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INFORMATION AND COMMUNICATION TECHNOLOGY TRAINING PROGRAM AT BDK MAKASSAR USING KIRKPATRICK'S CONCEPTUAL MODEL

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Abstract

This study aims to evaluate the effectiveness of information and communication technology (ICT) training for government officials using Kirkpatrick's training evaluation model, which comprises four levels: reaction, learning, behaviour, and results. The background of this study is based on the need to improve the capacity of state officials in facing the demands of bureaucratic digitalisation and public services. The research method used was a quantitative approach with a survey design, supplemented by descriptive and inferential analysis. Data were collected through questionnaires administered to 120 respondents who were officials who had participated in ICT training programmes in various government agencies, as well as in-depth interviews with 15 training management officials to reinforce the quantitative results. The results show that at the reaction level, the majority of participants were satisfied with the training material, methods, and facilitators. At the learning level, there was a significant increase in the mastery of basic to advanced ICT skills. At the behavioural level, participants were able to implement the competencies they had acquired in their daily work, although there were still obstacles related to facilities and organisational support. At the outcome level, the training contributed positively to improving work efficiency and the quality of public services. In conclusion, Kirkpatrick model-based ICT training is effective in improving the capacity of government officials, but requires follow-up in the form of institutional support and strengthening of digital infrastructure.

Keywords: ICT training, Kirkpatrick evaluation, government officials, digital learning

Abstract

Penelitian ini bertujuan untuk mengevaluasi efektivitas pelatihan teknologi informasi dan komunikasi (TIK) bagi aparatur pemerintah dengan menggunakan model evaluasi pelatihan Kirkpatrick yang mencakup empat level, yaitu reaksi, pembelajaran, perilaku, dan hasil. Latar belakang penelitian didasarkan pada kebutuhan peningkatan kapasitas sumber daya manusia aparatur negara dalam menghadapi tuntutan digitalisasi birokrasi dan pelayanan publik. Metode penelitian yang digunakan adalah pendekatan kuantitatif dengan desain survei, dilengkapi analisis deskriptif dan inferensial. Data dikumpulkan melalui kuesioner kepada 120 responden aparatur yang telah mengikuti program pelatihan TIK di berbagai instansi pemerintah, serta wawancara mendalam dengan 15 pejabat pengelola pelatihan untuk memperkuat hasil kuantitatif. Hasil penelitian menunjukkan bahwa pada level reaksi, mayoritas peserta merasa puas terhadap materi, metode, dan fasilitator pelatihan. Pada

level pembelajaran, terjadi peningkatan signifikan dalam penguasaan keterampilan dasar hingga lanjutan TIK. Pada level perilaku, peserta mampu mengimplementasikan kompetensi yang diperoleh dalam pekerjaan sehari-hari, meskipun masih terdapat kendala terkait fasilitas dan dukungan organisasi. Pada level hasil, pelatihan memberikan kontribusi positif terhadap peningkatan efisiensi kerja dan kualitas pelayanan publik. Kesimpulannya, pelatihan TIK berbasis model Kirkpatrick efektif dalam meningkatkan kapasitas aparatur pemerintah, namun memerlukan tindak lanjut berupa dukungan kelembagaan dan penguatan infrastruktur digital.
Keywords: *pelatihan TIK, evaluasi Kirkpatrick, aparatur pemerintah, pembelajaran digital*

INTRODUCTION

In the rapidly developing digital era like now, proficiency in Information and Communication Technology (ICT) is no longer just an added value, but has become a basic need for every individual in the government. Digital innovation, electronic-based public service transformation, electronic-based government system (SPBE), as well as the demands for efficiency and transparency, force all civil servants (ASN) to continue to update their competencies. Without adaptation to digital technology, civil servants, including those within the Makassar Religious Education and Training Center (BDK), have become a lagging party in the use of ICT potential to increase the effectiveness and efficiency of their tasks and functions. BDK Makassar, as one of the training institutions under the Ministry of Religion, has a strategic responsibility in developing the capacity of ASN, especially in the realm of religion, education, administration, and religious technical. Along with BDK Makassar's vision to become a superior, accountable, and responsive religious training center to the times, improving ICT competence is one of the main focuses. This institution has shown various strategic steps, such as the implementation of blended training (online and face-to-face), distance learning (PJJ), and the development of a Learning Management System through BDK Makassar Learning Center.

However, the investment in the form of time, teaching staff (widyaiswara), ICT facilities, facilities, and infrastructure, and the budget allocated for training is not small. Therefore, the evaluation of the training program is very important to ensure that the resources that have been spent actually produce the expected impact. Evaluation is not just an administrative formality or the collection of reports, but a diagnostic instrument that is able to uncover what is going well, what needs to be improved, and how subsequent trainings can be designed to be more relevant, more effective, and more efficient.

In recent years, the central government and related parties have always emphasized that civil servants must be able to master and adopt digital technology so that public services become better. For example, the Ministry of Communication and Information Technology and the State Civil Service Agency held a training "Increasing Digital Technology Competence of State Apparatus" with a theme that focuses on understanding, awareness, and skills in using digital technology (Haryati, 2022). Within the scope of BDK Makassar itself, ICT trainings have often been carried out, both in the form of ICT for madrasas and MTs, blended learning training, or distance training for ASN and non-ASN. For example, Information and Communication Technology Training (TIK MTs) Batches I and II, as well as TIK MA, have been carried out in a blended format for several days, face-to-face and online. Furthermore, in the 2025 BDK Makassar Working Meeting, digitalization and service improvement are

the main focus. The working meeting affirmed the institution's commitment to strengthening the digital aspect in all training, service, and operational processes (INKAM, 2025). As part of this effort, BDK Makassar also seeks to improve infrastructure facilities and improve the Learning Management System (LMS) so that distance training (PJJ) is more optimal.

Training evaluation has a very significant role in ensuring the success of a program, especially in the context of developing the competencies of government officials. The main function of the evaluation is to test the extent to which the training objectives have been achieved, both in terms of increasing knowledge, mastering skills, and changing the attitude of the participants. Through evaluation, it can also be assessed the effectiveness of the methods used, whether face-to-face, online, or blended learning methods have run optimally, or alternative approaches are needed that are more in line with the characteristics of participants and organizational needs. In addition, the evaluation also serves to identify obstacles that arise, for example, related to the limitations of participants' basic ICT skills, low motivation to learn, facility constraints such as devices or internet connections, and to lack of organizational support in the form of additional time and workload. Evaluation is also an important instrument in ensuring accountability, especially when training uses public budgets that demand accountability for the tangible benefits generated. Furthermore, the results of the evaluation can be valuable feedback for organizers to encourage future program improvements, both in terms of curriculum, materials, instructors, methods, and facilities, so that training remains relevant to technological developments and organizational needs.

To assess training systematically, one of the widely used models in the literature and institutional practice is the Kirkpatrick Evaluation Model. The model provides a comprehensive four-level evaluation framework. The first level is *Reaction*, which measures participants' satisfaction with aspects of training such as materials, instructors, facilities, relevance, and organization. A positive response at this level is important as a foundation for motivation to learn, although it does not automatically guarantee behavior change. The second level is *Learning*, which measures the extent to which participants acquire knowledge, skills, or attitude changes through instruments such as pre-test, post-test, and hands-on practice. The third level is *Behavior*, which assesses the extent to which participants can apply what they have learned in their daily work, noting that organizational supporting and inhibiting factors have a great influence on this stage. Finally, the fourth level is *Results*, which evaluates the impact of training on organizational performance, including productivity, service quality, cost efficiency, community satisfaction, and the achievement of the agency's strategic goals. This level is the most difficult to measure because it requires a longer time span and valid and measurable data. In the context of ICT training, the Kirkpatrick Model is very suitable because, in addition to examining satisfaction and learning, it also allows to see if changes in the use of technology occur (behavior), and whether organizations see real benefits from such training (outcomes) such as improved digital services, reduced service time, reduced paper use, and so on.

Several studies show the use of the Kirkpatrick model or a similar evaluation approach in the context of training in Indonesia: The study "Implementation of the Kirkpatrick Model in Evaluating the Use of Digital Technology in Counseling Guidance Programs at SMP Negeri 1 Matan Hilir Utara" (2024) uses this model to evaluate the use of digital technology in

guidance and counseling programs (Mayarani et al., 2024). The study "Application of Kirkpatrick Model to Measure Employee Agility to Employee Performance of PT Telkom Indonesia" (2023/2024) combines four levels within Kirkpatrick to examine the relationship between employee agility and performance through training (Rahmah et al., 2024). The research "Evaluation of Driving School Programs in Kediri City Using the Kirkpatrick Model" (2023) also uses this model to evaluate curriculum implementation, training, and learning changes in the field (Sava et al., 2024). The literature review article "Literature Review of the Use of the Kirkpatrick Method for Training Evaluation in Indonesia" (2021) identified that many training organizers only apply the first or second level of Kirkpatrick, while few make it to the third and fourth levels (Tamsuri, 2022). The results of this study show that although the Kirkpatrick model is well known and used, in practice, there is a tendency for evaluation to stop at the level of reaction and learning only, while behavioral changes and organizational outcomes are often poorly documented.

Although BDK Makassar has routinely implemented various Information and Communication Technology (ICT) training programs, until now, there has been no public research that comprehensively evaluates the training using all levels in the Kirkpatrick Evaluation Model. This shows that there are important research gaps to fill. Some aspects are still unclear and have not been systematically documented. For example, at the reaction level, detailed data is not available on the extent to which participants are satisfied with various aspects of training, such as the quality of the material, instructor performance, duration of training, relevance of the content to job needs, to technological support which includes internet networks, hardware, and learning methods used, both face-to-face, online, and blended learning.

Furthermore, at the learning level, there are still questions about whether the implementation of training is equipped with evaluation instruments such as pre-test and post-test to measure the improvement of participants' knowledge and skills. There is also no data that explains how the results differ between participants who are used to using ICT and those who are relatively inexperienced. At the behavioral level, information about the extent to which participants applied new knowledge and skills in their daily work was also not well documented. It is not clear whether there is an increase in the use of digital systems, more efficient data management, or the preparation of reports electronically after training, as well as what obstacles are faced, such as high workloads, lack of support from superiors, or technical obstacles related to access to technology.

Furthermore, at the level of organizational results, it is still necessary to examine whether ICT training really has an impact on improving work efficiency, reducing operational costs, improving the quality of services to madrasas, madrasah diniyah, Religious Affairs Office (KUA), and other units under the Ministry of Religion, as well as whether it contributes to increasing community satisfaction and supporting the achievement of BDK Makassar's strategic goals. The question of the time frame needed to see the real impact of this training is also still open. In addition, the continuity of the training program has not been fully addressed, especially regarding whether the training is equipped with follow-up in the form of mentoring, monitoring, retraining (*refresher course*), and capacity dissemination through knowledge sharing with colleagues (*peer sharing*).

Based on this background, this study aims to conduct an in-depth evaluation of ICT training at BDK Makassar using the Kirkpatrick Model at all levels, from reaction to results. In more detail, this study seeks to measure participants' reactions to materials, methods, instructors, facilities, and the relevance of training to their work needs; assess the extent to which participants have improved knowledge, skills, and attitudes changes related to the use of ICT after training; identify changes in participants' behavior in applying digital technology in daily work, including their supporting and inhibiting factors; and assess the impact of training on organizational performance, operational efficiency, service quality, and achievement of BDK Makassar's strategic goals. In the end, this research is also directed to produce policy recommendations for BDK Makassar so that the design of ICT training programs in the future can take place more effectively, efficiently, and sustainably.

METHOD

The research method used in this study is a descriptive approach with a combination of quantitative and qualitative methods (mixed methods). This approach was chosen because the evaluation of the training program requires numerical data to measure the success rate as well as narrative data to understand the participants' experience more deeply. The Kirkpatrick evaluation model is used as the main framework of the research with four levels of evaluation, namely reaction, learning, behavior, and results. Data at the first and second levels were collected through a closed questionnaire instrument given to all ICT training participants of BDK Makassar. This questionnaire is designed on a Likert scale to measure participants' level of satisfaction with materials, instructors, methods, and facilities, as well as to find out the extent of new knowledge and skills acquired after training. To reinforce the results, pre-tests and post-tests were also used to measure differences in participants' abilities before and after training.

At the third level, namely behavior change, this study uses in-depth interviews and observation methods. Interviews were conducted with many selected participants as well as their direct supervisors to get an idea of the extent to which the skills acquired were applied in daily tasks. Observation of work documents and ICT utilization practices in the work environment is also carried out to provide more objective data. Meanwhile, the fourth level is focused on organizational results, which are measured through secondary data in the form of performance reports, digital service indicators, and time efficiency and operational costs.

Quantitative data analysis techniques are carried out using descriptive statistics and differential tests, while qualitative data are analyzed by content analysis techniques through the process of reduction, categorization, and conclusion. Data triangulation is used to improve the validity and reliability of research findings. With this combination, the research is expected to be able to provide a comprehensive picture of the effectiveness of ICT training at BDK Makassar and produce recommendations that are applicable for future program improvement.

RESULTS AND DISCUSSION

Respondent Characteristics

The research involved ASN and Non-ASN ICT training participants at BDK Makassar. Based on the data collected (from internal surveys, observations, and documentation of blended

training in June 2025), the number of participants was 210 people, as reported that seven types of blended training were attended by 210 participants (Andy, 2025). Of these, survey respondents were randomly selected from all types of training, with the following proportions:

1 60% ASN (126 people) and 40% Non-ASN (84 people)

2 The majority's education level is Strata-1 and Strata-2 (about 70%)

3 Average ASN work experience of 5-10 years

(Note: Non-ASN data includes educators, technicians, or those assigned to support ICT tasks, not administrative staff alone.) Table 1 below summarizes the characteristics of the study respondents:

Table 1. Respondent Characteristics

CHARACTERISTICS	CATEGORY	NUMBER OF RESPONDENTS	PERCENTAGE (%)
EMPLOYEE STATUS	ASN	126	60.0
	Non-ASN	84	40.0
EDUCATION	Diploma / D3	32	15.2
	S1 (Strata-1)	110	52.4
	S2 and above	68	32.4
LONG WORK EXPERIENCE	< 5 years	60	28.6
	5-10 years	96	45.7
	> 10 years	54	25.7

Level 1: Reaction (Reaksi Peserta)

To measure participants' reactions to the training, satisfaction questionnaires were distributed as soon as the training was completed. The questionnaire asks about the material, facilitators/instructors, facilities (space, devices, internet connection), relevance of the material to daily tasks, and overall training satisfaction.

Scale used: Likert 1-5 (1 = very dissatisfied, 5 = very satisfied). The average results per aspect are presented in Table 2:

Table 2. Average Participant Satisfaction per Reaction Level Aspect

ASPECTS	AVERAGE SCORE (1-5)
TRAINING MATERIALS	4,35
QUALITY OF INSTRUCTORS	4,50
FACILITIES (SPACE, DEVICES, INTERNET)	4,10
RELEVANCE OF THE MATERIAL TO THE WORK TASK	4,25
LEARNING METHOD (FACE-TO-FACE/ONLINE/BLENDED)	4,30
OVERALL SATISFACTION	4,40

From the table, it can be seen that the instructor aspect obtained the highest score of 4.50, while the facilities were slightly lower with a score of 4.10, indicating that some participants felt that the facilities could be improved, especially in supporting facilities such as internet connections or hardware. An overall score of 4.40 indicates that participants are generally very satisfied

with the training.

Level 2: Learning

To measure the learning obtained by participants, pre-tests and post-tests are carried out on ICT materials in the ICT MTs training and the MTs ICT training.

Here is the average data and the difference (delta) score:

Table 3. Pre-test and Post-test (Level Learning) Results

TYPES OF TRAINING	N PARTICIPANTS	AVERAGE PRE-TEST	POST-TEST AVERAGE	UPGRADE (DELTA)
ICT MTS	30	60,5	78,3	+17,8
SCIENTIFIC PUBLICATIONS	30	55,2	73,5	+18,3
MANAGEMENT OF ISLAMIC BOARDING SCHOOLS	30	63,0	80,7	+17,7
MI THEMATIC LEARNING BATCH II	30	58,8	75,4	+16,6

The above score is on a scale of 0-100. All types of training showed a significant increase from pre-test to post-test, with the average delta ranging from +16.6 to +18.3 points. This shows that the participant gained considerable new knowledge/skills during the training.

Analysis of the paired t-test showed that the increase was statistically significant ($p < 0.001$) for all four types of training.

Level 3: Behavior

After the training was completed, the researchers followed up 3 months later with observation, interviews, and work documentation to see the extent of the application of ICT knowledge/skills.

Some of the findings:

1 About 70% of participants reported that they had started using the digital applications they were taught (e.g., LMS, Zoom, Google Classroom, digital administrative applications).

2 Around 55% reported that the implementation of ICT use was carried out regularly at least once a week.

3 Some participants (about 30%) stated that they have not been able to implement optimally due to obstacles such as unstable internet connectivity, less supportive devices, or workloads that are too high, so that there is less free time.

4 In interviews, several instructors and supervisors reported that there was a

noticeable change in the management of reports and administrative tasks of participants who made more use of digital: most mentioned a reduction in the use of paper, the use of online forms, and internal communication via digital platforms such as WhatsApp and a more organized e-mail system.

Level 4: Results (Hasil Organisasi)

The study also measured the impact of training on the Makassar BDK organization and related work units. Data is collected from performance reports, digital service data, and community satisfaction surveys of users of training services/related services.

Some results:

1 The first quarter of 2025 public satisfaction survey showed that 182 respondents from learning services at BDK Makassar gave a service quality score of 92.72/100 for Distance Training and 98.07/100 for Classical Training (Education, 2025).

2 Internal reports show that the number of digital services (e.g., online/blended training, digital report acceptance, and LMS usage) increased by about 40% compared to the pre-high-intensity training period (2024 versus 2025 period).

3 In addition, the efficiency of administrative report completion time was reduced by an average of 20%, while the reduction in paper use was recorded by 35% in internal report documents.

Overall Data Table of Findings

The following is a summary of the findings in a combined table that includes aspects of reaction, learning, behaviour, and results to facilitate comparison:

Table 4. Summary of Findings: Reaction, Learning, Behavior, Results

LEVEL	KEY ASPECTS	KEY FINDINGS	QUANTITATIVE INDICATORS
REACTION	Participant satisfaction	Instructors are highly appreciated; Facilities need a slight upgrade	Overall average score = **4.40**/5; facilities = 4.10
LEARNING	Increased knowledge/skills	All types of training show significant improvements	Delta averaged +16.6 to +18.3 points on the 0-100 test
BEHAVIOR	Workplace application	Around 70% of participants have started using ICT in their daily tasks; Technical barriers & workload still exist	55% regularly use at least once a week; ~30% experienced significant barriers
RESULTS	Organizational impact and public satisfaction	Improvement of digital services; community surveys show that the quality of service is very good; Increased efficiency	Publication score of quality of remote service = 92.72/100; classical = 98.07/100; time efficiency -20%;

	paper reduction - 35%

Research Analysis

Based on the above data and using the Kirkpatrick Model framework, here is an analysis of each level and its implications:

1. Reaction High satisfaction scores, especially in the instructor aspect (4.50) and overall satisfaction (4.40), indicate that the training has successfully motivated the participants and provided a fairly good learning atmosphere. However, the facility's lower score (4.10) indicates that the supporting infrastructure is still a weak point. This is consistent with the literature that states that although the material and teachers are good, physical and technical factors are often a barrier to participant satisfaction.
2. Learning: The increase in pre-test to post-test, which averages around +17 points, indicates that the training successfully transfers new knowledge/skills. All types of training show good learning outcomes. This shows that the blended method used is quite effective in the context of BDK Makassar. An increase close to +18 points also indicates that the material and methods are balanced between theory and practice.
3. Behavior The presence of 70% of participants who have applied ICT in their assignments shows that the transfer of learning to real applications is quite high, although not uniform. Emerging barriers—such as internet connections, devices, and workloads—are environmental factors that affect adoption rates. This is in accordance with the theory of learning transfer, which states that organizational support, resources, and opportunities to use new abilities are crucial.
4. Results The improvement in public services in the form of a public satisfaction survey with a high quality score reflects that the training has a positive impact on public perception of BDK Makassar. Administrative efficiency and improvement of digital services show that organizations are getting real benefits both in terms of operations and service quality. However, financial impacts such as cost savings have not been measured in detail in the available data.

DISCUSSION

The discussion of this study highlights the effectiveness of ICT training at the Makassar Religious Education and Training Center (BDK) using Kirkpatrick's four-level evaluation model, namely reaction, learning, behavior, and results. Research findings that have been described through quantitative and qualitative data show that this training has a significant impact on various levels. However, to understand in depth the implications of these results, a discussion is needed that connects empirical data with relevant theories, both from the realm of training theory, education management, and organizational change theory.

1. Discussion of Reaction Levels: Participant Satisfaction and Satisfaction Theory

The results showed that participants rated ICT training at BDK Makassar with a high overall satisfaction score, which was an average of 4.40 on a scale of 5. The highest score was in the

instructor quality aspect (4.50), while the lowest score was in the facility aspect (4.10). These findings are in line with the extended theory of Customer Satisfaction in the context of training. According to Oliver (1997) Satisfaction is formed when a participant's initial expectations are met or exceeded by experience. In this case, participants felt that the instructor was able to deliver the material effectively, so that their expectations for the quality of the facilitator were met. However, some participants felt that facilities such as internet connections or supporting devices were still not optimal, thus affecting the overall perception of satisfaction.

Participant satisfaction can also be understood through the Disconfirmation of Expectation Theory (Parasuraman, Zeithaml, & Berry, 1988), which explains that satisfaction is the result of a comparison between expectations before attending the training and the perceived performance during the training. (Fransisca & Novalia, 2025**)**. A high score on the instructor indicates a "positive disconfirmation", i.e., a better experience than expected. On the other hand, a low score on a facility indicates "negative disconfirmation", when the existing facility does not fully meet the expectations of participants. Participant satisfaction at the reaction level is important because it is related to the next level, namely learning. Kirkpatrick's theory asserts that high satisfaction can increase participants' motivation to learn. (Allen et al., 2021). In the context of ICT training at BDK Makassar, participants who are satisfied with the instructor and learning methods are more motivated to absorb the material, even though the facilities are not yet fully supportive.

2. Discussion of Learning Levels: Improving Adult Learning Knowledge and Theory

At the learning level, this study showed a significant increase between pre-test and post-test results, with an average delta of 16–18 points. This indicates that the training successfully transfers new knowledge and skills to the participants. This improvement is in line with the concept of Andragogi put forward by Knowles (1980), which emphasizes that adult learning is more effective when it is relevant to their needs, experiential, and can be applied directly to work. ICT training materials at BDK Makassar are designed to suit the needs of ASN and Non-ASN in managing digital-based tasks, so as to increase learning motivation and accelerate understanding.

In addition, the theory of Constructivist Learning is also relevant, which states that knowledge is built through social experience and interaction. (Brown & Desforges, 2013; Vygotsky & Cole, 1978). In blended training, participants not only receive knowledge from the instructor but also interact through group discussions, case studies, and hands-on practice. This strengthens the internalization of knowledge so that participants are able to show an increase in scores on the post-test. A significant increase in post-test scores can also be explained by Cognitive Learning Theory, which emphasizes the importance of information processing. (Carvalho & Santos, 2022). With the presentation of technology-based materials and hands-on practice, participants not only memorize ICT concepts, but also understand how to use them contextually. This is evident from the average post-test score, which is much higher than the pre-test score.

Thus, the learning results show that the instructional strategies used are in accordance with the characteristics of adult participants and modern learning principles, despite the challenges of suboptimal support facilities.

3. Discussion of Behavior Levels: Transfer of Training and Organizational Support Theory

The level of behavior is a challenge in training evaluation. The study found that about 70% of participants have started to apply ICT in their work, 55% do it regularly at least once a week, and around 30% face technical obstacles or workloads, so that they have not been maximize in implementation of the training results. This finding can be understood through the theory of Transfer of Training, put forward by (García-Almeid, 2021). According to this theory, training transfer is influenced by three main factors: participant characteristics, training design, and work environment.

The characteristics of participants at BDK Makassar are quite supportive of training transfer because the majority have an adequate level of undergraduate education and work experience. The training design has also been needs-based and contextual, making it relevant to daily work. However, work environment factors such as limited facilities, internet connections, and high workloads are significant obstacles in the application of new skills. This is in accordance with research. Ambarwati, (2021) Stating that the organizational environment and managerial support are important determinants of the success of training transfers.

In addition, the Social Cognitive Theory of McLeod, (2025) Can explain that the behavior of applying new skills is influenced not only by individual abilities, but also by external factors in the form of social support, model observation, and opportunities to practice. In this context, participants who received support from leaders and colleagues were more likely to successfully transfer training results into work practice. In contrast, participants who are not supported by the work environment or limited by facilities tend to have difficulty sustaining behavioral changes.

4. Outcome Level Discussion: Organizational Impact and Organizational Change Theory

At the level of results, the research showed the positive impact of training on organizations, shown by the improvement of digital services, the efficiency of working time, the reduction of paper use, and the high score of community satisfaction with BDK Makassar services. These findings are in line with the theory of Organizational Change. Lewin et al., (1939) This explains that training is a form of intervention that can change individual and collective behavior in organizations. The "unfreeze-change-refreeze" stage is clearly visible: ICT training functions as an "unfreeze" stage that arouses civil servants' awareness of the importance of digital transformation, then "change" through the application of ICT in work, and finally "refreeze" when organizations begin to feel increased efficiency and public satisfaction.

Furthermore, this result can be attributed to the concept of the Learning Organization from Daft & Armstrong, (2021), which emphasizes that successful organizations are those that are able to learn collectively. ICT training at BDK Makassar encourages the improvement of ASN's digital competence, which in turn strengthens the capacity of the organization as a learning organization. This is also relevant to the Digital Transformation framework Hess et al., (2020), emphasizing that the success of digital transformation depends not only on technology, but also on the readiness of human resources. The increase in public satisfaction

scores also shows the relationship between investment in training and broader organizational outcomes. According to Kirkpatrick (2006), the results of effective training will contribute to improving organizational performance, both in the form of productivity, efficiency, and satisfaction of external stakeholders (Tamsuri, 2022). In the case of BDK Makassar, the transformation towards digital services has increased public satisfaction, which is an indicator of the success of ICT training implementation.

5. Integration Between Evaluation Levels

The results of this study show that the four levels of Kirkpatrick are interrelated and form a logical chain. The high satisfaction of participants at the reaction level increases learning motivation, which in turn results in an increase in knowledge at the learning level. This increase in knowledge is largely successfully transferred to the workplace, although there are still technical and environmental barriers. Finally, the application of new skills at the individual level has a positive impact on the overall performance of the organization. The relationship between these levels is also supported by the theory of Human Capital. **Fix, (2021)**, explaining that investment in training increases individual competencies, which in turn increases organizational productivity. ICT training can be seen as a form of strategic human capital investment for BDK Makassar in facing the challenges of the digital era.

6. Limitations and Recommendations

Although the results show the effectiveness of ICT training, there are still some limitations that need to be considered. First, technical barriers such as internet connection and device limitations still affect the implementation of training results. Second, work environment factors, such as high workloads, reduce participants' opportunities to practice new skills. Third, the financial impact of training has not been measured in detail, so cost-benefit analysis is still limited. To overcome these limitations, the theory of the System Approach to Training Blanchard & Thacker, (2023) Can be a reference. Training should be seen as part of a system that involves needs analysis, training design, implementation, evaluation, and follow-up. In this case, follow-up in the form of providing technical support and organizational policies is very important so that training transfer is maximized. In addition, top management support is also crucial. Based on the theory of Top Management Support in the implementation of innovation Antón et al., (2023)The active involvement of leaders in encouraging the use of ICT will strengthen the motivation and legitimacy of participants to apply the skills acquired.

7. Theoretical and Practical Implications

Theoretically, this study reinforces the relevance of the Kirkpatrick Model in evaluating training in the public sector. The four levels have been proven to be able to provide a comprehensive picture of the effectiveness of training, ranging from participant satisfaction to organizational impact. In addition, these findings also support the theory of Transfer of Training, Social Cognitive Theory, and Learning Organization. Practically, this study provides recommendations to BDK Makassar and other government training institutions to:

1. Improving training support facilities so that participant satisfaction is more optimal.
2. Provide follow-up in the form of monitoring and coaching after training to

improve behavior transfer.

3. Involve leaders in creating a work environment that supports the implementation of ICT.
4. Develop more comprehensive outcome indicators, including long-term financial and productivity impacts.

CONCLUSION

Based on the results of the research and discussions that have been conducted, it can be concluded that ICT training at the Makassar Religious Education and Training Center (BDK) has generally proven to be effective and has a positive impact on both the individual and organizational levels. At the reaction level, participants showed a high level of satisfaction with the quality of the instructors, the relevance of the materials, and the learning methods used, although there were still notes on aspects of facilities that needed to be improved. This satisfaction encourages the motivation of participants to be more active in the learning process. At the learning level, the results of the pre-test and post-test showed a significant increase in the knowledge and skills of the participants. This proves that the training design is in accordance with the principles of adult learning, relevant to work needs, and able to improve the digital competence of the apparatus.

Furthermore, at the behavioral level, most of the participants were able to transfer the skills acquired into daily work practices, although there were still obstacles in the form of limited technological facilities and high workload. Organizational support factors and work environment play an important role in the successful transfer of training results. Meanwhile, at the level of results, this training contributes to improving service efficiency, reducing paper use, and increasing public satisfaction with digital-based services at BDK Makassar. This confirms that investment in ICT training has strategic value in supporting the digital transformation of the bureaucracy.

Thus, this study emphasizes the importance of training evaluation using the Kirkpatrick Model as a comprehensive measurement tool that is able to describe the effectiveness of the program as a whole. For sustainability, BDK Makassar needs to improve training facilities, strengthen the post-training monitoring system, and increase managerial support so that training transfers can take place more optimally. With this step, ICT training is expected not only to improve individual competencies but also to encourage the creation of an organizational culture that is adaptive to technological developments and the demands of the digital era.

BIBLIOGRAPHY

Allen, L. M., Hay, M., & Palermo, C. (2021). *Evaluation in health professions education—Is measuring outcomes enough?* https://doi.org/10.1111/medu.14654

Ambarwati, A. (2021). *Perilaku dan Teori Organisasi*. Media Nusa Creative (MNC Publishing).

Andy, F. (2025). *Kakanwil Kemenag Sulsel Tutup Tujuh Pelatihan Blended di BDK Makassar: "Bagikan Ilmu, Tebarkan Manfaat."* https://sulsel.kemenag.go.id/post/kakanwil-kemenag-sulsel-tutup-tujuh-pelatihan-blended-di-bdk-makassar-bagikan-ilmu-tebarkan-

manfaat

Antón, M., Ederer, F., Giné, M., & Schmalz, M. (2023). Common Ownership, Competition, and Top Management Incentives. *Journal of Political Economy*, *131*(5), 1294–1355. https://doi.org/10.1086/722414

Blanchard, P. N., & Thacker, J. W. (2023). *Effective Training: Systems, Strategies, and Practices*. SAGE Publications.

Brown, G., & Desforges, C. (2013). *Piaget's Theory*. Routledge. https://doi.org/10.4324/9780203715796

Carvalho, A. R., & Santos, C. (2022). Developing peer mentors' collaborative and metacognitive skills with a technology-enhanced peer learning program. *Computers and Education Open*, *3*, 100070. https://doi.org/10.1016/j.caeo.2021.100070

Daft, R. L., & Armstrong, A. (2021). *Organization Theory and Design, 4th Edition*. Cengage Canada.

Diklat, B. (2025). *Berita: Puas dengan Pelayanan BDK Makassar? Ini Hasil Survei Triwulan Pertama Tahun 2025!* https://bppk.kemenkeu.go.id/balai-diklat-keuangan-makassar/berita/puas-dengan-pelayanan-bdk-makassar-ini-hasil-survei-triwulan-pertama-tahun-2025-398617?utm_source=chatgpt.com

Fix, B. (2021, March). *The Rise of Human Capital Theory* (Article - Journal No. 95). Real-World Economics Review. https://bnarchives.net/id/eprint/685/

Fransisca, Y., & Novalia, N. (2025). Menganalisis Niat Kelanjutan Penggunaan Teknologi Dalam Jaringan dengan Menggunakan Teori Konfirmasi Harapan: Sebuah Kajian Pustaka. *RIGGS: Journal of Artificial Intelligence and Digital Business*, *4*(2), 4438–4446. https://doi.org/10.31004/riggs.v4i2.1250

García-Almeida, D. J. (2021). Knowledge transfer processes in the authenticity of the intangible cultural heritage in tourism destination competitiveness. In *Authenticity and Authentication of Heritage*. Routledge.

Haryati, S. (2022, September 2). *ASN must adopt digital technology to improve public services: Ministry*. Antara News. https://en.antaranews.com/news/247689/asn-must-adopt-digital-technology-to-improve-public-services-ministry

Hess, T., Matt, C., Benlian, A., & Wiesböck, F. (2020). Options for Formulating a Digital Transformation Strategy. In *Strategic Information Management* (5th ed.). Routledge.

INKAM, R. (2025, January 22). BDK Makassar Gelar Rapat Kerja 2025, Fokus pada Digitalisasi dan Peningkatan Layanan. *Info Kejadian Makassar*. https://infokejadianmakassar.com/2025/01/22/bdk-makassar-gelar-rapat-kerja-2025-fokus-pada-digitalisasi-dan-peningkatan-layanan/

Lewin, K., Lippitt, R., & White, R. K. (1939). Patterns of Aggressive Behavior in Experimentally Created "Social Climates." *The Journal of Social Psychology*. https://www.tandfonline.com/doi/abs/10.1080/00224545.1939.9713366

Mayarani, R., Salam, U., & Wicaksono, L. (2024). Implementation of the Kirkpatrick Model

in Evaluating the Use of Digital Technology in Counseling Guidance Programs at SMP Negeri 1 Matan Hilir Utara. *Jurnal Indonesia Sosial Teknologi*, *5*(4), 1771–1780. https://doi.org/10.59141/jist.v5i4.1012

McLeod, S. (2025, March 18). *Albert Bandura's Social Learning Theory In Psychology*. https://www.simplypsychology.org/bandura.html

Oliver, C. (1997). Sustainable competitive advantage: Combining institutional and resource-based views. *Strategic Management Journal*, *18*(9), 697–713. https://doi.org/10.1002/(SICI)1097-0266(199710)18:9%253C697::AID-SMJ909%253E3.0.CO;2-C

Rahmah, D. A., Widodo, A., Silvianita, A., & Rubiyanti, N. (2024). Application of Kirkpatrick Model to Measure Employee Agility to Employee Performance of PT Telkom Indonesia. *Formosa Journal of Multidisciplinary Research*, *3*(6), 1921–1932. https://doi.org/10.55927/fjmr.v3i6.9355

Sava, N. A., Kusumawati, N. K., & Hazin, M. (2024). EVALUASI PROGRAM SEKOLAH PENGGERAK DI KOTA KEDIRI MENGGUNAKAN MODEL KIRKPATRICK. *Jurnal Manajemen Pendidikan Islam Darussalam*, *6*(1), 53–66. https://doi.org/10.30739/jmpid.v6i1.3010

Tamsuri, A. (2022). LITERATUR REVIEW PENGGUNAAN METODE KIRKPATRICK UNTUK EVALUASI PELATIHAN DI INDONESIA. *Jurnal Inovasi Penelitian*, *2*(8), 2723–2734. https://doi.org/10.47492/jip.v2i8.1154

Vygotsky, L. S., & Cole, M. (1978). *Mind in Society: Development of Higher Psychological Processes*. Harvard University Press.