

**A GLANCE ON THE ATTITUDE OF CUSTOMERS IN RELATION TO ONLINE  
ADVERTISING IN MODERN ERA WITH THE MEDIATING EFFECT OF INTERNET  
ACCESS**

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**Abstract**

**Purpose** -With the evolution of information technology, online advertising started playing an important role in attracting and reaching to the customers in the modern era. There is a drastic increase in the number of users of internet. online advertising has replaced the traditional mode of advertising in banners, television, radio, magazines and newspapers up to an extent. Since the number of internet users have increased, most of the activities and transactions are carried out through online. Here comes the relevance of online advertising. One of the distinctive characteristics of online advertising is its reachability compared to other means of advertising. Accessibility of internet become much cheaper and faster than earlier days and the network providers provide wide coverage. Online advertisers must understand the attitude of customers before they are making online advertisements and should ensure accessibility of internet. This study investigates the attitude of customers with the increase in the accessibility of internet towards online advertising.

**Design / Methodology Approach** - A survey was conducted among 392 respondents through a structured questionnaire via google form. The survey was conducted to study the attitudes of customers towards online advertising with the mediating effect of internet access.

**Findings** - This study establishes a positive correlation between variables attitudes of customers and online advertising ( $\beta = 0.711$ ,  $t=33.68$   $p < 0.001$ ), attitude of customers and internet access ( $\beta=0.682$ ,  $t=25.32$   $p < 0.001$ ) and internet access and online advertising ( $\beta= 0.726$ ,  $t=19.15$   $p < 0.001$ ). The indirect effect of attitude of customers through internet access to online advertising ( $\beta_1= 0.326$  with a significant  $t$  value of 5.962,  $p < 0.001$ ) shows the evidence for the mediation effect of internet access between attitude of customers and online advertising. The research analysis validates high dependency of online advertising on attitude of customers and internet access. On testing the hypothesis, the dependent variable online advertising is substantially predicted by the independent variable attitude of customers and also with the mediating variable internet access at a 95% level of significance.

**Originality / Value** - This study provides insightful findings in understanding the attitudes of customers

on online advertising with the mediating effect of internet access among all age groups who are using mobile phones or laptops.

**Keywords** - Online advertising, attitude of customers, internet access

### **Introduction**

Advertising plays an important role in our busy day life. Advertising is a marketing technique through which the information about the product or services which are going to be sold are communicated with the customers. It helps the customers to familiar with the product usage, contents, etc. In order to attract the customers, different brands advertise their products in different ways. In the present competitive market, it is important to kept apart an amount for advertising and select the right media such as television, radio, newspaper, magazines, and internet (R. Sama, 2019). Online advertising uses internet to reach the customers (A. Mishra & D. Mahalik, 2017). Internet became a tool for advertising in the middle of 1990's. Attracting and retaining customers with profit is the main goal and success of a business organisation and this can be attained through building a perception about the products in the mind of customers. This is possible through a well designed advertisement in a popular, widely used innovative media (M. Farooqi & M. Ahmad, 2018). Online advertising is cheap, flexible, accessible and convenient compared to other means of advertising (Dr. M. Saravanan & S. Sajitha, 2016).

There is a drastic change in the number of internet users. Internet is used for a wide variety of purposes – chatting, collecting information, entertainment, payment purposes, study purposes, buying and selling of products etc. Everyone has a smartphone in their hand or laptop or system. Therefore the internet access has increased (R. Mahalakshmi & Rajasekaran, 2018). All types of business organizations whether small, medium or large can use online advertising to reach the target customers (J. Lopez Garcia et al. 2019). As per the study conducted among foreign students in Mysore, internet has wide reachability compared to other means of advertising (E. A. Gamal & Dr. A. Siddiq, 2018). Most of the socio-economic class of people can access internet and can see advertisements while surfing on internet (Dr. K. Pongiannan et al. 2019). According to L. D. Wolin, et al. (2002), web advertising or online advertising is meant for the audiences by delivering the information through video, audio, graphics, print and animation. The amount spent for online advertising is amounted to 521.02 billion dollars in 2021 in worldwide and the study states that it will reach to 876 billion dollars by 2026 (Statistica 2019). This study investigates the perception of customers towards online advertising as there is a drastic increase among the internet users.

### **Literature Review**

#### **Attitude of Customers and Online Advertising**

A customer is the most important visitor on our premises; he is not dependent on us. We are dependent on him. He is not an interruption in our work. He is the purpose of it. He is not an outsider in our business. He is part of it. We are not doing him a favour by serving him. He is doing us a favour by giving us an opportunity to do so (Mahatma Gandhi). A customer can also be a consumer who consume or use goods and services that are accessible in the market. Internet plays a pivotal role in a customer's life nowadays. A study investigated by M. Aktan, et al. 2016, ascertained the interrelationships between attitude of customers and advertising. Another study discovered that customers are allured by the content, attraction and formats of online advertisements and that influences customer's purchase decisions (M. Verma & R. Saranya, 2014). Another study conducted in Malaysia reveals that entertainment, interactivity and irritation has a positive and significant impact on consumer's attitude on online advertising. This evidently shows a positive relation between customers attitude and online advertising (Y. Salamzadeh, et al. 2018). In this 21st century companies wield online advertising as an important channel to attract customers and customers find online shopping more convenient as

transactions are easy to do (C. M. Lee, et al. 2014). Another study conducted in Delhi among youngsters revealed that young generation have a positive attitude towards online advertising (R. Dahiya & A. Usmani, 2015). Further, a study completed in Canada claims that online advertising has a positive and significant impact on customers (N. Souiden, et al. 2017). Customers have a positive attitude and bright outlook towards online advertising.

H1: There is a positive relationship between attitude of customers and online advertising

#### **Attitudes of customer on online advertising and internet access**

Advertisement response goes hand in hand with that purpose, relationship between consumers and mass media, Advertising execution, general reception, etc. (A. G. Andronic 2019). Responses shows the attitude towards the ad itself and the attitude towards the brand. consumer reactions to them are influenced by how the advertisement is evaluated. This evaluation requires a favourable or unfavourable attitude during exposure (Mooji, M. 2011). Advertising energizes the interest of the consumers and attracts their attention rather than disturbing them. The study conducted by Briggs, R. & Halls, N. (1997) states that the development of brand recognition and positive attitudes among consumers is effectively facilitated by advertising. Another study reveals that ,in the case of online advertising consumers have direct control on the content, timing, location and the length of time that the ads are displayed (Gallanger, K. et al. 2001). The web is both a distribution and a communication channel (Ind Nicholas & Riondino Maria Chiara, 2001). Online advertising is a respectable substitute for traditional media (X. Dreze & F-X Hussherr, a 2003). Online advertisement gives ability to the marketers to largest their consumers. It is a great link between a consumer and a marketer. There is a positive relationship between consumer attitude and internet advertisement. Even if there is an increasing number of businesses advertising online, dishonesty and fraud may undermine consumer confidence. Therefore, it is important to ensure that the products and services advertised in internet marketing are accurate (R. Mahalakshmi & D. Rajasekaran, 2018). Web advertising shapes consumers' perspectives, both positively and negatively. Some consumers perceived that web advertising is more convenient and time-saving for internet users. Some consumers perceived that product descriptions in online advertising were inflated (Anthony Y. Paras, 2018).

H2: There is a positive relationship between attitude of customers towards online advertising and online advertising

#### **Internet access and online advertising**

Along with the rapid increase in the number of internet users and the easy accessibility of internet accelerate the scope of online advertising (Ha, Louisa. 2008). Online advertising is the form of promotion that uses internet and worldwide web to deliver marketing message to attract retain and fortify the customers. It is an attractive awareness creating tool of promotion of the business (P. Jain, et al. 2019). Online advertising has a strong smash on the mind of viewers than other marketing tools as its exposure is very high (Katke, K. 2007). It creates an economical and committed relationship with the consumers, by letting them to know about the product and services whenever and wherever the people wish to purchase (Reddy J Suresh, 2003). The recent studies show that internet has emerged as a realm for channel of sales (V. Kumar & D. Shah, 2004). It has become vital tool due to its ambidexterity, connectivity, and ability to aspire relevant consumers (A. G. Andronic, 2019). Through internet access we can set side by side variety of products and services. The internet come out as apparatuses the mid-90s for reaching consumers and also provided a variety of technologies for manipulating opinions and desires (M. Boudreau & R. Watson, 2006). Due to this reason it became the mainstream and for the most parts the offline world is replicated by on line world (D. Hoffman & T. Novak, 1996). Internet access provides various advantages that it offers over the other forms. As a result, online advertising is

also gaining popularity among the people (A. Telang & G. Bhatt, 2011). Nowadays, consumers living more and more of their time online, so it will definitely help to attract on online advertising. Internet access accelerate online advertising and more and more companies are using online advertising to drive their sales and not just big technological companies.

H3: There is a positive relationship between internet access and online advertising

#### **Attitude of customers and Online Advertising through Internet Access**

The speed, low cost, accessibility and handiness have forced to use internet in advertising (T. Jerome, et al. 2010). There is a high rate of competition exist among internet service providers. They introduce various packages and techniques to attract new customers. Not only the speed of connection, accessibility in remote areas are the main focuses of internet service providers so that the online advertisements can reach the targeted customers with less time. As per the study conducted in Makassar, the number of internet users are increasing day by day due to development in technology. This is facilitated by the simplicity of internet users accessing the internet via their PCs, laptops, mobile phones, tablets and other media. With the increasing number of Internet users, the Internet has become a suitable means of promotion through online advertising (M. Aqsa & D. Kartini, 2015). As per the study conducted among the tourists of the Algarve region in Portugal, there is a considerable growth in the usage of internet and it affected positively in tourism industry in which online advertising is crucial to gain customers (Juliane Sab, 2011). Online advertising became a big business and contributes above 16 billion dollars in 2006 (J. Mathew, et al. 2013). Through this study it is found that online advertising is increasing which means that internet browsing is became a part of day today life.

H4: Attitude of customers with internet access has significant impact on online advertising.

#### **Pilot Study**

A pilot study of the questionnaire was carried out to understand the attitude of customers towards online advertising with the mediating effect of internet access. Eighty samples were chosen for the study. The validity along with reliability of the measured scales were verified to ensure correction of any obscurities in the measurements. Based on the feedback suggested by the respondents, minor corrections were made to the questionnaire.

#### **Population and Sample**

The population consist of everyone who are using mobile phones or laptops with internet in Kerala. Purposive sampling technique is used in this study. It is a non-probability sampling technique in which units are selected because they have characteristics that you need in your sample. This sampling method relies on the researcher's judgment when identifying and selecting the individuals, cases, or events that can provide the best information to achieve the study's objectives.

Data was collected through structured questionnaire by circulating the questionnaire via google form. A total number of 530 questionnaires were circulated through google form, out of which 438 questionnaires were collected back, representing a response percentage of 82%. Out of 438 responses received, 46 were rejected due to missing of data. 392 questionnaires were considered for the core study (74%). 56.2% constitutes male respondents and 43.8% constitutes female respondents. Lowest number of responses were received from above 59 years of respondents (8.8%).

#### **Analytical Approach**

This study used structural equation modelling (SEM), which is regarded as an effective multivariate analytical technique. Primary constructs and their relationships can be easily identified from the observational data. The proposed conceptual framework can also be tested with this tool. Along with few descriptive statistics, both measurement and structural models were calculated. For final decision purpose, T-Statistics and P- values were measured with a significance level of 95%.

**Demographic statistics**

This analysis consists of 392 respondents of online customers aged between 15 to 29 (31.6%) and 30 to 44 (33.2%) and 45 to 59 (26.4%) and the rest have (8.8%) years old. 56.2% were male and the remaining 43.8% were female 28.6% of the respondent were students and the rest were employed almost all respondents used smart phone for their online buying.

**Normality Test**

We used the skewness-Kurtosis approach to examine the univariate normality of each variable (Byrne, 2013). Skewness gauges the distribution's symmetry. The skewness of symmetrical data set will be equal to 0. Kurtosis is a measure of a distribution's "peakiness" (**Wolfram MathWorld**). Results in this investigation were found to be on their respective, promising scales. The test showed that the univariate distribution was normally distributed, with skewness values between -1.96 and +1.96 and kurtosis values between -7 and + 7 (Byrne, 2013).

**Measurement Model**

The measurement model was tested by means of Cronbach alpha, composite reliability, convergent validity and discriminant validity. The initial reliability of the construct has been calculated using Cronbach alpha where value should be more that 0.7 and the composite reliability is also more than 0.7. The construct validity was measured by convergent validity analysis and discriminant validity analysis. As per convergent validity (Table 01) the average of each construct has more than 0.5. Here attitude on online advertising has an average construct of 0.658 the internet access has 0.694; online advertising 0.674. This means all variables have more than the accepted average. So, we can conclude that all the constructs in the conceptual model have the required convergent validity. It also confirms the decrement validity. The square root of the average has to be higher than the correlation of the construct, and here the (Table 02) shows the sufficient standards of the discriminant validity of the analysis. That means the square root of the average of all the **constructs > correlation**.

Table 1 Convergent Validity

Constructs	$\lambda$	$\lambda^2$	$1-\lambda^2$	CR	AVE	Square root of AVE
AC1	0.754	0.568516	0.431484	0.864	0.675	0.821
AC2	0.795	0.632025	0.367975			
AC3	0.864	0.746496	0.253504			
AC4	0.835	0.697225	0.302775			
AC5	0.823	0.677329	0.322671			
AC6	0.854	0.729316	0.270684			
IC1	0.743	0.552049	0.447951	0.801	0.659	0.812
IC2	0.824	0.678976	0.321024			
IC3	0.756	0.571536	0.428464			

IC4	0.742	0.550564	0.449436			
IC5	0.864	0.746496	0.253504			
IC6	0.846	0.715716	0.284284			
IC7	0.845	0.714025	0.285975			
IC8	0.851	0.724201	0.275799			
IC9	0.825	0.680625	0.319375			
OA1	0.745	0.555025	0.444975	0.854	0.695	0.833
OA2	0.834	0.695556	0.304444			
OA3	0.796	0.633616	0.366384			
OA4	0.846	0.715716	0.284284			
OA5	0.856	0.732736	0.267264			
OA6	0.819	0.670761	0.329239			
OA7	0.863	0.744769	0.255231			
OA8	0.849	0.720801	0.279199			
OA9	0.859	0.737881	0.262119			
OA10	0.865	0.748225	0.251775			

Table 2 Constructs reliability and validity

Variables	CA	CR	AVE
AC	0.832	.864	.675
IC	0.910	.801	.659
OA	0.802	.854	.695

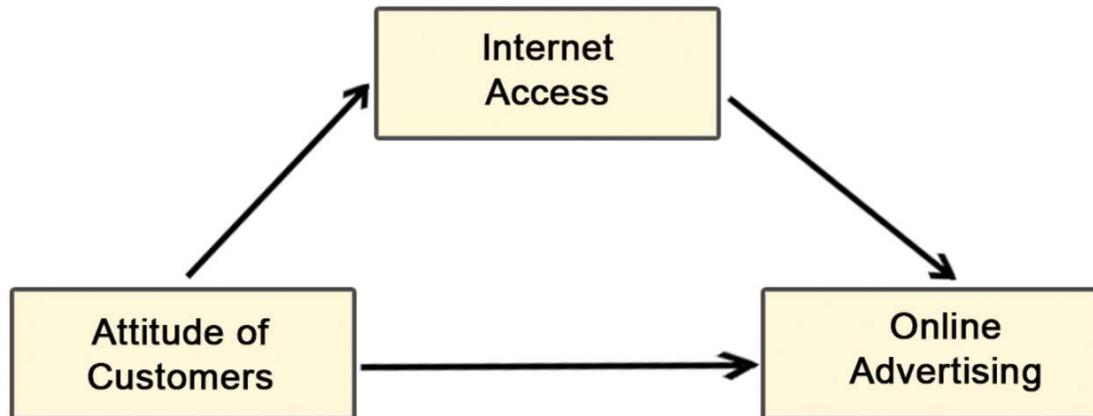
Table 3 Discriminant Validity

Square root of the AVE		↔	Correlation		
AC	0.821	↔	IC	.701	dv>co
IC	0.812	↔	OA	.682	dv>co
OA	0.833	↔	AC	.694	dv>co

Table 4 Model Fit Indices

Factors	Values	Factors	Values
CMIN	2.133	DF	1
Chi-square	2.212	P Value	0.000

AGFI	.932	GFI	0.97
TLI	.942	CFI	.921
RMSEA	.039	RMR	0.022



**Direct effect**

Structural model was analyzed in regard to path coefficients and coefficient of determination (Hair et al., 2017). Table 5 shows that AC was strongly related to IC ( $\beta=0.682$ ,  $t=25.32$   $p < 0.001$ ) and IC was strongly related to OA ( $\beta =0.726$ ,  $t=19.15$   $p < 0.001$ ) and AC predicts OA ( $\beta= 0.711$ ,  $t=33.68$   $p < 0.001$ ) hence conclude direct impact of variables and the related all hypothesis is well supported and accepted.

Table 5 Direct Effect

Hypotheses	Associations	Factor loading	SE	T Values	R <sup>2</sup>	Q <sup>2</sup>	Decisions
H1	AC → IC	.682	0.021	25.32	.465		Supported
H2	IC → OA	.726	0.036	19.15	.527		Supported
H3	AC → OA	.711	0.018	33.68	.505		Supported

**Mediation effect**

In order to evaluate the intervening impacts of IC and the association between AO and OA, preacher and hayes’s 2004 method was applied. the indirect effect of AC through IC to OA ( $\beta_1= 0.326$  with a significant t value of 5.962,  $p < 0.001$ ) these results showed evidence for the mediation effect of IC between AC and OA. Thus, the hypothesis for mediation were well supported table 6.

Table 6 Mediation Effect

Hypotheses	Associations	Indirect effect	SE	T Statistics	95%CI	Decisions
H4	AC→IC→OA	.326	0.023	5.962	0.0231-0.296	Supported

**Discussions and conclusions**

Online advertisements are those advertisements which can be seen on web while surfing through various webpages. The significance of internet usage is rising in people's lives. Therefore, it is strongly advised that marketers increase their online advertising rather than using traditional media (C. M. Lee, et al. 2014). The usage of internet as a medium of communication, internet has tremendous growth in the

creation of global online market for all types of businesses and for the customers. Attitude of customers determines the success and failure of online advertisements. Attitude of customers vary largely towards digital advertising. (G. H. Kerinab Beenu & S. Rathika, 2019).

From this study, it can be seen that online advertisements have a major role in creating awareness about new products among customers and provide much relevant and precise information at low cost with high speed. So, companies can select internet for advertisement and brand promotions. On the sides of customers, they think that online advertising is reliable, useful and informative. Accessibility of internet is also high. Marketers may better build an effective advertisement to influence consumers by considering all the aspects that will affect their attitude toward internet advertising (Al-gamal & Dr. Siddiq, 2018). From this study, it can be understood that most of the respondents are influenced by online advertisements and with the increase in the accessibility of internet, the reachability of online advertisements to the customers has also increased.

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**AN EMPIRICAL INVESTIGATION ON INFLUENCE OF EMPLOYEE RELATIONSHIP  
MANAGEMENT PRACTICES ON WORK LIFE BALANCE OF PRIVATE EMPLOYEES  
WITH MEDIATING EFFECT OF MOTIVATION**

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**Abstract**

**Purpose** - The study focus on the effect of various employee relationship management practices on the work life balance. Since work life balance is a complicated task, management practices focus on motivating employees to have a healthy work life balance. The study focused on private employees and used questionnaire for collecting data. This study showed the positive relationship that exist between employee relationship management practices and work life balance.

**Design/methodology/approach** -The study is directed towards how work life balance is influenced by various employee relationship management practices. This study focuses on private employees in Kerala. Data is collected from 317 private employees using questionnaire. Structural equation modelling (SEM) was adopted in this research, which is considered as a strong multivariate analytical method.

**Findings** - The core focus of this study is to determine the relationship between employee relationship management practices and work life balance when the mediating variable is motivation. The study is conducted on private employees in Kerala state & Tamilnadu state and showed a positive effect on

work life balance when the employee relationship management practices are accompanied with motivation. Employee's mental health and commitment towards organisation increases with financial as well as non-financial motivation given as a part of employee relationship management practices.

**Originality / Value** - This analysis has made a research on the relationship of Employee Relationship Management Practices on Work Life Balance of Private Employees with Mediating Effect of Motivation which has not been theoretically scrutinized and empirically tested.

**Keywords** - Work life balance, employee relationship management practices, motivation, mental health, commitment

### **Introduction**

Since the life of humans are filled with conflicting responsibilities and commitments, work life balance has become a predominant issue in the workplace. Employee relationship management practices are considered to be a pillar of work life balance and employee welfare. This study aims to show the influence of Employee relationship management practices on worker's job motivation and to correct their work-life imbalances. Certain hr practices may can have positive and negative impact. Motivations plays a mediating role in work-life balance on organizational performance. The healthy work life balance will result in the positive outcomes for the employee and for the organisation the employees will be healthy, well rested, stable and may produce favourable outcomes. This may improve productivity and attain overall objectives of the organisation. Motivations need not to be financial always. Non-financial ways like flexible working hours, job rotation, training, job empowerment, refreshments can directly have a positive influence on reducing stress level. Here, we have the research question that this study aims to answer is, "what relationship exist between work-life balance and intrinsic motivation among individuals employed in an organization?".

### **Literature Review**

#### **Relation between employee relationship management practices and work life balance**

Employee relationship is an emerging trend in Human Resource Management. It is a strategy used by managers to maintain mutually valuable relationship with former, current and potential employees. (Stefan strohmeier 2013.)

Work life balance is a balance between responsibilities at work and home. The importance of worklife balance in organisations are increasing because of its benefits. (Samuel Taiwo etal. 2016.) According to Ala addin, Bader and Areej management use different employee relationship techniques that leads to work life balance in telecommunication technology. They says that successful implementation of employee relationship practices helps them to mantain balance between work life and personal life. (Ala Addin etal. 2018) The productivity of an organization depends on work life balance. (Nick bloom etal.,2006). Dr. VeenaLatha in her study stressed that employees' job has an impact on personal life. Management should maintain good employee relationship especially in case of women and promote good work life policy. The heads should concentrate on how to align work life balance needs. (Dr. VeenaLatha 2019).

As a part of maintaining employee relationship management must introduce employee driven solutions for balancing work life. (Indu Goutham et al., 2018). Ritu Sexama also stressed that management should introduce flexible working schedule. . (Ritu Saxena.2018)

Different studies are conducted to discuss the influence of employees relationship management practice on worklife balance. All point out that they are related.

H1: There is significant relationship between employee relationship management practices and work life balance

### **Relationship between Employee relationship Management Practices and Motivation**

Employee Relationship Management Clarify the rights and obligations of both employer and employee. ERM is possible only if the employees are satisfied with their income, promotion, work place environment etc. (Jing Zhang 2021)

Motivated employees are the assets of a company. They consistently look forward to increase their quality of performance. (Nur Shafini et al., 2015). Modern managers use different techniques to motivate employees and managers maintain good relationship with them. It has been observed that the employees attitude towards motivational practices depends on their demographic characteristics. Managers should provide opportunities for career development and job security to motivate employees. (Babita Rawat et al., 2015). Ali and Ahmed revealed that if management altered reward and recognition, there is a corresponding change in work motivation. So managers maintain good employee relationship by providing rewards and recognition. (Ali and Ahmed 2009). Authoritative administrators should target impacting positive representative directs through inspiring them to guarantee that they submit their endeavors. (Dr. Ankar Jain et al.,2019) Majority of the employees believe that good wages and gratitude for a job well done are the motivating factors. Management also ensure that there is a good relationship between colleagues. Employees are motivated if they have a emotional attachment with management (Faisal N et al.,2017). Studies proved that it is very difficult to create and sustain employee relationship. To get motivation, employee relationship must be healthy and international. (Dr. P Parvatham 2022). As a part of ERM, management should provide importance to human needs and desires. Then there would be a corresponding Change in the motivation. (Kumkum Rather et al., 2013)

H2: There is significant relationship between employee relationship management practices and motivation

### **Relationship between Motivation and Work life balance**

Based from previous research, it is known that there are several factors that influence the work life balance of employees. One of the important factors is motivation.

Motivation is the psychological strength, where the individual determines his behaviour in an organization, the level of persistence in overcoming problems, and self-determination towards their work (Tentama & Pranungsari, 2016). Motivation defines a stage that considers the direction and persistence of a person in achieving goals (Kocman & Weber, 2018). The problems with motivation have become a fundamental problem in an organization. Individuals who have a positive attitude

towards work situations show a high level of work motivation, and those who behave negatively towards them will show a low work motivation and getting the jobs are not available to fulfil the company's needs. According to Maslow's theory, work motivation can measure several things such as the need for security, social, appreciation, and self-actualization (Rauan & Tewal, 2019). Work motivation is a potential that exists in humans, developed by outside forces that can affect performance results (Maulana et al., 2020). Motivating employees at work is an essential factor because, with motivation, employees will increase enthusiasm in doing their work so that good results can be achieved (Said et al., 2020).

Work-life balance is a form of satisfaction from an individual in achieving life balance in his work (Hutcheson, 2012). Work-life balance can also be interpreted as a broad concept that involves setting priorities between work and life appropriately. From the employee perspective, work-life balance is a balance between responsibilities at work and home. The company sees these conditions to help employees balance family and work as a benefit of employment. Work-life balance is considered as an individual assessment of how their role in life, namely family and work (Haar, Russo, Suñe, and Ollier- Malaterre, 2014). There are several important aspects of the work-life balance, the resources, the behaviour of individuals, the role of work and non-work. Meanwhile, according to Guest in Orogbu and Chukwuemeke (2015), the determinants of a work-life balance between other work, work culture, family calm, and culture in the family.

According to Mendis and Weerakkody (2017), there are several recommendations that companies can do to improve the work-life balance of their employees, including:

- a. Organizing training programs for employees, such as time management training, effective work management training, personality development training, and life management training
- b. Provides stress management services. This service is provided by presenting psychologists or other experts, to provide confidential support, information, and counselling to employees.
- c. Flexible working hours arrangements, where employees can vary their own work hours according to company rules and guidelines. This program can enable employees to plan workdays in their personal lives, so as to reduce delays, absences, and increase job satisfaction.
- d. Develop an online-based job system
- e. Provide daycare and playground for children in the office, so employees are not too worried about the condition of the child when they are left working and help reduce the stress often experienced by parents
- f. Providing health insurance services for employees

It shows the significance of motivation on work life balance of employees. Employee motivation strategy has been discussed and argued by many literatures to have significant impact on work life balance.

According to Muhammad Thamrin, et. al (2020) Work motivation and work-life balance or balance

between life and work is a psychological need that is a concern in the management of human resources in a company. The existence of good motivation and balance can help employees to be productive, both in their personal lives and improve professional work performance.

H3: There is significant relationship between Motivation and Work life balance

### **Relation between work life balance and employee relationship management practices through motivation**

In this world, for one to have an enjoyable and stress-free life, motivation plays a vital role. Being physically and mentally healthier, the benefit will get reflected into the work life as well as the personal life of the employees. Because in order to have a stable environment, the goals of the employee and the management should be similar. That reflects the subordination of individual interest into group interest.

Employees are the most essential aspect of any successful business. The healthier the employees are at work, the more efficient the business flow will be. However, in order for employees to be good at what they do, they need to be motivated, engaged, productive and effective at work. In most cases, a company culture and environment where employees can feel comfortable and relaxed does the job. Every employee enjoys [recognition in the workplace](#) when they know their hard work isn't going unnoticed, employees will feel demotivated to continue doing well on their job. Showing the appreciation by having a good Employee relationship management practices employees for the job they're doing, either in financial or in non-financial, or both, it show them how much their efforts mean to the company. Congratulating them for successfully completing a job, reaching an important milestone, or an important business goal. And if their effort is noted, sometimes that's worth acknowledgement too. A proper balance between work and life is essential because it can lead to a healthy and Prosperous life for the humans (mentally and physically) according to (johari, tan, zulkarnain, 2018). Work-life balance refers to the level of motivation of a person in balancing between job responsibilities and his / her responsibilities towards family or life. Yordy KA (2018) have shown the challenge of maintaining a balance between career demands and personal life needs while simultaneously achieving satisfaction with work and life, since the hr practices sometimes affect work life balance in a negative way.

This study focus to understand the importance of the relationship between employee relationship management practices and work life balance on the work motivation of an employee. According to Wilton and Ross L(2017), work-life balance is a critical factor that inspires employees to deliver the organization their best results. Organizations will continuously revise situations so as to improve employee's motivation at work and to achieve an organization's overall achievement.

H4: There is significant relationship between Employee relationship management practices, Motivation and Work life balance

### **Pilot Study**

Before starting the core study, a pilot study using private employees in Kerala and Tamil Nadu was done. One hundred and thirty private employees with 6 districts from each state were chosen for the pilot study. There were 80 employees from Kerala and 50 from Tamil Nadu. The validity and reliability of the measured scales were checked in order to guarantee the correlation of any obscurity in the measurement. Based on the suggestions offered by the respondents, a few small changes were made to the questionnaire.

### **Population and Sample**

Every private employees from the various districts in Kerala and Tamil Nadu were equally considered to be part of this study. The analysis has applied judgement sampling technique here. It is a type of non-probability sampling. This sampling method should be carried out by an expert in the field as his judgement will influence the final outcome of the study. The judgement sampling technique is also known as “deliberate sampling” of “purposive sampling”.

The primary data was collected through google forms by a structured questionnaire. The questionnaire consisted of two section. The first section for demographic information and the second one for the evaluation of the conceptual model. A total of 580 questionnaires were circulated through google forms, 400 from Kerala and 180 from Tamil Nadu. A total of 406 questionnaires were collected back. Thus the response percentage was seventy, ensuring reasonable rate of response. Out of 406 questionnaires, 89 questionnaires were rejected due to missing data. Net total of 317 questionnaires consisting of 202 from Kerala (63.7%) and 115 from Tamil Nadu (36.3%) were taken into consideration for the present analysis, ensuring more than 33.33% response rate from each state.

### **Measuring instruments**

#### **Employee Relationship Management Practices**

Employee relationship management practices was measured by adopting self-reported data, the reliability measured by using Alfa score of 0.72. And normality tested by using skewness and kurtosis it is in between -1.96 and +1.96. Here 5 point Likert scale was used 1 – strongly disagree and 5 strongly agree.

#### **Work life Balance**

Work Life Balance was measured by adopting self-reported data, the reliability measured by using Alfa score of 0.75. And normality tested by using skewness and kurtosis it is in between -1.96 and +1.96. Here 5 point Likert scale was used 1 – strongly disagree and 5 strongly agree.

#### **Motivation**

Motivation was measured by adopting self-reported data, the reliability measured by using Alfa score of 0.67. And normality tested by using skewness and kurtosis it is in between -1.96 and +1.96. Here 5 point Likert scale was used 1 – strongly disagree and 5 strongly agree.

#### **Analytical Approach**

This study used structural equation modelling (SEM), which is regarded as a potent multivariate analytical technique. Primary constructs and their interactions can be quickly recognised from the observational data. Furthermore useful for testing the proposed conceptual framework is this tool. A

few descriptive statistics were calculated along with both measurement and structural models. For the final decision-making process, T-Statistics and P-values were calculated with a 95% significance threshold.

### **Demographic statistics**

This analysis consists of 403 respondents of employees and the majority of them belongs to the age group of 30 to 40 (32.6%) years old. 54.3% were male and the remaining 45.7% were female 24.5% of the respondents were belongs to the monthly income group of 30000 to 40000 and the majority were graduated (44.6%, 12% w were professional and the rest belongs to SSLC and Plus Two, The majority 31.4% working in service industry and the rest in manufacturing and other.

### **Normality Test**

We used the skewness-Kurtosis approach to examine the univariate normality of each variable (Byrne, 2013). Skewness gauges a distribution's symmetry. The skewness of the symmetrical dataset will be 0. Kurtosis is a measure of a distribution's "peakiness" (Wolfram MathWorld). Results in this investigation were found to be on their respective, promising scales. With skewness values in the 1.96 to +1.96 range and kurtosis values in the -7 to +7 range, the test validated the univariate distribution's normality. (Byrne, 2013).

### **Measurement Model**

The measurement model was tested by means of Cronbach alpha, composite reliability, convergent validity and discriminant validity. The initial reliability of the construct has been calculated using Cronbach alpha where value should be more that 0.7 and the composite reliability is also more than 0.7. The construct validity was measured by convergent validity analysis and discriminant validity analysis. As per convergent validity (Table 01) the average of each construct has more than 0.5. Here the employee relationship management practice has an average construct of 0.72 the motivation has 0.67; work life balance has 0.75. This means all variables have more than the accepted average. So, we can conclude that all the constructs in the conceptual model have the required convergent validity. It also confirms the decrement validity. The square root of the average has to be higher than the correlation of the construct, and here the (Table 02) shows the sufficient standards of the discriminant validity of the analysis. That means the square root of the average of all the **constructs > correlation**.

Table 1 Convergent Validity

<b>Constructs</b>	$\lambda$	$\lambda^2$	$1-\lambda^2$	<b>CR</b>	<b>AVE</b>	<b>Square root of AVE</b>
EMP1	0.79	0.6241	0.3759	0.902	0.72	0.848
EMP2	0.81	0.6561	0.3439			
EMP3	0.88	0.7744	0.2256			
EMP4	0.83	0.6889	0.3111			
EMP5	0.86	0.7396	0.2604			

EMP6	0.84	0.7056	0.2944			
EMP7	0.89	0.7921	0.2079			
EMP8	0.81	0.6561	0.3439			
EMP9	0.86	0.7396	0.2604			
EMP10	0.91	0.8281	0.1719			
MOV1	0.79	0.6241	0.3759			
MOV2	0.78	0.6084	0.3916	0.86	0.67	0.818
MOV3	0.84	0.7056	0.2944			
MOV4	0.83	0.6889	0.3111			
MOV5	0.85	0.7225	0.2775			
MOV6	0.81	0.6561	0.3439			
MOV7	0.86	0.7396	0.2604			
MOV8	0.76	0.5776	0.4224			
MOV9	0.84	0.7056	0.2944			
MOV10	0.83	0.6889	0.3111			
MOV11	0.81	0.6561	0.3439			
WLB1	0.91	0.8281	0.1719	0.92	0.75	0.869
WLB2	0.93	0.8649	0.1351			
WLB3	0.89	0.7921	0.2079			
WLB4	0.86	0.7396	0.2604			
WLB5	0.79	0.6241	0.3759			
WLB6	0.84	0.7056	0.2944			
WLB7	0.86	0.7396	0.2604			
WLB8	0.88	0.7744	0.2256			
WLB9	0.89	0.7921	0.2079			
WLB10	0.84	0.7056	0.2944			

Table 2 Constructs reliability and validity

Variables	CA	CR	AVE
EMP	0.91	0.902	0.72
MOV	0.88	0.86	0.67
WLB	0.81	0.92	0.75

Table 3 Discriminant Validity

Square root of the AVE		↔	Correlation		
EMP	0.848	↔	MOV	.699	dv>co

MOV	0.818	↔	WLB	.694	dv>co
WLB	0.869	↔	EMP	.701	dv>co

Table 4 Model Fit Indices

Factors	Values	Factors	Values
CMIN	2.33	DF	1
Chi-square	2.16	P Value	0.000,
AGFI	.945	GFI	0.96
TLI	.938	CFI	.931
RMSEA	.041	RMR	0.013

**Direct effect**

Structural model was analyzed in regard to path coefficients and coefficient of determination (Hair et al., 2017). Table 5 shows that EMP was strongly related to MOV ( $\beta=0.691$ ,  $t=21.44$   $p < 0.001$ ) and MOV was strongly related to WLB ( $\beta =0.683$ ,  $t=16.16$   $p < 0.001$ ) and EMP predicts WLB ( $\beta= 0.694$ ,  $t=26.33$   $p < 0.001$  ) hence conclude direct impact of variables and the related all hypothesis is well supported and accepted.

Table 5 Direct Effect

Hypotheses	Associations	Factor loading	SE	T Values	R <sup>2</sup>	Decisions
H1	EMP→MOV	.691	0.022	21.44	.477	Supported
H2	MOV→WLB	.683	0.014	16.16	.466	Supported
H3	EMP→ WLB	.694	0.016	26.33	.481	Supported

**Mediation effect**

In order to evaluate the intervening impacts of MOV and the association between EMP and WLB preacher and hayes’s 2004 method was applied. the indirect effect of MOV through EMP to WLB ( $\beta_1= 0.12$  with a significant t value of 6.632,  $p< 0.001$ ) these results showed evidence for the mediation effect of MOV between EMP and WLB. Thus the hypothesis for mediation were well supported table 6.

Table 6 Mediation Effect

Hypotheses	Associations	Indirect effect	SE	T Statistics	95%CI	Decisions
H4	EMP→MOV→WLB	.412	0.016	6.632	0.016	Supported

**Discussions and conclusions**

Work life balance is highly affected by employee relationship management practices. Motivation is an important tool to examine the employee efficiency in an organization. The purpose of this research

study is to identify and analyse the influence of motivation on work life balance through various employee relationship practices by various organisations. This also enhances employee commitment when motivation is the mediating variable. The results of this study indicate that there is a positive relationship between work life balance and employee relationship management practices, which accept the hypothesis. It provide an insight that motivation enables them to work efficiently and to improve work life balance

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**STUDENT ACADEMIC PERFORMANCE - AN OVERVIEW RELATED TO DIVERSITY IN  
ACADEMIC SUBJECT INTEREST OF STUDENTS AND COGNITIVE MENTAL ABILITY**

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**Abstract**

**Purpose** - Research has emphasized the important role of cognitive ability in the learning process. Academic interests are area of study that intrigue someone. Examples arts, literature, science, social studies, mathematics, computers etc. Academic performance implies to the performance of students learning effect after a period of learning of knowledge and skills. Interest is a motivational power behind the expansion towards proficiency. Education has become highly ambitious and commercial. Research has persistently shown a positive relation between cognitive abilities measured by various psychometric tests and academic achievement. Cognitive ability and academic performance have strong interconnection between them. Education improves the cognitive ability granted on students' knowledge and skills required to gain higher performance and scores on IQ tests.

**Design / Methodology Approach** -The analysis was directed to test how student's diversity in academic subject interest impact student academic performance through mediating variable cognitive mental ability among the college students. Judgement sampling was used to collect data from 413 respondents of college students.

**Findings**

The crux focus of the study is to determine the relationship between Students academic performance and diversity in academic subject interest with the mediation effect of cognitive mental ability of college students. The results of the research show that academic interest contributed significantly in determining the possibilities of the students' academic performance improvement. Table 5 shows that diversity in academic subject interest was strongly related to cognitive mental ability ( $r=0.532$ ,  $t=21.67$   $p < 0.001$ ) and cognitive mental ability was strongly related to Student academic performance ( $\beta=0.611$ ,  $t=6.13$   $p < 0.001$ ) and diversity in academic subject interest predicts student academic performance ( $\beta=0.616$ ,  $t=19.38$   $p < 0.001$  ). Hence the study concludes that there is a direct impact of variables and the related all hypothesis is well supported and accepted.

**Originality / Value** -The analysis has made a research on the relationship of student academic performance and student diversity in academic subject interest directly and through mediating

**variable cognitive mental ability of college students which has not been theoretically scrutinized and empirically tested.**

**Keywords** - Cognitive ability, Academic performance, Diversity in subject interest, On-cognitive skills, Behavioral genetics, Education.

**Introduction**

Students' academic performance is the magnitude to which a student / scholar, tutor or institution has accomplished their short- and long-term educational objectives. Education is regarded as a promotor of human development and seen by many to be in the Centre of any society's life and concern (Luke Molokomphale). Students performance is affected by different factors such as learning abilities gender and race (Hanson 2000)

Academic interests are area of study that intrigue someone. Scholarly interest examples include arts, literature, science, social studies, mathematics, computers etc. Some interests are more specific than others, for example physical health is a more in-depth area than just science. Interest includes likes, dislikes, preferences that tend to distinguish individuals in their daily activities (Joshua 2005) Students have various academic subject interest depending on their family, culture, society, self-motivation, need for achievement etc. Students pay more attention and become more dedicated to what interest them most.

Research has emphasized the important role of cognitive ability in the learning process. Attention has been paid to cultivate strong cognitive ability among students.it refers to the ability of human brain to process, store and extract information including processes such as attention, memory and reasoning ability. To complete an activity successfully cognitive ability is a key psychological element (Sternberg & Sternberg 2009) It was found that cognitive ability directly predicts academic performance and the correlation between the two is as high as 0.38(Rohde& Thompson 2007) cognitive factors has been found to exhibit the greatest predictive power. Academic performance implies to the performance of students learning effect after a period of learning of knowledge and skills. (Zhao 2017) Students with different cognitive ability levels may have diverse performances. Cognitive ability is very obligatory for successful learning. Academic achievement exerts a huge impact on self-concept, motivation and diligence of children (Jayanthi et al. 2014) The educational success contexts is a variable of certain factors such as ability to deal with conceptual and abstract problems and critical thinking and subject interest (Luang et al 2017)

**Literature Review**

**Academic subject interest and student academic performance**

Interest in learning could most probably be a very dominant Perceptual affective psychological and strong knowledge emotion as well as an astounding magnetic positive feeling. Interest describes the cognitive and effective relationship between a student and particular classes of subject's matter. (P. Robert Ramesh Babu ,2019). Interest is a motivational power behind the expansion towards proficiency (Alexander ,1997). Interest leads to high quality learning outcome (Didi, Rennings 2006). Recently research as been directed at integrating interest with different prospect in the field of motivation (Harackiewicz, Duric,2008). Although early research on non-cognitive facts in academic achievement often included interest as a predictor. The analysis of the predictive power of interest has customarily involved in examining whether a systematic relation exists between interest and a certain achievement

criterion (Ulrich Scheifele, Andreas Krapp,1992). The prognosis of achievement in academic setting is a fundamental research space of educational psychology (Gouart.P, Redi. A. S 2011). The pervasiveness of studies conducted to disengage and measure variables relating to academic success mirror the importance of being able to accurately envision individual student performance within the modern education system (Harackiewicz, Durik, Barron, Linen Brink,2008). Be it university admission, course selection, or degree specialization, the reality is that a significant portion of decisions reached in higher education are based on predictions academic achievement and what factors can produce it. Among the cognitive factors that are discussed in relation to academic fame. Interest is one that is often voiced and seldom gives a precise definition. (Hidi, Bairied,1996). At a fundamental level, interest is a plight in which an individual accomplice the certain things or situations with his needs or wants. (Kpolovie, inter, igho, okbto,2014). Interest was an fallout of experience rather than an genetic tendency towards a certain inclination. (Koller et al.,2001). The importance of igniting interest among students with diminished performance given strong hookup to academic performance of students. (long 2019).

H1 : Academic subject interest has significant impact on student academic performance

### **Academic subject interest and cognitive mental ability**

Education has become highly ambitious and commercial. The academic performance or how well a student meets conscience set out by the institutions. Students with more advanced mental ability tend to achieve highly in academic settings. Cognitive abilities are self-sufficient on academic performance. Institutions should embolden to provide cognitive guidance. ( Padmini pooja ,2017). Research has persistently shown a positive relation between cognitive abilities measured by various psychometric tests and academic achievement. (Binet and simon,2018). cognitive mental ability is the most important diviner of academic success in many subjects. (Taub et al.,2008). Cognitive ability, charisma and interest are 3 distinct topics of probe in psychology. (Bartok et al.,2006).

Fluid intelligence refers to the credentials to solve novel problems independent of captured knowledge, the cognitive measures are indicators of fluid intelligence. (Hames F. Baker ,2015). A better compassionate about the liaison between learning styles and cognitive abilities will allow education to amend the class room involvement for students(sehmidt,2002). Previous studies have abstracted on the direct impact of individual level cognitive ability on academic performance (Kuncel et al.,2004). The selective attention, short term memory and reasoning ability directly forsee academic performance and their subject interest. (Rohde and Thompson (2007). The correlation analysis shows that visual space, arithmetic and reading ability are approximately related to academic and subject interest (Liu et al.,2021). there is still no miniature model cognitive ability ambience subject interest and academic performance (Formazin et al.,2011) Even though there is a complex synergy between the cognitive mental ability factors on the subject interest and on their performance.

H2 : Cognitive mental ability have direct impact on academic subject interest.

### **Cognitive Mental Ability and students' academic performance**

Cognitive ability and academic performance have strong interconnection between them. Cognitive development means how children thinks, explore and figure understand their world through interaction. Cognitive ability involving reasoning, planning, problem solving, abstract thinking, complex idea comprehension, and learning from experience. (Gottfredson, 1997). Education improves the cognitive ability granted on students' knowledge and skills required to gain higher performance and scores on IQ

tests (Ritchie, S. J., Bates, T. C., & Deary, I. J. (2015)). cognitive ability predicts positive outcomes throughout the lifespan. (Margherita Malanchini, Kaili Rimfeld and Robert Plomin). Cognitive ability encompasses different forms of intelligent. Different kinds of cognitive abilities are there. General intelligent mainly divided into two. 1. Fluid intelligent; which depends on a person's ability to think, reason, solve problems etc. 2. Crystallized intelligent; It accrued through education and experience such as vocabulary, literacy, numeral and mathematical skill. (Alloway and Alloway, 2015, Blair and Razza, 2007, Molfese et al., 2010, Schubert et al., 2019). The Raven's test, is a picture based patterns test measuring fluid intelligent without requiring language skills (Akresh et al., 2012, Borghans et al., 2008, Raven, 2000). Since early childhood cognitive abilities play a key role in educational pathways. (Anekwe et al., DiGirolamo et al., 2020). Poor material health can cause infant to be born with low birth weights (Bird et al., 2017, Shakya et al., Yilgwan, Utoo, & Hyacinth, 2012), will leading to poor health, which will impact cognitive development (Figlio, Guryan, Karbownik, & Roth, 2014). Students with higher cognitive ability do better in formal education and go on higher level of schooling, result in more earnings (Chua, 2017). Academic performance is linked to mental ability of the students. Mental ability, family environment and academic accomplishment are all are significantly influenced by the academic performance of the students. (Dr Surekha Soni 2020).

H2 : Cognitive mental ability have direct impact on academic subject interest.

### **Students academic performance and diversity in academic subject interest through cognitive mental ability**

When students are not invested in their learning, which may be due to lack of academic interests, they are not as likely to be engaged (Skinner, Furrer, Marchand, & Kindermann, 2008). Lack of student engagement impacts not only their learning, but the learning of others in the classroom

Classroom/ lecture room is regarded as the second homeroom of our students. It is a place where they stay for more hours of a day and share experiences, meet new friends, learn new concepts, share their ideas and interest, clear their doubts and many others. Hence, it plays a significant part to who they will become in the future. Correspondingly, it is a learning space in which students are being taught. It is a room where they gain knowledge and understands about the different aspects of life. This is where most of the student's skills where being trained and enhanced by the teachers and professors in order to prepare them in their future endeavours. Likewise, it is where their attitudes and behaviors are being guided and developed for them to become a well-rounded citizen of the country. Classroom plays a indispensable part in the learning process of the students, it helps to build up their subject interest and create a love and passion towards the subject. Students interest and participation, could have an effect to student's learning. Classroom participation can lead to interesting and fruitful discussions which results to a high level of energy and enthusiasm in the classroom learning environment which will help to achieve outstanding academic performance.

It has been reported that there is a significant relationship which subsist between academic interest of students and achievement in Senior Secondary School Chemistry (Ezike (2018)). This result is tenable because of the role interest plays in various life activities including academics. It is a ingrained fact that the decision to exert extra effort or even to grab in an activity is dictated by the level or degree of interest in an individual.

Besides, interest has to do with a learner's predisposition to react positively in certain ways towards certain aspects of the environment and is usually developed in relation to and remains allied to more

basic motives (Adeyemi, 2014).

Academic performance refers to the extent or measurement of a student's achievements across all their academic subjects. Academic performance could entail a good level of natural intellect, mental ability, and academic excellence, but it could also entail good levels of hard work and perseverance.

Academic performance is among the several components of academic success. Many factors, including socioeconomic status, student temperament and motivation, peer, and parental support influence academic performance. It encompasses academic achievement, attainment of learning objectives, acquisition of desired skills and competencies, satisfaction, persistence, and post-college performance (Kuh et al., 2006; York et al., 2015) student characteristics including temperament, motivation and resilience (Ginsburg and Bronstein, 1993; Farsides and Woodfield, 2003; Beauvais et al., 2014)

H4 : Academic subject interest with cognitive mental ability has significant impact on student academic performance.

### **Pilot Study**

Before the real and original research was performed, a pilot study was conducted among a selected sample of 100 students representing youth from in and around colleges of Palakkad. To ensure correlation reliability and validity is measured and calculated. Data is collected from the selected sample by preparing a five point Likert scale. As per the suggestions and comments of pilot group relevant diversifications are made before starting original research work.

### **Population and Sample**

College going students of in and around Palakkad district is considered as the population of the research. An online questionnaire is circulated to college students. Total 470 questionnaires were given and 413 collected back from them. Majority of respondents are students (85.7%) in the age limit of 17-20. From among the respondents, majority of the students 31.4% are from commerce stream, 21.5% from management stream and the rest were from arts and science stream 47.1%.

### **Analytical Approach**

A strong multivariate analytical method of SEM (Structural Equation Modelling) was endorsed in this research. Primary constructs and their connections can be identified easily with the help of observational data. This tool is also befitting for testing the projected conceptual framework. Along with few descriptive statistics, both measurements and structural models were calculated. T statistics and P values, with a significance level of 95% were measured for the final decision

### **Demographic statistics**

This analysis consists of 413 respondents of college students aged between 17 to 20 (38.8%) and 21 to 25 (61.2%) years old. 48.3% were male and the remaining 51.7% were female. Majority of the students consisting from commerce stream, 31.4%, 21.5% from management stream and the rest were from arts and science 47.1%.

### **Normality Test**

To analyse every variable univariate normality (Byrne,2013) a Skewness -Kurtosis technique was used.

Skewness computed symmetry in distribution. The symmetrical dataset will have a skewness equal to 0. Kurtosis is the grade of “peakedness of a distribution” (Wolfram Math World) The results were triggered in their promising scales, independently in this research. The test holds on to the univariate distribution normality with skewness values within the -1.96 to + 1.96 range and kurtosis values within -7 and + 7 range. (Byrne, 2013).

**Measurement Model**

The measurement model was tested by means of Cronbach alpha, composite reliability, convergent validity and discriminant validity. The initial reliability of the construct has been calculated using Cronbach alpha where value should be more that 0.7 and the composite reliability is also more than 0.7. The construct validity was measured by convergent validity analysis and discriminant validity analysis. As per convergent validity (Table 01) the average of each construct has more than 0.5. Here attitude on online advertising has an average construct of 0.658 the internet access has 0.694; online advertising 0.674. This means all variables have more than the accepted average. So, we can conclude that all the constructs in the conceptual model have the required convergent validity. It also confirms the decrement validity. The square root of the average has to be higher than the correlation of the construct, and here the (Table 02) shows the sufficient standards of the discriminant validity of the analysis. That means the square root of the average of all the **constructs > correlation**.

Table 1 Convergent Validity

Constructs	$\lambda$	$\lambda^2$	$1-\lambda^2$	CR	AVE	Square root of AVE
DAS1	0.87	0.7569	0.2431	0.867	0.678	0.823
DAS2	0.91	0.8281	0.1719			
DAS3	0.88	0.7744	0.2256			
DAS4	0.83	0.6889	0.3111			
DAS5	0.78	0.6084	0.3916			
DAS6	0.75	0.5625	0.4375			
DAS7	0.78	0.6084	0.3916			
DAS8	0.79	0.6241	0.3759			
DAS9	0.81	0.6561	0.3439			
CMA1	0.83	0.6889	0.3111	0.932	0.764	0.874
CMA2	0.93	0.8649	0.1351			
CMA3	0.89	0.7921	0.2079			
CMA4	0.86	0.7396	0.2604			
CMA5	0.91	0.8281	0.1719			
CMA6	0.94	0.8836	0.1164			
CMA7	0.85	0.7225	0.2775			
CMA8	0.86	0.7396	0.2604			
CMA9	0.87	0.7569	0.2431			
CMA10	0.84	0.7056	0.2944			
CMA11	0.83	0.6889	0.3111			
SAP1	0.84	0.7056	0.2944	0.851	0.66	0.812
SAP2	0.89	0.7921	0.2079			

SAP3	0.82	0.6724	0.3276			
SAP4	0.83	0.6889	0.3111			
SAP5	0.79	0.6241	0.3759			
SAP6	0.76	0.5776	0.4224			
SAP7	0.75	0.5625	0.4375			
SAP8	0.79	0.6241	0.3759			
SAP9	0.81	0.6561	0.3439			
SAP10	0.84	0.7056	0.2944			

Table 2 Constructs reliability and validity

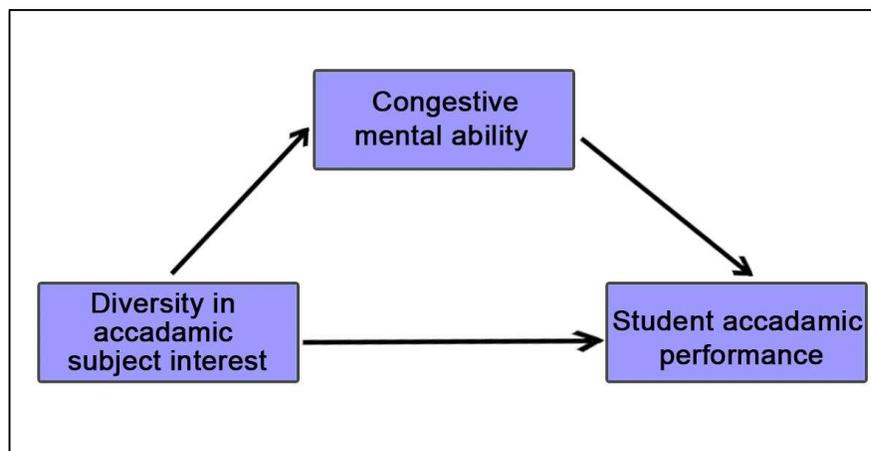
Variables	CA	CR	AVE
DAS	0.811	.867	.678
CMA	0.846	.932	.764
SAP	0.880	.851	.660

Table 3 Discriminant Validity

Square root of the AVE		↔	Correlation		
DAS	0.823	↔	CMA	.608	dv>co
CMA	0.874	↔	SAP	.599	dv>co
SAP	0.812	↔	DAS	.646	dv>co

Table 4 Model Fit Indices

Factors	Values	Factors	Values
CMIN	2.167	DF	1
Chi-square	2.143	P Value	0.000,
AGFI	.944	GFI	0.911
TLI	.901	CFI	.913
RMSEA	.022	RMR	0.016



**Direct effect**

Structural model was analyzed in regard to path coefficients and coefficient of determination (Hair et al., 2017). Table 5 shows that DAS was strongly related to CMA ( $\beta=0.532, t=21.67 p < 0.001$ ) and CMA was strongly related to SAP ( $\beta =0.611, t=6.13 p < 0.001$ ) and DAS predicts SAP ( $\beta= 0.616, t=19.38 p < 0.001$ ) hence conclude direct impact of variables and the related all hypothesis is well supported and accepted.

Table 5 Direct Effect

Hypotheses	Associations	Factor loading	SE	T Values	R <sup>2</sup>	Decisions
H1	DAS→ CMA	.532	0.011	21.67	.283	Supported
H2	CMA →SAP	.611	0.027	6.13	.373	Supported
H3	DAS → SAP	.616	0.017	19.38	.379	Supported

**Mediation effect**

In order to evaluate the intervening impacts of CMA and the association between DAS and SAP preacher and hayes’s 2004 method was applied. the indirect effect of CMA through DAS to SAP ( $\beta_1= 0.316$  with a significant t value of 4.46,  $p< 0.001$ ) these results showed evidence for the mediation effect of CMA between DAS and SAP. Thus, the hypothesis for mediation were well supported table 6.

Table 6 Mediation Effect

Hypotheses	Associations	Indirect effect	SE	T Statistics	95%CI	Decisions
H4	DAS→CMA→SAP	.316	0.011	4.46	0.025	Supported

**Discussions and conclusions**

Education has become highly competitive and commercial. In educational institutions success is measured and calculated on the basis of academic performance, which in turn is mostly affected by cognitive ability. Academic performance is the ultimate result of their cognitive and non-cognitive factors (Lee & Shute,2010). Academic performance is energetically and fully associated with future achievements. Those who are more successful at their academics, are very bright at their cognitive mental ability. The current study results showed that all cognitive components and academic performance are related. Cognitive abilities such as planning, monitoring impulse controlling, recollecting facts are crucial for all areas of learning. Subject interest is a cognitive and affective motivational variable that is dependent on cognition. A learner typically may has four to six reasonably well-developed interests and can develop new interests at any age – although the types of supports that are likely to be needed may be different based on age and experience (Renninger, 2009 ). Thus this research ensure that cognitive mental ability and subject interest of students helps to achieve their exceptional and excellent academic performance.

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## **SOCIAL ATTITUDE PROPELS TECHNOLOGY INTEGRATION IN AGRICULTURE TO IMPROVE PRODUCTIVITY: A FACTUAL ANALYSIS**

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### **Abstract**

**Purpose** -Technology integration has crucial role in the development of farming sector through the enhancement of productivity. The history of farming, especially, in developed countries reveals how the advanced techniques has been propelling agricultural output during last four decades. The Indian government along with state and local authorities initiated multifarious approaches to trigger off technology adoption in agricultural sector. With the advent of science and technology education, social attitude has got a drastic change and mediated the impact of technology in primary sector. This paper throws light on how social attitude change has persuaded the farmers to do farming on scientific line.

**Design/methodology/approach** -The analysis was directed to test how technology impact agricultural production directly and also through mediating variables, attitudinal changes among the farming community of rural India. Judgement sampling was used to collect data from 522 respondents of farming community in rural districts of Kerala.

**Findings**- In the research all the hypothesis were well supported and accepted by the analysis. The

structural model was analysed to find coefficients and coefficient of determination. SA was strongly related to TI ( $\beta=0.592$ ,  $t=29.12$   $p < 0.001$ ) and TI was strongly related to PD ( $\beta =0.631$ ,  $t=8.35$ ) and SA predicts PD ( $\beta= 0.521$ ,  $t=26.64$  ). This shows direct impact of variables. From the Hayes's 2004 method, intervening impacts of TI and the association between SA and PD preacher was evaluated. The indirect effect of SA through TI to PD ( $\beta_1= 0.256$  with a significant t value of 9.46,  $p < 0.001$ ) these results showed evidence for the mediation effect of TI between SA and PD. Thus, the analysis supports the hypothesis for mediation. The research analysis validates high dependency of production in agricultural sector on social attitude and technology used in production. Reciprocally, social attitude has direct impact on technology used and productivity in agricultural sector. The results of testing the hypothesis reveals that the dependent variable, viz productivity, is substantially predicted by social attitude directly and also through specific indirect mediating variable technology at a 95% level of confidence

**Originality/value-** This analysis has made a research on the relationship of technology integration and enhanced production in primary sector directly and through mediating variables like positive attitude, good motivation, honouring and satisfaction of farmers in rural India, which has not been theoretically scrutinized and empirically tested.

**Keywords -** Technology integration, social attitude, moisture sensors, GPS technology.

## **Introduction**

Development of agricultural sector is considered as an essential pre-requisite for the total development of the economy especially for a developing country like India. The history of developed countries shows the prior development of agricultural sector providing impetus to industrial and service sectors development. For majority of people in India, agriculture has been the life and means of sustenance. More than 50% of our country's population is directly or indirectly dependent upon agriculture (Onima et al., 2017). It is commonly held that the success or failure of an enterprise depends on attitude of the entrepreneur towards it and agriculture is not an exception. The attitudes of the farmers have far reaching consequence on the improvement of professionalism, selection of technology on farming and finally affecting the quantity and quality of the product produced (Nataraju et al. 2019). The term 'attitude' simply refers to the degree of positive or negative disposition towards a programme, enterprise, innovation, object and so on (Likert, 1932). Social attitude plays a crucial role in motivating farming activities. In developing countries like India, status of farmers in society had not been up to the level to sustain them in the same enterprise. However, the efficient education system has tried to improve the societal attitude towards agriculture. The research studies (Hema Thripathi et al, 2018) revealed that nearly 75 per cent of the rural youth had moderately favourable attitude towards farming. This study tries to investigate the extent to which the social attitude towards farming activity affects enhancement of technology use thereby improving agricultural productivity

## **Literature review**

**Social attitude impacting the choice of technology in agricultural production.**

Encouraging farmers to adopt digital technology and mobile devices in farming practices has become a policy priority in word wide. Social attitude is individual attitude directed towards social objects. The crop productivity decreases when the farmers use old traditional means of farming. The farmers do not take the risk of new technology and do not make a favourable attitude towards innovation. Some of the reason is that the farmers are illiterate and lack of knowledge, they cannot operate mode on technology on their field. Through educating, motivate technology skills and classes of influential community readers that led to the positive attitude to farmers towards innovative agriculture technology that can finally solved the solution of food crisis in the country. In Bihar the study deals with level of adoption of modern agriculture technology and it affects in production of farming (Tiwari, Sushama et al. 2021). Another study suggest that the farmers knowledge, attitude and adoption of smart agriculture technology in Taiwan is less in the year 2017-18. ([www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov)). Developing nations like India are cable to get self-sufficiency in food production after green revolution. The study of Anantapur district of Andhra Pradesh for the duration of the year 2017-18 reveals that the attitude of farmer in use of ICT tools are very low. Advances in machinery have expanded the speed and productivity of farm equipment leading to more efficient cultivation of more land. Seed, irrigation and fertilizers also have vastly improved helping farmers increase yields. In Italy study was held on attitude and behaviour of adopters of technological innovation in agricultural tractors. Majority of farmers were not willing to use innovative tractors and others were traditional machine. Some groups ready to accept the innovative tractors for better future. Agriculture is one of the most important sector in Bangladesh which could be benefitted tremendously with the application of ICT. Most of the farmers were ready to accept new technology and innovation when we compare to any other country of the world.

H1 : Social attitude has significant impact on choice of technology and its improvement.

**Improvement in agricultural technology has crucial role in enhancing agricultural productivity.**

One can hardly exaggerate the role of technology in augmenting agricultural productivity. The economic history of most of the developed countries reveals the unique role played by technology in agricultural sector. Even though application of advanced technology in Indian agriculture has some challenges, the benefits of use of technology in agriculture and the subsequent initiative by corporate, government and local bodies to incorporate technology into agriculture show a promising future. The use of technology has led to a drastic improvement in food productivity and it has also removed concerns relating to scarcity of food in the future (Parke, Conor. 2015). In developing countries, there are two major drivers of successful agricultural technology (Foster, A.D. & M.R. Rosenzweig, 2010). These are availability (with affordability) in technology and farmer's expectation of profit. Since science and technology is ever advancing, the scope of its application has been widening. Farmers of developing countries must tap this technology potential to improvise and increase agricultural production which in turn help to reduce core inflation and poor people's access to nutritious food. (Rehman, Abdul et al. 2016). Indian economy visualizes a strong need for the Indian farmers to get familiarize with information technology, bio-technology, nanotechnology, high-tech protected

cultivation and modern irrigation methods for efficient growth and development of agricultural sector. The efficient use of these technologies will improve agricultural productivity and profitability and help to enhance in sustaining livelihood opportunities for the farmers (Radhika Kapur, 2018). The adoption of improved technologies has shown a positive impact on agricultural productivity and agricultural production. More specifically, these have an impact on increasing farmers' income, conserving natural resources, improving input use efficiencies, generating employment opportunities and promoting diversification. It also generated employment opportunities in the non-farm sector through strong linkages between farm and non-farm sectors (P.K. Joshi & Deepak Varshney, 2022)

H2: Technology improvement has significant impact on agricultural productivity.

### **Social attitude directly affecting agricultural productivity**

Attitude is the degree of positive or. negative disposition / association towards an. innovation, object, programme, enterprise etc. Agriculture supports about 60% of employment but contributes only 17% to GDP. Every day, there are reports of Indian farmer suicides from different parts of the country. Attitude toward sustainable agriculture are Religious and spiritual values, quality of life, access to information, personal characteristics, and attitudes of reference group are the factors, which influence farmers' belief system and contribute toward formation of sustainable agricultural beliefs. (Specht, K. et al. 2016). The superstitious beliefs stand in the way of improvement of agricultural productivity. Hence, the farming community should be freed from the clutches of superstitious beliefs. Also, belief in magic and witchcraft negatively affects attitudes towards sustainable agricultural productivity. (Boaz Karioki Onyanha, 2014). Extension services can do miracles in the enhancement of agricultural production. There is need to stimulate youths' interest in agriculture through effective extension services (A. Aphunu. & B.I.O. Akpobasa 2014). Farm transitions are influenced by farm family dynamics, socio-cultural values, land tenure, succession, and community factors in addition to economic conditions. Social forces and cultural factors are important to farm household survival and succession, it is often difficult to pinpoint what the issues are and how to address them. In order to address the social and cultural factors impacting farm transition, it is important to recognize the demographic, social, and cultural differences among producers and examine how well current policies and programs respond to these differences.

H3: Social attitude has direct impact on agricultural productivity

### **Mediating role of technology on the relationship between social attitude and productivity**

Today's agriculture routinely uses sophisticated technologies such as robots, temperature and moisture sensors, aerial images, and GPS technology. These advanced devices and precision agriculture and robotic systems allow businesses to be more profitable, efficient, safer, and more environmentally friendly. Several reasons are associated with the discontinuance of innovations like complexity of innovations, unavailability of inputs, non-suitability of innovations to field condition, high maintenance cost etc. There are a number of factors that determine the extent of adoption of

technology, such as attributes of the technology, objective of the farmer, characteristics of the change agent as well as the socio-economic, biological, and physical environment in which the technology is introduced. The agriculture industry has radically transformed over the past 50 years. Advances in machinery have expanded the scale, speed, and productivity of farm equipment, leading to more efficient cultivation of more land. Seed, irrigation, and fertilizers also have vastly improved, helping farmers increase yields (Peter Howley, 2012). The use of artificial insemination (AI) has been of enormous economic benefit for dairy farmers in many countries such as Ireland through the genetic improvement of their stock. Modelling the farm factors driving the uptake of AI enables the understanding of the differences between various types of landowners which should in turn better equip policymakers to design policies and programs that efficiently promote good reproductive management (Mamudu Abunga Akudugu, 2012). Farm size, expected benefits from technology adoption, access to credit and extension services are the factors that significantly influence technology adoption decisions of farm households in the study area. Farm households' agricultural technology adoption decisions depends on their socio-economic circumstances and institutional effectiveness (Aromolaran A. Kazeem et al. 2017). To enhance adoption, training of the farmers is required. However, the attitude of farmers towards training could influence their decision on the uptake of agricultural innovation. While farmers' attitude towards training exerted a positive, howbeit minuscule influence on technology adoption, the perception of farmers about constraints to training on technologies had a stronger influence. Factors with a significant negative influence on adoption include, among others, diversification into non-farm occupations and age of farmers. Although the study admits that stimulating favourable attitudes is important for innovation adoption, it maintains that substantial rates of adoption will only be achieved if constraints to trainings on agricultural technology adoption are addressed from the farmers' perspective and if agricultural production becomes attractive enough to hold farmers within the sector (Muhammed Nizar, et al, 2022). The productivity decreased when the farmers use old traditional means of farming, do not take the risk of new technologies and other inputs, the influence and opinion lead inside the communities do not make the favorable attitude of the farmers towards innovations, and or due to illiteracy and lack of knowledge they cannot operate modern technology on their fields. Through educating, imparting technical skills, and through influential community leaders, the favorable attitude of farmers towards innovative agricultural technologies can be formed which can solve the solution of food crises in the country (Chuang, Jui-Hsiung, et al. 2020). Smart agriculture (SA) has since been recognized as an influential trend contributing to agricultural development. Therefore, encouraging farmers to adopt digital technologies and mobile devices in farming practices has become a policy priority worldwide (R.K.P. Singh et al, 2015). Among socio-economic, technological and managerial reasons, ineffective transfer of farm technology are important causal factors for poor performance of agriculture. Transfer of technology has been the major obstacle in achieving the targets in past. Present study deals with level of adoption of modern agricultural technology, access and quality of modern technology, outreach of agricultural extension institutions and problems faced by extension officials in transfer of farm technology. Adoption level of artificial insemination is comparatively high due to active

participation of cooperatives and private sector, but less than one fourth of farmers could adopt advanced horticulture and modern crop seeds. Small size of land holding and fragmented land emerged as main constraint to adoption of modern horticultural technology. However, inadequate staff, infrequent supervision and lack of conveyance facility are most important constraints faced in transfer of technology.

H4: Social attitude with integration of technology has significant impact on agricultural productivity.

### **Pilot study**

Before commencing the core study, pilot study of the questionnaire was conducted with marginal farmers in rural districts of Kerala and Tamil Nadu. Five districts from each state were selected and one hundred and twenty farmers were selected for the pilot study. Fifty farmers were from Tamil Nadu and seventy from Kerala. To ensure correlation of any obscurity in the measurement, the validity along with reliability of the measured scales were verified. Some minor corrections were made to the questionnaire based on the feedback suggested by the respondents.

### **Population and sample**

Every farmer from the rural districts Kerala and Tamil Nadu were equally considered to be part of this study. The analysis has applied judgement sampling technique here. It is a type of non-probability sampling. This sampling method should be carried out by an expert in the field as his judgement will influence the final outcome of the study. The judgement sampling technique is also known as “deliberate sampling” of “purposive sampling”.

The primary data was collected through google forms by a structured questionnaire. The questionnaire consisted of two section. The first section for demographic information and the second one for the evaluation of the conceptual model. A total of seven hundred and fifty questionnaires were circulated through google forms, four hundred from Kerala and three hundred and fifty from Tamil Nadu. A total of 480 questionnaires were collected back. Thus, the response percentage was sixty-four, ensuring reasonable rate of response. Out of 480 questionnaires, 71 questionnaires were rejected due to missing data. Net total of 409 questionnaires consisting of 222 from Kerala (55.5%) and 187 from Tamil Nadu (53.4%) were taken into consideration for the present analysis, ensuring more than 50% response rate from each state.

### **Measuring instruments**

#### **Social attitude**

Social attitude was measured by adopting self-reported data, the reliability measured by using Alfa score of 0.91. And normality tested by using skewness and kurtosis it is in between -1.96 and +1.96. Here 5 point Likert scale was used 1 – strongly disagree and 5 strongly agree.

#### **Technological integration**

Technological integration was measured by adopting self-reported data, the reliability measured by using Alfa score of 0.926. And normality tested by using skewness and kurtosis it is in between -1.96 and +1.96. Here 5 point Likert scale was used 1 – strongly disagree and 5 strongly agree.

#### **Productivity**

Productivity was measured by adopting self-reported data, the reliability measured by using Alfa score of 0.882. And normality tested by using skewness and kurtosis it is in between -1.96 and +1.96. Here 5 point Likert scale was used 1 – strongly disagree and 5 strongly agree.

**Analytical approach**

The study has adopted structural equation modelling (SEM) since it is considered as the strong multivariate analytical method. Primary constructs and their relationships can be identified easily from the observational data. This tool is also apposite for testing the projected conceptual framework. Along with the descriptive statistics, both measurement and structural models were calculated. With a level of significance 95%, T-Statistics and P values were measured.

**Demographic statistics**

This analysis consists of 409 respondents of agriculturists aged below 25 (16%) and 25 to 49 (42.6%) and the rest have above 41.4%) years old. 72.8% were male and the remaining 27.2% were female. Majority of respondents were under graduates and 63.2% taken agriculture as main occupation and majority have the income group below one lakh. (74.3%)

**Normality Test**

In order to analyse every variable’s univariate normality (Byrne, 2013), a skewness-kurtosis method was adopted. Symmetry of the distribution is measured by skewness. The symmetrical data set will have skewness value equal to zero. The “peakedness of a distribution” is graded by Kurtosis (Wolfram MathWorld). The results were found in their promising scales respectively in this analysis. The univariate distribution of normality with skewness values within the -1.96 to +1.96 range and kurtosis values within -7 and +7 range was supported by the test. (Byrne, 2013).

**Measurement Model**

The measurement model was tested by means of Cronbach alpha, composite reliability, convergent validity and discriminant validity. The initial reliability of the construct has been calculated using Cronbach alpha where value should be more than 0.7 and the composite reliability is also more than 0.7. The construct validity was measured by convergent validity analysis and discriminant validity analysis. As per convergent validity (Table 01) the average of each construct has more than 0.5. Here Social attitude on productivity has an average construct of 0.6526 the technology improvement has 0.6864; productivity has 0.722. This means all variables have more than the accepted average. So, we can conclude that all the constructs in the conceptual model have the required convergent validity. It also confirms the decrement validity. The square root of the average has to be higher than the correlation of the construct, and here the (Table 02) shows the sufficient standards of the discriminant validity of the analysis. That means the square root of the average of all the **constructs > correlation**.

Table 1 convergent validity

constructs	$\lambda$	$\lambda^2$	$1 - \lambda^2$	CR	AVE	Square root of AVE
SA1	0.78	0.6084	0.3916	0.9087	0.6526	0.8078
SA2	0.72	0.5184	0.4816			

SA3	0.83	0.6889	0.3111			
SA4	0.81	0.6561	0.3439			
SA5	0.86	0.7396	0.2604			
SA6	0.73	0.5329	0.4671			
SA7	0.79	0.6241	0.3759			
SA8	0.84	0.7056	0.2944			
SA9	0.91	0.8281	0.1719			
SA10	0.79	0.6241	0.3759			
TI1	0.9	0.81	0.19	0.8993	0.6864	0.8284
TI2	0.83	0.6889	0.3111			
TI3	0.84	0.7056	0.2944			
TI4	0.71	0.5041	0.4959			
TI5	0.92	0.8464	0.1536			
TI6	0.85	0.7225	0.2775			
TI7	0.88	0.7744	0.2256			
TI8	0.77	0.5929	0.4071			
TI9	0.73	0.5329	0.4671			
PD1	0.93	0.8649	0.1351	0.9162	0.7220	0.8497
PD2	0.85	0.7225	0.2775			
PD3	0.73	0.5329	0.4671			
PD4	0.81	0.6561	0.3439			
PD5	0.88	0.7744	0.2256			
PD6	0.81	0.6561	0.3439			
PD7	0.79	0.6241	0.3759			
PD8	0.78	0.6084	0.3916			
PD9	0.92	0.8464	0.1536			
PD10	0.93	0.8649	0.1351			
PD11	0.89	0.7921	0.2079			

Table 2 Constructs reliability and validity

Variables	CA	CR	AVE
SA	0.910	0.908	0.652
TI	0.926	0.899	0.686
PD	0.882	0.916	0.722

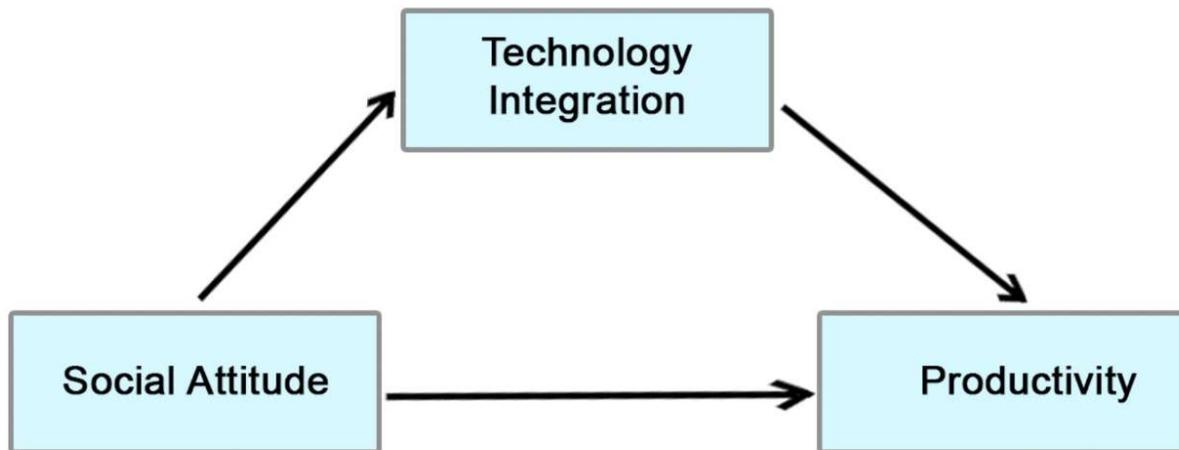
Table 3 Discriminant Validity

Square root of the AVE		↔	Correlation		

SA	0.807	↔	SA	.721	dv>co
TI	0.828	↔	TI	.631	dv>co
PD	0.849	↔	PD	.692	dv>co

Table 4 Model Fit Indices

Factors	Values	Factors	Values
CMIN	2.21	DF	1
Chi-square	2.33	P Value	0.000
AGFI	.931	GFI	0.901
TLI	.922	CFI	.932
RMSEA	.029	RMR	0.023



**Direct effect**

Structural model was analyzed in regard to path coefficients and coefficient of determination (Hair et al., 2017). Table 5 shows that SA was strongly related to TI ( $\beta=0.592$ ,  $t=29.12$   $p < 0.001$ ) and TI was strongly related to PD ( $\beta =0.631$ ,  $t=8.35$ ) and SA predicts PD ( $\beta= 0.521$ ,  $t=26.64$  ) hence conclude direct impact of variables and the related all hypothesis is well supported and accepted.

Table 5 Direct Effect

Hypotheses	Associations	Factor loading	SE	T Values	R <sup>2</sup>	Decisions
H1	SA → TI	.592	0.031	29.12	.350	Supported
H2	TI → PD	.631	0.037	8.35	.398	Supported
H3	SA → PD	.521	0.014	26.64	.271	Supported

**Mediation effect**

In order to evaluate the intervening impacts of TI and the association between SA and PD preacher and hayes’s 2004 method was applied. the indirect effect of SA through TI to PD ( $\beta_1= 0.256$  with a

significant t value of 9.46,  $p < 0.001$ ) these results showed evidence for the mediation effect of TI between SA and PD. Thus the hypothesis for mediation were well supported table 6.

Table 6 Mediation Effect

Hypotheses	Associations	Indirect effect	SE	T Statistics	95%CI	Decisions
H4	SA→TI→PD	.256	0.018	9.46	0.022-0.396	Supported

### Discussions and conclusion

One can hardly exaggerate the role of social attitude in augmenting productivity especially in farming sector. A positive attitudinal change can initiate significant improvement in agricultural production. Farmers attitude towards the selection of recommended technology increased the productivity of variety of crops even in dry land area (Mayank Singh, 2012). The attitudinal changes of the farmers are of crucial importance for the exponential growth of the agricultural sector. Positive attitude towards farming activities paves way to adoption of innovative methods which in turn leads to integration of technology. The adoption of technology propelled by these positive attitudes can give boost to the real production of agricultural goods. Availability and affordability are the two major drivers of successful agricultural technology in developing countries and this determines the extend to which the farmers are risk averse. In India, farming is not more considered as a subsistence activity and has switched over to commercial activity. The new U turn economic policy implementation since 1991 has changed the attitude towards farming in India (Mahadevan, Renuka 2003). The introduction of information technology along with other innovative techniques like GPS locators, computer monitoring system etc. enhanced the production. In future, there is high potential for introducing robotic technology for inputs matching, pest controlling, fertilizing and monitoring which adds momentum to the process. Thus, the study safely concludes the multifarious impact of social attitude along with technology as mediation in the growth of production in agricultural sector.

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**MEDIATING ROLE OF E-TRAINING ON THE RELATIONSHIP BETWEEN EFFECTIVENESS OF FEEDBACK SYSTEM AND JOB PERFORMANCE OF HIGHER EDUCATION TEACHERS**

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**Abstract**

**Purpose** – Unexpected shift of teaching from classrooms to electronic mode and the need for equipping teachers to master online teaching compelled the educational institutions to conduct e-training. The purpose of the study is to identify the effectiveness of feedback system in enhancing job performance of higher education teachers. The study attempts to know the impact of the e-training on job performance of college teachers. The study also finds the mediating role of e- training in the relationship between effectiveness of feedback system and job performance higher education teachers.

**Design/ methodology/ approach** – The study was conducted with the help of a survey among the college teachers of Kerala. Data collected from 396 respondents.

**Findings** –Results of the Structural Equation Model used in the study supported all the hypotheses framed by the researchers. It is clear that Effectiveness of Feedback System strongly contribute towards the effectiveness of training ( $\beta=0.589$ ,  $t=36.33$   $p < 0.001$ ) and Effectiveness of training strongly related to Job Performance ( $\beta =0.631$ ,  $t=12.48$   $p < 0.001$ ). Effectiveness of feedback system predicts Job performance ( $\beta= 0.683$ ,  $t=16.16$   $p < 0.001$ ). Results also indicate the evidence for mediation effect of Effectiveness of Training between Effectiveness of Feedback system and Job Performance.

**Originality/Value**

This study has made a research in the relationship of effectiveness of feedback system and job performance of college teachers and through mediating variables like online training, good motivation, and positive feedback of college teachers of Kerala, which has not been theoretically scrutinized.

**Keywords:** E- training, Digital platform, Constructive feedback system and Employees behavioral performance

## Introduction

Covid19 pandemic affected almost all sectors and education is not an exception. Sudden shutdown and need for social distance resulted in various innovations in education sector and the major innovation is the digitalization of education system (India Today Web Desk, May 5, 2021). Education sector has changed dramatically and the shutdown of educational institutions during the pandemic compelled the teachers to move the teaching learning process to digital platforms. The shift was a big challenge to teachers. Most of the higher education teachers were not prepared and adopted the digital platform with the existing curriculum and without proper planning. The need for training is reported by teachers especially in information and technology (Schleicher, 2020). Training is considered as a long term investment which helps impart skills and improve professionalism of teachers (Junejo, Sarwar, & Ahmed, 2017). Training programmes have positive significant relationship with student achievement (Harris and Sass, 2011). Authorities of higher education departments are conducting real time and self-paced e-training programmes to equip the teachers to handle online classes. The effectiveness of these efforts taken by higher education institutions should be assessed to know the how these training programmes are contributing towards the success of teaching-learning process in digital platform.

Another important factor that contribute towards the job performance of teachers is the feedback system prevailing in the institutions. Feedback is important for lecturers of higher education and has a vital influence on students' learning process (Hattie & Timperley, 2007). Higher education institutions are bound to take feedback of students. Many of the institutions are having quality assurance cell to take actions based on students' feedback. Feedback by superiors arising through the performance appraisal system of the institutions is also expected to make a positive impact of teachers' performance in higher education.

The study aims to assess the effectiveness of feedback system and e training of higher education institutions of Kerala. It also assesses the contribution of effectiveness of feedback system and e-training on job performance of the college teachers. The study aims to assess the mediating role of effectiveness of e-training in the relationship between feedback system and Job performance of Higher Education teachers

## Review of Literature

### Feedback System and Job Performance

Outcome and success of every organization is depends on how well the employees are performing the job assigned to them. Since performance is an important criteria that decides outcome and success no organization can get away from the task of initiations to improve the performance. An evaluation of employees job performance has to be done to know far the initiatives taken by the organist ion is effective. Job performance of a particular employee can be rated by superiors, subordinate, colleagues and the employees themselves. Self-evaluation by the employees is tending to be more reliable than other raters. (DeNisi & Murphy, 2017). Although level three of Kirkpatrick (1996) model is important in deciding the application of training, the level does not guarantee that there will be a positive impact on organization (Heidi Kramer, 2007) Separate assessment has to be done to evaluate the job performance of employees. The Individual Work Performance Questionnaire (Koopmans, 2015) is a self-report scale that uses task performance, contextual performance and counterproductive behavior to measures the job performance. Feedback on employee performance acts as a basis to develop employees' behaviour performance (Tata. 2002). A constructive feedback system supports a healthy process of change and results in increased motivation of employees (Greguras, Ford, and Brutus (2003). Steelman, Levy and Shell (2004) developed

and validated the Feedback Environment Scale (FES) for diagnosing the feedback system in organization. FES uses two source of feedback (supervisor & co –worker) and seven facet to evaluate the feedback system. Source credibility, feedback quality, source availability, feedback delivery, favourable feedback, unfavourable feedback, and promote feedback delivery are the seven facet used in FES. Mosquera, Eduarda and Ribeiro (2018) in their study used the first four facets of FES to evaluate the feedback environment. The decision was due to parsimony concern and to limit the length of questionnaire. They used only one source of feedback (supervisor). The present study also used first four facets of Feedback Environment Scale developed by Steelman, Levy and Shell (2004). First facet credibility evaluates expertise and trustworthiness, Consistency and usefulness of feedback is studied by the second facet feedback quality. The third facet source availability assesses the amount of contact with source and ease of obtaining feedback. The way the feedback is delivered comes under the fourth facet feedback delivery. An effective feedback system will raise the job performance of employees and thus the following hypothesis is framed:

H<sub>1</sub> : Effectiveness of Feedback system has significant role in enhancing Job Performance

### **E-training effectiveness and Job Performance**

Training is defined as activities that changes trainees' behaviors in an organization. The most important reason for training is the expectation of increased productivity (McClelland, 2002). Use of technology by a trainer to deliver specific knowledge to an employee through media as internet is e- training (Mohsin&Sulaiman, 2013). The advantage of e-training is its wide reach irrespective of geographical boundaries and cost effectiveness (M Bernadarz, 2003). Covid Pandemic led to the shift of conventional training to electronic training. Frequent lock down and social distancing protocol compelled the organizations to the adoption of e-training. The effectiveness of such training is necessary to be evaluated to know whether such training has an impact on the job performance of the employees. Kirkpatrick (1996) developed a model to evaluate the training impact based on four levels. *Reactions, learning, behavior, and results* are the four levels used in the model. Level one of the model measures to trainee's reactions to learn and include reactions to its relevance, trainers, method of training, qualification, and assessment methods. Level two measure how far the training helped to improve the knowledge and skill of employees. Level three assess the degree to which the trainees apply to their work the skill learned from the training. Fourth level evaluates the changes in outcomes and performance result out of the skill and knowledge learned during the training period. Since training contributes to the improved performance of employees it is hypothesized that:

H<sub>2</sub> : E- training effectiveness has significant role in enhancing Job Performance

### **Feedback system and e-training effectiveness**

E-training refers to any sort of training offered in businesses through electronic media, such as self-paced learning from an intranet, learning from a CD-ROM at work, live instructor-led training via a webcast, and accessible employee access to previously recorded webcast training sessions. Unit (a person, a department, or an organisation) receives feedback, which is information about the volume, calibre, or character of its outputs. Feedback suggests that it can enhance performance in a variety of ways for individuals, groups, and organizations.( David Nadler Philip Mirvis CortlandtCammann). Staff can enhance their on-the-job training created by professors through vocational e-learning. The courses provide staff and teacher contact, along with discussion of comments. Such online instruction provides knowledge intended to help users advance their careers as well as communication and speaking abilities that can be used between users or between users and online instructors. (Wan-yunTina Cheng). In order to make sure that their conceptualizations are consistent with their beliefs about feedback and its function

in the learning process, the report suggests that academics examine their own conceptualizations. Many people believe that utilising new technology will increase the effectiveness of feedback. In an effort to give each student more personalised feedback, some have concentrated on automating the creation and transmission of feedback information using technology. (O. Balter, E Enstrom, B, Klingenberg)

H<sub>3</sub>: Effectiveness of Feedback system has significantly contribute to E- training effectiveness

### **Role E-training in enhancing the relationship between effectiveness of feedback system and Job Performance**

Most of the organization relies on improved training program to achieve positive performance and effective feedback system from employees. To improve skills, knowledge, capabilities and position them to perform their responsibilities, organization should design training program (Lahora, 2016). Training and good feedback system encourage employees to develop more commitment towards their job(Huang &Jao 2018). Khaz&Baloch (2017) remarked that most of the organizations prefer to give training that create new skills and it improve the performance of their employees through job performance .Feedback system is an effective tool that supports employees job performance through effective training . Prue& Fairbank (1981) state that feedback is the information provided for the past performance .Feedback during performance review is a means by which feedback help the employees to identify gap in the knowledge and skill. The good feedback system facilitates to deliver high quality information to employees and it encourages employees. Training programs benefited employees and they received positive evaluation feedback. Feedback system and job performance through e training has been essential tool for skill acquisition, workers empowerment, feedback system and job performance. Therefore, the need for more organization, particularly in deciding to spend more on training and retraining of their work force to ensure that employees posses good job performance in the organization ( Kester 2010).Training is thus aimed at developing competencies such as technical, human , conceptual and managerial skill for individual , organization, and national growth (Oludeyi&Momoh,2015). Timely and accurate feedback system in training program should affect the job performance. Feedback system serves a critical function in knowledge, acquisition, regardless of the particular learning program , which it is examined and no learning would occur unless some type of feedback mechanism was at (Mery,2014) in the organization. Feedback and e training have become integrated management tools because they are thought to serve informational and motivational functions that enhance an employee work performance. By seeking feedback, employees can obtain information to improve their job performance, and they reduce uncertainty of new job

H<sub>4</sub>: E- training effectiveness mediate the relationship between Feedback system and Job Performance

### **Pilot Study**

A pilot study was conducted to check the validity of research instrument used to collect data. The study was based on 100 samples taken from college teachers from universities, autonomous colleges and affiliated colleges of Kerala. Reliability and validity of the scales used in the study is verified and necessary changes were incorporated on the basis of respondents' feedback.

### **Population and Sample Size**

The population of current study comprises the college teachers of Kerala who have attended different e-training programmes. A total of 800 questionnaires were supplied among the teachers. Google forms were used to collect the data. 432 responses (54%) received and after eliminating the missing data the sample size of the study is confirmed to 396 respondents (49.5%)

### **Analytical Approach**

Structural Equation Modeling (SEM) which is considered as mighty multivariate analysis is adopted in

this research. Primary constructs and their relationships can be easily identified from the observed data. The tool is apt for testing the conceptual framework. Measurement and Structural models along with few descriptive statistics were computed. Final decision was arrived using T- Statistics and P- values with a 95 percent significant level.

### Demographic statistics

The study is based on 396 respondents who are teachers of higher education institutions in Kerala. 300 of the sample are Female (76 percent) and 96 are male (24 Percent). 81 Percent of the total respondents are teaching in Self-financing colleges and 19 percent are teaching in Government and Government-Aided colleges. 89 percent of the teachers are from Affiliated Colleges, 11 percent are teaching in Autonomous Colleges or Universities.

### Scale for measuring constructs

The study is based three main variables – Effectiveness of feedback system is measured using Feedback Environment Scale developed by Steelman, Levy and Shell (2004) and effectiveness of e-training was quantified using the model developed by Kirkpatrick (1996). The dependent variable job performance is measured using the Individual Work Performance Questionnaire (Koopmans, 2015). Selected variables of these three models are used to measure the major constructs of the present study.

### Measurement Model

The measurement model was tested by means of Cronbach alpha, composite reliability, convergent validity and discriminant validity. The initial reliability of the construct has been calculated using Cronbach alpha where value should be more than 0.7 and the composite reliability is also more than 0.7. The construct validity was measured by convergent validity analysis and discriminant validity analysis. As per convergent validity (Table 01) the average of each construct has more than 0.5. Here the effective feedback system has an average construct of 0.695 the E-training has 0.728; job performance has 0.729. This means all variables have more than the accepted average. So, we can conclude that all the constructs in the conceptual model have the required convergent validity. It also confirms the discriminant validity. The square root of the average has to be higher than the correlation of the construct, and here the (Table 02) shows the sufficient standards of the discriminant validity of the analysis. That means the square root of the average of all the **constructs > correlation**.

**Table 1. Convergent Validity**

Constructs	$\lambda$	$\lambda^2$	$1 - \lambda^2$	CR	AVE	Square root of AVE
EFS1	0.87	0.7569	0.2431	0.882	0.695	0.833
EFS2	0.88	0.7744	0.2256			
EFS3	0.84	0.7056	0.2944			
EFS4	0.81	0.6561	0.3439			
EFS5	0.79	0.6241	0.3759			
EFS6	0.78	0.6084	0.3916			
EFS7	0.83	0.6889	0.3111			
EFS8	0.84	0.7056	0.2944			
EFS9	0.86	0.7396	0.2604			
ET1	0.91	0.8281	0.1719	0.921	0.728	0.853
ET2	0.81	0.6561	0.3439			
ET3	0.86	0.7396	0.2604			
ET4	0.84	0.7056	0.2944			

**MEDIATING ROLE OF E-TRAINING ON THE RELATIONSHIP BETWEEN EFFECTIVENESS OF FEEDBACK SYSTEM AND JOB PERFORMANCE OF HIGHER EDUCATION TEACHERS**

ET5	0.84	0.7056	0.2944			
ET6	0.85	0.7225	0.2775			
ET7	0.82	0.6724	0.3276			
ET8	0.79	0.6241	0.3759			
ET9	0.88	0.7744	0.2256			
ET10	0.87	0.7569	0.2431			
ET11	0.91	0.8281	0.1719			
JP1	0.92	0.8464	0.1536	0.909	0.729	0.854
JP2	0.83	0.6889	0.3111			
JP3	0.85	0.7225	0.2775			
JP4	0.86	0.7396	0.2604			
JP5	0.83	0.6889	0.3111			
JP6	0.84	0.7056	0.2944			
JP7	0.87	0.7569	0.2431			
JP8	0.89	0.7921	0.2079			
JP9	0.9	0.81	0.19			
JP10	0.85	0.7225	0.2775			
JP11	0.82	0.6724	0.3276			
JP12	0.78	0.6084	0.3916			

Table 2 Constructs reliability and validity

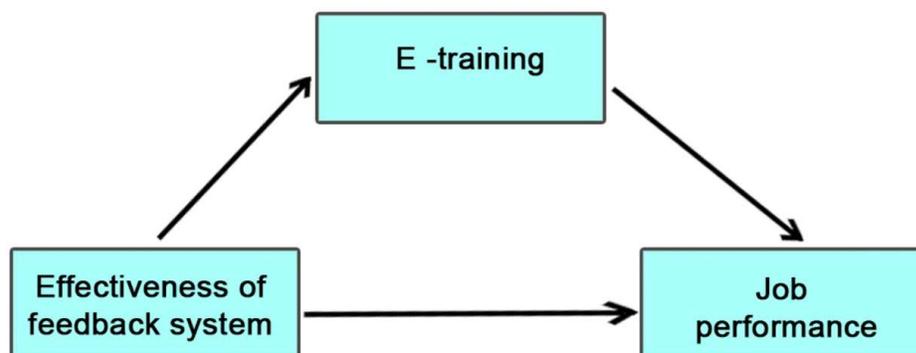
Variables	CA	CR	AVE
EFS	0.788	.882	.695
ET	0.843	.921	.728
JP	0.892	.909	.729

Table 3 Discriminant Validity

Square root of the AVE		↔	Correlation		
EFS	0.833	↔	ET	.723	dv>co
ET	0.853	↔	JP	.655	dv>co
JP	0.854	↔	EFS	.621	dv>co

Table 4 Model Fit Indices

Factors	Values	Factors	Values
CMIN	2.102	DF	1
Chi-square	2.28	P Value	0.000
AGFI	.901	GFI	0.903
TLI	.937	CFI	.917
RMSEA	.044	RMR	0.012



**Direct effect**

Structural model was examined in regard to path coefficients and coefficient of determination (Hair et al., 2017). Table 5 shows that EFS was strongly connected to ET ( $\beta=0.589$ ,  $t=36.33$   $p < 0.001$ ) and ET was strongly related to JP ( $\beta =0.631$ ,  $t=12.48$   $p < 0.001$ ) and EFS predicts JP ( $\beta= 0.683$ ,  $t=16.16$   $p < 0.001$ ) hence conclude direct impact of variables and the related all hypothesis is backed and accepted.

Table 5 Direct Effect

Hypotheses	Associations	Factor loading	SE	T Values	R <sup>2</sup>	Decisions
H1	EFS→JP	.683	0.021	16.16	.396	Supported
H2	ET→ JP	.631	0.012	12.48	.398	Supported
H3	EFS→ ET	.589	0.034	36.33	.347	Supported

**Mediation effect**

In order to assess the intervening impacts of ET and the relation between EFS and JP preacher and Hayes’s 2004 method was applied. The indirect effect of ET through EFS to JP ( $\beta_1= 0.386$  with a significant t value of 7.462,  $p < 0.001$ ) these results showed proof for the mediation effect of ET between EFS and JP. Thus the hypothesis for mediation was well supported table 6.

Table 6 Mediation Effect

Hypotheses	Associations	Indirect effect	SE	T Statistics	95%CI	Decisions
H4	EFS→ET→JP	0.386	0.019	7.462	0.0266	Supported

**Discussions and conclusion**

Training is considered as a long term investment which helps impart skills and improve professionalism of teachers. Teachers in higher educational institutions in Kerala were compelled to attend several online training programmes. Pandemic has significantly blessed the teachers of higher education in terms of opportunity for skill development (Hiteshkumar Patel, Vinodrai Patel, Baxis Patel & Keyur Nayak, 2021). Authorities of higher education started to conduct training like induction, Refresher and short term courses through online mode. Many institutions are now a days organizing webinars, online conferences, workshops through online mode.

The effectiveness of these efforts taken by higher education institutions was assessed by many researchers to know the how these training programs are contributing towards the success of teaching-learning process in digital platform. E-learning training program cannot be ignored in updating employees with latest technologies with their maximum performance (Lin, CY, Huang, C.K, & Zhang, H, 2019). A

constructive feedback system supports a healthy process of change and results in increased motivation of employees. Effectiveness of E-training and Feedback system are supposed to contribute towards job performance of teachers. It is in this background the present study was carried out and attempts to know the relationship between Effectiveness of E-training, Feedback system and Job Performance.

The major findings are that there is a relationship between effective feedback system, e-training and job performance. Feedback system and effectiveness of e-training are strongly connected to job performance. E-training played a vital role in enhancing the relationship between Feedback system Job performances. The study suggests that the overall performance of the higher education teachers largely affected by the strong feedback system and effective e-training. Feedback system is an effective tool that supports employees' job performance through effective e-training.

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**IMPACT OF MENTOR- MENTEE RELATIONSHIP ON STUDENT ACHIEVEMENT  
AMONG UNDERGRADUATE STUDENTS WITH THE MEDIATING VARIABLE PEER  
SUPPORT**

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**Abstract**

**Purpose** - The teenage years are the toughest time for both students and parents. They both face challenges understanding each other's thoughts, which can strain the relationship and children do not come up to what was expected from them. This study explored the impact of mentor on achievement of his / her mentee with the mediating variable of peer support. The relationship between a faculty and student in his/her undergraduate period on his/her achievement was so strong in earlier years as the student teacher ratio was comparatively very low. Hence the relationship and bondage, very high. But, now a days as the teacher student ratio has gone up, working parents' number has increased and the technology gap between the parent and ward has also created a wide gap between them, hence the new concept of mentoring and peer groups role in enhancing student achievement is being studied in this paper

**Design/methodology/approach** - Study was directed to test how mentor- mentee relationship impacts the student achievement directly and also through mediating variable, peer support among the students of higher education institutions in rural Kerala. An exploratory research was carried out, and data was collected through judgement sampling method from 418 respondents of students from various affiliated colleges in 3 districts of middle Kerala (Thrissur, Palakkad and Malappuram).

**Findings** - In this research, a substantial positive correlation was established between variables such as mentor mentee relationship ↔ peer support ( $r = 0.722$ ), peer support ↔ student achievement ( $r = 0.643$ ), mentor mentee relationship ↔ student achievement ( $r = 0.632$ ), with reference to affiliated colleges in these three districts of middle Kerala (Thrissur, Palakkad and Malappuram). This research validates that the Faculty being the mentor paves a root to the in depth understanding about his/her student mentee and be in close attachment in all his personal and academic problems. Students hesitate to open up with an external counselling agent, rather, they are ready to share their grievances, problems among faculty who has a friendly approach towards student. The support of the peer is taken by the faculty to enhance the

achievement score of the under graduate. On testing the hypothesis, the result shows that the dependent variable, namely student achievement, is substantially supported by mentor mentee relationship directly and through specific indirect relationship of mediating variables peer support at a 95 % level of confidence.

**Originality/value** – This study explores the relationship of mentor mentee relationship and student achievement through mediating variables peer support among the under graduate students of affiliated colleges of middle Kerala, which has not been studied theoretically and tested empirically among under graduate students.

**Keywords** - Mentor-mentee, peer support, student achievement, mentoring

## **Introduction**

Studying is a key skill a student should possess for attaining his aim in the future. Good study skills can improve confidence, competence, and self-esteem. It helps to reduce stress and anxiety around deadlines and exams. But, today most undergraduate students experience grade pressures and that causes problems with student's preparation, concentration, and performance. Hence, faculty mentors with informal mentoring structure is a key factor among college student in their learning and success (Pye, G., Williams, S., & Dunne, L. 2016). Student achievements are more when their faculty emphasize academic objectives in establishing expectations and allocating time, use effective management strategies to ensure that academic learning time is maximized, pace students through correct curriculum paces allowing high rate of success (Brophy, J. 1986). The positive relationship of peer support as reducers of depression and self-esteem in college students is well established phenomenon (Li, Susan Tinsley, et al. 2014) and enhances the for more positive results in achievement. Relationship quality between mentor and mentee significantly influences student teachers' well-being and capacity to flourish during practical phases Dreer, Benjamin. (2021). Unlike a teacher/class tutor, a mentor teacher can actively help the mentees to enhance their potential and to conquer their personal and professional goals (Ramanan R et.al,2002). According to Hawkins A., et al. (2014), the key benefits of mentorship program with peer support is academic support, improved confidence, increased enjoyment and sense of belonging which leads enhanced student achievement in grade sheet.

## **Literature Review**

### **Mentor mentee relationship and peer support**

Mentor mentee relationship advances academic competency only when both of them have time and workload to meet. At the same time mentoring support with help of peer support are more unofficial and it adds to create Motivation, inspiration and competition; ideas and advice; writing, benchmarking and models; and, friendship and emotional support to the student (Merga MK, Mason S.2021). Though the study done by Booth, S. R., Merga, M. K., & Mat Roni, S. (2016) was on PhD researchers the topic is relevant as it establishes a relationship between peer and mentor through a model. A peer-mentor program model, in which a mentor delivers dyadic and group support to higher degree by research students from different disciplines and backgrounds, has the potential to enhance candidates' knowledge and skills. Hudson, Peter. (2016) in his study has found A positive mentor–mentee relationship is essential for the mentee's development. A mentor can take the support of peer team to know about the mentee in a holistic way, which help to balance their relationship with each other. Study done by Abrahamson, E. D., Puzzar C., Ferro M. S. & Bailey, S. (2019) investigated the dynamics, perceptions, and complexities inherent in understanding concerns, challenges and expectations of mentors within a

mentoring environment. Their studies connected their literature on the peer mentoring which widened the mentor mentee schemes of the institution among undergraduates.

H1: Mentor mentee relationship has significant impact on peer support

### **Peer support and student achievement**

The Oxford Dictionary (2009) defines a “peer” as someone of the same age or someone who was attending the same university. The study conducted among nursing students by Stone. R, Cooper. S, Cant. R. (2013) showed that undergraduate nursing students could benefit from peer learning, with an increase in confidence and competence and a decrease in anxiety. Their peers also gained skills to prepare them for their role as a registered nurse. Peer support is a process of one student helping another to achieve something through positive, emotional, and formal or informal support. Many studies have been conducted on the effects of peer support on one's academic excellence. In one such study, conducted by Irfan Sari, Nadir celikoz, faculty of Education, Yildiz Technical University (2017), it has been found out that, after a four month study there has been a significant difference in the achievement scores of peer supported students when compared to the non-peer supported students. When students positively respond to the disclosures of their friend's everyday academic challenges and success it paves way to a greater understanding of the influence of peer support; says another study done by Ellen Rydell Altermatt, Department of Psychology, Hanover College (2019) The study also points out that the greater the perception of peer academic support is the higher the academic self-efficacy will be. Rebecca Bond and Elizabeth Castaneda (2006) in their study on the influence of peer support on inclusive education, recognised that peer support is an underutilized resource. They suggest two classroom strategies to enhance inclusive education; Class-wide peer tutoring (cwpt) and cross-age tutoring. In order to have higher rate of academic achievements, support from parents and peers are necessary. A study done by Bradley G.L, Ferguson S, and Zimmer-Gembeck M.J (2021) analyses and confirms the fact that parental and peer support promotes psychological connection to the educational institutions which indirectly elevate level of student engagement and academic achievements. Bhatia A, et.al (2013), found in his study that the mentor mentee concept was less effective in both boys and in students with good grades and he explains the reason for the same as lack of initiative ,time and commitment from both parties.

H2: Peer support has a significant impact on student achievement

### **Mentor -mentee relationship and student achievement**

The study conducted by Idongesit David Udom.et.al (2020), Mentor mentee relationship help students to be more experienced and knowledgeable. They concluded their study that a trusted faculty will be good mentor and they can guide a less experienced or less knowledgeable person. Mentoring as a personal enhancement strategy helps to overcome barriers and risk factors in achieving successful academic outcomes. . The students who has received advice and guidance about their educational programs, intellectual challenge and stimulation, letters of recommendation or faculty interest in their educational progress has shown higher grade point averages than those who have not received such attention. Researchers have found that relationship of mentoring to academic achievement varies across gender and ethnic groups (Greta.N.Anderson, et al. 1995). Study conducted by Naga Guhan, M. D et al. (2020) has obviously stated in their work that mentoring improves the academic performance of students, especially below average performers who need extra care and support. The benefit of mentorship program is not only limited to academic performance but also it nurtures the emotional and personal aspects including career development, relationship with faculty, greater interest in research, aspirations

toward academic careers, improved self-esteem and reduced stress. Rakesh Sharma and Kulwant Kumar Sharma (2022) concluded their study that mentor mentee relationship seek to address individual challenges related to their academic progress. their study emphasized that the transition stage from school to college creates stress among undergraduates, an appropriate mentoring structure and norms for these students can lead to many positive outcomes. Garmel G. M (2011), has opined mentoring as an insightful process in which mentee acquires and modifies the mentor's wisdom as needed by the him, as well as he explains the mentor -mentee relationship as supportive and often protective.

H3: Mentor mentee relationship has a significant impact on student achievement

**Peer support -act a supporting factor to mentor-mentee relationship and student achievement.**

An undergraduate student in his teenage is more comfortable in peer group and he/she is always confident in sharing their likes, dislikes, problems with his peers rather than with a mentor. Mentor can take inputs from the peers of the mentees to understand about the strength weakness threats faced by his /her mentee. This will help the mentor to chalk out a plan to establish a bondage with his/her mentee and would enhance the student achievement records. Mentoring program establishes relationship between mentor and mentee and a professionally sound relationship reduces stress of the mentee and facilitate adaptation to change among new comers (Levy BD, Katz JT,2004). New students will be hesitant to open up to a faculty mentor, while they will be less hesitant in sharing their difficulties with peers like friends and other well-wishers. This will be helpful for the mentor to reach near him with the help of his /her peers. The near-peer mentor, being close to the social, professional, or age level of the new student, may enhance his or her cognitive and psychomotor development (Singh S,2010). A per the hypothesis in the study conducted by Quesnel M, King J (2011), near-peer mentoring would improve the mentor-mentee contact rate and thus complement faculty mentoring of fresh students and influences their achievement. Another study, where certain incentives were provided to peers who help faculty in establishing relationship with mentee optimised mentees performance (Pena-Sanchez R et.al 2006). The feedback in the study done by Singh S, Singh N, Dhaliwal U,2012 reveals that near-peer mentoring supplements faculty mentoring of first-year students and they believe, in a fostering environment, near-peer mentors have the diverse abilities required to provide effective mentoring which in turn benefit the mentee to hone various skills critical for his/her achievements in near future.

H4: Mentor mentee relationship with peer support has significant impact on student achievement

**Pilot study**

A pilot study of the questionnaire was executed with higher education institutions in three rural middle districts of Kerala. Five higher education institutions from each district were selected and one hundred and ten students were chosen for the pilot study, with total of 15 higher education institutions in Kerala. The validity along with reliability of the measured scales were verified to ensure correction of any obscurities in the measurements. Based on the feedback suggested by the respondents, minor corrections were made to the questionnaire.

**Population and Sample**

Every student of the HEI was equally considered to be part of this study in districts of Kerala and the judgment sampling technique was applied here. The judgmental sampling technique is also identified as purposive sampling. It is a type of non-probability sampling, and researchers bank on their judgment while selecting samples from the population to be part of the study. Judgmental sampling is when researchers methodically think through about establishing a sample population, albeit it is not statistically demonstrative of the larger population at hand.

The primary data was collected through google forms by a structured questionnaire. The questionnaire had two sections. Demographic information was included in part one, and part two with different

construct items for evaluation of the conceptual model. A total of six hundred questionnaires were circulated through google forms, two hundred each from

Thrissur, Palakkad and Malappuram along with a letter highlighting privacy and confidentiality. A total of 418 questionnaires were collected back, representing a response percentage of (69.9 %) which is treated as a reasonable rate response. Out of the 423 questionnaires received, 4 questionnaires were rejected due to missing data. Net total of 418 questionnaires consisting 159 from Thrissur (79.5 %), 126 from Palakkad (63%) and 134 from Malappuram (67 %) were taken into consideration for the current study, that is more than fifty percentage response rates from each district.

### **Analytical approach**

Structural equation modelling (SEM) adopted in this research, which is considered as a strong multivariate analytical method. From the observational data, primary constructs and their relationships are identified easily. This tool is also apposite for testing the projected conceptual framework. Both measurement and structural models were calculated along with few descriptive statistics. T-Statistics and P- values were measured for the final decision purpose, with a significance level of 95%.

### **Demographic statistics**

This analysis consists of 418 respondents of students from various affiliated colleges aged between 17 to 25 years old. 58.3% were male and the remaining 41.7% were female 32.6% of the respondents were commerce students, 28% were management students 18.5% were professional students and the rest among others (20.9%) and majority of the students almost 90% were day scholars and almost 86.7% of the students resides in rural area. Out of 418 respondents 159 belongs to Thrissur District, 126 belong to Palakkad district and 134 belong to Malappuram district

### **Normality Test**

A **skewness -Kurtosis** method was adopted to analyze every variable's univariate normality (Byrne, 2013). Skewness measures symmetry in distribution. The symmetrical dataset will have a skewness equal to 0. Kurtosis is the grade of “peakedness of a distribution” (**Wolfram MathWorld**). In this study, the results were found in their promising scales, respectively. The test supported the univariate distribution normality with skewness values within the  $-1.96$  to  $+ 1.96$  range and kurtosis values within  $-7$  and  $+ 7$  range. (Byrne, 2013).

### **Measurement Model**

The measurement model was tested by means of Cronbach alpha, composite reliability, convergent validity and discriminant validity. The initial reliability of the construct has been calculated using Cronbach alpha where value should be more than 0.7 and the composite reliability is also more than 0.7. The construct validity was measured by convergent validity analysis and discriminant validity analysis. As per convergent validity (Table 01) the average of each construct has more than 0.5. Here mentor mentee relationship on student achievement has an average construct of 0.735 the peer support has 0.72 student achievement 0.69. This means all variables have more than the accepted average. So, we can conclude that all the constructs in the conceptual model have the required convergent validity. It also confirms the decrement validity. The square root of the average has to be higher than the correlation of the construct, and here the (Table 02) shows the sufficient standards of the discriminant validity of the analysis. That means the square root of the average of all the **constructs > correlation**.

Table 1 convergent validity

Constructs	$\lambda$	$\lambda^2$	$1-\lambda^2$	CR	AVE	Square root of AVE
MMR1	0.79	0.6241	0.3759	0.912	0.735	0.857
MMR2	0.88	0.7744	0.2256			
MMR3	0.9	0.81	0.19			
MMR4	0.86	0.7396	0.2604			
MMR5	0.89	0.7921	0.2079			
MMR6	0.75	0.5625	0.4375			
MMR7	0.78	0.6084	0.3916			
MMR8	0.91	0.8281	0.1719			
MMR9	0.94	0.8836	0.1164			
PS1	0.85	0.7225	0.2775	0.901	0.72	0.848
PS2	0.89	0.7921	0.2079			
PS3	0.92	0.8464	0.1536			
PS4	0.83	0.6889	0.3111			
PS5	0.79	0.6241	0.3759			
PS6	0.78	0.6084	0.3916			
PS7	0.77	0.5929	0.4071			
PS8	0.84	0.7056	0.2944			
PS9	0.85	0.7225	0.2775			
PS10	0.89	0.7921	0.2079			
PS11	0.91	0.8281	0.1719			
SA1	0.72	0.5184	0.4816	0.877	0.69	0.831
SA2	0.79	0.6241	0.3759			
SA3	0.92	0.8464	0.1536			
SA4	0.86	0.7396	0.2604			
SA5	0.88	0.7744	0.2256			
SA6	0.9	0.81	0.19			
SA7	0.79	0.6241	0.3759			
SA8	0.81	0.6561	0.3439			
SA9	0.83	0.6889	0.3111			
SA10	0.79	0.6241	0.3759			

Table 2 Constructs reliability and validity

Variables	CA	CR	AVE
MMR	0.812	0.912	0.735
PS	0.903	0.901	0.72
SA	0.811	0.877	0.69

Table 3 Discriminant Validity

Square root of the AVE		↔	Correlation		
MMR	0.857	↔	PS	.722	dv>co

PS	0.848	↔	SA	.643	dv>co
SA	0.831	↔	MMR	.632	dv>co

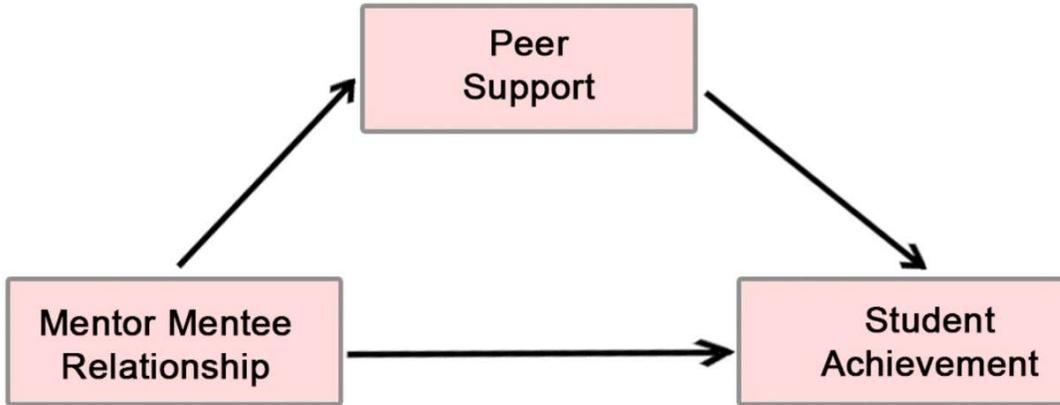


Table 4 Model Fit Indices

Factors	Values	Factors	Values
CMIN	2.622	DF	1
Chi-square	2.02	P Value	0.000
AGFI	.95	GFI	0.948
TLI	.911	CFI	.923
RMSEA	.036	RMR	0.013

**Direct effect**

Structural model was analyzed in regard to path coefficients and coefficient of determination (Hair et al., 2017). Table 5 shows that MMR was strongly related to PS ( $\beta=0.582$ ,  $t=22.16$   $p < 0.001$ ) and PS was strongly related to SA ( $\beta =0.596$ ,  $t=9.15$   $p < 0.001$ ) and MMR predicts SA ( $\beta= 0.684$ ,  $t=18.68$   $p < 0.001$ ) hence conclude direct impact of variables and the related all hypothesis is well supported and accepted.

Table 5 Direct Effect

Hypotheses	Associations	Factor loading	SE	T Values	R <sup>2</sup>	Decisions
H1	MMR → PS	.582	0.011	22.16	.338	Supported
H2	PS → SA	.596	0.048	9.15	.355	Supported
H3	MMR → SA	.684	0.021	18.68	.467	Supported

**Mediation effect**

In order to evaluate the intervening impacts of PS and the association between MMR and SA preacher and Hayes’s 2004 method was applied. the indirect effect of MMR through PS to SA ( $\beta_1= 0.398$  with a significant t value of 8.965,  $p < 0.001$ ) these results showed evidence for the mediation effect of PS between MMR and SA. Thus, the hypothesis for mediation were well supported table 6.

Table 6 Mediation Effect

Hypotheses	Associations	Indirect effect	SE	T Statistics	95%CI	Decisions
H4	MMR→PS→SA	0.398	0.013	8.965	0.0211-0.236	Supported

### Research Idea for the Future

The next generation of knowledge producers and disseminators can gain greatly from and be trained through mentoring. The mentors must work closely together to advance professionally in order to equip themselves with a wide range of abilities and attitudes to steadily enhance student performance. Further studies are necessary to determine whether effective mentoring, which is the foundation of all higher education institutions, benefits all stakeholders and mentors and increases students' employability as well as academic accomplishment.

The ability of today's professors to engage students not just as teachers but also as mentors and advisers is certainly something that warrants investigation. It is possible to expand the study to additional districts, states, and nations.

### Consequences of the research

This paper investigates the effects of mentor-mentee relationships on academic success, with peer support serving as a mediating factor. Three factors—mentor-mentee relationships, peer support, and student achievement—were the main considerations. One important induction approach is mentoring. In essence, mentoring is an organised partnership that promotes and supports career development. A healthy and trusted mentoring relationship depends on how much responsibility and understanding each mentoring partner shares. The quality and quantity of the conversation will depend on how well the relationship is established. Mentor and mentee are given the chance and opportunity to get to know one another through SWOC analysis and profile sharing, laying the groundwork for the student's development.

The results from this paper will be valuable to understand the peer support has indirectly influenced the student achievement and directly influenced by mentoring process. The analysis by means of structural equation model shows that an overall positive correlation among the variables; total indirect effect through mediating variable peer support to student achievement. Mentor mentee relationship was strongly related to Peer support ( $\beta=0.582$ ,  $t=22.16$   $p < 0.001$ ) and Peer support was strongly related to student achievement ( $\beta =0.596$ ,  $t=9.15$   $p < 0.001$ ) and mentor mentee relationship predicts student achievement ( $\beta= 0.684$ ,  $t=18.68$   $p < 0.001$  ) hence it concludes direct impact of variables and all the related hypothesis is well supported and accepted.

### Discussions with Conclusion

A professional mentoring system is required to provide the pupils with guidance since, according to the National Crime Bureau, one student commits suicide in India every hour as a result of stress and anxiety. Peers primarily provide informational and emotional support (Hombrados-Mendieta et al., 2012). Teenagers who experience more peer support frequently report fewer behavioural issues (McElhaney et al., 2006), achieve better academic results (Elias and Haynes, 2008), report greater life satisfaction (Danielsen et al., 2009), and have fewer psychological distress symptoms like anxiety and depressive symptoms (Desjardins and Leadbeater, 2011). In general, peer support is crucial to the growth of adolescents. According to studies, professional mentoring is essential for academic development and success.

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**A CRITICAL STUDY OF TEACHER'S READINESS AS A MEDIATOR FOR INTEGRATING  
ICT IN TEACHING AND LEARNING PROCESS**

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**Abstract**

**Purpose** - Utilizing ICT is a crucial component of TLP today. The lockdown duration was the primary indicator of ICT integration in TLP. Technology updates helped professors run lessons more smoothly while also making students more at ease with their studies. The majority of colleges have ICT resources that will support TLP activities by instructors and students. This article explains how ICT will assist instructors in their TLP efforts.

**Design/Methodology/Approach** - The objective of the study was to determine if ICT has a direct impact on TLP and whether it has a mediated effect through teacher readiness among Indian college teachers. Data from 429 respondents who were college instructors in various areas of Kerala were collected through judgement sampling.

**Findings** - All of the research's hypotheses received strong support from and were accepted by the analysis. To determine coefficients and coefficient of determination, the structural model was analysed. CT was strongly related to TR ( $\beta=0.532$ ,  $t=21.16$   $p < 0.001$ ) and TR was strongly related to TLP ( $\beta =0.605$ ,  $t=11.14$   $p < 0.001$ ) and ICT predicts TLP ( $\beta= 0.721$ ,  $t=8.69$   $p < 0.001$ ). This shows direct impact of variables. From the Hayes's 2004 method, intervening impacts of TR and the association between ICT and TLP preacher was evaluated. The indirect effect of ICT through TR to TLP ( $\beta_1= 0.326$  with a significant t value of 5.962,  $p < 0.001$ ) these results showed evidence for the mediation effect of TR between ICT and TLP. As a result, the analysis supports the mediation hypothesis. Via teacher readiness, the research analysis supports the high reliance on ICT in the teaching and learning process. Technology directly influences the teaching and learning processes in return. The findings of testing the hypothesis show that, with a 95% level of confidence, ICT significantly predicts the dependent variable, TLP, both directly and through a specific indirect mediating variable, teacher readiness.

**Originality / Value** - This analysis has produced a study on the relationship between ICT integration and the teaching and learning process that hasn't been theoretically examined or empirically tested, both directly and through mediating factors like teacher readiness, good motivation, and teacher satisfaction in rural India.

**Keywords** - ICT, Teaching and Learning Process, Teacher Readiness, Higher Education Institutions

## **Introduction**

There is a growing need for educational institutions to use Information Communication Technology (ICT) to teach students the skills and knowledge required for the digital age. Implementing and integrating ICT in the teaching and learning environment provides more opportunities for teachers and students to perform better in the globalized digital age. (Japhet.E.Lawrence & Usman. A. Tar, 2018). The success of student learning will depend up on the clarity of Teaching Learning Process (TLP). The main focus of learning process is students learning (Md. Aktaruzzaman, et al. 2011). For attracting the students focus teachers has to change their traditional way to digital way. For taking classes through ICT, teachers must show their readiness. The main defect of lack of readiness due to poor training and lack of infrastructure facility in schools and colleges (Zaid, Sumaia et al. 2019). The importance of ICT in TLP evidenced from Covid 19 onwards. Due to this pandemic period the public universities create a massive gap in the students learning activities between rural areas and developed areas due to lack of physical infrastructure (Mohammad Rokibul Kabir, 2020). The attitude of students and teachers about ICT in TLP is very important. As it clear that once the teacher and student ready to enter in ICT enabled learning, they will be happy. Blended learning is an essential approach in the 21st century, combining classroom with face-to-face teach with online learning. Therefore, higher education institutions (HEIs) should provide adequate resources, supportive environment and culture to support preparation for integrated learning

among their students. Attitude is an important variable in achieving readiness and higher education institutions can achieve more through attitude than other variables (Norazlina Mohd Yasin, et al. 2020). The technological change in education industry depends on multiple interrelated factors. Each schools and colleges have different determinants for the technological advancement. This confirms that the integration of educational technologies depends on the readiness of individual teachers, which in turn affects school readiness. Teachers' willingness to integrate instructional technology is based on perceived skills and beliefs (Dominik Petko, et al. 2018).

## **Literature review**

### **Relation between ICT and Teachers readiness**

All over the world attempts made to modify the 21-century classroom by launching digital technology. The younger teachers showed a positive perception with regard to ICT inventiveness and revolution in education than the doddering teachers (Msila, Vuyisile. 2015). To explore the proficiency level, point of view as regards the use of ICT in teaching -learning, the study revealed a great expectation towards utilizing ICT as larger part of them used ICT for teaching and learning and perceived that the ICT can bring changes in students' performance and teachers experience and level of knowledge have a great influence in using ICT. ICT integration in mathematics Education provides Mathematics teachers with integrable teaching methods that encourage students learning prop up their independent learning and energetic participation in the findings of mathematics thoughts and intense grasping of the mathematical notion. The participating teachers have optimistic attitude of their capability technology and technology integration in their teaching. To a greater extent they have positive perception towards unification of ICT in teaching and learning. The end result of the study revealed the teacher's readiness for the integration of technology in their teaching (Baya'a, Nimer & Daher, Wajeeh 2013). The Ministry of Education has to set up an education system that will hold up teaching ICT as a subject and ICT integration in teaching and learning as the teachers showed their readiness in using ICT in classrooms (Nomsa Mndzebele, 2013). Likewise mobile learning have become important learning device with significant possibility in

both formal and informal learning and respondents showed a positive perception and willingness in using mobile learning (Kleopatra, Nikolopoulou. et al. 2021). The upshot of demographic characteristics, educational background and other factors doesn't hinder teachers readiness in using ICT, respondents from Malaysia showed a comprehensive readiness in using ICT in teaching and learning (Abu -Obaideh Alazzam, et al. 2012).

H1: There is an extensive positive relationship between ICT and TR

### **Relation between teacher readiness (TR) and TLP**

"Readiness" is the circumstance in which organisational factors are favourable and teachers are eager to participate in "improvement agendas" (Lynch, David. Et al. 2017). The duties of a teacher are to direct, encourage, and assist learning with resources that should be provided for students. This process is known as teacher's readiness. The crucial role that teachers' knowledge, comprehension, talents, skills, and attitudes have in improving inclusive educational opportunities for students with special needs (Donnie Adams, et al. 2021). The learning objectives are the teacher's responsibility. Check out what is going on in class to aid you in the student development process. Despite the fact that the instructor doesn't take it for granted, training is the biggest issue facing instructors, teachers and guidance (Morris S. S. S. Tumanduk, 2018). TR process involves material preparation, teacher ability and student learning achievement.

In order to avoid misunderstanding the objective or goal of the learning to be accomplished, the material preparation undertaken is closely tied to a teaching profession as a teaching staff in the school. Additionally, a teacher's planning and material preparation are dependent upon the goals that need to be met (Widodo, S. A. et al. 2017). The aims to be accomplished, individualist frameworks for children and students, and educational objectives all influence the choice of instructional materials (Marshall, H. & Weinstein, R 1984).

How to manage a class is one of the key elements of the teaching and learning process. We also know that successfully controlling the classroom is one of the teacher's most crucial responsibilities (Robert J. Marzano & Jana S. Marzano, 2003). Critical elements of classroom management, such as putting a positive emphasis on management at the start of the school year, setting up the space in a way that supports effective management, and developing and implementing regulations and operating procedures (Emmer, E. T. et al. 2003). Since the goal is an element that is initially defined by the instructor in the teaching and learning process, teaching planning and material preparation are in theory one of the foundations for achieving goals. Goals play a crucial role in education since they govern how the teaching and learning process will proceed.

H2: there is a significant positive effect between TR and TLP

### **Impact of ICT in TLP**

Now the teaching process is in the era of students centric. In traditional teaching methods only focused on teacher centric. Now a days the education industry is facing competition. The main criteria for the competition how the industry is using ICT. The use of ICT in education sector has been appreciated around the world (Watson, D. M. 2001). The application of ICT in education sector divided in to two categories ICT in education and ICT for education. The development of ICT in TLP is termed as ICT for education and the adoption of ICT techniques in TLP is termed as ICT in education (Bindu, C. N. 2016). ICT has given the benefit of learners to learn anywhere anytime. It helps not only in teaching learning but also for assessment and evaluation of students. It improves the education system. It extends the reach of education by facilitating mobile learning and inclusive education. It provides valuable information's in research work. The impact of ICT and their usage in TLP has been provides different possibilities in education sector. It benefits all stakeholders in the education sector (Madhuri V. Tikam, 2013).

The use of ICT brings significant changes in teaching and learning. Traditional approach, teaching focused on content. Over the decades, teaching materials have been developed from textbooks. Teachers taught Content through the lecture method Activities are designed to reinforce content knowledge. In the present day, teachers must create appropriate and interesting learning experiences for their students. Technology works wonders. It contributes to the development of integrated learning because it can improve learning performance. Furthermore, the use of ICT facilitates a learner-centred approach rather than a traditional academic curriculum. Everyday learning supports student competence and performance, emphasising the use of information instead of real knowledge. ICT helps in disseminating knowledge on contemporary issues (Ron Oliver, 2002).

Education is not just teaching students within the four walls of the classroom based on a set curriculum. It has a very long edge Goals, objectives, and other concepts; hence the need for the concept of borderless classrooms in the modern education system. ICT is the answer to this idea. It helps in imparting education at all times and anywhere (Dr. Hadibandhu Behera, 2020). It affects the way knowledge is imparted and the learning process of students since learning takes place. Strategies are only effective if implemented by the teacher, not the learner. ICT is a powerful tool for improving educational opportunities. It transforms teaching and learning processes by incorporating vital elements into the learning environment. The modern education system demands research, critical thinking and evaluation skills as students have access to a variety of information sources. Therefore, the educational environment should ensure that students can effectively apply the necessary knowledge. Acquire skills and discard passively acquired knowledge (Bransford, J. D. 1990).

H3: there is a substantial positive effect between ICT and TLP

### **Mediating role of teacher readiness on the relationship between ICT and TLP**

Today's educational landscape has advanced quickly. The infrastructure of schools and teachers are created to facilitate learning (Maskur R. Sumarno, 2020). The ongoing goal of teaching and learning is to help each student reach their full potential. To make the existing learning process more creative and diverse, which affects how students learn (Kozak, S. et al. 2018). The struggle with the lecture approach, which makes students uncomfortable and bored while they learn, has rendered the old model of learning outdated. Today's students will feel more at ease with learning that fits his personality. As a result, a teacher must use originality and variety in their lessons.

Infrastructure and teacher readiness are two important aspects that influence teachers' ICT competency in schools. However, this is not the case in the majority of schools. ICT equipment use by teachers is not yet fully prepared. This is a result of a lack of ICT equipment management training, technicians available for ICT equipment maintenance, and long-term initiatives for improving the infrastructure and teacher competencies. At the same time, the schools' attempts to integrate ICT are failing because poor infrastructure can have a negative impact on the growth of ICT use among students and school employees (Zaid, Sumaia et al. 2019). The study by Goktas et al. 2013, Lack of ICT equipment, a lack of suitable software, a lack of equipment, a lack of in-service training, and a lack of technical equipment are the main barriers to ICT integration. Additional funding, a dedicated unit for peer assistance, teacher support services, and better pre-service teacher ICT training are some of the major contributing elements. Supporting aspects include encouraging teachers to utilise ICT more efficiently, delivering technology planning, giving higher-quality training courses, and creating programmes with relevant course material. Technology has enormous potential to improve educational procedures and curricula. Teachers, on the other hand, might not be prepared to integrate technology and may lack the knowledge and expertise needed to use technology to assist the curriculum. In the past ten years, academics and educational

organisations have concentrated on training teachers to use digital technology into their lessons. The National Council for Accreditation of Teacher Education (NCATE) highlighted that teachers must use technology for instruction and be ready to do so in the classroom (Afshari, Mojgan. 2013). Teachers need to acquire a strong foundation of digital media knowledge and abilities as well as new perspectives, methods, roles, types of professional development, and attitudes regarding technology integration in order to be prepared to incorporate it into the curriculum. The way that teachers think about curriculum needs to change, and they must switch from traditional printed curriculum to digital curriculum (Ruggiero, D. & Mong C. J. 2016).

The preparedness and willingness of teachers to use technology is crucial for the successful integration of digital technology into the curriculum (Singh, T. K. R., & Chan, S. 2014). Digital technology can be incorporated by teachers to enhance and augment the curriculum, make their jobs easier, and promote student-centered learning (Ertmer, P. A. et al. 2012). Teachers need to have a broad range of knowledge in order to meet the new requirements. They must learn all the pedagogical and technical abilities necessary to successfully incorporate digital technology into the academic programme (Hamed Al-Awidi. & Fayiz Aldhafeeri. 2017).

H4: enhancing TR mediating the relationship between ICT and TLP

### **Pilot Study**

Prior to starting the main study, a pilot study using college teachers in several districts of Kerala and Tamil Nadu was done. One hundred twenty college teachers with five districts from each state were chosen for the pilot research. There were 65 college teachers from Kerala and 55 from Tamil Nadu. The validity and reliability of the measured scales were checked in order to guarantee the correlation of any obscurity in the measurement. Based on the suggestions offered by the respondents, a few small changes were made to the questionnaire.

### **Population and Sample**

Every college teacher from the various districts in Tamil Nadu and Kerala was given equal consideration for this study. In this analysis, judgement sampling technique has been used. This sort of sampling is not based on probability. An expert in the field should carry out this sampling procedure because the study's outcome will be influenced by his judgement. The terms "deliberate sampling" and "purposive sampling" are also used to describe the judgement sampling method.

The primary data was gathered using a structured questionnaire and Google Forms. There were two sections in the questionnaire. the first component is for demographic data, and the second is for the conceptual model's evaluation. Seven hundred fifty questionnaires—four hundred from Kerala and three hundred and fifty from Tamil Nadu—were distributed via Google Forms. 480 questionnaires in all were received. As a result, a suitable response rate was ensured by the response percentage of 64. 51 of the 480 questionnaires were rejected because there were insufficient data. Net total of 429 questionnaires consisting of 222 from Kerala (55.5%) and 207 from Tamil Nadu (59.1%) were taken into consideration for the present analysis, ensuring more than 50% response rate from each state.

### **Measuring instruments**

#### **ICT**

ICT was assessed using self-reported data, with an Alfa score of 0.91 used to assess reliability. Also, the results of the skewness and kurtosis tests for normality fall between -1.96 and +1.96. Here, a 5-point Likert scale was employed. One is firmly opposed and five is strongly agreed.

#### **Teacher Readiness**

Using self-reported data, the reliability of teacher readiness was assessed using an Alfa score of 0.920.

Also, the results of the skewness and kurtosis tests for normality fall between -1.96 and +1.96. Here, a 5-point Likert scale was employed. One is firmly opposed and five is strongly agreed.

### **Teaching and Learning process**

The effectiveness of teaching and learning was evaluated by using self-reported data, with an Alfa score of 0.88 used to assess reliability. Also, the results of the skewness and kurtosis tests for normality fall between -1.96 and +1.96. Here, a 5-point Likert scale was employed. One is firmly opposed and five is strongly agreed.

### **Analytical Approach**

This study used structural equation modelling (SEM), which is regarded as an effective multivariate analytical technique. Primary constructs and their interactions can be instantly recognized from the observational data. Furthermore useful for testing the proposed conceptual framework is this tool. A few descriptive statistics were calculated along with both measurement and structural models. For the final decision-making process, T-Statistics and P-values were calculated with a 95% significance threshold.

### **Demographic statistics**

This analysis consists of 429 respondents of college teachers consisting 68.5% female and 31.5% Male, aged between 25 to 34 (18.5%) and 35 to 44 (34.6%) and 45 to 54 (36.2%) and the rest have (10.7%) years old. Majority of the teachers 43.3% were from commerce and management 18% from science 28.9% from arts stream and the rest of the respondent were from others (9.8%)

### **Normality Test**

We used the skewness-Kurtosis approach to examine the univariate normality of each variable (Byrne, 2013). Skewness gauges a distribution's symmetry. The skewness of the symmetrical dataset will be 0. Kurtosis is a measure of a distribution's "peakiness" (Wolfram MathWorld). Results in this investigation were found to be on their respective, promising scales. With skewness values in the -1.96 to +1.96 range and kurtosis values in the -7 to +7 range, the test validated the univariate distribution's normality. (Byrne, 2013).

### **Measurement Model**

Cronbach's alpha, composite reliability, convergent validity, and discriminant validity were used to test the measurement model. Using Cronbach's alpha, the initial reliability of the construct has been computed; the value should be greater than 0.7, and the composite reliability should also be greater than 0.7. Convergent and discriminant validity analyses were used to gauge the construct validity. The average of each construct has more than 0.5 according to convergent validity (Table 01). Here, teacher readiness is 0.718, teaching and learning process is 0.742, and integrating ICT on teaching and learning process has an average construct of 0.7. This indicates that every variable has greater than the standard average. So, we can draw the conclusion that the conceptual model's constructs all possess the necessary convergent validity. Additionally, it supports the discriminant validity. Here, the (Table 02) demonstrates the necessary requirements for the discriminant validity of the analysis, where the square root of the average must be greater than the correlation of the construct. That means the square root of the average of all the **constructs > correlation**

Table 1 Convergent Validity

Constructs	$\lambda$	$\lambda^2$	$1-\lambda^2$	CR	AVE	Square root of AVE
ICT1	0.83	0.6889	0.3111	0.906	0.7	0.837
ICT2	0.86	0.7396	0.2604			
ICT3	0.88	0.7744	0.2256			
ICT4	0.91	0.8281	0.1719			
ICT5	0.79	0.6241	0.3759			
ICT6	0.78	0.6084	0.3916			
ICT7	0.73	0.5329	0.4671			
ICT8	0.88	0.7744	0.2256			
ICT9	0.89	0.7921	0.2079			
ICT10	0.83	0.6889	0.3111			
ICT11	0.81	0.6561	0.3439			
TR1	0.73	0.5329	0.4671	0.9	0.718	0.847
TR2	0.79	0.6241	0.3759			
TR3	0.78	0.6084	0.3916			
TR4	0.92	0.8464	0.1536			
TR5	0.93	0.8649	0.1351			
TR6	0.89	0.7921	0.2079			
TR7	0.88	0.7744	0.2256			
TR8	0.85	0.7225	0.2775			
TR9	0.84	0.7056	0.2944			
TLP1	0.86	0.7396	0.2604	0.918	0.742	0.861
TLP2	0.81	0.6561	0.3439			
TLP3	0.91	0.8281	0.1719			
TLP4	0.86	0.7396	0.2604			
TLP5	0.88	0.7744	0.2256			
TLP6	0.87	0.7569	0.2431			
TLP7	0.84	0.7056	0.2944			
TLP8	0.83	0.6889	0.3111			
TLP9	0.87	0.7569	0.2431			
TLP10	0.88	0.7744	0.2256			

Table 2 Constructs reliability and validity

Variables	CA	CR	AVE
ICT	0.91	.906	0.7
TR	0.920	0.9	0.718
TLP	0.88	.918	.0.742

Table 3 Discriminant Validity

Square root of the AVE		↔	Correlation		
ICT	0.837	↔	TR	0.72	dv>co

TR	0.847	↔	TLP	0.63	dv>co
TLP	0.861	↔	ICT	0.71	dv>co

Table 4 Model Fit Indices

Factors	Values	Factors	Values
CMIN	2.167	DF	1
Chi-square	3.216	P Value	0.000
AGFI	.907	GFI	.90
TLI	.921	CFI	.911
RMSEA	.026	RMR	0.033

### Direct effect

Analysis of the structural model's path coefficients and coefficient of determination (Hair et al., 2017). Table 5 demonstrates that ICT was strongly correlated with TR ( $\beta=0.532$ ,  $t=21.16$   $p< 0.001$ ), TR was strongly correlated with TLP ( $\beta=0.605$ ,  $t=11.14$   $p< 0.001$ ), and ICT predicts TLP ( $\beta= 0.721$ ,  $t=8.69$   $p< 0.001$ ), concluding that the direct impact of variables and the related all hypothesis is well supported and accepted.

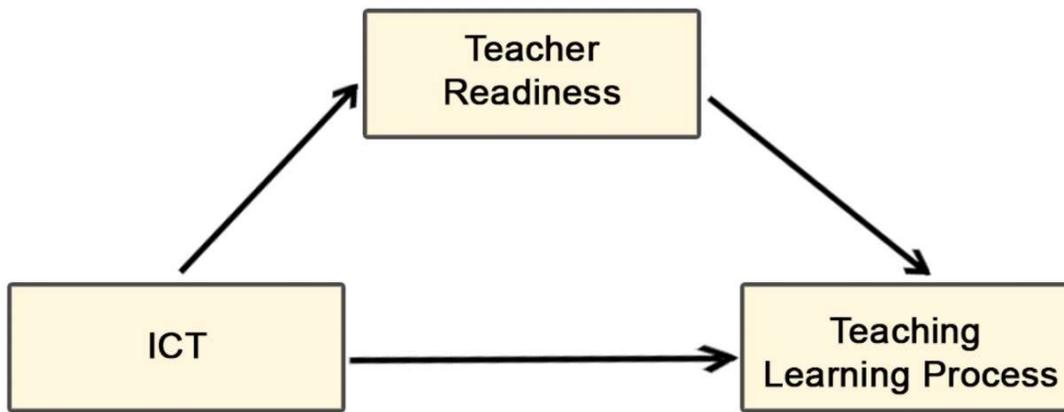


Table 5 Direct Effect

Hypotheses	Associations	Factor loading	SE	T Values	R <sup>2</sup>	Decisions
H1	ICT → TR	.532	0.011	21.16	.283	Supported
H2	TR → TLP	.605	0.027	11.14	.366	Supported
H3	ICT→ TLP	.721	0.015	8.69	.519	Supported

### Mediation effect

Preacher and Hayes's (2004) methodology was used to assess the effects of TR that occurred in the intervening period as well as the relationship between ICT and TLP. these findings provided proof of the mediation effect of TR between ICT and TLP. The indirect influence of ICT through TR to TLP ( $\beta= 0.326$  with a significant t value of 5.962,  $p< 0.001$ ) was also demonstrated. Hence, Table 6 provides strong evidence in support of the mediation theory.

Table 6 Mediation Effect

Hypotheses	Associations	Indirect effect	SE	T Statistics	95%CI	Decisions
H4	ICT→TR→TLP	0.46	0.013	7.68	0.011- 0.116	Supported

### Discussions and conclusions

When it comes to integrating ICT in the classroom, infrastructure is crucial. Computer labs are thought to be useful by teachers for both teaching and learning in their classrooms. The ICT resources offered by the colleges are likewise functional and may be used for both teaching and learning. If instructors are experiencing issues with ICT equipment, the colleges can also offer technical support. Previous research has demonstrated that infrastructure is crucial to the successful integration of ICT in colleges (Goktas et al., 2013).

Through the architecture of teacher ICT competency, teacher readiness to incorporate ICT in the classroom serves as a complete mediator. The study's mediator is teacher readiness, according to the researcher. As a result, teacher readiness is crucial to the ICT proficiency of Pahang Teachers. The study's results point to the significance of teacher preparedness in balancing the impact of ICT infrastructure on teacher competency. It also suggests that a key factor in the effective implementation of ICT infrastructure in schools is teacher preparation. In other words, the successful implementation of the ICT infrastructure offered by the ministry for the integration of ICT in the classroom depends on the readiness of the teachers (Mohammad Rokibul Kabir, 2020).

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**THE MEDIATING ROLE OF CUSTOMER CONTENTMENT ON  
RE-PURCHASE INTENT ON APPAREL ACROSS MULTIPLE CHANNELS  
(A Study with Special Focus on Female Clients in Palakkad District)**

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**Abstract**

Purpose - Repurchase intent has grown to be a major problem for marketers because it may be caused by a previous client. If the brand, price, satisfaction, and experience fall short of the customer's expectations, the likelihood of a subsequent purchase will likely be decreased (Yasri, Susanto, Hoque, & Gusti, 2020). Studies on the consumer experience are frequently carried out on distinct platforms, either online or offline. Few studies have been conducted on customer experience when using two channels. This study was carried out to investigate customer experience toward repurchase intention in offline and online retailers and address customer satisfaction as a mediator variable in order to fill such gaps. The customer experience indicators, sense, feel, think, act, and relate through various channels will also be added into this study.

Design/methodology/approach - The analysis was directed to understand the mediating role of customer contentment on re-purchase intent on apparel across multiple channels. The data collected from 150 female respondents in Palakkad District of Kerala.

Findings - The measurement model was tested by means of Cronbach alpha, composite reliability, convergent validity and discriminant validity. The initial reliability of the construct has been calculated using Cronbach alpha where value should be more than 0.7 and the composite reliability is also more than 0.7. The construct validity was measured by convergent validity analysis and discriminant validity analysis. As per convergent validity, the average of each construct has more than 0.5. Here the fast customer experience has an average construct of 0.65 the customer satisfaction has 0.69; repurchase intention 0.77. This means all variables have more than the accepted average. So, we can conclude that all the constructs in the conceptual model have the required convergent validity. It also confirms the decrement validity. The square root of the average has to be higher than the correlation of the construct, and it shows the sufficient standards of the discriminant validity of the analysis. That means the square root of the average of all the constructs > correlation. Structural model was analyzed in regard to path coefficients and coefficient of determination. It shows that CE was strongly related to CS ( $\beta=0.542$ ,

$t=14.32$   $p < 0.001$ ) and CS was strongly related to RI ( $\beta = 0.511$ ,  $t=11.86$   $p < 0.001$ ) and CE predicts RI ( $\beta = 0.636$ ,  $t=19.46$   $p < 0.001$ ) hence conclude direct impact of variables and the related all hypothesis is well supported and accepted. In order to evaluate the intervening impacts of CS and the association between CE and RI Preacher and Hayes's 2004 method was applied. the indirect effect of CS through CE to RI ( $\beta = 0.536$  with a significant  $t$  value of 12.6,  $p < 0.001$ ) these results showed evidence for the mediation effect of CS between CE and RI. Thus the hypothesis for mediation were well supported.

Originality/value - This analysis has made a research on the relationship of customer experience and repurchase intention directly and through mediating variables of customer contentment which has not been theoretically scrutinized and empirically tested.

**Keywords** - customer contentment, repurchase intention

## Introduction

Customer behaviour is crucial for the retail business in the competitive market since the retail industry is still expanding greatly throughout the world and the online channel business has challenged the offline channel business's market (Yuliati, 2016). Indonesia is starting to resemble a developing nation. Since 2014, Indonesia's retail industry has experienced considerable growth as a retailer platform. In 2017, e-commerce in Indonesia increased by 289%, while retail development reached 100%. (Ningsih, Febrinda, & Menanti, 2019).

The problem for retailers arises from the fact that they may influence the customer experience (Terblanche, 2018). The success of a business is also largely dependent on how well its customers are treated (Barari, Ross, and Surachartkumtonkun, 2020; Rose, Clark, Samouel, and Hair, 2012; Trevinal, & Stenger, 2014; Varshneya, Das, and Khare, 2017); additionally, it can have an impact on the sustainability of a company's competitive advantage (Klaus, & Maklan, 2013; Lemon, & Verhoef, 2016). In order to meet customer demand, the internet channel today has greater competitive advantages than the offline channel.

The advantages of using the internet for shopping are that it is more convenient, more informational, and can even trace which specific customer bought what by using their identification while making an online purchase (Katawetawaraks, & Wang, 2011). Online channels can also learn about their customers and offer tailored promotions, which could improve customer satisfaction with online buying. According to studies (Pei et al., 2020), customer experience can assist merchants increase customer satisfaction, which has a beneficial impact on customers' propensity to make repeat purchases. Customer experience and happiness in conventional or offline retail are correlated with specific physical stores.

Repurchase intent has grown to be a major problem for marketers because it may be caused by a previous client. If the brand, price, satisfaction, and experience fall short of the customer's expectations, the likelihood of a subsequent purchase will likely be decreased (Yasri, Susanto, Hoque, & Gusti, 2020). Repurchase intent is derived from market share's cost-reduction and expansion strategies, according to earlier researchers (Ahmed et al., 2011; Shin et al., 2013). The impacts of repurchase intention on buyers have typically been the focus of the few analyses that have generally been conducted on the various repercussions of shopping orientation (Scarpi, Pizzi, & Visentin, 2014). A reasonable understanding of the influence of shopping orientation concentrated on one channel has been attained in the remaining research, which is also supported by a thorough literature assessment as may be partially found compressed in (Scarpi, 2012). However, less consideration is given to potential behavioral variations displayed by customers who are channel-focused. The impacts of repurchase intention on buyers have typically been the focus of the few analyses that have generally been conducted on the various

repercussions of shopping orientation (Scarpi, Pizzi, & Visentin, 2014). A reasonable understanding of the influence of shopping orientation concentrated on one channel has been attained in the remaining research, which is also supported by a thorough literature assessment as may be partially found compressed in (Scarpi, 2012). However, less consideration is given to potential behavioral variations displayed by customers who are channel-focused.

## **Literature Review**

### **Customer experience toward customer satisfaction**

Experience of customers has become the vital part of the value addition process of supply. Brand positioning and customer loyalty can build only through customer satisfaction. A unique brand image can be ensured by the way of customers' contentment and satisfaction (Kabu Khadka & Soniya Maharjan, 2017).

The effect of multi-channel implementation can be measured by the satisfaction level of customers (Rita Madaleno, Hugh Wilson, Roger Palmer: *Total Quality Management & Business Excellence* 18(8), 915-925, 2007). The attitudinal behavior of customers strongly influenced by the satisfaction getting through traditional as well as technological channels (Marcel Van Birgden, Ad De Jong, Ko, Do, Ruyter: *Journal of Retailing* 82 (4), 367 - 377, 2006). The marketers integrating their online and offline facility to provide better experience through highly measured satisfaction (Artusi, et al. 2020). Customer perceptions and emotions stimulate the purchase environment and the choice of purchase. The unique selling propositions and the brand build up can achieve through expedite experience (Chebat & Michon, 2003). Customer experience Management is an emerging and highly challenging issue to the providers as they need a complete set of updated frameworks for meeting the satisfaction needs (Sabma Fatma: *International Journal of Business and Commerce* 3(16), 2014).

### **H1: Customer experience have a significant impact on customer satisfaction.**

#### **Customer Experience Toward Re-Purchase Intention.**

Customer experience is the customer's perception of how the organisation treats the customers. Repurchase Intention means that purchasing the same product purchase repeatedly with regard his previous experience of the product. Repurchase Intention is closely connecting with the customer's previous experience with that product. Customer's repurchase Intention may be influenced by many factors – customer's previous experience being one of the key factors. (Destiny, 2012). Repurchase Intention is an important of the prior experience of the customer (Chiu, 2012). Experience of the customer is the most important element that results to the repurchase of the customer. (Rose et al., 2012). Prior purchase experience is the customer's perception of how the organisation treats the customers. This affects the repurchase Intention of the customer. (Razak et al., 2014).

H2: Customer experience have a significant impact on re-purchase intention.

#### **Customer satisfaction towards re-purchase intension**

The purpose of this article is to report the results of a study that examines the drivers of customer satisfaction and repurchase intentions among online and offline business in Ottapalam. The satisfaction of a customer depended on the result of the use of the goods conforming to the expectation of the customer (Cardozo, 1965; Oliver, 1980. Howard and Sheth (1969) then defined customer satisfaction as whether they can reach a satisfied psychological state after comparing what they paid for the product and what they gained. Hemple (1977) believed that customer satisfaction was decided at the degree of realization of the product or service benefits the customer expected, and it reflected the consistent level of the expectation and actual result. The level of customer expectation based on some foundations, namely the

company's tangible commitment, intangible commitment, reputation and past purchasing experiences. Therefore, customer satisfaction was considered as the customer's overall attitude towards a product / service (Solomon, 1991) [4]. Brand loyalty Prus & Brandt (1995) suggested that the brand loyalty was driven by the customer satisfaction, and brand loyalty reflected a long-term choice probability for the brand or company and was comprised of both customers' attitudes and behaviours. Customers' attitudinal component represented notions like: repurchase intention or purchasing additional products or services from the same company, willingness of recommending the company to others, demonstration of such commitment to the company by exhibiting a resistance to switching to another competitor. Hawkins & Lonney cited by Tjiptono (2004) states three dimensions of customer satisfaction: satisfaction suitability, repurchase intention, and willingness to recommend. Repurchase intention represents the possibility of customers to involve in future behaviours, while the behaviours are the level of behaviour observed objectively (Santoso, 2016). It is defined as the consumer intention to repurchase specific products or services in the future (Wang & Yu, 2017). Ferdinand cited by Saidani & Samsul (2012) states that there are four dimensions of repurchase intention: transactional intention, referential intention, preferential intention, and exploratory intention.

### **H3: Customer satisfaction have a significant impact on re-purchase intention.**

Customer satisfaction as a mediating variable through customer experience towards repurchase intention. Customer satisfaction also has significant in affecting repurchase intention. It supported by (Ilyas et al., 2020; Nguyen, Nguyen & Tan, 2021) that customer satisfaction is a determinant factor of repurchase intention. Related to customer experience, satisfaction became the mediated factor that can be strengthened effect toward repurchase intention. Many researchers conducted in consumer satisfaction as a mediated variable, such as customer satisfaction can mediate celebrity advertising and celebrity personality towards purchase intention in the telecommunications industry (Domfeh et al., 2018), and customer satisfaction become mediated variable in the context of repurchase intention in e-commerce (Sari, & Giantari, 2020). To sum up, consumer satisfaction is one of the crucial things that must be needed. Consumer satisfaction through product quality, service, shopping environment, and shopping process can later raise the products repurchase intention.

### **H4: Customer satisfaction through customer experience have a significant impact on re- purchase intension**

#### **Pilot study**

Before commencing the core study, a pilot study was conducted with women respondents in Ottapalam Taluk. One hundred and fifty women respondents were selected randomly for the pilot study. Fifty women respondents from college students and a total of hundred working women respondents from the Ottapalam Taluk. To ensure correlation of any obscurity in the measurement, the validity along with reliability of the measured scales were verified. Some minor corrections were made to the questionnaire based on the feedback suggested by the respondents during the Pilot study.

#### **Population and sample**

The primary data was collected through google forms by a structured questionnaire. The questionnaire consisted of two section. The first section for demographic information and the second one for the evaluation of the conceptual model. The population of the study consists of all the female clients of apparels across multiple channels in the Palakkad District of Kerala. A total of four hundred and fifty questionnaires were circulated through google forms and a total of 406 questionnaires were properly

filled. Thus the response percentage was ninety, ensuring a very reasonable rate of response. Therefore 406 filled questionnaires were taken into consideration for the present analysis. The data were collected from 406 female respondents from Palakkad District and majority of them aged less than 25 (42.3%) 21% are post graduates 30% are graduates, 8% professionals and the rest belongs under higher secondary. Majority of the respondents are students (33.3%) 18% were employed in government and semi government sector rest employed in private sector.

### **Measuring instruments**

#### **Customer Experience**

Customer Experience was measured by adopting self-reported data, the reliability measured by using Alfa score of 0.706 And normality tested by using skewness and kurtosis it is in between -1.96 and +1.96. Here 5 point Likert scale was used 1 – strongly disagree and 5 strongly agree.

#### **Customer Satisfaction**

Customer satisfaction was measured by adopting self-reported data, the reliability measured by using Alfa score of 0.755 And normality tested by using skewness and kurtosis it is in between -1.96 and +1.96. Here 5 point Likert scale was used 1 – strongly disagree and 5 strongly agree.

#### **Re-purchase Intention**

Re-purchase Intention was measured by adopting self-reported data, the reliability measured by using Alfa score of 0.796. And normality tested by using skewness and kurtosis it is in between -1.96 and +1.96. Here 5 point Likert scale was used 1 – strongly disagree and 5 strongly agree.

### **Analytical approach**

This study used structural equation modelling (SEM), which is regarded as a potent multivariate analytical technique. Primary constructs and their interactions can be quickly recognized from the observational data. Furthermore, useful for testing the proposed conceptual framework is this tool. A few descriptive statistics were calculated along with both measurement and structural models. For the final decision-making process, T-Statistics and P-values were calculated with a 95% significance threshold.

### **Demographic statistics**

This analysis consists of 406 respondents' majority of them aged less than 25 (42.3%) 21% are post graduates 30% are graduates, 8% professionals and the rest belongs under higher secondary. Majority of the respondents are students (33.3%) 18% were employed in government and semi government sector rest employed in private sector.

### **Normality Test**

We used the skewness-Kurtosis approach to examine the univariate normality of each variable (Byrne, 2013). Skewness gauges a distribution's symmetry. The skewness of the symmetrical dataset will be 0. Kurtosis is a measure of a distribution's "peakiness" (Wolfram Math World). Results in this investigation were found to be on their respective, promising scales. With skewness values in the 1.96 to +1.96 range and kurtosis values in the -7 to +7 range, the test validated the univariate distribution's normality. (Byrne, 2013).

### Measurement Model

The measurement model was tested by means of Cronbach alpha, composite reliability, convergent validity and discriminant validity. The initial reliability of the construct has been calculated using Cronbach alpha where value should be more than 0.7 and the composite reliability is also more than 0.7. The construct validity was measured by convergent validity analysis and discriminant validity analysis. As per convergent validity (Table 01) the average of each construct has more than 0.5. Here the fast customer experience has an average construct of 0.65 the customer satisfaction has 0.69; repurchase intention 0.77. This means all variables have more than the accepted average. So, we can conclude that all the constructs in the conceptual model have the required convergent validity. It also confirms the decrement validity. The square root of the average has to be higher than the correlation of the construct, and here the (Table 02) shows the sufficient standards of the discriminant validity of the analysis. That means the square root of the average of all the constructs > correlation.

**Table 1 Convergent Validity**

Constructs	$\lambda$	$\lambda^2$	$1-\lambda^2$	CR	AVE	Square root of AVE
CE1	0.68	0.4624	0.5376	0.842	0.65	0.807
CE2	0.72	0.5184	0.4816			
CE3	0.79	0.6241	0.3759			
CE4	0.86	0.7396	0.2604			
CE5	0.84	0.7056	0.2944			
CE6	0.83	0.6889	0.3111			
CE7	0.89	0.7921	0.2079			
CE8	0.83	0.6889	0.3111			
CS1	0.84	0.7056	0.2944	0.884	0.69	0.83
CS2	0.86	0.7396	0.2604			
CS3	0.78	0.6084	0.3916			
CS4	0.79	0.6241	0.3759			
CS5	0.78	0.6084	0.3916			
CS6	0.83	0.6889	0.3111			
CS7	0.84	0.7056	0.2944			
CS8	0.91	0.8281	0.1719			
CS9	0.88	0.7744	0.2256			
RI1	0.79	0.6241	0.3759	0.936	0.77	0.878
RI2	0.81	0.6561	0.3439			
RI3	0.83	0.6889	0.3111			
RI4	0.94	0.8836	0.1164			
RI5	0.91	0.8281	0.1719			
RI6	0.89	0.7921	0.2079			
RI7	0.86	0.7396	0.2604			
RI8	0.9	0.81	0.19			
RI9	0.91	0.8281	0.1719			
RI10	0.93	0.8649	0.1351			

**Table 2 Constructs reliability and validity**

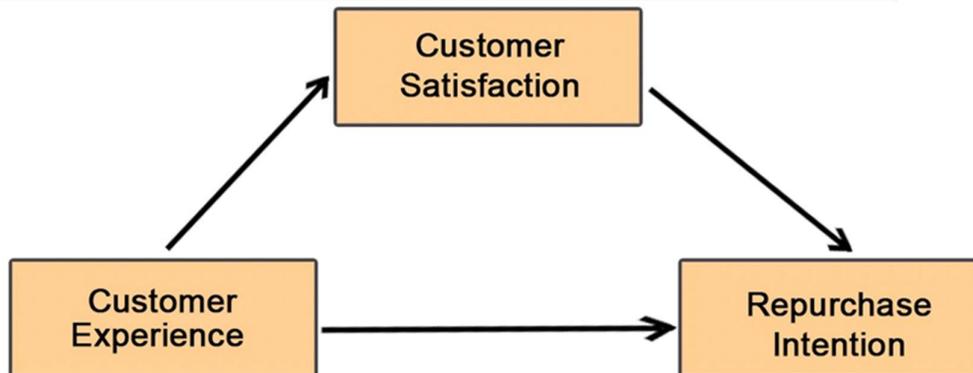
Variables	CA	CR	AVE
CE	0.706	0.842	0.65
CS	0.755	0.884	0.69
RI	0.796	0.936	0.77

**Table 3 Discriminant Validity**

Square root of the AVE		↔	Correlation		
CE	0.807	↔	CS	0.712	dv>co
CS	0.83	↔	RI	0.586	dv>co
RI	0.878	↔	CE	0.623	dv>co

**Table 4 Model Fit Indices**

Factors	Values	Factors	Values
CMIN	2.26	DF	1
Chi-square	2.23	P Value	0.000
AGFI	.904	GFI	0.903
TLI	.913	CFI	0.918
RMSEA	0.011	RMR	0.013



**Direct effect**

Structural model was analyzed in regard to path coefficients and coefficient of determination (Hair et al., 2017). Table 5 shows that CE was strongly related to CS ( $\beta=0.542$ ,  $t=14.32$   $p < 0.001$ ) and CS was strongly related to RI ( $\beta =0.511$ ,  $t=11.86$   $p < 0.001$ ) and CE predicts RI ( $\beta= 0.636$ ,  $t=19.46$   $p < 0.001$ ) hence conclude direct impact of variables and the related all hypothesis is well supported and accepted.

**Table 5 Direct Effect**

Hypotheses	Associations	Factor loading	SE	T Values	R <sup>2</sup>	Decisions
H1	CE→ CS	.542	0.046	14.32	.293	Supported
H2	CS →RI	.511	0.013	11.86	.261	Supported
H3	CE → RI	.636	0.018	19.46	.404	Supported

**Mediation effect**

In order to evaluate the intervening impacts of CS and the association between CE and RI preacher and

hayes's 2004 method was applied. the indirect effect of CS through CE to RI ( $\beta_1 = 0.536$  with a significant t value of 12.6,  $p < 0.001$ ) these results showed evidence for the mediation effect of CS between CE and RI. Thus the hypothesis for mediation were well supported table 6.

**Table 6 Mediation Effect**

Hypotheses	Associations	Indirect effect	SE	T Statistics	95%CI	Decisions
H4	CE→CS→RI	.536	0.016	12.6	0.024	Supported

### Discussions and conclusions

As per the study customers reluctant to purchase through online channel due to the fear of security in the transactions. Customer experience mediated by customer satisfaction tempt for repurchase the same for them or they are ready to suggest for others. The retailers makes the customers satisfied by offering improved products through quality, packaging, and lots of products. The complaints less services were provided to kerp them satisfied. The retention of the customers are ensured through telephonic conversations and reminders. After sale services were provided to keep the better relationship with them in turn to repurchase. By stating that experience, it certainly can increase customer satisfaction. To enhance customer satisfaction, we have to create enjoyable customer relationship through the shopping environment. Finally, customer satisfaction has become a determinant factor of repurchase intention. To improve the customer experience the unique advantages should be provided, then only the satisfaction can be impoved and the enhanced satisfaction turns in to repurchase decisions. Repurchase environment is the denabd creator for the business environment. Business can only grow with the customer satisfaction. The present Study on the consumer experience on distinct platforms, either online or offline and on customer satisfaction when using these two channels reveals that there is direct relationship between customer experience and customer satisfaction and that customer experience directs to repurchase intention and customer satisfaction through the experience of customers will definitely lead to their intention to re-purchase the product.

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**NUTRITIONAL CHALLENGES AND HEALTH IMPLICATIONS OF FAST FOOD ADDICTION: A  
CRITICAL ANALYSIS AMONG YOUTH**

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**Abstract**

**Purpose** - Extensive use of home-away fast-food has a critical role in the challenges of health issues among youth. Over intake of fast-food and sedentary life style increases life style deceases among youth adults. Now-a-days extensive use of fast-food addiction is very common even in developing countries as well. Most of the fast food contains large amount of sugar, fat, carbohydrate and very few minerals and vitamins. It leads to overweight and obesity among youth. It leads to energy drain and also to mood swing. Study conducted among youth adults and flashes light on how fast food addiction persuaded to health implications in the presence of lack of nutrient diet.

**Design/Methodology/Approach** - The study analysis focused on the test about the impact of over intake in fast foods towards human health along with the mediating role of low nutrient food diet. Here in this study data collected from youth at Palakkad district from Kerala state. 392 respondents addressed with this study.

**Findings** -This study flashes a light on the evidence that high intake of fast food with low nutrient diet will drive to poor health. Structural model was analysed in regard to path coefficients and coefficient of determination (Hair et al., 2017). Table 5 shows that FA was strongly related to LN ( $\beta=0.511$ ,  $t=12.46$   $p < 0.001$ ) and LN was strongly related to HI ( $\beta =0.406$ ,  $t=8.19$   $p < 0.001$ ) and FA predicts HI ( $\beta= 0.613$ ,  $t=21.13$   $p < 0.001$ ) hence conclude direct impact of variables and the related all hypothesis is well-supported and accepted. In order to evaluate the intervening impacts of LN and the association between FA and HI preacher



and Hayes's 2004 method was applied. The indirect effect of LN through FA to HI ( $\beta_1 = 0.486$  with a significant t value of 8.96,  $p < 0.001$ ) these results showed evidence for the mediation effect of LN between FA and HI. Thus, the hypothesis for mediation is well-supported. Adults having healthy food habit can expect a long span life and make free from the risk of life style deceases rather than others those who are in a habit of junk food. Healthy food diets help the young adults to manage easy life and avoid health complications.

But during this modern Era people having a fast life, and there is no choice for healthy foods and normally depends on fast-food with higher in calories with lower nutrients. Study focused on the testing result of hypothesis about health implications as a depended variable is directly affected with the impact of fast food addiction through the mediating role of low rate of nutrient diet at 95 % confidence level.

**Originality/Value** - Study used to analyse the direct relationship between fast food addiction and health implication among youth. Along this it is examined the mediating role of low nutrient diet with fast food intake in health. Study also shows demographic variables like age, Gender, family type and food style like vegetarian or non-vegetarian which influence to take fast-food rather than homely food. Study flashed the effects of low nutrient diet along with the over intake of fast food on health.

**Keywords** - Unhealthy food habits, nutrient diet, sedentary life style, energy drain, mood swing.

## **Introduction**

Food is important for survival as it provides the needy nutrient for human body and fast food, the readily available thing is an important food item in these days (Islam N, et al. 2010). The term 'fast food' was introduced by Merriam-Webster in 1951 which generally refers to food that can be prepared and served quickly (Hossain, et al. 2020). Fast food is popular because of its easy accessibility, convenience and most of all, it tastes good. Fast food makes one feel full and satisfied. All of these properties create an addiction and cravings for fast food.

Now-a-days, people go behind fast food without actually understanding the bad effects of it. A human body requires certain amount of nutrients to perform its basic functions and these nutrients must be obtained from the food we eat, as our body cannot make them on its own (Dietary guidelines for Americans 2015). Through the consumption of fast food, one is really compromising the essential nutrient which is required for human body.

Most of the fast food contains a large amount of sugar, salt, saturated or trans-fats, processed preservatives and carbs and lacks quintessential nutrients such as fiber, vitamins, minerals and antioxidants. Hence, people are taking in unhealthy calories which leads to many health problems such as obesity, memory and learning issues, spike in blood sugar, diabetes, heart disease, allergies, etc., (López-Taboada, et al. 2020). Therefore, recapitulating these corroborations, the following study focuses on how fast food addiction causes low nutrients in human body which ultimately leads to numerous health issues.



## Review of Literature

### **Fast Food Addiction and Low Nutrients**

Fast food is described as high calorie or calorie rich food which lacks essential micronutrients such as vitamins, minerals, amino acids and fiber. These foods do not contain adequate nutrients that our body needs to stay healthy (Ashakiran & Deepthi R, 2012). A good nutritional diet includes excellent micronutrient intake without excess calories. This helps to prolong human life span, decrease the risk of diseases and keep the brain functioning well (Joel Fuhrman, MD, 2018). Even though there is no nutritional value, fast food is created in a way which seems to be tasty, comforting and convenient to access. Gradually, these priorities create an attitude of compromising essential nutrients and it leads to fast food addiction. The exact combination of taste, texture, color and design of fast food are tempting and it generates an obsession in people to eat more of this (Stephanie Kay, 2019). The high amount of sugar, salt, saturated or trans fats, processed preservatives, and other chemicals that are used as ingredients in fast food are not only unhealthy to human body but also prevents the required nutrients in take. This state ultimately leads to low nutrition and other health issues among individuals (Timothy Huzar, 2021).

H1: There is a direct connection between addiction of fast food and low nutrients.

### **Low Nutrients and Detrimental on Health**

Nutritional deficiency occurs when the body is not getting enough nutrients suggest vitamins and minerals deficiencies can lead to a variety of health issues this can include digestion problems skin disorders standard or defective bone growth and even dementia. (K. D. Plessis, 2011) a nutrient rich diet could assist apprentices to maintain a healthy body and mind. (S. Monica, 2016) The study demonstrates that the nutrient insufficiency causes numerous health issues like diabetes, scurvy etc. (Vecchio, Maria Gabriella et al. 2014) health and nutrition are the most important contributory factors for human development. India is going through an impressive economic growth, followed by a very slow decline, almost stagnation in malnutrition levels. (Jere R Behrman, et al. 1988) the chapter presents a review on a number of issues regarding health and nutrition in developing countries and available studies on the detriments on health and nutrition and following their impact on productivity in developing countries.

H2: There is a direct relation between nutritional deficiency and health issues.

### **Fast Food Addiction and Detrimental Effect on Health**

Fast food consumption has been emerging rapidly worldwide because of the changes in lifestyle and dietary habits of people, particularly among teenagers and early adulthood (Askari Majabadi, Hesamedin et al. 2016). Fast food is a mass-produced food designed for commercial sale, which serves a strong aim of speedy food service, ready to eat, and good taste. Instead of using nutritious ingredients these foods kind are prepared using



low quality ingredients such as added sugar, fats, refined grains etc., (Gulati S, et al. 2017). Intake of such unhealthy food and inappropriate frequency of home food consumption raises many health issues, even with the capabilities of posing threat to people's health (Karimi-Shahanjarini A, et al. 2010). Some of the detrimental effect of fast food on health ranges from weight gain in the teenagers (Sharifirad G, et al. 2013), risk of diabetes (Thornton L. E, et al. 2009) and obesity and central adiposity (Sharifirad G, et al. 2013).

H3: There is a detrimental effect of fast food addiction on health.

### **Fast Food Addiction with Low Nutrients and Detrimental Health**

Food is the basic need for human beings that, provides energy to the body and protects from diseases. Fast food is common in our life. Fast food can be prepared and served very quickly, but it is less nutritious as compared to traditional foods. Fast foods are very popular among the youngsters because it is commonly available, low cost and easy to carry, but it has a much adverse effect on human health (Major Md Serazul Islam, Psc 2020). In particular, fast food eating in children is linked to the consumption of nutrient-poor, energy-dense foods, also known as 'noncore foods,' including sugar-sweetened beverages (SSBs), cakes, and potato chips (MdShahedul Islam, et. al 2020). Fast food addiction and its consequences has become a major public health concern globally because of its detrimental health consequences and surging prevalence. Even though its negative effect causes health consequences in all age groups, children and adolescents are more at risk. It may lead to obesity and also it act as a risk factor for many non-communicable diseases (NCD's) like heart diseases, cardiovascular disease, cancer, hypertension, diabetes, etc. (Suraj Sujana, Bohara et. al 2021) Higher consumption of foods purchased outside home increased intakes of energy and nutrients of public health concern, particularly in males and younger adults. (Lyndal Wellard-Cole, et. al 2022). The nutritional characteristics of take-away and fast food items, including their energy density, total fat, and saturated and trans-fatty acid content. It also describes on the association between the consumption of fast food and health problems. The given evidence suggests the nutrient profiles of takeaway and fast foods even may contribute to a variety of negative health outcomes (Jawarowska A, et. al 2013).

H4: There is an impact between fast food addiction and human health with low nutrient diet.

### **Pilot study**

Before Original study a pilot study was conducted among a selected sample of 100 respondents representing youth from Palakkad. To ensure correlation reliability and validity is measured. Data is collected by giving an online questionnaire prepared in five-point Likert scale from this selected samples. As per the suggestions of pilot group relevant changes are made before starting original study.

### **Population and sample**



Population of this research includes young adult at Palakkad district in Kerala. An online questionnaire is circulated to young adults. Total 512 questionnaires were given and 392 collected back. Majority of respondents are students (85.7%) in the age limit of 15-25. Among these 74.7% are from nuclear family. Most of them (87.4%) are non-vegetarians.

### **Analytical approach**

Structural equation modelling (SEM) was adopted in this research, which is considered as a strong multivariate analytical method. From the observational data, primary constructs and their relationships can be identified easily. This tool is also used for testing the projected conceptual framework. Both measurement and structural methods were calculated along with few descriptive statistics. T-Statistics and P- values were measured for the final decision purpose, with a significance level of 95%.

### **Demographic statistics**

This analysis consists of 392 respondents, with the age between, 17 to 20 (38.8%) and 21 to 25 (61.2%) years old. 48.3% were male and the remaining 51.7% were female. Majority of the students consisting from commerce stream, 31.4%, 21.5% from management stream and the rest were from arts and science 47.1%.

### **Normality Test**

A Skewness-Kurtosis method was adopted to analyse every variable's univariate normality (Byrne, 2013). Skewness measures symmetry in distribution. The symmetrical dataset will give a Skewness equal to 0. Kurtosis is the grade of "peakedness of a distribution" (Wolfram MathWorld). In this study, the results were found in their promising scales, respectively. The test supported the univariate distribution normality with Skewness values within the  $-1.96$  to  $+1.96$  range and kurtosis values within  $-7$  and  $+7$  range (Byrne, 2013).

### **Measurement Model**

The measurement model was tested by means of Cronbach alpha, composite reliability, convergent validity and discriminant validity. The initial reliability of the construct has been calculated using Cronbach alpha where value should be more than 0.7 and the composite reliability is also more than 0.7. The construct validity was measured by convergent validity analysis and discriminant validity analysis. As per convergent validity (Table 01) the average of each construct has more than 0.5. Here the fast food addiction has an average construct of 0.677 the low nutrients has 0.721; health issues 0.72. This means all variables have more than the accepted average. So, we can conclude that all the constructs in the conceptual model have the required convergent validity. It also confirms the decrement validity. The square root of the average has to be higher than the correlation of the construct, and here the (Table 02) shows the sufficient standards of the discriminant validity of the analysis. That means the square root of the average of all the constructs  $>$  correlation.



Table 1 Convergent Validity

Constructs	$\lambda$	$\lambda^2$	$1-\lambda^2$	CR	AVE	Square root of AVE
FA1	0.86	0.7396	0.2604	0.866	0.677	0.823
FA2	0.87	0.7569	0.2431			
FA3	0.91	0.8281	0.1719			
FA4	0.89	0.7921	0.2079			
FA5	0.74	0.5476	0.4524			
FA6	0.78	0.6084	0.3916			
FA7	0.86	0.7396	0.2604			
FA8	0.84	0.7056	0.2944			
FA9	0.81	0.6561	0.3439			
FA10	0.74	0.5476	0.4524			
FA11	0.73	0.5329	0.4671			
LN1	0.91	0.8281	0.1719	0.902	0.721	0.849
LN2	0.86	0.7396	0.2604			
LN3	0.83	0.6889	0.3111			
LN4	0.84	0.7056	0.2944			
LN5	0.89	0.7921	0.2079			
LN6	0.92	0.8464	0.1536			
LN7	0.81	0.6561	0.3439			
LN8	0.78	0.6084	0.3916			
LN9	0.79	0.6241	0.3759			
HI1	0.86	0.7396	0.2604	0.907	0.72	0.848
HI2	0.84	0.7056	0.2944			
HI3	0.79	0.6241	0.3759			
HI4	0.88	0.7744	0.2256			
HI5	0.91	0.8281	0.1719			
HI6	0.79	0.6241	0.3759			
HI7	0.83	0.6889	0.3111			
HI8	0.84	0.7056	0.2944			
HI9	0.88	0.7744	0.2256			
HI10	0.86	0.7396	0.2604			

Table 2 Constructs reliability and validity



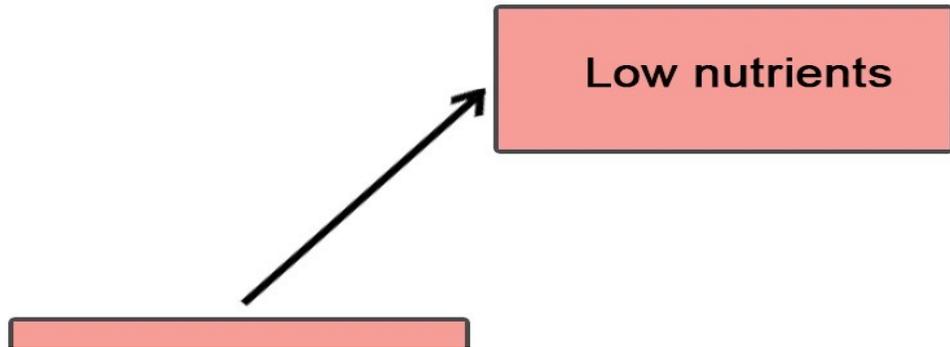
Variables	CA	CR	AVE
FA	0.711	0.866	0.677
LN	0.786	0.902	0.721
HI	0.801	0.907	0.72

Table 3 Discriminant Validity

Square root of the AVE		↔	Correlation		
FA	0.823	↔	LN	0.611	dv>co
LN	0.849	↔	HI	0.592	dv>co
HI	0.848	↔	FA	0.626	dv>co

Table 4 Model Fit Indices

Factors	Values	Factors	Values
CMIN	2.13	DF	1
Chi-square	2.16	P Value	0.000
AGFI	.906	GFI	0.92
TLI	.904	CFI	0.916
RMSEA	0.018	RMR	0.011



**Direct Effect**

Structural model was analysed in regard to path coefficients and coefficient of determination (Hair et al., 2017). Table 5 shows that FA was strongly related to LN ( $\beta=0.511$ ,  $t=12.46$   $p < 0.001$ ) and LN was strongly related to HI ( $\beta =0.406$ ,  $t=8.19$   $p < 0.001$ ) and FA predicts HI ( $\beta= 0.613$ ,  $t=21.13$   $p < 0.001$ ) hence conclude direct impact of variables and the related all hypothesis is well supported and accepted.

Table 5 Direct Effect

Hypotheses	Associations	Factor loading	SE	T Values	R <sup>2</sup>	Decisions
H1	FA→ LN	.511	0.013	12.46	.261	Supported
H2	LN →HI	.406	0.019	8.19	.164	Supported
H3	FA → HI	.613	0.016	21.13	.375	Supported

**Mediation effect**

In order to evaluate the intervening impacts of LN and the association between FA and HI preacher and Hayes’s 2004 method was applied. The indirect effect of LN through FA to HI ( $\beta_1= 0.486$  with a significant t value of 8.96,  $p < 0.001$ ) these results showed evidence for the mediation effect of LN between FA and HI. Thus, the hypothesis for the mediation is well-supported table 6.

Table 6 Mediation Effect



Hypotheses	Associations	Indirect effect	SE	T Statistics	95%CI	Decisions
H4	FA→LN→HI	.486	0.012	8.96	0.021	Supported

## Discussions and conclusions

There is a significant positive relationship between unhealthy fast food addiction and health implications from the data analysis. Fast foods are really quick accessible and ready to mouth. Youngsters are very much attracted to this type of fast foods. The fast food typically includes harmful chemicals and synthetic ingredients (Petra Amchova, 2015). The study focuses on the importance of nutrients and fibre that are needed to manage the appetat, and also to reduce the habit of over eating. Moreover our modern diet includes much sugar content items, processed meat, other unhealthy fast food that is disruptive to normal health. The adaptation of unhealthy food pattern with sedentary life style leads to overweight (Vicente J. Beltrán-Carrillo, 2022) and other harmful lifestyle diseases like diabetic, Cardiac related symptoms etc.

This study flashed on the emerging trend of fast food addiction among Keralites including rural people drive to the unhealthy life conditions and other ageing difficulties. The major reason for the same is mainly increasing nuclear family system and fast life. Youth is not concerning about health but attracted with coloured food as their fashion.

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**AN EMPIRICAL STUDY OF PERFORMANCE APPRAISAL AND ITS INFLUENCE ON  
EMPLOYEE COMMITMENT AND JOB PERFORMANCE IN HIGHER EDUCATION  
INSTITUTIONS**

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**Abstract**

**Purpose** - This study focused on performance appraisal and job performance through employee commitment in Higher Educational institutions. Performance appraisal system is a big task and a structured system to evaluate an employee's productivity and outcomes. It also determines the institution's success or failures. The study used questionnaires to collect data. Suitable statistical measures were used to achieve the research objectives. The study revealed that there is a positive relationship between performance appraisal system and employees job performance. The study also revealed that the Performance Appraisal accelerates Employee commitment which culminates in employee performance.

**Design /Methodology / Approach-** A study was directed to provide how performance appraisal system influenced job performance through employee commitment. This study is focused on employees of higher educational institutions in Palakkad district. Data was collected through questionnaire from 426 faculty members. Structural equation modelling was adopted in this research which is considered as a strong multivariate analytical method.

**Findings** - The main objective of this study is to define performance appraisal constructs and establish their connections to job performance. Rating of performance appraisal is quite difficult without a strong appraisal system. The study found out that both self-financing, aided and Govt colleges use performance appraisal tools



to evaluate employee performance. These tools include setting goals, conducting frequent reviews of employee's performance, giving feedback, and providing the necessary opportunities for training and development. The study revealed that 90% respondents are of opinion that their institution follows 360-degree performance appraisal system. This study also found that 360-degree performance appraisal has a significant impact on an employee's ability to perform their job.

**Originality / Value** - The study explores or investigates the relationship of performance appraisal and job performance through mediating variable employee commitment among the faculties of the Higher Educational Institutions in Palakkad District by theoretical and empirical perspective.

**Keywords** - HEI, employee commitment, performance appraisal, job performance

### **Introduction**

Employees are considered as one of the strongest pillars in an Organization. An employee is hired by the employer after an application and interview process results in their selection as an employee. This selection occurs after the applicant is found by the employer to be the most qualified of their applicants to do the job for which they are hiring. Taking the scenario of Self- Financing Colleges, both teaching and non- teaching staff has a lot of duties to carry out for the upliftment of the institution as a whole. So, it is the responsibility of the Potential Employer to retain such employees in their respective institutions for their progress ahead through continuously motivating them in varied means. In this juncture, emerges the quintessential role Of Performance Appraisal to accelerate their motivation which culminates in Employee Performance. Performance Appraisal is a process for evaluating and documenting how well an employee is carrying out his or her job. It is a part of a company's performance (Armstrong, M. & Baron, A. 2005). It acts as a tool to identify the special talents and capacities of an employee and makes an awareness on the advancements, plans and goals (Teklegn Girma et al. 2016). It is one of the methods to motivate the employees to perform well. Job performance is considered as a multi-dimensional concept. It includes task performance, contextual and adoptive performance. Each of these are related to different aspects of organizational success. (Sonntag et al. 2008). The success of an organization depends on employee's commitment. It is the willingness and effort to work for the betterment of an organization and the desire to remain with them. It is strongly influencing the significant outcomes in the working environment such as absenteeism, turnover, employee performance etc (Peace Irefin. & Mohammed Ali Mechanic, 2014). Lack of employee's commitment lead to loss of efficient employees and high employees' commitment will contribute their energy and time to achieve the organizational vision and mission. (Hunjra A. I. et al. 2010). Performance appraisal system can be a source of employee motivation, which creates commitment among employees towards the organization. It is possible only when employees perceive their performance appraisals as precise and impartial (Thurston Jr. P. W. & Mc Nall, 2010). So, organizations need to make sure that the performance appraisal process is fair and objective so that employee feel sense of justice. Some reviews states that feedback on performance appraisal system is constant improvement in job



performance. Thus an effective performance appraisal system increases employee commitment which in turn improves job performance (Mackey K. & Johnson G. 2000).

## **Literature Review**

### **Performance Appraisal and Employee's Commitment**

Performance appraisal system has been viewed by academics and human resource practitioners as an effective tool for human resource management. Employee performance appraisal are to be used for satisfying training and development needs of employees. (Dr.kofi usei akuoke. & Vincent de Paul kanwetuu, 2012) Performance appraisal intends to evaluate the performance of employees as objectively as possible (Aytac Aydin, 2018). Performance appraisal is widely used to measure and manage employee performance in all kinds of the organization (Sanyal & S. B. Biswas, 2014). The objective evaluation of employee performance has positive relationship with employee affective commitment. Employees are required to generate a total commitment to desired standards of job performance and improved job performance for sustaining profitable growth for the organization and long-term value creation for the customers (Onyemaechi Uchenna. & Agi Godswill Agu. 2018). Organisations try to enhance the employees commitment level in order to show employee loyalty and stability with organization and also minimize cost when employees leave the organization. Whenever an employee gets job satisfaction from organization they are committed and cannot search for other chance. Commitment is a psychological state that characterises the employee relationship with the organization and has implications for the decision to continue or discontinue membership in the organization (Norzanah Mat Nor, et al. 2021).

H1. Performance has significant impact on employee's commitment.

### **Employee Commitment and job performance**

Employee commitment is one of the ideal features that guarantee the complete involvement and dedication of one towards the organizational interests. Studies have reported that employee commitment towards supervisors is positively related to job performance. (Sutanto, Eddy. 1999). Job performance is defined as a work-related outcome referring to the aim to attain organizational objectives measured by the evaluation of performance on job related tasks (Sharma, Borna, & Stearns, 2009) Further another study was conducted in Matara District , Srilanka, on secondary level employees from sixteen divisional secretariats. In this study how three aspects of employee commitment; affective commitment, continuous commitment, and normative commitment were positively correlated with employee performance, of which affective commitment is found to be the most significant of all. (D. G. Nadeeka & T. D. Weerasinghe, 2020). Another parameter – continuous commitment showing an improvement in employee performance was studied in a set of companies in Srilanka. (Dr. Lakmini V. K. & jayathilake, 2016). Employee Commitment plays an important role in organizational improvement. Under this study employee satisfaction and employee commitment were taken as independent variable. The result of the study is that there is a moderate level of interdependence between these variables (Dr.



MubbsherMunawar Khan, et al. 2012). Another study reveals how much employee commitment has role in team culture and associated performance. This study shows that there was an indirect effect of team culture on job performance through employee commitment (Mishra S S and Kasim J J, 2023). Another study reveals that, commitment to the profession has the strongest positive influence on job performance. Commitment has a good Correlation with job performance (Boshoff, C. & Arnolds, C. 1995). Following the literature, we assume that there is significant and positive relationship between employee commitment and job performance. Thus, Employee Commitment, especially affective commitment is the psychological attachment that results loyalty of an employee towards its organization which lead to high productivity in work. Hence, it is hypothesized.

H2. Employee's Commitment has significant impact on job performance

### **Performance appraisal and job performance**

A performance appraisal is an evaluation done on an employee's job performance over a specific period of time. Any organization's most important component is its human resources. Unawarely, the effectiveness of the organisation rests on the work of its personnel. Thus, it is important to regularly review employee performance and provide feedback. A regular evaluation of an employee's performance is known as a performance appraisal(Balla usha, 3 march 2022).The impact of 360-degree feedback and performance reviews on employee work performance is favorable. In light of this, there are a number of performance appraisal techniques, including management by objectives, performance feedback, and 360-degree evaluation, that, if implemented, would improve individuals' performance and, ultimately, organisational performance (Ugo Chuks Okolie. & Abraham Ejogba Orhero. 2020). According to Sopiya's study (2016), there is a positive relation between performance appraisal and job performance. A study states that one purpose of performance appraisal is to improve employee performance (Werther & Davis 1996). According to Ragini Tiwari (2020) job performance and the impact of the performance review process are positively and significantly related. Therefore, effective job performance is one of the benefits when organisations utilise performance appraisal as a motivational strategy. One of the studies, the absence of an appraisal process has a detrimental impact on an employee's performance. (Abbas Homauni, et al. 2021). According to a different study, performance reviews can help employees perform better by identifying their own strengths and limitations (Armstrong, 1990). Private and public organisation have positive association between performance appraisal and employee performance.(Margaret njeri murijuwki & Dr. Rose marje waryoike, 2021).Another study show thatThe relationship between job happiness and performance evaluations has a favourable and significant impact on job performance (Trias Setiawati. & Indah Dwi Ariani, 2019). Employee work performance has been significantly influenced by performance reviews. It demonstrates that there is a strong connection between work performance and performance evaluations.(Moses Wanyama Wanjala. & Geoffrey Kimutai. 2015).The majority of empirical investigations support theoretical ones. It claims that there is a constructive relationship between the employee's performance and the performance review. Therefore, it may be said that there is a theoretical or empirical basis for a positive relationship between performance evaluation and employee performance.



H3. Performance Appraisal has considerable impact on job performance

### **Performance Appraisal and job performance through employees' commitment**

Performance appraisal provided to employees on the basis of their kind of performance and contribution in various aspects of the organization is one of the quintessential means to increase employee's motivation to work more. A well chalked out appraisal system can boost the commitment of the worker which will evidently reflect in their productivity also. Performance appraisal is a formal, structured system of measuring and evaluating an employee's job-related behaviours and outcomes as well as to discover how and why the employee is presently performing on the job and how the employee can perform more effectively in the future. Performance appraisal system is important to any organizational work performance; it determines the organization's success or failure (Deepa, E. et al. 2014). Motivated employees are inspired to go above and beyond the call of duty to help meet business goals. The work climate and job characteristics have a differential effect on employee engagement. Both job and organization resources (performance feedback, autonomy, development opportunities, task variety, welfare, and support from line manager, colleagues and senior management) are linked to positive employee engagement of all types, and might therefore be useful tools for enhancing engagement. Equally, a relatively high level of pressure to produce has a positive effect on employee behaviors (Dr Nadeem S.N. 2021). Employee Performance is outcomes achieved and accomplishments made at work. It is aimed at results as planned. Although performance evaluation is at the heart of performance management (Cardy 2004). Performance is the utmost important factor for survival and sustenance of an organization. Therefore, managing and measuring performance is a big task and challenge for any organization. Performance Appraisal System in due course of time has become an important process from the perspective of business alignment. Performance appraisal system is important to any organizational work performance; it determines the organization's success or failure. Organizational Commitment refers to the amount of involvement an employee has in his/her work. This helps both the worker and the organization to enhance their skills which successively improves the productivity of the organization and therefore the employee. An employee who is involved completely in his/her work is claimed to possess great organizational commitment since it'll make them to become loyal to the corporate and can commit themselves to the organization automatically altogether aspects which ends up in greater improvement in their career as well because the productivity. Now a days, organizations are a facing a tough competition due to an intense flow of knowledge and awareness. So, in order to enhance the complete advantage highly committed employees are needed to the organization for increasing change (Lok & Crawford, 2001). For retaining the employees, the organizations should enhance the organizational commitment (Stallworth, 2003). Organizational commitment is a construct which is significantly associated with the organizational citizenship (Gautam et al. 2004). Thus, Organizational Commitment results in greater employee productivity. Thus, it is a definite possibility that effective performance appraisal systems contribute towards creation of a motivated and committed workforce in an organization which helps the same to become the epitome of eminence.



H4. Performance Appraisal with Employees Commitment has significant impact on Job Performance

#### **Pilot study**

A pilot study of the questionnaire was executed with HEI s in Palakkad district of Kerala, before doing the core study. 426 Faculty members of Higher Educational Institutions were to carry out the same. The validity along with reliability was measured using likert scale and proved reliable. Based on the feedback provided by the respondents, minor corrections were made to the questionnaire.

#### **Population and Sample**

Faculties of Higher Educational Institutions in Palakkad district was considered to be part of this study. Primary data was collected from respondents through google form by a structured questionnaire, which contains two parts; Demographic and Analytical. Total of 650 Questionnaires were circulated, 500 questionnaires were received and 74 questionnaires were rejected due to missing data. Net total of 426 questionnaires were taken in to consideration for the current study. The respondents between the age of 20 to 39, 40 to 59 were included in the study from various Higher Educational Institutions. The sample was taken and analyzed accordingly.

#### **Measuring instruments**

##### **Performance appraisal**

Performance Appraisal was measured by adopting self-reported data, the reliability measured by using Alfa score of 0.798. . And normality tested by using skewness and kurtosis it is in between -1.96 and +1.96. Here 5 point Likert scale was used 1 – strongly disagree and 5 strongly agree.

##### **Employees Commitment**

Employees Commitment was measured by adopting self-reported data, the reliability measured by using Alfa score of 0.898. And normality tested by using skewness and kurtosis it is in between -1.96 and +1.96. Here 5 point Likert scale was used 1 – strongly disagree and 5 strongly agree.

##### **Job Performance**

Job performance was measured by adopting self-reported data, the reliability measured by using Alfa score of 0.845. And normality tested by using skewness and kurtosis it is in between -1.96 and +1.96. Here 5 point Likert scale was used 1- strongly disagree and 5 strongly agree.

#### **Analytical Approach**

This research was conducted with the help of Structural equation modelling (SEM) that is considered as a strong multivariate analytical method. Primary constructs and their relationships can be identified easily by the analysis of observational data. This tool is also appropriate for testing the projected conceptual framework.



Structural models as well as measurements were calculated along with few descriptive statistics. T-Statistics and P- values were measured for the final decision purpose, with a significance level of 95%.

### Demographic statistics

This analysis consists of 426 respondents of faculty members are aged between 20 to 39 (46.62%) and 40 to 59 (44.32%) and the rest have (9.06%) years old. 53.4% were female and the remaining 46.6% were male. Majority of the faculty employed in self-financing colleges (51.6%) and the rest were employed in govt. and aided colleges. Major part of the respondents have more than 10 years of experience (26.6%)

Table 1 Convergent Validity

Constructs	$\lambda$	$\lambda^2$	$1 - \lambda^2$	CR	AVE	Square root of AVE
PA1	0.79	0.6241	0.3759	0.93	0.746	0.863
PA2	0.8	0.64	0.36			
PA3	0.88	0.7744	0.2256			
PA4	0.91	0.8281	0.1719			
PA5	0.94	0.8836	0.1164			
PA6	0.96	0.9216	0.0784			
PA7	0.83	0.6889	0.3111			
PA8	0.86	0.7396	0.2604			
PA9	0.87	0.7569	0.2431			
PA10	0.78	0.6084	0.3916			
EC1	0.77	0.5929	0.4071	0.912	0.734	0.856
EC2	0.92	0.8464	0.1536			
EC3	0.91	0.8281	0.1719			
EC4	0.93	0.8649	0.1351			
EC5	0.72	0.5184	0.4816			
EC6	0.77	0.5929	0.4071			
EC7	0.83	0.6889	0.3111			
EC8	0.87	0.7569	0.2431			
EC9	0.91	0.8281	0.1719			



EC10	0.9	0.81	0.19			
EC11	0.87	0.7569	0.2431			
JP1	0.83	0.6889	0.3111	0.928	0.759	0.871
JP2	0.86	0.7396	0.2604			
JP3	0.84	0.7056	0.2944			
JP4	0.93	0.8649	0.1351			
JP5	0.9	0.81	0.19			
JP6	0.91	0.8281	0.1719			
JP7	0.85	0.7225	0.2775			
JP8	0.83	0.6889	0.3111			
JP9	0.86	0.7396	0.2604			
JP10	0.78	0.6084	0.3916			
JP11	0.91	0.8281	0.1719			
JP12	0.94	0.8836	0.1164			

Table 2 Constructs reliability and validity

Variables	CA	CR	AVE
PA	0.798	.93	.746
EC	0.898	.912	.734
JP	0.845	.928	.759

Table 3 Discriminant Validity

Square root of the AVE		↔	Correlation		
PA	0.863	↔	EC	.732	dv>co
EC	0.856	↔	JP	.631	dv>co
JP	0.871	↔	PA	.745	dv>co



Table 4 Model Fit Indices

Factors	Values	Factors	Values
CMIN	2.221	DF	1
Chi-square	2.01	P Value	0.000
AGFI	.933	GFI	0.923
TLI	.921	CFI	.96
RMSEA	.012	RMR	0.013

**Employee  
Commitment**

### Direct effect

Structural model was analyzed in regard to path coefficients and coefficient of determination (Hair et al., 2017). Table 5 shows that PA was strongly related to EC ( $\beta=0.531$ ,  $t=24.66$   $p < 0.001$ ) and EC was strongly related to JP ( $\beta =0.621$ ,  $t=15.13$   $p < 0.001$ ) and PA predicts JP ( $\beta= 0.731$ ,  $t=8.68$   $p < 0.001$ ) hence conclude direct impact of variables and the related all hypothesis is well supported and accepted.

Table 5 Direct Effect

Hypotheses	Associations	Factor loading	SE	T Values	R <sup>2</sup>	Decisions
H1	PA → EC	.531	0.011	24.66	.281	Supported
H2	EC → JP	.621	0.023	15.13	.385	Supported
H3	PA → JP	.731	0.014	8.68	.534	Supported



### Mediation effect

In order to evaluate the intervening impacts of EC and the association between PA and JP preacher and Hayes's 2004 method was applied. the indirect effect of EC through PA to JP ( $\beta_1 = 0.421$  with a significant t value of 6.632,  $p < 0.001$ ) these results showed evidence for the mediation effect of EC between PA and JP. Thus, the hypothesis for mediation were well supported table 6.

Table 6 Mediation Effect

Hypotheses	Associations	Indirect effect	SE	T Statistics	95%CI	Decisions
H4	PA→EC→JP	.421	0.012	6.632	0.021-0.211	Supported

### Discussion

Performance appraisal is a systematic process of evaluating the employees in higher educational institutions. It is an important tool to examine the employee efficiency in an organization. The purpose of this research study is to identify and analyse the influence of performance appraisal on job performance through employee commitment as a mediating variable. The results of this study indicate that there is a positive relationship between performance appraisal and job performance through employee's commitment, which accept the hypothesis. Such a process provides an insight for an employee on areas of strength and areas of improvement that paves the way for employee development. Employees are more committed to their institution if their performances are acknowledged and rewarded accordingly (Agyare, Ramous, et al. 2016). Once the employee feels the importance of being a productive part of the institution, they will behave responsively towards their institution. This study found out that it enables them to work efficiently.

### Conclusion

This study revealed that there is a positive relationship between performance appraisal and job performance through employee commitment. The questionnaire was developed to collect data from 426 employees working in various HEI which include self-financing colleges, GOVT colleges and aided colleges in Palakkad district. According to the analysis there is significant relationship between performance appraisal and job performance through employee commitment. So, in order to get such positive outcomes, the institution should provide a performance appraisal platform where employees must work with loyalty.



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