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Editor: Dr. S.T. Deepa

Editorial

Interdisciplinary teaching is a pedagogical approach that integrates different subject areas and disciplines into a single lesson plan. It is a unique approach to learning which encourages students to examine and explore topics from multiple perspectives. Unlike traditional teaching approaches, interdisciplinary teaching encourages students to apply their knowledge from different disciplines in order to understand the topic better and gain a more holistic understanding.

Interdisciplinary teaching has a lot of benefits for students and educators alike. It is a great way to engage students in the learning process by providing them with more opportunities for exploration and discovery. It also allows teachers to provide a more comprehensive education by incorporating different disciplines and topics into their lesson plans.

Interdisciplinary teaching has a lot of advantages for students and teachers. It provides students with the opportunity to explore and understand a topic from multiple perspectives and to see the connections between different disciplines. This helps students develop critical thinking skills and gain a more holistic understanding of the topic.

Interdisciplinary teaching also allows teachers to provide a more comprehensive education to students. This type of teaching encourages students to think outside the box and become more creative in their approach to problem-solving. It also allows teachers to explore different perspectives and approaches to teaching, which can lead to more effective learning.

Another benefit of interdisciplinary teaching is that it encourages collaboration between different disciplines and subjects. This can foster a sense of community among students and teachers, which can lead to better student engagement and motivation.

In order to successfully implement an interdisciplinary teaching approach, there are a few strategies that teachers should consider. First, teachers should plan ahead and develop an overarching theme or idea to be addressed in their lesson plans. This should include an understanding of the different disciplines and topics that will be incorporated into the lesson.

Second, teachers should create a timeline for the lesson. This will help students stay on track and ensure that they are able to get the most out of the lesson. Finally, teachers should be sure to provide students with enough time to explore the different topics and to ask questions. This will help students understand the material better and further engage them in the learning process.

While interdisciplinary teaching is a great way to engage students and provide them with a more comprehensive education, there are some challenges that teachers may face when implementing this type of teaching. One of the biggest challenges is the time and effort required to plan and implement an interdisciplinary approach. This can be time consuming and requires a great deal of preparation.

Another challenge is that students may not be familiar with the different disciplines and topics that are included in the lesson. This may lead to confusion or frustration, which can lead to students disengaging with the lesson. Finally, interdisciplinary teaching may require additional resources, such as technology or materials, which can be expensive.

There are many different examples of interdisciplinary teaching. One example is the integration of science and mathematics in a lesson on the human body. In this type of lesson, students can

explore the different systems of the body and how they interact with one another. They can also learn about mathematical concepts, such as ratios and proportions, in order to better understand the body's functions.

Another example is the integration of art and literature in a lesson on Shakespeare. Students can explore the themes and ideas presented in the works of Shakespeare, as well as the techniques used by the artist to create a particular painting or sculpture. Both of these disciplines can be used to explore the works of Shakespeare in a more comprehensive way.

Interdisciplinary teaching is particularly beneficial for diverse groups of learners. This type of teaching allows students to explore topics and ideas from different perspectives, which can be especially helpful for students who may not be familiar with certain disciplines or topics.

Additionally, interdisciplinary teaching provides students with an opportunity to explore different approaches to problem-solving. This can help students to think outside the box and develop creative solutions to problems. It can also foster a sense of community among students, which can help to build relationships and motivate students to learn.

Interdisciplinary teaching is not just beneficial for students, but for teachers as well. This type of teaching can help teachers to become more creative in their approach to teaching and to explore different perspectives. It can also help teachers to better engage students and to foster a sense of community in the classroom.

Finally, interdisciplinary teaching can help teachers to stay up-to-date with the latest developments in different disciplines. This can help teachers to provide a more comprehensive education to their students.

Interdisciplinary teaching is a great way to engage students and provide them with a more comprehensive education. It encourages students to explore topics from multiple perspectives and to develop critical thinking skills. It also provides teachers with an opportunity to become more creative in their approach to teaching and to stay up-to-date with the latest developments in different disciplines.

For diverse groups of learners, interdisciplinary teaching can be especially beneficial. It allows students to explore topics and ideas from different perspectives and to develop creative solutions to problems. It can also foster a sense of community among students, which can help to build relationships and motivate students to learn.

Interdisciplinary teaching can be a great way to engage students and provide them with a more comprehensive education. It is also beneficial for teachers, as it encourages them to become more creative in their approach to teaching and to stay up-to-date with the latest developments in different disciplines. ICT can help to foster a sense of community among students and teachers alike and can provide a great opportunity for exploration and discovery.

December 2022

Dr. S.T. Deepa
Editor

L'IA ET SA CONTRIBUTION AU LANGAGE

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Abstrait:

Avec des développements révolutionnaires dans l'intelligence artificielle (IA) et l'apprentissage profond (DL), qui ont contribué de manière significative à l'éducation, à l'apprentissage et à la traduction. Dans le domaine de l'éducation, l'IA a énormément fonctionné et réduit le travail de l'enseignant et amélioré la précision de l'évaluation. La précision et la qualité de la traduction en IA se sont améliorées en volumes grâce à une entrée constante dans divers domaines. Les développements de l'IA ont augmenté la qualité de la production avec un délai d'exécution court. Mais l'IA ne pourrait jamais remplacer les experts humains en raison des contextes culturels et du caractère unique de chaque langue. Ainsi, l'IA doit travailler avec les humains pour créer le meilleur résultat pour le développement dans tous les domaines.

Introduction:

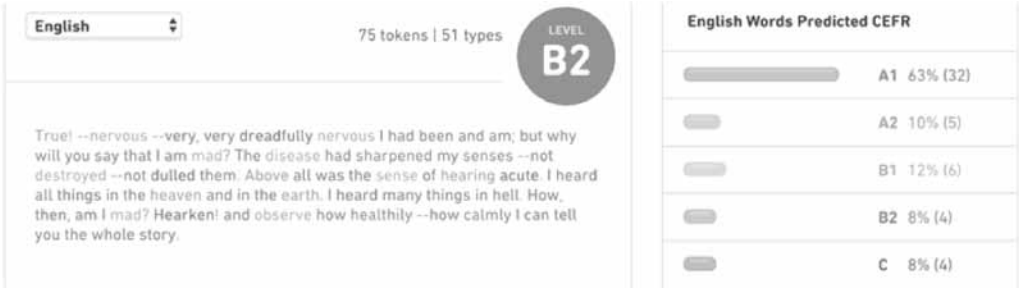
L'IA (intelligence artificielle) est une branche de l'informatique qui est utile pour effectuer des tâches qui nécessitaient une intelligence humaine. Ce type de technologie est largement utilisé dans plusieurs secteurs tels que les transports, la fabrication, la finance, les soins de santé, l'éducation et l'urbanisme. En raison de la mondialisation, les gens voyagent dans toutes les parties du monde pour diverses raisons. Dans de nombreux cas, la langue est un obstacle à la compréhension, à l'interprétation et à la communication.

Développement de l'IA

L'IA a tellement évolué au fil des ans qu'elle est utilisée dans la langue et la traduction de nos jours. Un système IA fonctionne en assimilant de grandes quantités de données et en analysant les données et leur modèle. Langage composé d'un ensemble de mots et de significations et avec l'ensemble des règles de grammaire qui le régissent. L'IA applique le langage machine aux langues. Les outils d'IA comprennent les phrases, les tons de voix, les structures de phrases complexes et maintenant une IA comprend même différents argots. Il s'affine également et essaie de fournir des résultats plus précis. Les frontières géographiques sont annulées en raison de l'avancement des technologies d'IA.

Apprentissage des langues et IA

Dans une salle de classe de plus de 20 personnes, une attention individuelle méticuleuse est presque impossible. L'IA fait la tâche pour nous. Il recueille les données des étudiants et montre leurs domaines d'amélioration. Il permet aux apprenants de travailler sur ces sujets et aux enseignants de mieux comprendre les élèves. La plate-forme d'IA facilite la réalisation des tests, la notation des notes et l'affichage instantané des erreurs. Il met également en évidence les erreurs de chaque élève et leur donne des commentaires sur les domaines d'amélioration pour éviter de futures erreurs. Par exemple, il est utilisé dans le test de compétence linguistique du CECR, il évalue les réponses de l'élève et lui offre une note de (A1 à C2) en fonction de ses performances. Il évalue chaque élève sur la base du principe LSRW. Il fait gagner du temps aux enseignants et est plus précis.



L'IA aide au développement de jeux liés à la langue tels que les mots croisés, les puzzles, les quiz, ce qui rend l'apprentissage de la langue intéressant. Les chatbots vocaux alimentés par l'IA parlent avec l'apprenant en temps réel. Lorsque l'apprenant parle la langue spécifique, il évalue la prononciation instantanément. Il vous offre un score basé sur la prononciation, l'intonation et la fluidité. Siri et Alexa sont des exemples essentiels d'IA utilisée dans l'apprentissage des langues. Ils vous offrent une traduction instantanée par commande orale.

Lorsque l'intelligence artificielle et l'éducation se combinent, l'expérience d'apprentissage de l'enseignant et des élèves atteint un niveau supérieur.

IA et traductions

Les traducteurs d'IA sont des technologies numériques qui utilisent une IA puissante pour traduire non seulement des lettres ou des mots, mais l'ensemble du contenu. L'entreprise d'aujourd'hui a des volumes de travail sans précédent qui doivent être traduits dans différentes langues à la vitesse de l'éclair. Pour cela, l'IA est une aubaine. Grâce à une entrée constante dans les outils alimentés par l'IA, il offre une traduction de haute qualité dans un délai d'exécution court. En moyenne, il réduit le flux de travail à 30% et le délai d'exécution à 50%, et ces pourcentages varient en fonction du contenu, des domaines et de la paire de langues.

Facebook AI a présenté M2M-100, le premier modèle de traduction automatique multilingue (MMT) capable de traduire entre n'importe quelle paire de 100 langues. Si nous voyons, nos publications Facebook qui sont en langue maternelle sont auto-traduites en anglais.

Différents types de traductions d'IA

L'une des plus grandes avancées avec Google Translated est qu'il dispose d'une fonction de caméra qui traduit instantanément les textes de l'image d'une langue à l'autre. Nous avons juste à survoler notre téléphone sur le texte spécifique qui doit être traduit et le reste du travail est effectué par l'IA.

Les logiciels de reconnaissance vocale IA comme Siri ou Alexa sont capables de vous parler et d'obtenir des informations. Il offre également une traduction de mots par note vocale. Ils essaient maintenant d'implémenter la reconnaissance vocale ia dans toutes les langues et tous les accents. Bientôt, notre Alexa ou Siri répondra même en tamoul Madurai ou Coimbatore.

Microsoft lance maintenant des traductions d'IA hors ligne afin que les touristes puissent traduire les panneaux de signalisation et les panneaux de signalisation sans aucune connectivité. Et des entreprises comme Waverlylab introduisent la traduction de conversations en temps réel. Nous venons de mettre un écouteur et de traduire la conversation orale dans la langue cible souhaitée. C'est un parfait pour les touristes et pour faire des affaires internationales.

Traduction IA et entreprises

Les entreprises comme Ailaysa travaillent avec des outils alimentés par l'IA pour faciliter le travail. Avec la traduction IA, ils couvrent de grands volumes de traduction à court terme. Par exemple, si un traducteur expert peut traduire environ 3000 mots par jour, les traducteurs alimentés par l'IA vous offrent une sortie traduite parfaite de 9000 mots. C'est parce que, après avoir fait la traduction, ils font la relecture et l'édition faites par des traducteurs humains. Comme ils combinent le meilleur des deux mondes, le travail devient plus facile et ils ont été en mesure d'effectuer un grand projet dans un court délai. Les traductions par IA et l'édition humaine réduisent le coût de 40 à 60% par rapport à la traduction purement manuelle effectuée par des traducteurs experts.

Les traducteurs d'IA peuvent-ils remplacer les humains ?

Certainement pas.AI les traducteurs ne pourront jamais remplacer les humains. Il y a plusieurs raisons pour lesquelles les traducteurs d'IA ne pourraient pas remplacer les humains. En raison de la diversité culturelle, de la mauvaise interprétation des métaphores et de l'incompréhension de l'humour, les traducteurs d'IA ne peuvent jamais remplacer les humains.

En 2017, la police israélienne a arrêté un Palestinien près de Jerusalam pour ses publications sur Facebook, qui ont été mal traduites par le traducteur IA de Facebook. Le message montrait une photo de lui appuyé contre un bulldozer sur un chantier de construction et sa légende était « yusbihuhum » ou bonjour. Mais l'intelligence artificielle a traduit ce message pour « leur faire du mal » ou « les attaquer » en hébreu. Puis, Facebook a publié des excuses publiques peu de temps après.

Une autre raison importante étant que les traducteurs d'IA ne connaissent pas le contexte. Le mot « arbre » signifie généralement « tree » mais il devrait être traduit par « shaft » dans les documents techniques. Le mot « entrée » a le sens de « entry », « input », « inlet», selon que le document est dans le domaine de l'informatique, de l'électricité ou du document général.

Par exemple, l'idiome « Passer du coq a l'ane » est littéralement traduit par « move fromrooster to the donkey» au lieu de se traduire par « change the subject ». Lorsque nous traduisons certains proverbes comme « L'habit ne fait pas le moine », nous devons trouver une traduction similaire

de l'idiome comme « Don't judge the book by itscover» au lieu de « the clothingdoesn'tmake the monk». Et l'idiome « Il fait un temps de chien! » devrait être traduit par « it'sraining cats and dogs» et non « it's a dog weather».

Ainsi, après les traductions, la traduction automatique post-édition (PEMT) est terminée maintenant un jour. Il implique des traducteurs humains utilisant des outils de traduction assistée par ordinateur (TAO). Mais ce processus présente certains inconvénients car les humains ne pouvaient pas comprendre exactement le contexte en ce qui concerne les outils de TAO pour rendre la traduction précise. En ce qui concerne la traduction littéraire ou la recherche, la traduction humaine convient à 100% car la beauté de la langue ne sera pas déformée au cours du travail.

Conclusion

L'intelligence artificielle fleurit au fil des ans et elle s'améliore avec le temps. Il a aidé les humains dans le domaine de l'éducation, de la technologie, de la médecine et bien d'autres. L'IA a pénétré profondément dans le secteur de l'éducation, de l'apprentissage et de la traduction et a rendu le travail beaucoup plus facile. Bien que l'IA ait beaucoup d'avancement dans tous les domaines, elle ne peut jamais remplacer les traducteurs humains car ils ne comprennent pas les idiomes, les proverbes ou les contextes culturels. Donc, la solution idéale serait d'utiliser le meilleur des deux mondes pour créer la magie. Les experts linguistiques et les traducteurs peuvent tirer le meilleur parti de cette plate-forme d'IA pour faciliter l'apprentissage et améliorer l'éducation.

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QUANTITATIVE PERFORMANCE METRICS OF SAMSUNG ELECTRONICS LTD.

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Measures that help the finance manager in judging the value that the firm's operations generate for shareholders

It is a known fact that various factors influence the overall performance of an organization. Some of these factors are quantitative and some are qualitative in nature. The performance of the organization due to a particular factor can be easily determined. For e.g. the financial performance of an organization can be determined on the basis of net profits, the marketing performance can be determined by the net sales or their market share in the industry, etc. But considering all the factors simultaneously that influence the performance of the organization and determining the performance of an organization as a whole assume significance. This article deals with few Performance Measurement Systems.

Performance

The accomplishment of a given task measured against preset known standards of accuracy, completeness, cost and speed.

Meaning of Performance Measurement

Performance measurement is a process of collecting and reporting information regarding the performance of an individual, group or organisations.

Factors determining performance

(i) Quantitative factors: The term quantitative factor represents the factor that contributes to the performance of the organisation, which can be very easily and numerically measured.

Ex: Net profits, ROI, EPS, Sales, etc

(ii) Qualitative factors: The term qualitative factor represents the factor that contributes to the performance of the organisation, which cannot be numerically measured. Ex: Employee satisfaction, Customer satisfaction, Morale, etc

Quantitative factors of Performance Metrics

Different measures have seen higher levels of acceptance in different periods of time. Dupont Analysis has been widely used technique a couple of decades ago, later EVA replaced it. There was a need to value companies that were yet to earn a profit. Measures are divided into two – performance metrics and value metrics. Measures like PE ratio give an idea of number of times the market is discounting the earnings of the company. All those measures are relative measures.

Performance metrics have again been divided into two – the relative measures and absolute measures. Relative measures are expressed as ratios and absolute measures are expressed as absolute numbers. Value metrics are also categorized into two – the first category contains measures of relative valuation, that have gained popularity in the dotcom era. In the second category measures are identified as being of great value to analysts in judging the value of companies.

o ***Value Metrics – Value Drivers***

Operating Profit Margin, Cost of capital, Cost of debt, Cost of equity, Fixed capital Investment efficiency, Working Capital Investment Efficiency, Inventory turnover ratio, Cash Tax Rate, Cash earnings, Time period of Positive yield

o ***Ratios of Relative Valuation***

PE Ratio, PE to Growth Ratio, Relative PE, Value/EBITDA, Price to Book value, Price to sales

o ***Performance Metrics***

Relative Metrics: Traditional Measures of Performance **Market value Added (MVA):**

Table 1

MVA

	MVA	**ROE**	**EBIT/ TA**	**Interest on long term debt * tax**	**Cost of capital**
2009	-33,272,324	0.313	0.3		0.0222
2010	-40,326,310	0.193	0.18	3271312.67	0.0083
2011	-51,632,666	0.181	0.12	4896686.87	0.009
2012	-59,735,432	0.153	0.1	10481641.25	0.0141
2013	-67,319,623	0.101	0.06	7004331.95	0.0118
2014	-77,017,335	0.153	0.1	10887240	1.51
2015	-78,294,223	0.181	0.14	9584526.32	1.01
2016	-110,201,125	0.136	0.11	12809996.14	1.01
2017	-132,313,144	0.196	0.17	11694729.91	1.51
2018	-124,395,330	0.203	0.18	8940659.92	2.77

(billions in Korean Won)

Interpretation : The difference between the market value of a firm and the capital contributed by investors. A higher MVA indicates that a company has added more value than what has been contributed to it by shareholders , while a negative MVA indicates that the company has destroyed value.

ROE Analysis : Return on equity or return on capital is the ratio of net income of a business during a year to its stockholders' equity during that year. It is a measure of profitability of stockholders' investments. It shows net income as percentage of shareholder equity.

Net income is the after tax income whereas average shareholders' equity is calculated by dividing the sum of shareholders' equity at the beginning and at the end of the year by 2. The net income figure is obtained from income statement and the shareholders' equity is found on balance sheet. You will need year ending balance sheets of two consecutive financial years to find average shareholders' equity.

Return on Equity (ROE), also known as the Return on average common equity or return on net worth, measures the rate of return on the ownership interest (shareholders' equity) of the common stock owners. ROE measures a firm's efficiency at generating profits from every dollar of net assets, and shows how well a company uses investment dollars to generate earnings growth. In this analysis, the return on equity of the firm is viewed as a product of four different ratios that contribute to it:

DuPont Analysis: DuPont analysis is an extended analysis of a company's return on equity. It concludes that a company can earn a high return on equity if: It earns a high net profit margin; It uses its assets effectively to generate more sales; and/or It has a high financial leverage.

Analysis: Return on equity is an important measure of the profitability of a company. Higher values are generally favorable meaning that the company is efficient in generating income on new investment. Investors should compare the ROE of different companies and also check the trend in ROE over time. However, relying solely on ROE for investment decisions is not safe. It can be artificially influenced by the management, for example, when debt financing is used to reduce share capital there will be an increase in ROE even if income remains constant. DuPont equation provides a broader picture of the return the company is earning on its equity. It tells where a company's strength lies and where there is a room for improvement. DuPont equation could be further extended by breaking up net profit margin into EBIT margin, tax burden and interest burden. This five-factor analysis provides an even deeper insight.

Absolute Metrics: Value-based Measures

Economic Value Added(EVA): *Economic value added (EVA)* is also referred to as economic profit.There are three components necessary to solve EVA: net operating profit after tax (NOPAT), invested capital, and the weighted average cost of capital(WACC), operating profit after taxes (NOPAT) can be calculated, but can usually be easily found on the company's income statement. Economic Value added is the profit that remains after deducting a charge for the capital employed by the company from the profit after tax. EVA. Economic Value Added (EVA) is important because it is used as an indicator of how profitable company projects are and it therefore serves as a reflection of management performance. It succinctly summarizes how much and from where a company created wealth. It includes the balance sheet in the calculation and encourages managers to think about assets as well as expenses in their decisions. The EVA calculation depends heavily on invested capital, and it is therefore most applicable to asset-intensive companies that are generally stable.

Interpretation: The positive number tells us that Company XYZ more than covered its cost of capital. A negative number indicates that the project did not make enough profit to cover the cost of doing business.

ANOVA - MVA Dependent Variable and Cost of capital - Explanatory variable.

H0- MVA does not impact cost of capital

H1 - MVA has an impact of cost of capital

Analysis of variance (mva and cost of capital):					
Source	DF	Sum of squares	Mean squares	F	Pr > F
Model	6	6493734137453770.000	1082289022908960.000	1.062	0.559
Error	2	2037838444101040.000	1018919222050520.000		
Corrected Total	8	8531572581554810.000			
Computed against model Y=Mean(Y)					

Since F value is greater than P value MVA has an impact on cost of capital

Tobin's Q ratio : This is a measure of firm assets in relation to a firm's market value. When the Tobin's Q ratio is between 0 and 1, it costs more to replace a firm's assets than the firm is worth. A Tobin's Q above 1 means that the firm is worth more than the cost of its assets. Because Tobin's premise is that firms should be worth what their assets are worth, anything above 1.0 theoretically indicates that a company is overvalued.

Return on total assets : This ratio is calculated to measure the productivity of total assets. In order to have a more accurate figure of return on assets it is recommended to use average total assets. Return on Assets ratio gives an idea of how efficient management is at using its assets to generate profit. Return on Assets can vary substantially across different industries. This is the reason why it is recommended to compare it against company's previous values or the return of a similar company. The only common rule is that the higher return on assets is, the better, because the company is earning more money on its assets. A low return on assets compared with the industry average indicates inefficient use of company's assets. Return on Assets is one of the profitability ratios and is usually expressed as a percentage.

Table 2

Tobins Q

	CAP*COST OF CAP	**EVA**	**Tobins Q**	**ROTA**
2009	772104.08	10,014,638	0.062	0.246
2010	3502060.085	7,409,466	0.055	0.151
2011	446746.68	12,643,599	0.063	0.101
2012	890108.24	17,514,514	0.051	0.085
2013	804029.38	12,090,517	0.063	0.056
2014	121649144	-100,531,983	0.038	0.086
2015	95287463.23	-69,556,412	0.126	0.12
2016	112596061.5	-86,027,022	0.014	0.088
2017	202555202.2	-167,015,187	0.015	0.132
2018	450844116.9	-411,428,693	0.183	0.142

Findings

- All the years negative MVA indicates that the company has destroyed value.
- 2009 to 2013 positive EVA tells us that Company has more than covered its cost of capital. A negative EVA from 2014 to 2018 indicates that the project did not make enough profit to cover the cost of doing business.
- All the years Tobin's Q ratio is between 0 and 1, it costs more to replace a firm's assets than the firm is worth.
- A higher gross profit ratio is preferable, indicating higher profitability in 2018.
- Higher ratio may be due to increase in selling price without change in the cost of goods sold. Decrease in cost of goods sold, with selling price remaining constant. Increase in selling price and decrease in cost of goods sold. Increase in the sales mix, the proportion of products with higher gross profit margins.
- Lower gross profitability during 2013 may be due to increase in cost of goods sold, decrease in selling price, higher proportion of low margin products in the sales mix.
- Higher the ratio better is the operational efficiency of the business concern. In 2009 the operational efficiency is better and the worst in during 2013.
- Highest ratio is during the year 2009, the more efficient use of the capital employed. Lowest ratio is during 2013 which implies the least efficient use of capital employed.

Conclusion

The ultimate objective of any finance manager is to maximize the value generated for shareholders. Numerous measures have been suggested over the past several decades to know whether the finance manager has been successful in generating this value or not. The proposed model will help the management of the organization to identify the areas of their weaknesses and hence to take corrective measures. Since the nature of work relating to the products produced and services offered by the industries differ from each other, they have to discriminate the relative importance given to each factor leading to its performance.

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DISTRIBUTED STORAGE INTEGRATION FOR CLOUD STORAGE WITHOUT PRIVATE KEY USING AUDITING ALGORITHM

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ABSTRACT:

Now-a-days, utilization of distributed storage system administration clients can store and save their confidential information in the cloud for the purpose keeping away from the proximities storages. It isvery important to maintain the trust of the information storing in the cloud;there are various structures and algorithms are available for the analysis of information honesties have been proposed in different years. In several of the current structures and plans, the user needs to use their Private Key (PK) to create authentication of the information to verify about the authenticity of the information. By this way, the user needs to access a device tokens (e.g. a USB token, etc.) to store theirPK and keep a Secret Key (SK) to implement this PK. If the Equipment Token is lost or secret phrase is ignored huge portion of the trustworthy information will not be processed. To note down the falling points of the case, this paper suggest the structure of using information security analysis without PK storages. In this proposal, to avoid of suing the equipment token, developers develop by using user's biometric information PK. Direct coding and correction of the error are used by the developers for the confirmation of the client's identity to access the storage. Our proposed structure achieves more safety and trustworthy by the evidence and the presentation provided.

KEYWORDS: Biometric, Integration, Privacy, Security, Auditing Algorithm.

1.INTRODUCTION:

Secure and on-demand cloud computing services are provided by the cloud storage to the user. Cloud service has various advantages of reducing the h/w cost, maintenance price and eases of accessing the storage, can store long without PK accessing purposes. It is difficult to ensuring the integration of cloud data due to the failure of the hardware/software and human errors in the cloud.Various auditing integration protocols have proposed the permission granted for data owner and the third part auditor to access the cloud or not to. [1]

The use of biometric data as the private key, such as fingerprint and iris scan, is a viable option. As a part of the human body, biometric data can be used to connect a person to a private key. Unfortunately, since certain variables may influence the change of biometric data, biometric data is calculated with unavoidable noise each time and cannot be replicated precisely. For instance, each person's finger. [2]

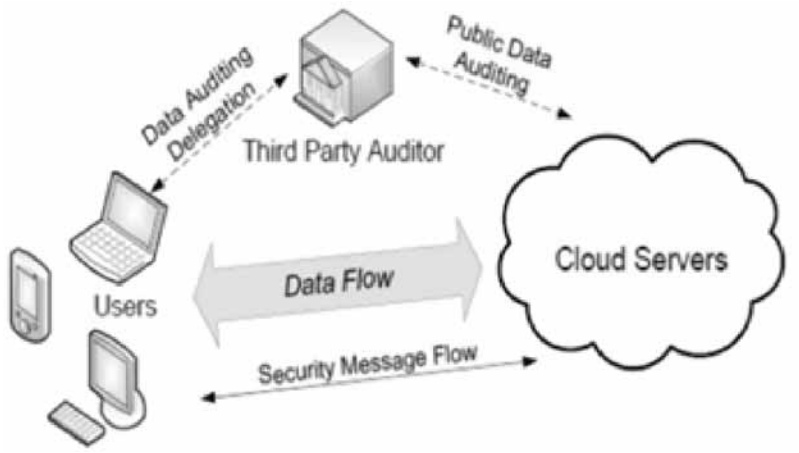

Fig1: Cloud Architecture

Unfortunately, biometric data is analysed with unavoidable noise at every time and cannot be replicated exactly because certain factors may affect the difference in biometric data. [3]

3. SYSTEM MODEL

Figure 2 describes the module of the system as types of objects are User, Cloud and Third Party Auditor.Sample space is also provided by the cloud for storing data. System Model for testing our integrity data

This program model contains and uses the following modules:

Data Owner: Owner of the information should file and login the registered details also encrypted the uploaded file of the server with all the blocks and the compatibility block checks along with the transactions.

Cloud Server: Both owner and the user can able to view and perform the actions in the uploaded documents also the installation process and the results can also be managed by the owner and the authorized user.

Third Party Auditor: Third party auditor have the access for the functions like metadata details and all the transactions and the attackers.

Data User: During this module, the user must register the blurring and login and perform the subsequent tasks like Search Data, Download Data. [4]

3.1 DESIGN OBJECTIVES:

Our scheme should achieve the following goals in order to allow data integrity auditing without the need for private key storage for secure cloud storage:

1)**Auditing Correctness:** To ensure that the proof produced by the cloud can pass the third party auditor's verification when it properly stores users' data.

2) **Auditing Soundness:** To ensure that the cloud will fail the third party auditorverification if user accesses the same data.

3) **Auditing without Private Key Storage:** To allow users to use their biometric as a fuzzy PK to perform the data integration auditing algorithm without storing PK. [5]

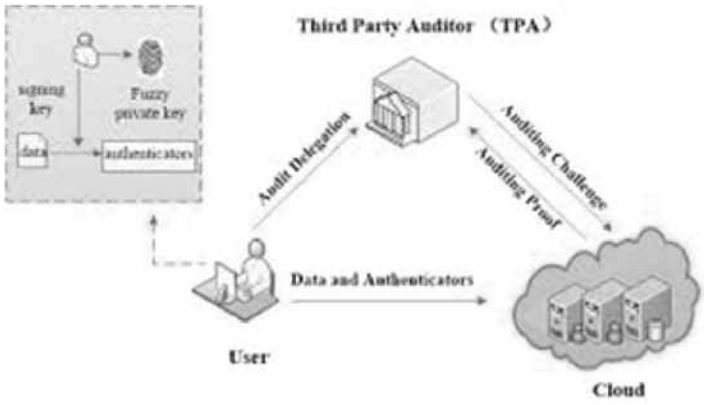

Fig 2: System Model For Our Data Integrity Auditing

4. TERMS OF CONSTRUCTION

In order to watch data integrity without the confidentiality of secure keys objectives:

1) **Test Correction:** The cloud products has the evidence to pass the third party system for confirming the cloud accessing information is secured or not.

2) **Sound Auditing:** If the information has been in the state of attacking, then the cloud will not be permit third party auditing tool.

3) **Non-Private Key Storage Research:** Biometric data are allowed for the user to access their to hold out data integrity verification without keeping the key.[6]

5. PROPOSED DATA ANALYSIS SCHEME:

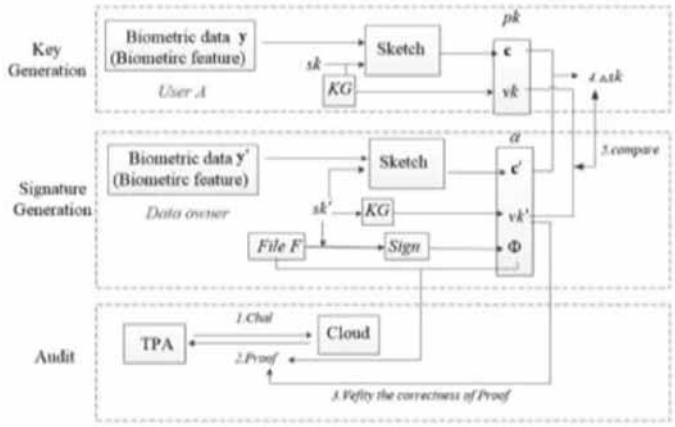

Fig 3: Overview of the data integrity monitoring system without the keeping of secret keys

Signature Generation.Contains SignGen algorithm.the information owner makes a signature of fi le F, then uploads it and its signature to the cloud. Specifically, the info owner randomly generates a sk0 signature key and a corresponding vk0 authentication key, within which sk0 is employed to come up with drawing and authenticators. the information holder then generates a sk0 key to sign sk0 key using biometric data y0 extracted from it. Generates F Φ F data confirmation with sk0 signature key. Signature α ka fi le F ngu (Φ, vk0, c0). the information owner sends to the cloud, and removes them from local storage. [7]

Audit. The ProofGen algorithm and ProofVerify algorithm are developed during this section. within the ProofGen algorithm, third party auditor sends a test challenge to the cloud. After receiving the chart, the cloud returns the research evidence P to the third party auditor. within the ProofVerify algorithm, third party auditor previews the authenticity of the proof P using the vk0 authentication key. [8]

6. IMPLEMENTATION ALGORITHM:

The data integrity auditing system without private key storage consists of the subsequent algorithms: Set - up, Key-Gen, Sign-Gen, Proof-Gen as well as Proof-Verify. In particular, these algorithms are given as follows:

- Set-up(1k,FKS): This algorithm uses a fuzzy FKS key setting and security parameter k as input. Generates the pp public parameter.
- Key-Gen(pp',y): This algorithm uses a public parameter pp' and the biometric data and Rn as input. It produces pk as its public key, along with the sketch c and the validation key vk.
- Sign-Gen(y',F) This algorithm uses Rn and File F as the input of the biometric data. It outputs a signature that includes a vk' verification key, a c' sketch, and a set of authenticators Φ.
- Proof-Gen(F,Φ , CHAL) This algorithm uses file F as input, the respective authenticator is set to Φ and the audit challenge is set to CHAL. Outputs auditing proof P that actually proves the cloud keeps the file.

7. DIGITAL SIGNATURE SCHEME:

1) Batch Scheme: This is an explanation of an Increased Efficiency implementation scheme that provides synchronous signing with a large number of large-scale computations. Batch is a suggested method for a large number of signing digital messages that are all batched together into a single message. Messages are encrypted using various cryptographic algorithms.Messages are signed and split into single signed messages that can be sent to requestors after undergoing various cryptographic algorithms. For example, suppose we need to verify thousands of signatures at the same time; in this case, the Batch Digital Signature Scheme is appropriate. This scheme employs a random number generator to generate and check the signer's or user's validity.To secure data from attackers, this scheme uses a random number generator to produce and check the authenticity of the signer or user. The intruder must know the random numbers in order to reconstruct the verification functions, but this seems to be impossible in reality. [9]

2) Forward-secure scheme: This Forward-Secure Scheme belongs to the Scheme with Enhanced Security category. This scheme has a very high security standard as compared to

other schemes because it keeps the key's validity even after it has been used for encryption and decryption.The idea behind the Forward Secure Scheme is T (total time of verifying public key), which divides the time into equal periods, each with a unique secret key for encrypting and decrypting the document. Even if a new secret key for the next step is generated using the secret key and key update algorithm, the public key remains unchanged.To generate and validate signature generation and verification steps, two random and prime numbers, P1 and P2, will be generated and used to successfully generate a digital signature. [10]

3) Blind scheme:The Blind Scheme is a form of anonymity service in which the recipient is unaware of the sender's identity. Without knowing the identities of both the sender and the receiver, data would be insecure between them. During data exchange, the sender must obtain a signature from the signer, but the signer has no knowledge of the sender's identity and can only sign this message.Consider two people, x and y, who are sharing their data. Person x sends a letter to person y for signature, and person y must sign it and return it to sender without knowing the sender's identity. For this scheme to be implemented, there are three steps that must be followed in order.The first step is known as blinding, and it entails transforming message M into the form of f. (M). The blinding function f is used to alter the identity of the message.The second stage is called signing; in this stage, the recipient signs the message and sends it back to the sender without knowing who sent it. Unblinding is the final step, in which a function is performed on the message and the sign is checked. [11]

8. RESULT & CONCLUSION

At this stage, we assess the effectiveness of our proposed testing program.

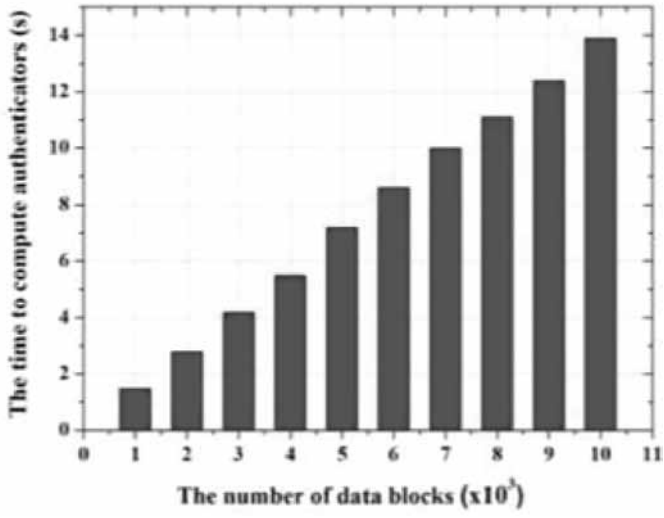

Fig 4. The title of the calculation of verification statistics

a) Authentic generation generation. In order to evaluate the performance efficiency of our system, the computer-assisted artificial intelligence system from 0 to 1000 has increased by 100 times. Figure 3 shows that computer computing.

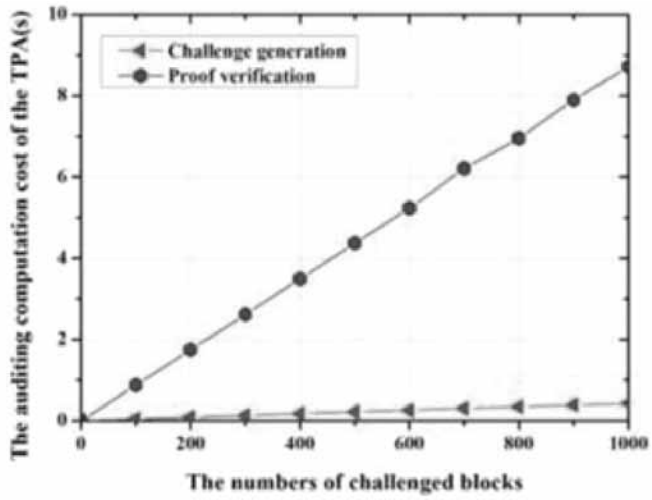

Fig 5 Over-counting of third party auditorin the audit category

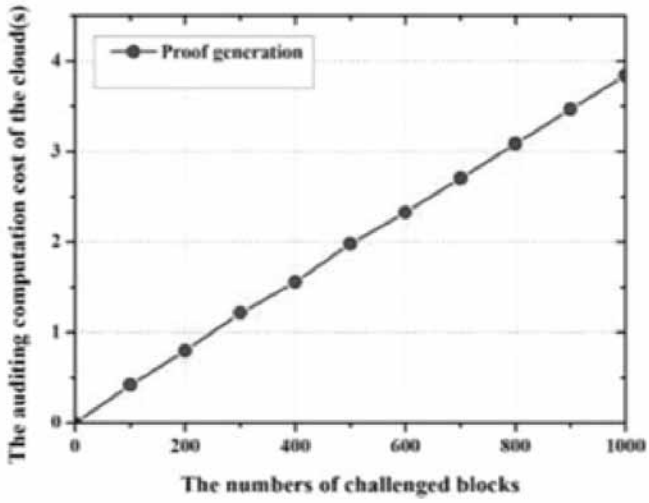

Fig 6. Collecting cloud computing in the audit phase

As shown in Fig. 5, the active time of ingenenerrangesfrom0.401sto3.793 on the cloud side.

9. CONCLUSION:

From this paper, we analyze how to use a fuzzy private key to achieve data integrity auditing without retrieving a private key. This paper presented the methodology for achieving data integration auditing without PK storage for protection of the cloud storage. In the proposed system, Digital Signature Scheme (DSS) achieved by the hash algorithm and the Advanced Encryption Standard Algorithm.Digital Signature scheme to promote block less verification and linear sketch configurability. The main aim is to secure webpages, security organizations and so on at a significant level.

MUTHUTHANDAVAR – A COMPOSER NONPAREIL

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Abstract –

The musical trinity of 19th century have ruled the Carnatic scenario. Very few know of the pioneers before them. Muthuthandavar is one such composer, one of the Tamil trinity (Tamil movar) of Carnatic music.

His pioneering work in Tamil isai has been more or less forgotten. Only few of his songs have been retrieved. He had no musical lineage, but his Krithis were divinely inspired.

He was an early architect of present day krithi format of Carnatic music – pallavi, anupallavi and charanam. He harmonized the taalam structure with wording and three limb format. He also used Nayika Bhava in Tamil devotional songs. Transition of Pannmurai to kritis and padams, is attributed to him. Many of his compositions have been adapted to Bharathanatyam performances – Teruvilvaarano (Ragam: Khamas, Itthanaitulambaramo (Dhanyasi), Aadikondaar (mayamalavagowla) - to name a few.

Our purpose is to know more about this great person and his music, to recognize and remember his contribution to the world of Carnatic music and pay tribute to this incomparable composer.

Keywords –

Muthuthandavar – carnatic music- composer – Tamil isai – padam – Bharathanatyam

MUTHUTHANDAVAR – A COMPOSER NONPAREIL

Tamil culture has a long history of musical tradition. Carnatic music is the classical music of South India.

The trio of composers – Thyagarajar, Muthusamy Dikshithar and Shyama Sastrigal, were called the trinity of carnatic music. They were known as the three jewels or the Thiruvarur trinity, as all three were born in Thiruvarur. Thyagarajar composed in Telugu, Muthusamy Dikshithar composed largely in Sanskrit and Shyama Sastrigal in both..

Tamil trinity – also known as 'Tamil Moovar' – are the three Tamil composers of carnatic music, of an earlier period, who lived decades before the Thiruvarur trinity. They are Muthuthandavar, Arunachala kavi and Marimuthu Pillai.

Muthuthandavar (1560 – 1600) was the earliest of the three. He was born in Sirkazhi in Tamilnadu. He was an early architect of the present day carnatic format – kriti with three limbs or Anga-s of Pallavi, Anupallavi and Charanam. He harmonized the three Anga-s and wordings with talams and jathis. Muthuthandavar refined this method and the subsequent Tamil composers followed it. He is also credited with integrating Nayika Bhava into devotional songs.

He is the pioneer of Tamil Isai – marking the transition from Tamil Pann to kritis. His contribution was largely forgotten and thus, very few of them have been recovered. Revival of interest in Muthuthandavar in 1941- 42 led to the retrieval of a collection of 60 songs and 25 padams.

He was not from musical lineage, but was divinely inspired. According to legends, he was afflicted with disease and stayed at home. He spent his time listening to the songs of a devadasi nearby. He was ostracized from society and by his family. Disease, poverty, his Bhakti towards Shiva and divine guidance from Parvati – led him to the Nataraja temple in Chidambaram. Here he composed songs on Shiva everyday, starting with the first words he heard on entering the temple.

He is remembered for his unique contribution as a composer of kritis and padams in Tamil. Dancers particularly have found his compositions apt for dramatic portrayal wherein Nayika bhava shringara was incorporated into devotional songs.

SELECTED COMPOSITIONS OF MUTHUTHANDAVAR:

Quoting from the previous section, Muthandavar was indeed a stalwart of his times as he outpoured his endless devotion for Shiva in his compositions. Muthuthandavar being an ardent devotee of Shiva, began listening to hymns and discourses right from an young age. After being guided by**Lokanayaki**of Seergazhi herself, he proceeded to Chidambaram in order to compose keerthanams on **Thiruchitrambalanathan**. Upon expressing the inability to compose, she leads him to the path stating that he would be able to compose songs from the words coming from mouth of devotees infront of the sanctum. On reaching the sanctum, the words that came outpouring from the devotees out of bhakthi were **'BhoologaKailasagiri Chidambaram'** which he used to compose his first keerthanam in **RagamBhavapriya** set to **MisraChapu**. To his surprise, he found 5 gold coins placed in front of him inside the sanctum which he accepted from Shiva for his livelihood and started composing songs for him everyday.

One fine day when he entered the sanctum, he found everyone being silent thus he started to compose the words that arose from his lamenting heart- '**PesadheNenjame'** in **RagamSuryakantham**set to**MisraJhampai.**

Soon his health recovered and it became his daily ritual to pay obeisance to Natraja of Chidambaram. While travelling from Seergazhi to Chidambaram one day, he found the Kollidam river becoming a hindrance to his path due to the flooding of river. Immediately he composed **'KanamalVeenile Kalam Kazhithome'** in**RagamDhanyasi**set to**MisraChapu**. On completing, the floods started subsidising as he sang **'DarisanamSelvene'** in **RagamVasantha**set to **Adi talam**. Upon reaching the sanctum that day, he poured out the joy on seeing Natraja in his song **'KandapinKannKulirndhen'** in**RagamMalayamaruthams**et to **Roopakam**.

Once on the way to Chidambaram, he got bitten by a snake on the way. Even at that painstaking moment of his life, he sang out to Shiva with devotion **'Arumarundhoru Thani MarundhidhuAmbalathiKanadene' in RagamKambhoji set to Roopkam**. The krithi and the devotion he had on Natraja acted as a counteragent against the poisonous venom.

His last composition is one of the popular keerthanams**'ManickavasagarPerenakkuThavallayo Ariyen' in Ragam Kokilapriya set to Roopakam** on the auspicious day of AvaniThingalPoosam. The keerthanam outpours his longing of attaining Natraja's lotus feet and experiencing the bliss of his preceding Saivaite saints. It is said that Shiva appeared in the form of light pillar and engulfed Muthuthandavar into the light of eternal bliss.

TILLANA - THE MAGIC OF RHYTHM

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Abstract

Bharatanatyam, the Indian classical dance form has practices that can be traced back to Natya Sastra, a treatise on dance by Bharata Muni. It was practised as 'Sadir' in Tamil Nadu and was renamed with the initiative of Sri. E.Krishna Iyer and Dr.V.Raghavan in Music Academy in 1930. This dance form is the manifestation of the ancient Indian idea that celebrates the beauty of the human form as a representative of divine power.

Thillana is one of the items in Bharatanatyam repertoire or margam, where the dancer performs it individually or together, exploring the extent of strong kinetics with appropriate pauses as a highlight to the kinetics. This dance requires exemplary skills in terms of rhythm, timing and synchronization testing the capacity and stamina of the dancer.

The culminating piece of a Bharatanatyam performance, graceful body movements and brief Abhinaya in sahityam, combine in Thillana. Origin of Thillana can be traced to the Tarana of Hindustani music. Tillana-s were composed in the late 17th and 18th century by Thanjavur Quartet, Ootthukkadu Venkata Kavi and Maharaja Swathi Thirunal and many such vidwans. Melattur Veerabhadrayyah is said to be the earliest composer of Tillana-s in the 17th century. The modern-day composers like Tamizh Thyagaraja Shri Papanasam Shivam, Shri Lalgudi Jayaraman, Padma Bhushan Awardee and Sangita Kalanidhi Dr. Balamurali Krishna have also composed beautiful Tillana-s for Dance.

The paper attempts to understand the origin, nature and growth of the musical genre Tillana which has been adapted to great effect in dance as well.

Keywords

Origin of Tillana – Kinetics – Thanjavur Quartet - Composers – Tarana

INTRODUCTION:

As a dance component/an item - Tillana occupies a unique place in the Bharatanatyam repertoire. Tillana is a harmonious combination of swara-s,sollu with an element ofsahityam and melodious music in Bharatanatyam. It is usually performed as the concluding item in a Bharathanatyam performance, a bouquet of dynamics, beauty, charm, and sophistication. Human emotions such as happiness and joy are majorly expressed in tillana. Eventhough Jathiswaram is purely based on jati-s and sollukattu, the steps are placed in regard with the swara-s. Similarly, tillana has three components - Pallavi, Anupallavi and Charanam. But then, the first two lines of Pallavi is predominantly taken, elaborated and explored with sequences of maiadavu-s. It is done with numerous variations of calculations in tala and jati patterns.

On a general note, the entireBharathanatyam repertoire, from invocatory item to tillana is called a 'margam'. A Margamusually starts with an invocatory item which could be anAlarippu, Thodai

Mangalam or pushpanjali – a warming up pieces consisting of nritta.Proceeding to Jathiswaram – an amalgamation of jati-s and swara-s ; Varnam – consisting of jati-s, swara-s and sahityam. In each of these pieces, the margam guides the dancer from warming up, to introduction of jati-s, swara-s and abhinaya respectively. Tillana being the culminating piece in the Bharathanatyam repertoire, explores all these aspects, and it is said to test the ability and stamina of the dancer at the end of the performance, to manifest and showcase his/her skills. It is either performed individually or as a group.

HISTORY AND EVOLUTION:

During the Mughal invasion, Gopala Nayakar of the Royal Council of Tanjavur was arrested by the Mughals and taken to North India. During the imprisonment, Gopala Nayakar taughttamil music to Amir Khusru, who was then a famoushindustani musician in North India. Adapting to the northern vernacular music, Tarana became Tillana.However, the word 'Tillana' in the inscription of the Chola king Rajendran, proves this concept to be well-known even before Mughal invasion.

In the text of Silapathikaram, AdiyarkuNallarmentions the dance performanceas categorised into'Mudhal nadai', 'varam', ' Koodai' and 'Thiral' according to some aspects as follows:

MudhalNadai–Done in a slow phase. That is, performed in 'vilambakalam' (slow speed).

Vara padal –embodies the significance of sahithyam/swaram and rhythm of a song.

Koodai padal – expressed with enhanced music and words.

Thiral – Consists ofaccelerated rhythmic movements.

The references taken from the first narration of Silapathikaram by Arumbadha urai asiriyar notifies the same as well. Hence early documentations reveal that accelerated rhythmic movements – Thiral, was present as an aspect of dance performances in TamiNadu since 10thcentury. The accelerated dancing movements- 'Thiral' was modified to 'Thirala', which was then considered to be remoulded as 'Tillana'.

Other Indian classical dance styles also follow similar form of Tillana in their own conception. The Kathak dance style has 'Tarana' in place of Tillana. Similar kind of sollu-s are used in their compositions of Tarana and at the end the speed of the dancer is increased in its highest point. Both these Kathak and Bharatnatyam dance forms have resemblance, though the first is originated inNorth India, whereas the latter in the South. Like these two, we have another classical dance style from Eastern India. This style is known as Odissi which belongs to Odisha. In this style, there is a composition called 'Tarjan' which is similar to Tillana. In Kuchipudi dance style, a composition similar to Tillana is known as 'Tarangam', also popularly performed on the tambalam or plate.

All these Tillana-s are traditionally composed in Carnatic music. All the famous composers take pride in composing Tillana-s and have a number of compositions to their credits. Some of them are mentioned as follows. Tanjore brothers who are known as Tanjore Quartet, were in 17th century at the court of King Sarfoji. Maharaja Swathi Thirunal who was a king of Tiruvanantapuram and his Naam-mudrais Padmanabha is yet another great composer. Other composers are VidwanDhandayudapani Pillai,Vidwan Madurai T Srinivasan,VidwanLalgudi

Jayaraman,VidwanOothukadu VenkataSubbaiyer,VidwanT.Kittappa Pillai andVidwanDr. BalamuraliKrishana. All these composers originate from South India and their compositions are in Carnatic style of music. But we also have Tillana compositions in Hindustani style of music. A number of artists are taking interest and trying to compose new Tillana-s on a large scale.

FEATURES OF TILLANA IN DANCE

Tillana is a Nritta composition (pure dance). Nritta comprises of adavu-s presented as korvai and jati-s. Nritta is the rhythmic aspect of dance set to a particular tala. It has a prominence of Tala and Laya. It comprises of Adavu (derived from the word adaivu) which means 'to step' - the basic dance unit. Each adavu has a posture, rhythmic movements of the feet and accompanying hand gesture. Thus, the main aim of Tillana is to bestow blissful, spiritual joy which is described as 'Ananda'. The Rhythmic syllables used for dance are called 'sollu'. When these sollu are combined they form 'sollu-kattu'. The sollu like ta , ri , ki , na are woven with syllables to form sollukattu like 'tarita, dhanata, jhonuta' and are used in tillana. The Composition of Tillana can be studied in two ways firstly its musical structure and secondly its dance structure. Tillana-s composition has three components - Pallavi, Anupallavi, and Charanam. It starts with attami - Grivabhedah (neck movement) along with Drstibhedah (eye movements) . This dance progresses in three kalam(speed) i.e. Vilambakalam , Madhyamakalam, and Duritakalam. Vilambakalam is the slow tempo. Madhyamakalam being the medium tempo and Duritakalam the fast tempo.

Pallavi denotes the very first line of Tillana which is repeated with variations and combinations of adavu-s(It is the basic dance unit). Pallavi consist of Jati. A Jati is a structured korvai set to sollu-kattu in a chosen tala. It starts with attami - Grivabhedah (neck movement) along with Drstibhedah (eye movements). Followed by these are Mai Adavu , Mai in Tamil means 'body'. These movements are called maiadavu as it begins with the head and progresses from eyes , to neck , shoulders, elbows , hands , knees, ankles, and feet involving the ten mandalas. Korvai can be three to five in numbers. If they are PanchaJaatiKorvai then the number is five. PanchajatiKorvai means each korvai is set to one particular jati. In Carnatic Tala system there are five jatis. They are Tisram -3 beats, Chatushram -4 beats, Kandam -5 beats, Mishram -7 beats, and Sankeernam -9 beats. Setting dance in these korvai-s is very difficult and intricate. The adavu are set in such a way that the entire stage is covered. Then continues the Anupallavi.

A combination of adavu made into sequence and ending with a tirmanaadavu is called a korvai. A korvai is set for a chosen number of avartanam of a particular tala. A small piece of sollu is repeated at the end of korvai thrice which is called Arudhi. These are sung in a very attractive manner. As Anupallavi gets over Sahityam is displayed in a different manner. The words denote the attributes of a deity, the sollu-s may reflect their nature and character. Abhinaya is used as a tool to express the emotion of the dancer. In Natya, the technique of communicating a message to the audience is known as 'Abinaya'. They are of 4 types – Angikam, Vacikam, Aharyam, Sattvikam. In Sahityam, the greatness and beauty of the Deity or the king is expressed and usually the composer or devotee surrenders himself at the feet of God. Sahitya continues with Tattumettu. After Sahitya, there comes the last part of Tillana. This is known as Charanam . It is a combination of Swara-s and Sollu set beautifully with the help of jati in a particular tala. This too, ends with arudhi and the dancer steps off the stage elegantly .

CONCLUSION

Tillana is a mathematical calculation of the various sollu-s. With the major scale of tala, it shows the dancer's command on the Tala. Tillana are composed in many Raga-s and different Tala-s. Commonly used Tala is Aadi tala (i.e) eight akshara-s. Then we have Tillana set in Rupaka Tala (i.e) six akshara-s . Also there are Tillana-s in Mishra Chapu Tala (i.e) seven akshara-s, and Khanda Ekam Tala (i.e) five akshara-s. Some are in Mathya Tala and Atta Tala. The popular raga-s used for Tillana are Hindolam , Kedaragaula , Bhinnashadja, Bageshri , Vrindavani , Todi, Khamaj, Kadanakutuhalam, Revati, Bhairavi, Shankara, and so on. Generally in Tillana, karanas can be used in the various sections . Karana revalidates the strength of margam dance technique in enabling the past to march into the future, allowing creativity without losing the roots of eastern aesthetic values.

So, any Tillana performed in this margam gives immense joy to the audience as well as the dancer. Dancer or artist needs a lot of stamina to perform and present Tillana. As it is Nritta, it's a continuous process of footwork which should have perfection in Adavu-s, rigorous practice and ease in presentation. Sometimes artist takes a liberty to add some 'still poses' to enhance the beauty of the dance. Through these 'still poses,' the dancer becomes sculpturesque and gets some breathing space and energy for the next piece of the recital. MelatturVeerabhadrayyah (1739-1763) is said to be the earliest composer of tillana and is hence called the 'TillanaMargadarshi'. He was the guru of RamaswamiDikshitar. The tillana 'gaurinayaka' in ragam Kanada composed by MahaVaidyanathaIyer is set to the longest talam among the ancient 108 talam – the simhanandana talam. This tillana is sung in Adi talam today. Tanjore brothers who are known as Tanjore Quartet gave soul to this Tillana during the 17th century at the court of King Sarfoji, is now one of the complex and exemplary choreographies that play a vital role till date.

LETTERS TO THE EDITOR

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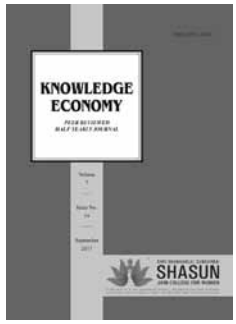

Articles are very much knowledge oriented and enhance the research skills of the reader.

- PurnimaI Iyer

FORM IV

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