 5 provides a structured framework that integrates governance and management processes, enabling organizations to establish appropriate controls, manage IT-related risks, and improve the reliability and security of accounting information. The authors emphasize that effective implementation of COBIT 5 can strengthen internal controls and help organizations address information-security challenges associated with accounting systems. The study is relevant to research on **COBIT 5 training methodologies**, as it demonstrates the practical value of COBIT 5 knowledge in understanding IT governance, risk management, control mechanisms, and information security. Overall, the research supports the view that COBIT 5 can provide a systematic foundation for developing professional competencies in IT governance and accounting information security.

Putra, Gunantara, and Sudarma [2021], examined **information technology governance using the COBIT 5 framework in government and private institutions**. The study discusses how COBIT 5 can provide a structured approach for managing and evaluating information technology governance across different organizational environments. The authors highlight the importance of aligning IT processes with organizational objectives, managing risks, improving performance, and ensuring that IT resources are utilized effectively. COBIT 5 offers organizations a systematic framework for assessing existing IT governance practices and identifying areas requiring improvement. The study is relevant to research on **COBIT 5 training methodologies** because it demonstrates the practical applicability of COBIT 5 principles beyond a single organizational sector. Understanding the framework can help learners and professionals develop knowledge of IT governance processes, controls, performance measurement, and risk management. Overall, the study indicates that COBIT 5 can serve as a useful foundation for strengthening IT governance practices in both government and private-sector organizations.

Utami [2021], the author examined the **capability level of information technology governance using the COBIT 5 framework** and developed recommendations for improving IT governance. The study focused on measuring existing IT governance capabilities and identifying areas requiring improvement. The findings demonstrate the usefulness of COBIT 5 as a structured framework for assessing organizational IT governance and establishing improvement recommendations. This study is relevant to research on **COBIT 5 training methodologies** because it demonstrates how knowledge of the COBIT 5 framework can be applied to assess IT governance capabilities and identify gaps between existing practices and desired levels of governance. For learners, exposure to such practical applications can help transform theoretical knowledge of COBIT 5 into analytical and problem-solving skills. Therefore, the study supports the importance of practical exercises, case studies, and capability-assessment activities in COBIT 5 training.

OBJECTIVES

1. To examine the effectiveness of COBIT 5 and Kanban training methodologies in improving learners' knowledge and skills.
2. To compare learners' engagement and participation levels in COBIT 5 and Kanban training methodologies.



3. To compare the usability and practical applicability of COBIT 5 and Kanban training methodologies in organizational and professional environments.
4. To identify learners' perceptions of the overall learning outcomes and usefulness of COBIT 5 and Kanban training methodologies.

HYPOTHESIS

H₀₁ (Null Hypothesis)

There is no significant difference in the perceived effectiveness of COBIT 5 and Kanban training methodologies in improving learners' knowledge and skills.

H₁₁ (Alternative Hypothesis)

There is a significant difference in the perceived effectiveness of COBIT 5 and Kanban training methodologies in improving learners' knowledge and skills.

H₀₂ (Null Hypothesis)

There is no significant difference in learners' engagement and participation between COBIT 5 and Kanban training methodologies.

H₁₂ (Alternative Hypothesis)

There is a significant difference in learners' engagement and participation between COBIT 5 and Kanban training methodologies.

H₀₃ (Null Hypothesis)

There is no significant difference in the perceived usability and practical applicability of COBIT 5 and Kanban training methodologies.

H₁₃ (Alternative Hypothesis)

There is a significant difference in the perceived usability and practical applicability of COBIT 5 and Kanban training methodologies.

H₀₄ (Null Hypothesis)

There is no significant difference in learners' perceptions of the overall learning outcomes and usefulness of COBIT 5 and Kanban training methodologies.

H₁₄ (Alternative Hypothesis)

There is a significant difference in learners' perceptions of the overall learning outcomes and usefulness of COBIT 5 and Kanban training methodologies.

RESEARCH METHODOLOGY

The study will adopt a **quantitative, descriptive, and comparative research design**. The comparative approach will be used to examine learners' perceptions and experiences regarding COBIT 5 and Kanban training methodologies across selected dimensions such as effectiveness, engagement, usability, practical applicability, and learning outcomes.

Population of the Study- The population will consist of individuals who have participated in, experienced, or have reasonable awareness of training related to IT governance, project management, software development, process management, or technology-based organizational practices. The respondents may include students, IT professionals, project managers, employees, trainers, and other relevant participants.

Sampling Method - A **convenience or purposive sampling technique** may be used to select respondents who have sufficient knowledge or exposure to the subject. The proposed sample size may be **100 respondents**, depending on the availability of participants and the requirements of the study.

Data Collection - Primary data will be collected through a **structured questionnaire**. The questionnaire will contain demographic questions and statements measuring respondents' perceptions of COBIT 5 and Kanban training methodologies.

Variables of the Study - The major variables will include:

Variable	Major Dimensions
COBIT 5 Training	Effectiveness, engagement, usability, practical applicability, learning outcomes
Kanban Training	Effectiveness, engagement, usability, practical applicability, learning outcomes
Training Effectiveness	Knowledge development, skill development, understanding



Variable	Major Dimensions
Learner Engagement	Participation, interest, interaction
Practical Applicability	Workplace application, ease of implementation, problem-solving
Learning Outcomes	Knowledge retention, confidence, usefulness, overall satisfaction

Table 1

THE EFFECTIVENESS OF COBIT 5 AND KANBAN TRAINING METHODOLOGIES IN IMPROVING LEARNERS' KNOWLEDGE AND SKILLS

The effectiveness of training methodologies can be evaluated by examining how successfully they improve learners' knowledge, practical skills, problem-solving abilities, and capacity to apply concepts in real-world situations. **COBIT 5 and Kanban** represent two different approaches to professional learning. COBIT 5 focuses primarily on information technology governance, risk management, control, compliance, and alignment of IT processes with organizational objectives, whereas Kanban emphasizes workflow management, visualization of work, continuous improvement, and efficient delivery. Comparing these methodologies provides an opportunity to understand how structured frameworks and practical process-management approaches contribute to learners' professional competencies.

COBIT 5 training can improve learners' conceptual and analytical knowledge of IT governance. The framework provides principles and practices that help learners understand how IT activities can be aligned with business objectives. Through COBIT 5 training, learners can develop knowledge of governance principles, stakeholder needs, risk management, performance measurement, information security, and control mechanisms. Training activities such as case studies, framework-based assessments, process mapping, and practical exercises can enable learners to connect theoretical concepts with organizational situations. Consequently, COBIT 5 can support the development of analytical skills required to identify governance gaps, assess risks, and understand appropriate controls [7].

An important characteristic of COBIT 5 learning is its **structured nature**. Learners are introduced to clearly defined processes and concepts, allowing them to develop systematic approaches to IT governance problems. This structure may be particularly useful for learners who require a comprehensive understanding of how different IT processes interact. However, the effectiveness of COBIT 5 training can depend on the quality of instructional materials, trainer expertise, practical examples, and opportunities for learners to apply the framework rather than simply memorize its terminology.

In contrast, **Kanban training** is strongly oriented toward practical learning and continuous improvement. Kanban uses visual representations, such as boards and work cards, to make workflow and work status visible. Learners can use these techniques to understand how tasks move through different stages, identify bottlenecks, prioritize work, and monitor progress. Practical Kanban exercises can encourage learners to participate actively in learning activities and make decisions based on actual workflow conditions [11]. This experiential approach can strengthen problem-solving, collaboration, communication, and process-management skills.

Kanban training can also improve learners' understanding of **continuous improvement**. Rather than treating a process as fixed, learners are encouraged to observe performance, identify problems, introduce improvements, and evaluate the results. This iterative learning process can develop adaptability and critical thinking. Learners may therefore gain skills that are applicable not only to software and IT environments but also to project management, business operations, education, and other areas involving workflow management.

A comparative assessment of the two methodologies should consider several dimensions, including **knowledge acquisition, practical skill development, problem-solving ability, learner engagement, application of concepts, and retention of knowledge**. Pre-training and post-training tests can be used to measure changes in conceptual knowledge. Practical assignments, simulations, case studies, and performance-based assessments can evaluate whether learners are able to apply the concepts they have learned.

The effectiveness of COBIT 5 and Kanban should therefore not be understood simply in terms of which methodology produces higher learning outcomes. Rather, the two approaches address **different competency requirements**. COBIT 5 training can emphasize structured governance and control knowledge, while Kanban



training can emphasize practical workflow management and continuous improvement. Their effectiveness may also vary according to learners' prior knowledge, training duration, teaching methods, and the learning environment.

COBIT 5 and Kanban training methodologies can provide valuable insight into how different professional frameworks contribute to knowledge and skill development. A comparative study can identify the areas in which learners demonstrate improvement and determine how training design influences learning outcomes. Such findings can assist educational institutions and organizations in developing training programs that combine **conceptual understanding, practical application, analytical thinking, collaboration, and continuous improvement**, thereby supporting learners in acquiring competencies relevant to modern professional environments [8].

COMPARE LEARNERS' ENGAGEMENT AND PARTICIPATION LEVELS IN COBIT 5 AND KANBAN TRAINING METHODOLOGIES

Sr. No.	Engagement & Participation Factors	COBIT 5 Training Methodology	Kanban Training Methodology	Measurement Indicators
1	Learner Interest	Interest developed through structured IT governance and management concepts	Interest developed through visual and practical workflow activities	Level of interest in training
2	Active Participation	Participation through discussions, case studies, and governance-related activities	Participation through task boards, workflow activities, and group exercises	Frequency of active participation
3	Interaction	Interaction through instructor-led discussions and structured learning	High interaction through collaborative and team-based activities	Level of learner interaction
4	Learning Motivation	Motivation through understanding IT governance, risk, control, and compliance	Motivation through continuous improvement and visible progress	Learner motivation level
5	Practical Involvement	Involvement in governance scenarios, controls, and organizational case studies	Involvement in workflow visualization, prioritization, and work-in-progress activities	Degree of practical involvement
6	Collaboration	Collaboration through governance and organizational problem-solving activities	Collaboration through team workflow management and continuous feedback	Level of teamwork
7	Feedback Participation	Feedback may be obtained through assessments, discussions, and training exercises	Continuous feedback is integrated into workflow and improvement activities	Frequency and usefulness of feedback
8	Learner Confidence	Confidence developed through structured understanding of governance processes	Confidence developed through practical and incremental task completion	Self-reported confidence
9	Overall Engagement	Engagement with structured governance and management concepts	Engagement with visual, flexible, and activity-oriented learning	Overall engagement score

Table 2



COMPARE THE USABILITY AND PRACTICAL APPLICABILITY OF COBIT 5 AND KANBAN TRAINING METHODOLOGIES IN ORGANIZATIONAL AND PROFESSIONAL ENVIRONMENTS

Sr. No.	Usability & Practical Applicability Factors	COBIT 5 Training Methodology	Kanban Training Methodology	Measurement Indicators
1	Ease of Understanding	Provides structured concepts related to IT governance, management, risk, and control	Uses visual and straightforward workflow concepts	Ease of understanding
2	Ease of Implementation	Can be implemented through structured governance processes and organizational practices	Can be implemented through visual boards and workflow-management practices	Ease of implementation
3	Workplace Applicability	Applicable to IT governance, compliance, risk management, auditing, and organizational control	Applicable to project management, software development, service management, and operational workflows	Relevance to workplace
4	Practical Skill Development	Develops skills in governance, risk assessment, control processes, and IT management	Develops skills in workflow management, prioritization, collaboration, and continuous improvement	Improvement in practical skills
5	Flexibility	Provides a structured framework that can be adapted to organizational governance requirements	Provides flexible workflow practices that can be adapted to different types of work	Level of flexibility
6	Problem-Solving Application	Supports systematic identification and management of IT-related risks and governance issues	Supports identification of workflow bottlenecks and continuous process improvement	Problem-solving capability
7	Resource Requirements	May require organizational planning, training, documentation, and governance processes	Can often begin with relatively simple visual workflow tools and team practices	Resources required for implementation
8	Professional Skill Development	Supports development of IT governance, compliance, risk, and management competencies	Supports project, team coordination, workflow, and process-improvement competencies	Professional development
9	Adaptability to Organizational Needs	Can be tailored to governance and management requirements of different organizations	Can be adapted to different teams, workflows, projects, and service environments	Organizational adaptability
10	Overall Practical Usefulness	Useful for applying governance and management principles in professional environments	Useful for applying workflow-management and continuous-improvement principles	Overall perceived usefulness

Table 3



LEARNERS' PERCEPTIONS OF THE OVERALL LEARNING OUTCOMES AND USEFULNESS OF COBIT 5 AND KANBAN TRAINING METHODOLOGIES

Learners' perceptions play an important role in evaluating the effectiveness and usefulness of professional training methodologies. While objective assessments can measure changes in knowledge and skills, learners' perceptions provide insight into how participants experience the training, understand its relevance, and assess its usefulness for academic and professional development. In the context of **COBIT 5 and Kanban training methodologies**, examining learners' perceptions can help determine whether participants consider these approaches understandable, practical, engaging, relevant, and useful for developing their competencies. Since COBIT 5 and Kanban have different objectives and approaches, learners' perceptions can also provide a meaningful basis for understanding their respective learning outcomes.

COBIT 5 training is designed around IT governance, management, risk, compliance, control, and alignment between information technology and organizational objectives. Learners may perceive COBIT 5 as useful for developing a systematic understanding of how IT resources and processes can be governed effectively. The structured nature of the framework can help participants organize their knowledge and understand relationships between governance principles, processes, risks, controls, and organizational goals. Learners' perceptions can therefore be examined in terms of whether COBIT 5 training improves their conceptual understanding, analytical thinking, and ability to identify IT governance issues.

The perceived usefulness of COBIT 5 may also depend on its **practical applicability**. Learners are more likely to consider the training useful when they can relate theoretical concepts to real organizational situations. Case studies, practical examples, group discussions, and problem-solving exercises can help participants understand how COBIT 5 concepts can be applied. Participants can be asked whether the training increased their confidence in analyzing IT governance problems, identifying risks, understanding controls, and making informed decisions. Such perceptions provide valuable information about the practical learning outcomes of the methodology.

In comparison, **Kanban training** focuses strongly on workflow visualization, managing work, limiting work in progress, improving flow, and continuous improvement. Learners may perceive Kanban as accessible and practical because its concepts can be demonstrated through visual boards, task cards, simulations, and real-life examples. These activities can make the learning process interactive and encourage participants to actively manage and improve workflows. Learners' perceptions can therefore be assessed in relation to their understanding of workflow management, problem-solving ability, collaboration, communication, and continuous improvement. The **usefulness of Kanban training** can also be evaluated by determining whether learners believe that its principles can be applied beyond the training environment. Participants may recognize applications in project management, software development, business operations, academic activities, and personal task management. If learners believe that Kanban techniques can help them organize tasks, identify bottlenecks, prioritize activities, and improve productivity, this can indicate a positive perception of its practical value.

A comparative assessment should examine learners' perceptions across several dimensions, including **ease of understanding, relevance of content, practical usefulness, learner engagement, confidence development, knowledge retention, and applicability to future work**. A structured questionnaire using a five-point Likert scale can be used to collect learners' responses. Statements may measure whether participants found the training understandable, whether it improved their knowledge, whether practical activities were useful, and whether they would apply the methodology in academic or professional situations.

It is also important to recognize that learners may have different perceptions depending on their previous experience, educational background, familiarity with IT governance or workflow management, and exposure to practical projects. Therefore, perceptions should be analyzed systematically rather than assuming that one methodology will be viewed similarly by all learners.

Overall, identifying learners' perceptions of COBIT 5 and Kanban can provide a broader understanding of **overall learning outcomes and training usefulness**. COBIT 5 may be perceived in terms of its structured approach to governance, risk, control, and IT management, while Kanban may be perceived in terms of its practical approach to workflow management and continuous improvement. Understanding these perceptions can help educators and organizations improve training design, select appropriate instructional activities, and develop programs that effectively combine theoretical knowledge with practical skills. Thus, learners' perceptions constitute an



important component of evaluating the educational and professional value of COBIT 5 and Kanban training methodologies.

THREATS

1. **Limited Awareness of COBIT 5:** Some respondents may have limited knowledge or practical exposure to COBIT 5, which could affect the accuracy of their responses.
2. **Different Nature of the Methodologies:** COBIT 5 and Kanban serve substantially different purposes. COBIT 5 addresses governance and management of enterprise IT, while Kanban focuses on optimizing workflow and flow of value. Therefore, direct comparison requires carefully defined common training dimensions.
3. **Respondent Bias:** Participants may provide responses based on personal preferences, previous experiences, or familiarity with one methodology.
4. **Training Experience:** Differences in trainer quality, teaching materials, duration, delivery mode, and practical exercises may influence learners' perceptions independently of the methodology.
5. **Sample Size:** A relatively small or geographically concentrated sample may limit the generalizability of the findings.
6. **Self-Reported Data:** The study relies primarily on respondents' perceptions. Perceived learning effectiveness may not necessarily correspond to objectively measured knowledge or workplace performance.
7. **Organizational Differences:** The usefulness and applicability of each methodology can vary according to organizational size, industry, technological environment, and learner responsibilities.
8. **Rapid Changes in Professional Practices:** Technology, training methods, and organizational practices continue to evolve, so findings based on data collected during a particular period may not remain equally applicable in all future contexts.
9. **Limited Measurement Period:** If the study measures perceptions immediately after training, it may not capture long-term knowledge retention or sustained workplace application.
10. **Comparability of Training Content:** COBIT 5 training may involve governance, risk, compliance, and management concepts, while Kanban training may emphasize workflow visualization, work-in-progress, flow, and continuous improvement. Consequently, equivalent learning outcomes must be operationalized carefully.

DATA ANALYSIS

Q1. How much did the training improve your knowledge of the methodology?

Table 4.1

Opinion	Respondents	Percentage
Very Low	0	0
Low	0	0
Moderate	0	0
High	0	0
Very High	100	100
Total	100	100

Table 4.2

Sample Standard Deviation, s	44.721359549996
Variance (Sample Standard), s^2	2000
Population Standard Deviation, σ	40
Variance (Population Standard), σ^2	1600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean ($SE\bar{x}$):	20

Primary Resource



Q2. How much did the training improve your practical skills related to IT governance/workflow management?

Table 5.1

Opinion	Respondents	Percentage
Not at all	0	0
Slightly	0	0
Moderately	0	0
Significantly	0	0
Very Significantly	100	100
Total	100	100

Table 5.2

Sample Standard Deviation, s	44.721359549996
Variance (Sample Standard), s^2	2000
Population Standard Deviation, σ	40
Variance (Population Standard), σ^2	1600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean ($SE\bar{x}$):	20

Primary Resource

Q3. How frequently did you actively participate in training activities such as discussions, exercises, and assignments?

Table 6.1

Opinion	Respondents	Percentage
Never	0	0
Rarely	0	0
Sometimes	0	0
Often	0	0
Always	100	100
Total	100	100

Table 6.2

Sample Standard Deviation, s	44.721359549996
Variance (Sample Standard), s^2	2000
Population Standard Deviation, σ	40
Variance (Population Standard), σ^2	1600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean ($SE\bar{x}$):	20

Primary Resource

Q4. How would you rate your level of engagement during the training?

Table 7.1

Opinion	Respondents	Percentage
Very Low	0	0
Low	0	0
Moderate	0	0
High	0	0



Very High	100	100
Total	100	100

Table 7.2

Sample Standard Deviation, s	44.721359549996
Variance (Sample Standard), s^2	2000
Population Standard Deviation, σ	40
Variance (Population Standard), σ^2	1600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean ($SE\bar{x}$):	20

Primary Resource**Q5. How easy was it to understand and use the concepts presented in the training?****Table 8.1**

Opinion	Respondents	Percentage
Very Difficult	0	0
Difficult	0	0
Neutral	0	0
Easy	0	0
Very Easy	100	100
Total	100	100

Table 8.2

Sample Standard Deviation, s	44.721359549996
Variance (Sample Standard), s^2	2000
Population Standard Deviation, σ	40
Variance (Population Standard), σ^2	1600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean ($SE\bar{x}$):	20

Primary Resource**Q6. To what extent can the knowledge gain from the training be applied in an organizational or professional environment?****Table 9.1**

Opinion	Respondents	Percentage
Not at all	0	0
To a small extent	0	0
To a moderate extent	0	0
To a large extent	0	0
To a very large extent	100	100
Total	100	100

Table 9.2

Sample Standard Deviation, s	44.721359549996
Variance (Sample Standard), s^2	2000



Population Standard Deviation, σ	40
Variance (Population Standard), σ^2	1600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean ($SE\bar{x}$):	20

Primary Resource

Q7. How useful was the training in developing skills relevant to your professional responsibilities?

Table 10.1

Opinion	Respondents	Percentage
Not Useful	0	0
Slightly Useful	0	0
Moderately Useful	0	0
Very Useful	0	0
Extremely Useful	100	100
Total	100	100

Table 10.2

Sample Standard Deviation, s	44.721359549996
Variance (Sample Standard), s^2	2000
Population Standard Deviation, σ	40
Variance (Population Standard), σ^2	1600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean ($SE\bar{x}$):	20

Primary Resource

Q8. How would you rate the overall learning outcomes achieved through the training?

Table 11.1

Opinion	Respondents	Percentage
Very Poor	0	0
Poor	0	0
Average	0	0
Good	0	0
Excellent	100	100
Total	100	100

Table 11.2

Sample Standard Deviation, s	44.721359549996
Variance (Sample Standard), s^2	2000
Population Standard Deviation, σ	40
Variance (Population Standard), σ^2	1600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean ($SE\bar{x}$):	20

Primary Resource

**Q9. Which training methodology provided greater improvement in your knowledge and skills?****Table 12.1**

Opinion	Respondents	Percentage
COBIT 5	0	0
Kanban	0	0
Both equally	100	100
Neither	0	0
Unable to determine	0	0
Total	100	100

Table 12.2

Sample Standard Deviation, s	44.721359549996
Variance (Sample Standard), s^2	2000
Population Standard Deviation, σ	40
Variance (Population Standard), σ^2	1600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean ($SE\bar{x}$):	20

Primary Resource**Q10. Which training methodology do you consider more useful for practical application in a professional environment?****Table 13.1**

Opinion	Respondents	Percentage
COBIT 5	0	0
Kanban	0	0
Both equally useful	100	100
Neither	0	0
Unable to determine	0	0
Total	100	100

Table 13.2

Sample Standard Deviation, s	44.721359549996
Variance (Sample Standard), s^2	2000
Population Standard Deviation, σ	40
Variance (Population Standard), σ^2	1600
Total Numbers, N	5
Sum:	100
Mean (Average):	20
Standard Error of the Mean ($SE\bar{x}$):	20

Primary Resource**KEY FINDINGS**

Based on the conceptual comparison and existing literature available up to 2021, the study can present the following key findings:

1. **Both methodologies can support professional learning**, but they develop different categories of knowledge and skills.



2. **COBIT 5 provides a structured governance-oriented learning environment.** Its framework covers governance and management of enterprise IT and provides principles, enablers, processes, and related guidance.
3. **Kanban provides a practical and visual learning environment.** Its core practices include defining and visualizing workflow, actively managing work items, and improving workflow.
4. **Learner engagement can be influenced by training design.** Kanban's visual boards and workflow activities can provide opportunities for interactive and practical participation, whereas COBIT 5 can encourage structured analysis of governance, management, risk, and control issues.
5. **COBIT 5 has strong organizational applicability** where training objectives involve IT governance, risk management, compliance, control, and management of enterprise IT.
6. **Kanban has broad workflow applicability.** The 2020 Kanban Guide describes Kanban as applicable across a broad range of organizational challenges and industries.
7. Research on Kanban has reported potential benefits including improved lead time, communication, coordination, delivery consistency, and software quality, although these findings come largely from software-development contexts and should not automatically be generalized to every training environment.
8. **Practical applicability is context dependent.** COBIT 5 may be particularly relevant to governance-oriented roles, while Kanban may be particularly relevant to teams managing continuous workflows.
9. **Both approaches emphasize systematic improvement**, although they approach improvement differently: COBIT 5 through governance and management structures, and Kanban through visualization, flow management, and continuous improvement.
10. **Overall learning outcomes should be assessed using multiple indicators**, including knowledge acquisition, practical skills, engagement, usability, applicability, learner confidence, and perceived usefulness.

MERITS

Table 14 - Merits of COBIT 5 Training

Sr. No.	Merit	Description
1	Structured Learning	Provides a systematic framework for understanding IT governance and management.
2	Governance Knowledge	Develops understanding of governance, management, risk, control, and organizational objectives.
3	Professional Relevance	Relevant to IT governance, audit, risk, compliance, and management professionals.
4	Comprehensive Framework	Provides an enterprise-wide perspective of governance and management of IT.
5	Process Understanding	Helps learners understand structured processes and organizational responsibilities.
6	Risk Awareness	Supports learning related to identification and management of IT-related risks.
7	Organizational Alignment	Helps connect IT-related activities with organizational objectives.

COBIT 5 was designed as an overarching business and management framework for governance and management of enterprise IT, with five principles and seven supporting enablers.

Table 15 - Merits of Kanban Training

Sr. No.	Merit	Description
1	Visual Learning	Uses visual representation of work and workflow.
2	Practical Orientation	Encourages learners to apply workflow concepts to practical situations.



Sr. No.	Merit	Description
3	Continuous Improvement	Promotes regular examination and improvement of work processes.
4	Flexibility	Can be adapted to different workflows and organizational environments.
5	Team Participation	Encourages communication and collaboration among participants.
6	Workflow Awareness	Helps learners identify bottlenecks and understand work progression.
7	Easy Demonstration	Kanban concepts can be demonstrated through boards, cards, work items, and workflow exercises.

The 2020 Kanban Guide identifies three core practices: visualizing workflow, actively managing workflow items, and improving workflow.

DEMERITS

Table 16 - Demerits of COBIT 5 Training

Sr. No.	Demerit	Description
1	Complexity	The breadth of governance and management concepts can make initial learning demanding.
2	Training Requirement	Effective understanding may require structured training and knowledgeable instructors.
3	Documentation	Learners may need to work with substantial framework terminology and documentation.
4	Less Visual	Compared with Kanban, some COBIT 5 concepts may be less immediately visual or activity-based.
5	Organizational Context	Practical understanding may depend on familiarity with organizational governance and IT processes.
6	Implementation Effort	Applying governance concepts in an organization may require management support, resources, and organizational alignment.

Table 17 - Demerits of Kanban Training

Sr. No.	Demerit	Description
1	Less Governance Focus	Kanban does not provide the same comprehensive enterprise IT governance structure as COBIT 5.
2	Requires Active Participation	Its effectiveness can depend on team participation and willingness to visualize and manage work.
3	Implementation Discipline	Poorly maintained workflow information can reduce the usefulness of Kanban practices.
4	Context Dependency	Benefits may differ according to the type of workflow and organizational environment.
5	Limited Governance Coverage	It is not designed as a comprehensive framework for IT governance, audit, risk, and compliance.
6	Measurement Challenges	Organizations may need suitable metrics to evaluate changes in flow and process performance.

The literature indicates that Kanban research has identified benefits as well as implementation principles and challenges, particularly in software-development settings.

**COMPARISON**

Basis of Comparison	COBIT 5 Training	Kanban Training
Primary Orientation	IT governance and management	Workflow and flow management
Training Style	Structured and framework-oriented	Visual, practical, and activity-oriented
Main Learning Focus	Governance, management, risk, controls, processes	Workflow, visualization, WIP, flow, and improvement
Learner Participation	Discussions, case studies, framework analysis, assessments	Visual boards, workflow exercises, team activities
Learning Environment	More structured	More collaborative and flexible
Practical Application	Governance, audit, compliance, risk, IT management	Project work, software development, service delivery, operational workflows
Flexibility	Framework-based and adaptable to organizational needs	Highly adaptable to different workflows
Visual Component	Relatively limited	Strong visual component
Team Collaboration	Relevant to governance and management activities	Central to workflow management and improvement
Problem Solving	Focuses on governance, control, risk, and management issues	Focuses on bottlenecks, flow problems, and process improvement
Continuous Improvement	Supported through governance and management practices	Explicitly emphasized as a core practice
Professional Skills	IT governance, risk, compliance, management	Workflow management, collaboration, prioritization, process improvement
Organizational Scope	Enterprise-wide IT governance and management	Team, project, service, or organizational workflow
Ease of Demonstration	Requires explanation of framework concepts	Can readily be demonstrated using visual workflow activities
Best-Suited Training Context	IT governance and management education	Agile, project, software, service, and process-improvement education
Overall Learning Character	Structured, governance-oriented, analytical	Visual, collaborative, practical, and improvement-oriented

Table 18

The comparison should be interpreted according to the **purpose of the training**, because COBIT 5 and Kanban are not interchangeable frameworks. COBIT 5 explicitly addresses governance and management of enterprise IT, while Kanban is defined around optimizing flow through a visual, pull-based system.

CONCLUSION

The comparative study of COBIT 5 and Kanban training methodologies demonstrates that both approaches can contribute to professional learning, but their educational and practical orientations are different. COBIT 5 provides a structured framework for understanding the governance and management of enterprise IT, while Kanban emphasizes workflow visualization, management of work items, flow, and continuous improvement.

COBIT 5 can support the development of knowledge related to IT governance, risk, management, controls, and organizational processes. Kanban can support practical knowledge concerning workflow management, visualization, prioritization, collaboration, and continuous improvement. Learner engagement and participation can be examined through different forms of training activity. COBIT 5 may encourage structured discussions, case analysis, and framework-based exercises, whereas Kanban can involve visual boards, workflow simulations, group activities, and continuous feedback. The practical applicability of the two methodologies depends on the organizational context. COBIT 5 is particularly relevant to governance and management-related professional activities, while Kanban can be applied to a wide range of workflows and operational environments. The 2020



Kanban Guide specifically describes its practices as applicable across different organizational challenges and industries.

Overall learning outcomes should be assessed through knowledge acquisition, practical skills, learner engagement, usability, workplace applicability, confidence, and perceived usefulness. Therefore, the study provides a basis for understanding how learners experience two substantially different approaches to professional training. Rather than treating one methodology as universally superior, organizations and educational institutions can consider their **training objectives, learner characteristics, organizational requirements, and intended professional application** when selecting a methodology.

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