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- > **A Product Assortment Planning Model for Fast-Fashion Products in Multi-Brand Retail Outlets for Effective Supply Chain Management**  
Rajendra Desai and N.M.K Bhatta
- > **Effect of Endogenous and Exogenous variables on Customer behavioural intention in Adoption of Digital Banking Services - A Technology Acceptance Model Study in the State of Telangana**  
John Paul M and Ravi Aluvala
- > **Empirical Analysis of Workplace Incivility, Psychological Capital, Turnover Intention and Organizational Commitment in The Indian Service Sector**  
Zahoor Ahmad Parray, Tanveer Ahmad Shah and Shahbaz ul Islam
- > **Entrepreneurial Activities of Women Self-Help Groups and Improvement in Quality of Life and Standard of Living of Members**  
Issac P. Elias and G. John
- > **Impact of Opportunity-Driven Factors on Venture Creation Decision among Non-Resident Indians**  
Shacheendran V. and Subin M. K.
- > **Investigating Unified Payments Interface Linked Applications: Analyzing Preference of Generations**  
S. J. Sureya and V. Josephine Lourdes De Rose
- > **Personal Financial Planning and Financial Wellbeing: A Study on School Teachers in Jorhat District, Assam**  
Kumud Chandra Goswami and Ujjal Bhuyan
- > **Personal Skills are the backbone of Women Agropreneurs: An analytical Purview**  
V. Darling Selvi and P. Jegan
- > **Social Media Entrepreneurship: An Analytical Study Based on Diffusion Innovation Theory in a Selected Population from Vithura Village**  
Sinjitha. V and R. Jansi Rani
- > **The Effect of Performance Appraisal on Job Satisfaction and Organizational Commitment of Select Insurance Employees**  
Khambam Pranay Raj, Ranjana Mary Varghese, Riya Nair and Ravi Varma Polaki
- > **Social Media Entrepreneurship: An Analytical Study Based on Diffusion Innovation Theory in a Selected Population from Vithura Village**  
Sinjitha. V and R. Jansi Rani
- > **BOOK REVIEW**  
UNSHACKLING INDIA - Paul polman and Andrew Winston  
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## Contents

A Product Assortment Planning Model for Fast-Fashion Products in Multi-Brand Retail Outlets for Effective Supply Chain Management <i>Rajendra Desai and N.M.K Bhatta</i>	1
Effect of Endogenous and Exogenous variables on Customer behavioural intention in Adoption of Digital Banking Services - A Technology Acceptance Model Study in the State of Telangana <i>John Paul M and Ravi Aluvala</i>	21
Empirical Analysis of Workplace Incivility, Psychological Capital, Turnover Intention and Organizational Commitment in The Indian Service Sector <i>Zahoor Ahmad Parray, Tanveer Ahmad Shah and Shahbaz ul Islam</i>	32
Entrepreneurial Activities of Women Self-Help Groups and Improvement in Quality of Life and Standard of Living of Members <i>Issac P. Elias and G. John</i>	48
Impact of Opportunity-Driven Factors on Venture Creation Decision among Non-Resident Indians <i>Shacheendran V. and Subin M. K.</i>	56
Investigating Unified Payments Interface Linked Applications: Analyzing Preference of Generations <i>S. J. Sureya and V. Josephine Lourdes De Rose</i>	66
Personal Financial Planning and Financial Wellbeing: A Study on School Teachers in Jorhat District, Assam <i>Kumud Chandra Goswami and Ujjal Bhuyan</i>	72
Personal Skills are the backbone of Women Agropreneurs: An analytical Purview <i>V. Darling Selvi and P. Jegan</i>	79
Social Media Entrepreneurship: An Analytical Study Based on Diffusion Innovation Theory in a Selected Population from Vithura Village <i>Sinjitha. V and R. Jansi Rani</i>	90
The Effect of Performance Appraisal on Job Satisfaction and Organizational Commitment of Select Insurance Employees <i>Khambam Pranay Raj, Ranjana Mary Varghese, Riya Nair and Ravi Varma Polaki</i>	98
The Impact of Transformational Leadership Model on the Psychological Empowerment of Work from Home Employees: A study from the IT sector of India <i>F. Israel Inbaraj, J. Wilfred Angello Gerald and Archana Thulaseedharan</i>	113
Book Review	
Unshackling India Hard Truths And Clear Choices For Economic Revival <i>C.P. Ravindranathan</i>	119



# A Product Assortment Planning Model for Fast-Fashion Products in Multi-Brand Retail Outlets for Effective Supply Chain Management

Prof. Rajendra Desai\*

Prof. N.M.K Bhatta\*\*

## **Purpose**

*Effective Product Assortment Planning is critical for fast-fashion products like clothing and accessories with short lifecycles, a large number of Stock Keeping Units and seasonality of the assortments. Traditional product-based demand forecasting approaches using past data and repeatability of purchase are not very effective for them. Emerging PAP optimization models focus on customizing retail assortment at store levels and developing attribute-based approaches. However, these models are highly complex, thus restricting their utility in the field. This paper presents a model to help plan the supply chain under these conditions.*

## **Design/methodology/approach**

*The authors of this paper developed a model with a modified approach to make it computationally less complex and cost-effective for implementation. The authors developed a Mixed Integer Programming model and solved a Linear Programming relaxation of the model to obtain an effective solution.*

## **Findings**

*Authors validated the model utilizing field data and inputs that could capture merchandiser experience, consumer preferences, retailer constraints and environmental factors for a national brand of leather accessories sold through multi-brand retail outlets and found that the model showed an improvement potential of over 25 % in the objective.*

## **Originality**

*This is an original research conducted by the author, including all fieldwork, pilot implementation and analysis. Since the model was prepared from field data and also implemented to see its effectiveness, it represents a practical and usable model by the Industry straightaway. However, future researchers may implement it in multi-vendor, multi-outlet situations and update the model in accordance with fresh outputs.*

## **Research limitations/implications**

*The model requires further testing and refinement to establish its usefulness, as the current testing was on a small set of data of a representative category. However, considering the similarities in the consumer perception and preferences, retailer constraints and environmental factors, the authors believe this approach of combining data mining with a linear integer model has the potential to deliver superior performance on most categories of fast fashion products.*

## **Practical implications**

*Through this model, the authors attempted to close a significant gap in research concerning replenishment models for fast-fashion products applicable in emerging countries. Since critical parameters like changing customer preferences, and variation in demand due to seasonality, discounting systems etc., have been factored in a while developing the present model, it can be easily extrapolated to multiple suppliers and multiple numbers of retailers.*

**Keywords:** Product Assortment Planning, Multi Brand Outlets, SKUs, k-means clustering, MIP, LP relaxation

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## 1. Introduction

Product Assortment Planning (PAP) models have traditionally used demand forecasting approaches using past data and leveraging repeatability of purchase. These models are not very effective for fast-fashion products due to the short lifecycles, a large number of Stock Keeping Units (SKUs) and seasonality of the assortments.

For the fast fashion products category, Multi Brand Outlets (MBOs) typically have to plan stocks for hundreds of stores across thousands of Stock Keeping Units. Consumer sales of fast-fashion products like clothing and accessories are dependent on the variety, depth and service levels of the SKUs at the point of sale. These products also have the peculiarity of short lifecycles and long production lead times. Hence, profitability for MBOs is heavily dependent on the efficient and effective planning of these stocks.

In the Indian context, fast-fashion products typically follow a 2-season assortment plan – Spring-Summer (April – September) and Autumn-Winter (October-March). The SKU offerings in each season are usually very different. Accounting for consumer preferences and perceptions, working with retail store constraints and environmental factors makes PAP decisions very complex. Hence, PAP becomes substantially dependent on the category merchandiser experience, substitution effects and discounting levels close to the end of the season.

In this paper, the authors studied the existing replenishment models and, utilizing the readily available and reliable data, developed a PAP model that captures merchandiser experience, consumer preferences, retailer constraints and environmental factors. The model utilizes assortment and store-level aggregation. The model has been tested and implemented in a select chain of outlets, and the experience of implementing the model for a brand of accessories sold through these outlets has been presented.

In this model, the authors used k-means clustering\* on sales, supplies and discounting data of the stock

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\* It is a data mining method that aims to partition  $n$  observations into  $k$  clusters in which each observation belongs to the cluster with the nearest mean (cluster centroid), serving as a prototype of the cluster

keeping units (SKU's) of each category of product to create adequately differentiated SKU clusters (representative SKU's). The standardized values of the supplies capture merchandiser experience, sales units capture consumer preferences and discounting reflects any mismatch in these variables. Store clustering using standardized values on the average retail selling price, sales and supplies of the SKUs of the category helped capture store parameters like store profile, size and footfalls-conversion to create representative stores.

We utilized the sell-through rate and average retail price of a representative SKU from historical data in a representative store as our inputs to an Integer Programming (IP) model. Clustering facilitated the reduction of the problem size and convenience of replenishment with similar SKUs to similar stores. The IP model ensured optimum allocation of available stocks for each product cluster – store cluster to maximize sales. The model was tested with data from one category of a fast-fashion product of a national brand. The results were compared with the output of the heuristic methods currently used by the brand. A linear programming relaxation solution of the IP model showed promising results on the data of the accessories planning for a season. The relaxation was in the integer requirement of the stocks for each SKU. The linear programming relaxation of an integer program is easily solved using any standard linear programming technique to obtain a good solution.

## 2. Literature Review

### 2.1 Fast Fashion Products

Fashion and related industries are a collective classification that refers to the garment, footwear, accessory, cosmetics, and fragrance sectors. Often, for simplicity and inclusivity, this amalgam of sectors is described as the apparel industry. It encompasses all facets of dressing, from underwear to outerwear, to shoes, bags, hats, belts, gloves (leather and other materials) and other accessories, jewellery and makeup, fragrance, and bath products, to sports gear and adventure wear, to work and military gear (Nikolay Anguelov, 2020).

Historically, industry insiders referred to "fashion" and "garments" or "accessories" separately. Items described as "fashion" denoted higher price and

target markets, while everything else denoted lower price and mass markets. Improvements in technological efficiency in manufacturing have lowered the pricing of raw materials, whereby higher quality today is available at ever-decreasing prices. This fact has spurred the advent and growth of "fast fashion". (Sheridan et al., 2006)

## 2.2 Demand Forecasting Approaches

Product assortment planning approaches vary across product categories and retailers. Demand forecasting approaches like multinomial logit, exogenous demand, and locational choice have been shown to be effective in assortment planning [Kök, G., M. L. Fisher. 2007]. Suppliers often use relatively simple processes to forecast orders for various SKUs. Time series forecasting methods, such as exponential smoothing, are more commonly used to statistically predict future customer demand, using data on historical orders (Williams and Waller 2010).

While forecasting with temporally aggregated demand, suppliers have generated forecasts of a given retailer's orders using that retailer's past orders. (Jin Yao et al., 2015). Nikolopoulos observed that demand planners still prefer to forecast using temporally aggregated data though abundant analytical evidence can be found in statistics and economics literature on information loss (Nikolopoulos et al. 2011). Even in an autoregressive time series, the existence of information loss has been noticed. (Amemiya and Wu (1972). Therefore, the effects of temporal aggregation can be generalized to include time-series models such as Auto-Regressive Moving Average models with exogenous variables (ARMAX) (Brewer 1973).

## 2.3 Shelf Space Implications on sales in MBR outlets

Harish Abbott and Udatta Palekar, in their research on Retail Replenishment models with display-space elastic demand, covered a single-store multi-product inventory issue in which shelf space was seen to be a major determinant of product sales. The amount of product on display was seen to be impacting the sales. Hence, unless replenishment occurs, the effective shelf space assigned to the product diminishes with time. They incorporated space and cross-space elasticities in their replenishment

model for retail stores and confirmed that retailers strongly believed sales get influenced by the amount of product on display. Therefore, until the product is restocked, there should be a negative impact on the sales rate as the product's sales bring down the amount of product on display. This replenishment model determines optimum intervals between replenishments so as to maximize resultant profits (Harish Abbott, Udatta S. Palekar 2007). Even in this Model, the impact of shelf space on demand for fast-fashion products was not specifically studied.

## 2.4 Vendor Managed Inventory Replenishment Models

Nishant and Ashish proposed a Multiple-retailer replenishment model under vendor-managed inventory to account for the retailer heterogeneity. In this supply chain practice, the supplier is responsible for managing inventory at the retailer's end, which means that it is the supplier who decides, on behalf of the retailer, when to order and how much to order. They developed a nonlinear mixed-integer programming model to arrive at the optimal replenishment frequency and quantity for all retailers to ensure that the total system cost is minimized. (Nishant Kumar Verma and Ashish K. Chatterjee 2016).

Vendor Managed Inventory models have evolved into several variants. One of them, called VMI on consignment, leaves ownership of the item with the supplier until its sale happens (Wang Y, Jiang, & Shen, 2004). Another variant, called VMI with no consignment, was also discussed by some authors, where money gets transferred to the supplier immediately on their delivery to retailers (Lee & Chu, 2005). Notwithstanding which one of these variants is adopted, Vendor Managed Inventory models have generally proven beneficial in terms of reduced inventory cost, improved customer service level, greater transparency and a lower bullwhip effect\* (Yao, Evers, & Dresner, 2007). Retailers also stand to benefit from these models in the form of reduced administrative costs as they are no longer

\* *The bullwhip effect is a concept for explaining fluctuations in inventory or inefficient asset allocation as a result of variation in demand  $x$  as you move further up the supply chain. As such, upstream manufacturers often experience a decrease in forecast accuracy as the buffer increases between the customer and the manufacturer.*

responsible for placing the order from their side (Aichlmayr M, 2000). There are several research studies evaluating the time benefit the supplier has from Vendor Managed Inventory models (Kaipia, Holmstrom, & Tanskanen, 2002) and its variants like shipment coordination mechanism (Cheung & Lee, 2002), sharing of inventory cost (Nagarajan & Rajagoplan, 2008), consolidation of shipment by the supplier (Cetinkaya, Tekin & Lee, 2008), retail shelf allocation (Hariga & Al-ahmari, 2013), multiple-retailer systems under stochastic demand (Mateen, Chateerjee, & Mitra, 2015), etc.

There has been numerous research literature available on this Vendor Managed Inventory System. Single supplier-multiple retailer settings have been studied by Vishwanthan and Piplani (2001), and they proposed a replenishment process under which retailers are replenished at fixed intervals decided by the supplier. Ordering and procurement costs of raw materials were considered by Woo, Hsu and Wu (2001) in their investment and replenishment model. Further literature talked about a model in which the supplier's production cycle was assumed to be constant (Zhang, Liang, Yu, and Yu 2007). Retailers can have different replenishment cycles and order more than once in a production cycle of the supplier. (Zavanella and Zanoni, 2009).

## **2.5 Models with equal and unequal Replenishment Intervals**

The replenishment model proposed by Darwish and Odah, under a single supplier-multiple retailer situation with an upper limit contractual constraint, had shown that retailers have equal replenishment intervals. Verma et al. (2014) generalized this model by relaxing the assumption of equal replenishment intervals and allowing retailers to have unequal replenishment intervals. While equal replenishment intervals might work with fashion products as well, replenishment quantities vary due to customer preferences that change frequently. This needs to be factored-in while developing the model.

## **2.6 Automated store ordering systems**

Automated store ordering systems in retail chains have been discussed in several research works. (Ethrenthal, Honhon, and Woensel 2014). In Automatic Store ordering systems, based on stock-

keeping unit-specific inventory control policies and demand policies and demand forecasts, decisions on replenishment orders are taken automatically. The retail outlet has to share information on historical data on consumer sales, inventory levels and ordering policies with the supplier, and the supplier can use traditional material requirements planning models (see, e.g., Orlicky 1975) to forecast the outlet's replacement orders. Ville Sillanpaa and Juuso Liesio, in their research, discussed the issues concerning the value of modelling low and intermittent consumer demand with distributions of estimating replenishment orders in retail business (Ville Sillanpaa and Juuso Liesio 2018). Jonsson and Mattson describe forecasts produced with material requirements planning models as planned orders. Based on information about the inventory levels, the order policies, the delivery schedules, and demand forecasts are commuted by stimulating the SKU's future replenishment orders and the point estimate forecasts of consumer demand. However, Jonsson and Mattson had shown their reservations about generalizing these results to products with low and intermittent demand (Jonsson and Mattson 2013). Several other authors have also maintained that in many applications, point estimate forecasts are not suitable for modelling low and intermittent demand (e.g., Synder, Ord, and Beaumont 2012; Chapados 2014). While point estimate forecasts can be applied to fast-fashion products, issues like seasonality, end-of-season discounts, fading fashion discounts etc., have not been taken into consideration in these forecast models.

## **2.7 Statistical Time Series Models and Planned Order Replenishment Systems**

From the suppliers' point of view, they require forecasts of incoming orders to plan their inventory control and order picking operations with effectiveness (De Koster, Le-Duc, and Roodbergen 2007). This suggests the use of statistical time series models that predict the store's orders based on their past order data obtained from POS. This method does not take into account the store's current inventory level and hence is not very useful from the retailers' point of view (Williams and Waller 2011). Williams et al. (2014) took care of this aspect in their model by using both POS data and supplier's order history together.



Typically, both the supplier and the retailer agree on fixed and regularly repeating points for ordering each product (Kuhn and Sternbeck 2013). Such planned orders prove quite useful when a retailer is analyzing the effect of large variations in customer demand on quantities covered in replenishment orders. Several authors have concentrated their research on planned orders and reported that using them for forecasting benefits the supplier. Zhao, Xie, and Leung (2002) tested planned orders under different assumptions of demand and found that forecasting with planned orders is far better than forecasting methods which incorporate only sales data or historical order data. Byrne and Heavey (2006) showed that using planned orders also reduces supply chain costs for both the supplier and the retailer. Jonnson and Mattsson (2013) also provided insights about the advantages of planned orders, but their research did not include the performance of planned orders under low and intermittent demand conditions.

## **2.8 Optimization Approaches**

The replenishment model used by Montanari et al. (2015) assumes the use of an economic order quantity (EOQ) based policy by retailers. Kiesmuller and Broekmeulen (2010) have developed optimization models where parameters of retailers' replenishment policies are used as decision variables to minimize both retailers' and suppliers' costs.

Unlike other businesses, in retail, how a customer responds to stockouts mostly depends on customer loyalty (Campo, Gijsbrechts, and Nisol 2000). Retail chains tend to use heuristic order models to replenish stores as costs of lost sales are difficult to estimate. Ethrental and Honhon discussed about a dynamic lot-sizing problem by including the seasonality of demand in the Model (Ethrental, Honhon, and Woensel 2004), and they concluded that replenishing a retail SKU over time is essentially a dynamic lot-sizing problem. Feng, Rao, and Raturi developed approaches for identifying optimal order policies under time-varying demand distributions (Feng, Rao, and Raturi 2011).

## **2.9 Attribute Approaches & Aggregation Models**

In fast-fashion categories like clothing and accessories, extended sales history and complex

demand estimation models are of limited use due to rapidly changing tastes (Fisher M and Vaidyanathan R., 2011). Consumer behaviour issues like substitution are very relevant to fast-fashion categories but equally difficult to model. Hence, models are to be specifically developed for these categories considering changes in consumer behaviour and varying demand patterns with changing seasons and products.

Attribute approaches are more useful for this category of products. In this approach, an SKU is viewed as a set of attributes and historical sales data is used to estimate market shares of each attribute-store combination. Earlier researchers have created effective models which include substitution behaviour but did not consider inventory decisions (Fisher M and Vaidyanathan R., 2011). The attributes approach also allows for forecasting of store-SKU demand for SKUs not currently carried in the stores (Roederkerk et al., 2008)

Researchers have shown product aggregation reduces variance in demand forecasting and better accuracy (Williams & Waller, 2011). Aggregation of inventory holding locations has also been extensively studied by researchers showing variance reduction and lower forecast errors. (Das and Tyagi 1999). Location-based aggregation reduces safety stock and results in variance reduction (Maister 1976).

Many researchers have shown Temporal aggregation (Jin et al., 2015) to reduce variance in demand forecasting, resulting in lower forecast errors. Their conclusion is that the random errors are cancelled in the time series aggregation. They also conclude temporal aggregation impacts forecast accuracy due to loss of information. Loss of information is primarily in the time series properties such as seasonality, autoregressive orders, and short-time cyclical variations.

For the fast-fashion category of products, temporal aggregation would be of limited utility as the preferences change every season. Product and stores (location) aggregation are free from the loss of information identified in temporal aggregation. As we utilize data from half of a season to create the aggregation-based model within the season, we expect some information loss on specific attributes of products or stores as inevitable but not serious.

The improvement in the forecast due to variance reduction far outweighs the loss of information effect for this category of products.

Given below is an Overview of Selected Assortment Optimization Studies with this study added at the end to highlight the similarity and differences (Extension of Rooderke et al., 2013)

Study	Data Type	Modelling of SKU Parameters	Accounting for Similarity Effect	Marketing mix	Assortment endogeneity	Price endogeneity	Store Level optimization	Joint assortment and price optimization
Borin and Farris -1995	Synthetic	SKU-specific	No	Shelf Space	No	No	No	No
McIntyre and Miller -1999	Empirical	SKU-specific	No	Price	No	No	No	Yes
Smith and Agrawal -2000	Synthetic	SKU-specific	Yes	None	No	No	No	No
Chong et al. -2001	Empirical	Brand-specific	Yes	Price, Promotion	No	No	Yes	No
Mahajan and van Ryzin -2001	Synthetic	SKU-specific	Yes	None	No	No	No	No
Kok and Fisher -2007	Empirical	SKU-specific	Yes	Price, Promotion	No	No	Yes	No
Misra -2008	Empirical	Attribute-based	Yes	Price	Yes	No	No	No
Miller et al. -2010	Empirical	SKU-specific	Yes	Price	No	No	No	No
Sinha et al. -2012	Empirical	Attribute-based	Yes	Price	No	No	Yes	Yes
Roederkerk et.al (2013)	Empirical	Attribute-based	Yes	Price, Shelf Space, Promotion	Yes	Yes	Yes	Yes
<b>This study</b>	<b>Empirical</b>	<b>Brand-specific</b>	<b>Yes</b>	<b>Price, Shelf Space, Promotion</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>

### **3. Problem Description and Assumptions:**

To conduct focused research on replenishment models for fast-fashion products under scenarios like heavy seasonality, discounting and changing consumer preferences with special reference to emerging countries like India, where the purchase of fashion products is highly discretionary.

Traditional product assortment planning models presently being used by retailers in these countries are demand forecasting or attribute-based approaches. Attribute-based models have been more effective in the fast-fashion category of products. These models have utilized the market share of attribute-store combinations accounting for some aspects of consumer perceptions and preferences. The effect of merchandiser experience, discounting, variety, depth and service levels of the SKUs at the point of sale are to be adequately addressed in both demand forecasting and attribute-based models.

It is also necessary to study with the help of field data to capture the effects of merchandiser experience, discounting, variety, depth and service levels of SKUs (variables affecting inventory decisions) and combine it with the store profile and product attributes to enable effective PAP decisions for the peculiarities of fast-fashion products. Authors attempted to research in this area and used product and store level aggregation to leverage the variance reduction effect of aggregation and handle the substitution effects. Through this paper, the authors attempted to develop a model which uses the basic tenets of attribute-based models with additional parameters of merchandiser experience, discounting, variety, depth and service levels of the SKUs at the point of sale.

While conducting this research, for ease of computation, the authors assumed equal replenishment intervals. This can be later extended to unequal replenishment intervals.

This research focused on multiple store locations of a retailer using one representative fast-fashion product.

### **4. The Proposed Model**

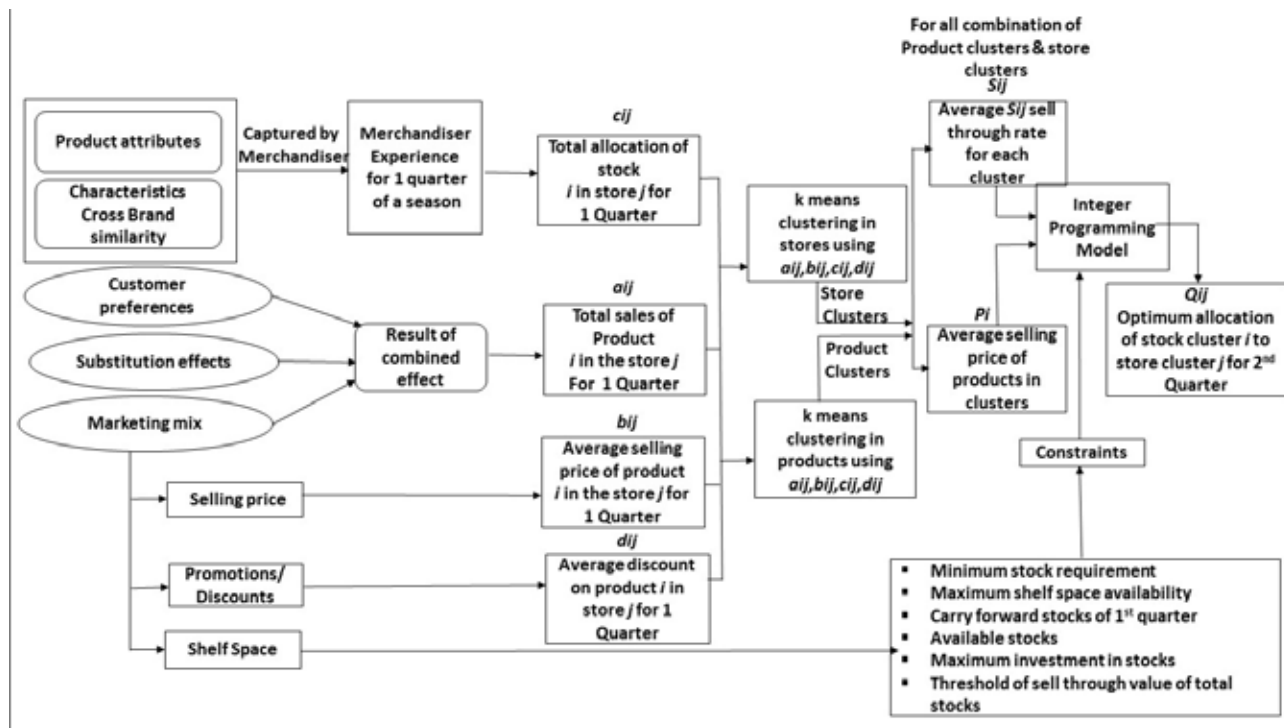
Product Assortment Planning in MBOs dealing with multiple categories, thousands of SKUs and

hundreds of stores is a complex problem. Rooderkerk et al., have in their paper on Optimizing Retail Assortments, developed an implementable and scalable assortment optimization model that adopts an attribute-based approach to capture preferences, substitution patterns and cross-marketing mix effects. They applied their model to store-level scanner data on liquid laundry detergent and could demonstrate an increase in retailer profits in the range of 37 -44%. Their retail assortment planning problem involved finding a store-level assortment that maximizes retail profit while satisfying a set of constraints. Recognizing this problem is NP-complete.\*The authors use a large neighbourhood search heuristic to obtain a good solution.

The merchandisers with retail stores have sophisticated planning tools in the form of ERP systems, up-to-date and reliable sales and stock data. Hence, merchandiser experience, sell-through rates, stock availability and discounting become very useful data for fast-fashion PAP, even for a two-season annual plan.

We use Rooderkerk's Model as the basis of our proposed model. Our focus was to modify the model to make it computationally less complex and cost-effective for implementation. We utilize merchandiser experience of stock planning in a season as a substitute for product attributes and store characteristics. We utilize sales data, selling price and discounting to capture customer preferences, substitution and cross-marketing mix effects. Our retail assortment planning problem involved finding optimal store-level assortment to maximize the sell-through rate for the total stocks of the brand across all the stores while satisfying a set of constraints like availability of SKUs, shelf space, and minimum allocations. We applied our model to store-level scanner data for leather belts of a single brand and could demonstrate an increase in sell-through rate of 35%+ over the existing heuristic-based method in use for replenishment. Our model is a mixed-integer programming model, and we solve a Linear Programming (LP) relaxation of the model to obtain a good solution.

\* NP-complete problems are a class of computational problems for which no efficient solution algorithm has been found.



**Fig.1 Integer Programming Model for PAP proposed by the Authors**

In the model presented in this paper, the data utilized is for one representative retailer with multiple stores across locations with equal replenishment intervals which can be extended to unequal replenishment intervals with some increase in complexity.

## 5. Clustering of products and stores.

For clustering of products, the authors used the past supply quantities for the SKUs of the season to capture the merchandiser experience (includes good/bad decisions), the actual sales quantities to capture the response of the consumer (includes any substitution effects), the actual selling price and MRP of the product (discount at which the SKU's were finally sold) to capture merchandiser reactions to the mismatch between the stocking decisions and consumer response.

The authors used k-means clustering to create adequately differentiated clusters from historical data for each quarter. The number of clusters was determined by a process of trial and error to ensure high F statistic values.\*

\* The use of the F statistic in clustering is called a Pseudo – F statistic – it describes the ratio of cluster variance to within-cluster variance. The higher the number, the more dispersed

The variables used for product clustering of data over the period were - the quantity of the SKUs supplied, sales achieved and average selling price of the product. The variables used for store clustering over the same period were a quantity of category supplies, sales of category supplies and average selling price in the category.

**Data used: For each product 'i' in store 'j'**

$a_{ij}$  = Total Sales over 1 quarter

$b_{ij}$  = Average Selling Price

$c_{ij}$  = Total Supply in the quarter

$d_{ij}$  = Average Discount

$n$  = Number of Product

$m$  = Number of stores

the cluster. The lower the number, the more focused the cluster. Between cluster variance measures how separated clusters are from each other.

**Vectors used for clustering:**

$$\text{Products(P): } x_i = \left( \sum_{j=1}^m a_{ij} \cdot \left( \sum_{l=1}^m b_{lj} \right) / m, \sum_{l=1}^m c_{il} \cdot \left( \sum_{j=1}^m d_{lj} \right) / m \right) \quad \text{for each } i = 1, 2, \dots, n$$

$$\text{Stores(S): } y_j = \left( \sum_{i=1}^n a_{ij} \cdot \left( \sum_{l=1}^m b_{lj} \right) / n, \sum_{l=1}^m c_{il} \cdot \left( \sum_{j=1}^m d_{lj} \right) / n \right) \quad \text{for each } j = 1, 2, \dots, m$$

**Clustering Results:** For Products refer Table 3

For Stores refer Table 1

**k-means clustering of  $x_i$  and  $y_j$  using the following algorithm**

- a. Initialize cluster centroids for a set of values for j and l where j is the number of Product Clusters and l number of Store Clusters)

$\mu_1, \mu_2, \dots, \mu_j$ ; Product Clusters Centroids

$\gamma_1, \gamma_2, \dots, \gamma_l$ ; Stores Clusters Centroids

- b. Repeat till convergence

$$P_{\text{index}} = \text{avg} \min_p \|x_i - \mu_p\|^2$$

$$S_{\text{index}} = \text{avg} \min_q \|y_j - \gamma_q\|^2$$

For each p, q reset centroid using

$$\mu_p = \frac{\sum l. (P_{\text{index}} = p)x_i}{\sum l. (P_{\text{index}} = p)}$$

$$\gamma_q = \frac{\sum l. (S_{\text{index}} = s)y_j}{\sum l. (S_{\text{index}} = s)}$$

Stop at final j, l values that maximize the pseudo F score.

Subsequently, the data for the period (quarter) was scored using the clusters obtained above. The sell-through rate for each product cluster – store cluster combination was obtained for this period. [Table 7]. The integer programming model used these sell-through rates of each product cluster – store cluster combination to enable PAP planning for the 2<sup>nd</sup> quarter of the season.

**5.1 Integer Programming model**

This is a standard integer programming model using the average sell-through rates for each product cluster – store cluster combination extracted from historical data. A separate implementation is required for each category - sub-category of products. Constraints are formulated taking into account ground realities or preferences.

Integer Programming Model for optimal stock cluster allocation to store cluster

$$\text{Objective Function: } Z = \max \sum_{i=1}^n \sum_{j=1}^m S_{ij} \times Q_{ij} \times P_i$$

Where:

$Q_{ij}$  = Quantity of Products in cluster i to be allocated to stores in cluster j

$S_{ij}$  = average sell-through rate of products in cluster i through stores in cluster j

$P_i$  = Average selling price of a product in cluster i

$n$  = Numbers of Product Clusters

$m$  = Numbers of Store Clusters

**Constraint sets**

$$\text{a) } L_j \leq \sum_{i=1}^N Q_{ij} \leq M_j \quad \forall j$$

$$\text{b) } O_i \leq \sum_{j=1}^M Q_{ij} \leq W_i \quad \forall i$$

$$\text{c) } \sum_{i=1}^N P_i \sum_{j=1}^M S_{ij} \times Q_{ij} \geq R \times I$$

$$\text{d) } \sum_{i=1}^N P_i \sum_{j=1}^M Q_{ij} \leq I$$

Where:

$L_j, M_j$ : are lower and upper limits on allocation in store cluster  $j$  due to minimum stock requirement and maximum shelf space available

$O_i, W_j$ : Minimum and Maximum allocation of products in cluster  $i$  due to carry forward stock and available (maximum) stock

R: Threshold for sell through value of total stock

I: Maximum investment in stock

## 6. Validation of the proposed Model with Case Study Data

We tested the model with scanner level data obtained from a retail chain owning 14 multi-band outlets across the country. The authors implemented the model in a firm manufacturing leather accessories and working with the retail chain on a Sale or Return (SOR) model. This firm was an SME owning a national brand of leather accessories with an annual turnover of Rs. 500 Lakhs and worked with many retail chains. The retail chain would share their scanner level data with the firm every month. The firm's PAP model was a heuristic model based on  $(s, S, T)$  and past experience with  $T$  being fixed at 1 month and  $(s, S)$  values based on experience and availability of stocks.

We limited our validation data to this single national brand of leather accessories. We utilized data on the brand SKUs, MRPs, discounts, stock and selling prices for leather belts of the brand, capturing merchandiser experience, substitution effects, and discounting effects on planning allocation/replenishment of stocks for three months of a season. We utilized the model solution of product cluster allocations to store clusters to estimate the improvement in sell-through rates that could be achieved if the model solution was used for the PAP process for the remaining three months of the season. This was compared to the current method being utilized by the retailer, which followed a heuristic-based  $s, S, T$  policy with  $T$  fixed as a monthly interval and  $s$  (min stock values),  $S$  values (max stock values) based on merchandiser experience and availability of stocks.

The validation data was of a smaller dimension with 135 SKUs and 14 MBOs. However, we expect the

model to be as effective in improving the PAP for MBOs working with many categories, 1000's of SKUs and hundreds of stores due to the similarities in the assumptions and objectives of the planning model.

We utilized data for the season Spring-Summer (SS) for 14 stores of a retail chain spread across the country. The stockist had supplied 135 SKUs in the stores. The data of the first three months of the season (April- June) was used to create the product and store clusters. Information captured by the model from data over half the season (3 months) would be relevant and useful to plan SKU-store allocation only for the 2<sup>nd</sup> half of the season. While this may result in overfitting of the model to the data set, the approach is useful and generalizable to any category of fast fashion products, considering the seasonal nature of this assortment planning.

To capture the discounting effect, a ratio of the selling price to the MRP could be used. However, in this sales and stocks data over three months of SS, we did not see a substantial difference in the discounting on the selling price of the SKUs and excluded the discounting variable in our validation process.

Our objective was effective PAP decisions, eventually resulting in an increase in the inventory turnover ratio. We translated this into the objective of maximizing the sales across 'groups of similar' SKUs and stores for each category of products using historical data to estimate the sales effectiveness of each SKU group - store group. We used a sell-through rate as the ratio of sales in the quarter and the average monthly stocks. This ratio is directly proportional to the inventory turns ratio, and we avoided converting our results into the inventory turns ratio. Data on constraints of stock availability, shelf space, carryover stocks, minimum and maximum stocking levels and maximum sales potential of a store were taken into account in the model.

## 7. Results and Discussion

Two adequately differentiated clusters were created from the store data [Table 1]. The store clusters had an F value of 18.7. The sales, stocks and selling price averages for each cluster were used as a representative store of the cluster. The metro stores (larger stores with sizes of 70,000 – 1,00,000 Sq. Ft)

had a higher stocking and higher sales but 6% lower average selling prices. The lower average selling prices are possibly a competition – discount-related effect.

**Table 1: Clustering of April-June data on Stores**

Stores	Cluster	Cluster
	1	2
No. of Stores	6	8
Relative Size	42.9%	57.1%

**CLUSTER AVERAGES –Standardized**

Sales Quantity	1.09	-0.81
Average Selling Price	-0.18	0.13
Supply Quantity	1.11	-0.83

**Calculated Values**

Sales Quantity	791.68	101.62
Average Selling Price	354.13	376.10
Supply Quantity	1052.30	147.65

Results from the K-means cluster analysis

F Value	18.69
SSB/(SSW+SSB)	60.9%

The k means clustering algorithm created the clusters on stores in metro cities and non-metros, as shown in [Table 2].

**Table 2 : Dominant attributes of the store clusters**

Location Code	Location	Cluster	Location Type	Size
1001	MALAD STORE-1	1	<b>Metro</b>	Large
1002	VASHI STORE-2	1	<b>Metro</b>	Large
1006	CYBERABAD STORE-6	1	<b>Metro</b>	Large
1008	EMBASSY PARAGON-BGLR	1	<b>Metro</b>	Large
1009	BIG THANE	1	Non-Metro	Large
1015	BANGALORE 2	1	<b>Metro</b>	Large
1003	BHOPAL	2	Non-Metro	Medium
1005	SUNCITY STORE – 5	2	Non-Metro	Medium
1007	AMRITSAR STORE-7	2	Non-Metro	Large
1010	ALPHA ONE AHMEDABAD	2	Non-Metro	Medium
1014	LUDHIANA	2	Non-Metro	Medium
1016	PUNE	2	Non-Metro	Large
1017	THANE VIVA MALL	2	Non-Metro	Medium
1019	BANGALORE 3	2	Metro	Medium

For the Belt SKUs we utilized 7 product clusters created with an F value of 173 [Table 3]. The lower rows in the table show the average April-June Sales, selling prices and Supply quantities for each cluster.

**Table 3 : Clustering Results: Products**

Belts	Cluster	Cluster	Cluster	Cluster	Cluster	Cluster	Cluster
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
No. of SKUs	28	18	17	32	17	17	6
Relative Size of Cluster	20.7%	13.3%	12.6%	23.7%	12.6%	12.6%	4.4%
<b>Cluster Averages - Standardized and Calculated values</b>							
April-June Sales	-0.657	<b>1.334</b>	<b>0.526</b>	-0.691	-0.692	<b>0.070</b>	<b>3.020</b>
Avg Selling Price	<b>1.377</b>	-0.943	-0.762	-0.080	-1.000	<b>0.869</b>	-0.640
Supply	-0.622	<b>1.356</b>	<b>0.580</b>	-0.761	-0.787	<b>0.295</b>	<b>2.648</b>

Apr-June Sales	5.27	72.56	45.24	4.13	4.09	29.83	129.55
Avg Selling Price	752.65	240.83	280.92	431.33	228.36	640.57	307.66
Supply	10.70	85.69	56.26	5.39	4.42	45.45	134.71

Sell-through rate	0.493	<b>0.847</b>	<b>0.804</b>	0.766	<b>0.926</b>	0.656	<b>0.962</b>
Supplies	300	1542	956	173	75	773	808

**Results of the Cluster Analysis**

F Value 173.74

SSB/(SSW+SSB) 89.1%

These clusters are differentiated in terms of the Belt attributes, retail price, material used, sizes, and buckle designs (flat, reversible, pin, auto-lock), as can be seen in the output below [Table 4].

**Table 4 : Extreme Clusters (1,7) Partial Data with Dominant Attributes clearly visible**

Item Code	Cluster	Retail Price	Material	Color	Buckle	Rvrsble	FORMAL	Plain / design
NDLMB15577	1	895	<b>Leather</b>	B/B	REV	DUAL	FORMAL	PLAIN
NDLMK27545	1	845	<b>Leather</b>	B/B	REV	DUAL	FORMAL	PLAIN
NDLMK31577	1	895	<b>Leather</b>	B/B	REV	DUAL	FORMAL	PLAIN
NDLMK35577	1	895	<b>Leather</b>	B/B	REV	DUAL	FORMAL	PLAIN
NDLMK36577	1	895	<b>Leather</b>	B/B	REV	DUAL	FORMAL	PLAIN
NDLMN04706	1	1095	<b>Leather</b>	B/B	REV	DUAL	FORMAL	DESIGN
HDLML38255	7	395	<b>PU</b>	B/B	PIN	DUAL	FORMAL	DESIGN
HSLBL14223	7	345	<b>PU</b>	BLACK	PIN	SINGLE	FORMAL	PLAIN
HSLBL35223	7	345	<b>PU</b>	BLACK	PIN	SINGLE	FORMAL	DESIGN
HSLBL38223	7	345	<b>PU</b>	BLACK	PIN	SINGLE	FORMAL	DESIGN

A Linear Programming relaxation solution to the Integer Programming optimization model was used to recommend the optimum stock values for each store cluster-product cluster for the July-September quarter of the Spring Summer Season. The total stock actually supplied in July-September, was used as the stocks available (upper limit) constraint for each product cluster. The average price of the stocks in each cluster was an input into the model. [Table 5].



**Table 5 : Belts Clusters - Input into MIP model**

Belt Clusters								
Price & Qty	B1	B2	B3	B4	B5	B6	B7	Total
Avg Selling Price (Rs.)*	729.47	192.80	184.40	351.69	273.94	683.01	264.83	
Stocks Available (Qty)*	291	735	873	1976	39	732	157	4803

\* Clusters are created using April-June Sales, Supplies and Selling Price Data

\* Avg. Selling Price of the Product Clusters and Stocks Available are extracted from the July-September data

The closing stock data of the end of June for each store cluster – product cluster combination was input as the minimum stocking level for this combination and the data is shown in the table below [Table 6].

**Table 6 : Constraints in IP model - stocks carried forward end June for each product –store cluster**

Store Clusters	Belt Clusters							
	B1	B2	B3	B4	B5	B6	B7	Total
Stores Cluster 1 (S1)	73.00	40.00	127.00	268.00	2.00	192.00	19.00	721
Stores Cluster 2 (S2)	33.00	16.00	41.00	66.00	3.00	31.00	7.00	197

Sell-through rates for each store-product cluster combination as an input in the model are shown in the table below. [Table 7]

**Table 7 : Sell through rates from April - June data - input into the IP model**

Store Clusters	Belt Clusters						
	B1	B2	B3	B4	B5	B6	B7
Stores Cluster 1 (S1)	0.69	0.86	0.70	0.87	0.86	0.84	0.86
Stores Cluster 2 (S2)	0.64	0.73	0.76	0.78	0.70	0.72	0.98

The maximum stocking level was set for each store cluster from the July-September data using the actual supplies to each store cluster. A maximum sales potential of each store cluster was added in by arbitrarily increasing the actual sales achieved figures of July-September by 20%. No upper limit was set on the allocation quantity for a product cluster- store cluster.

The existing PAP process used by the brand was as follows - SKUs were planned for two seasons Spring-Summer and Autumn-Winter, and stocks were planned with a two-month lead time for production. Allocation of stocks to each store (or group of stores) was typically once a month.

With so many different features in the SKUs coupled with the need to make 1800+ (135 x 14) allocation decisions every month, the stock allocation process was highly dependent on merchandiser experience implemented through some thumb rules to decide s, S and T values. The thumb rules used were equal quantities allocation to all stores of all SKUs based on stocks availability, a lower (s) and upper limit (S) on stocks in a store, ensuring approximately three months cover on the previous month's sales, topping up a stock of SKUs sold in the previous month, restricting supplies of visibly slow-moving designs and balancing availability at the warehouse.

There was some use of sell-through rate (sales/supply) to understand the movement of the SKUs in stores, but the lack of a completely automated stocks allocation system or model was a drawback in the planning process and was likely to be sub-optimal. Some additional issues were the non-availability of some of the 135

SKUs of the season with the warehouse at the time of allocation and logistics problems of the regulatory and working environment (sales tax forms not reaching the warehouse, natural and manmade disturbances in states, stores having problems of inwards due to lack of space etc.).

A linear programming relaxation solution for the Integer Programming model was used to recommend the optimum  $Q_{ij}$  values for the July-September quarter of the Spring Summer Season. Analytic Solver was used for the solution of the model. The optimum objective value from the model would be the expected sales value if the recommended stocking plan output of the model were to be implemented.

We utilized this current PAP process of the brand to compare the improvement that our model delivered. Our model and its product and store clusters appear to mitigate the effects of these problems showing a 35% + potential improvement, as can be seen from the improved sell-through of 0.82 [Table 8] over the current PAP process sell-through rate of 0.59. [Table 9]

**Table 8 : LP relaxation Solution - recommended stocks allocation plan July-September**

Store Clusters	Belt Clusters							Total
	B1	B2	B3	B4	B5	B6	B7	
Stores Cluster 1 (S1)	258	449	127	1910	36	701	19	3500
Stores Cluster 2 (S2)	33	286	746	66	3	31	138	1303

**Objective Function** = Expected Sales Value (Rs.) **1,450,029**

Stocks Supplied Value (Rs.) **1,762,134**

Sell-through rate expected **0.82**

The output of the existing PAP process and sales was achieved with the sub-optimal stock planning. The sell-through rate of this process was observed to be 0.59.

**Table 9 : Heuristic-based stocks allocation - for the period July-September, actual supply and sales achieved**

Supply	B1	B2	B3	B4	B5	B6	B7	Total Supply
S1	212	568	739	1601	18	515	87	3740
S2	79	167	134	375	21	217	70	1063

Actual Sales Value (Rs.) **1,031,496**

Stocks Supply Value (Rs.) **1,762,134**

Sell-through rate achieved **0.59**

Sales	B1	B2	B3	B4	B5	B6	B7	Total Sales
S1	184	528	631	914	17	173	72	2519
S2	60	148	102	151	19	77	52	609

## **8. Strategic and Managerial Implications of Effective Product Assortment Planning using the model**

In our interaction with the firm where this model was implemented for testing, we were asked if the model could provide direction on the following processes:

1. Identifying designs for each season's production plan and estimating production quantities of each SKU to meet the season's demand
2. Allocation of available stock SKUs to stores with maximum sell-through potential for those SKUs and substitution with similar SKUs in case the stock out / low stocks SKU at store level was not available.
3. Correcting errors of high inventory due to the poor product-store allocation decisions

We evaluated how these issues were being hitherto handled and concluded the firm was using rudimentary methods, convenience and gut feel driven. There was a strong possibility of their decisions being influenced by a memory bias. We implemented the clustering- MIP model, and it showed an encouraging improvement in their financial performance.

### **8.1 Identifying designs for each season's production plan :**

Design identification was largely based on continuing successful designs of the previous season with the addition of a few new experimental designs based on trends projected in fashion magazines. Production quantities were kept at a minimum production run (100 pcs) for new designs, and for old designs, a 10% increment on the quantity sales of the previous season. Issues of raw material availability matching the SKU attributes resulted in some ad hoc substitution of production quantities.

The PAP models suggested by Rooderkerk et al. (2013) and other authors were complex, and with a large number of SKUs the stores would require the firm to use a heuristic approach to find good solutions in a reasonable computational time.

Using a clustering-MIP approach with attributes of the SKUs built into the model and a subsequent decision tree application produced useful insights on attributes which were built into new designs. Production planning was improved by shifting the planning to product clusters rather than individual SKUs. This also helped the firm handle issues of raw material non-availability by providing substitution alternatives based on data of SKUs within a cluster. Our model with attributes built-in and clustering on attributes similarity was useful in reducing the computational time and permitting the search for an optimal solution.

The attributes with the highest impact on sales were implemented in most of the new designs. This action was useful in cutting down the average stocks of raw material required to be maintained by 20% (an average of Rs. 1.2 L per month) by progressively reducing stocks of lower impact attributes. Further, the clustering enabled the reduction of finished goods stocks resulting in the number of SKUs in the leather belts category being reduced from 135 to 110 in the season for the implementation of the model.

### **8.2 Effective allocation of available stocks to stores :**

The existing policy of allocations of stocks to stores was largely based on a 'top up' policy. Whatever was sold was topped up to the initial allocation quantity for the store. Initial stocks were based on the categorization of stores into low, medium and high potential. Initial allocation was equal quantities of the SKUs available. Based on past sales data, stocks in the store were maintained at approximately three times the monthly average sales value. There was no consideration of product attributes or product-store matching on the basis of sell-through rates. In case of non-availability of an SKU, a substitute was supplied closest in price to that SKU.

This rudimentary inventory planning was resorted due to the high volume of data and complexity of working with product attributes and characteristics, local customer preferences, substitution effects and marketing mix elements (pricing, promotions and shelf space).

SKU focused models by earlier researchers would have been useful for working only with specific

aspects of the marketing mix (Shelf Space - Borin and Farris -1995, Price - McIntyre and Miller -1999), substitution effects (Smith and Agrawal -2000).

Our model simplified the capture of most of the aspects relevant to a scientific allocation of stocks. The clustering facilitated the substitution of SKUs considering multiple attributes rather than just the closest price.

The implementation of our model improved the sell-through rates in the following season for this same category of product by 10% over a season. The average sell-through rates were in the range of 0.7-0.85 in the three months of the earlier season. On implementation of the model, these sell-through rates improve to 0.75 – 0.95 in the following season.

### **8.3 Correction of errors due to poor product-store allocation decisions :**

In the firms existing working, correction of errors due to poor product-store allocation decisions was impossible due to the high logistics costs of return of products and re-dispatch. Other than transport, costs of damage and theft in transit added to the costs of poor product-store allocation decisions. This problem was further aggravated by the profiling of stores on their size and sales potential without considering the local effects. The clustering effect resolved these issues with allocation decisions limited to between clusters of products and stores. Store clusters were no longer dependent on the size of the store but based on marketing mix, substitution effects and local competition/ customer preference effects.

The reduction in the closing stock observed an impact of this at the end of the season by 30%, indicating smaller quantities of slow / non-moving stocks in the stores. Some of this could be a combined effect of (1) and (2) above. The high logistics costs for returns of this stock result in this stock being disposed off at a discount before the new season's stocks come to the stores. The discounts on these stocks were also reduced by an average of 5%, considering the small quantities available.

In the year of implementation of our model, the stock turnover ratio for the firm improved substantially. The firm continues to use the model, acknowledging a substantial improvement in their processes (1-3

above). The model outputs are helping them better understand the attributes valued by local customers, substitution effects and reduce costs of errors in product-store allocations.

## **9. Conclusion**

Additional constraints which may have constrained the actual stock allocation plan were not available to see how much they would affect the performance of the model.

While much remains to be explored in the product assortment planning problem, we have presented an approach that should be useful for the fast-fashion category. Our approach uses data readily and reliably available in ERP systems of retailers to enable assortment planning decisions. The model factors in merchandiser experience, consumer response to the assortment and handling of mismatch between the two for the category. The impact of sizes of stores, shelf space allocated to the category and footfalls-conversions is extracted from historical data.

We used product and store clustering on historical data with an integer programming model to optimize the assortment planning for each group of products and stores. The objective was to maximize expected sales from available stocks. For assisting product planning for the following season, we suggest the use of a decision tree algorithm on extreme clusters to understand the attributes affecting the best and the worst performing clusters.

With the basic constraints, the model was able to deliver an improvement of over 35% for the belts category. This is a huge improvement as the existing heuristic method was rudimentary and apparently not a very effective method. Other than some qualitative use of sell-through rate, the data of an earlier quarter with valuable insights was hardly used in the existing stock planning process.

## **10. Contribution**

Through this model, the authors attempted to close a significant gap in research concerning replenishment models for fast-fashion products applicable in emerging countries. Since critical parameters like changing customer preferences, and variation in demand due to seasonality, discounting systems etc., have been factored in while developing the present

model, it can be easily extrapolated to multiple suppliers and multiple numbers of retailers.

## 11. Limitations and Future Scope

Our model in its current form would possibly be useful for ongoing product assortment planning for fast fashion products within a season. Once there is a change of season, the past data required for the model would need to be from an earlier year for the same season.

The model requires further testing and refinement to establish its usefulness, as the current testing was on a small set of data of a representative category. However, considering the similarities in the consumer perception and preferences, retailer constraints and environmental factors, we believe this approach of combining data mining with a linear integer model has the potential to deliver superior performance on most categories of fast fashion products.

Though the model has been created using field data of Indian retail markets, it can be easily extrapolated to all retail situations in any country where fast fashion goods are involved and parameters like seasonality, end-of-season discounts, and fast-changing customer preferences apply.

Further work could be used to explore the attributes of the clusters through the use of a decision tree algorithm with sell-through rate as a target variable. We would be able to determine the specific attributes that dominate the product and store clusters. A tree classification could be useful to determine attributes dominant in the extreme clusters – those with the highest average sell-through rate and the lowest average sell-through rate.

Our data set being small, we did not proceed with the decision tree algorithm as the dominant attributes were clearly visible in the clusters. For belt clusters, PU belts had a superior sell-through rate over clusters with primarily leather belts. [Table 4]. This is possibly due to the data being from stores of a particular retailer that caters to a value-conscious segment. Store clusters were visible as metro/non-metro characteristics dominating the 2 clusters [Table 2].

These characteristics and studying combinations of relevant characteristics would be useful in the

designing and planning of the following season's offerings, including identifying gaps in the product offerings and attributes that are successful /not very successful. While consumer preferences may change from season to season and year on year, the attributes identified in the tables over earlier years (corresponding seasons) can provide useful information to designers and merchandisers. For the category of accessories, the stability of the attribute preferences by consumers is quite high.

Further researchers may also extend this model with unequal replenishment intervals and test its effectiveness in field conditions.

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# Effect of Endogenous and Exogenous variables on Customer behavioural intention in Adoption of Digital Banking Services - A Technology Acceptance Model Study in the State of Telangana

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## A b s t r a c t

*Technological Innovations and advancements in information and communication technology have shown massive growth across industries, including banking. With the internet of things, the stringent and traditional methods of banking have seen a complete metamorphosis from time to time. This has facilitated the customer to have all their banking services at their fingertips without visiting physical banking outlets with their mobile gadgets. It reduces transaction costs and customers' fatigue from standing in long queues, saving time. The mere advancement of technology cannot transform the entire process. There are other factors like extraneous variables or other behavioural-related factors which drive the customers towards the adoption of digital technology. Moreover, the technologies which are vulnerable while dealing with financial-related activities. Hence, the present study is an attempt to examine the endogenous and exogenous variables and their influence on perceived usefulness and perceived ease of use which will influence behavioural intention to drive towards actual usage of digital technologies in banking. The present study examines the opinion of 686 respondents across the Telangana state using E-TAM introduced by Venkatesh and Bala.*

**Keywords:** Digital Banking, Behavioural Intention, E-TAM Model, Adoption and Digital Technologies

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## Introduction:

The banks need to re-engineer and redesign their platforms to build channels through digital technologies. Customers expect increased dynamism at the front end. The existing banking systems are centralized in their operations and traditional in nature, leading to potential delays in implementing the changes in the banking system. The banks should focus on decoupling their existing monolithic approach to compete with the core concept of the digital-only banking approach (*Newman, Sam-2015*). Banks should alter their processes through financial re-engineering through technologies.

The existing data policies in banking are rigid and have no access to the third party until now. Banks did not require any data to share with their competitors or other service providers in banking collaborations. Some banks used their data to improve their product and services. However, the digitalization of the banking sector requires sharing the database with third parties to provide better digital banking services to its customers. The European banks experienced the same in data sharing with the consent of the Customers (*O'Flaherty, K. W., et al.*).

Technology-driven banking sector requires a "one size fits all" approach by facilitating varied options and recommending diversified products to the customers on a bigger scale, the financial diffusion and reduced interactions by using data to provide a personalized customer experience in banking services (*Allen, F., Gu, X., & Jagtiani, J.*). Service providers analyze by integrating various sets of recorded data pertinent to customer like demographic, transaction, interaction, behaviour and application usage etc. Banks can provide and create unique experience to its customers. At the same time customers also expect the privacy, security, trust, perceived advantage, perceived use and cared interactions while dealing with digital channels.

Digital infrastructure, the internet of things, digital awareness and a model of the digital framework are prerequisites for the digitalization of banking services. The government policy should also facilitate promoting digital services to its customers. The services providers of digital banking products should address risk management and provide trust and

other security-related matters to their customers to adopt digital banking services.

## Objectives of the study:

The present study focus to examine

1. To study the Endogenous and Exogenous Variables that influence Perceived Ease of Use and Perceived Usefulness.
2. To study the Behavioural Intention of the customers in adopting Digital Technologies in Banking Sector.

## Hypotheses:

H<sub>01</sub>: Endogenous and Exogenous variables have a positive impact on PU and PEU.

H<sub>02</sub>: PU and PEU has a positive influence on Behavioral Intention.

H<sub>03</sub>: Behavioral Intention has a positive influence on Actual Digital Usage in Banking.

## Preparation of data screening for the analysis:

The researchers collected data by employing a questionnaire and survey method. The data sets are to be screened prior to the analysis to find if there are any missing values in the data sets, outliers, find data rage if there is any deviation from the prescribed range, checking data for normality and conduct of Multi-Collinearity to make statistical analysis effective (Garson, 2015)<sup>1</sup>.

## Analysis of missing data and conduct of imputation:

The researcher employed SPSS software to find the missing values in the Data set. The Univariate Statistics is performed for the quantitative variables and categorical variables in the analysis to identify missing values. The analysis revealed that the data has a very less percentage of missing values which is less than 1% for the item.

The total number of items which has missing data is only nine in the data set under the study. The little's MCAR test is conducted to find whether the values are missing completely at random (Little, R.

J., & Rubin, D. B. 1989)<sup>2</sup>. The test has shown that the Chi-square value is 873.144, df - 824 and significance value =.114 for 686 sample data. Since the test significance value is greater than 0.05, which means that the data missing is completely at random. In order to replace missing values, the researcher has used a widely prevailing and accepted method that is multiple imputation analysis (Van Buuren, S. 2012)<sup>3</sup>.

While conducting multiple imputation analysis, the bootstrapping value is taken as 5 for the simulation and automatic method, i.e., Markov Chain Monte Carlo (MCMC) simulation methods, to predict and replace the missing values for the analysis (Garson, G. D. 2015)<sup>4</sup>. The missing values for the Items SN1, SN2, SN3, IUE5, TRU1, TRU2, TRU3, BK1 and BK2 are assigned.

### **Testing data for Outliers:**

The researcher has used the Mahalanobis Distance method to identify the values which are farthest from the Centroid value from the data by finding the Mahalanobis D-square value. The multivariate outliers are identified by considering the  $P_1$  and  $P_2$  values, which are up to less than 0.05. However, the criteria for the deletion of those outliers permitted less than 10% of the total sample collected (Yuan, K.-H., & Zhong, X. 2013)<sup>5</sup>. The study under consideration has values as per criteria to fit the model. Since data has multivariate outliers, it is very difficult for the researcher to delete all the outliers. Whenever the outliers are removed, additionally new outliers will be identified in case of data having multivariate outliers. In this case, the researchers used the Mahalanobis method (Jarrell, M. G. 1994)<sup>6</sup>.

### **Conduct of Normality Test:**

There are two main statistical tests to measure the normality, i.e. skewness and kurtosis are to be tested whether, the data is normal or not. To find whether the data is symmetric or asymmetric, the statistical measure of skewness is used. The tool kurtosis is used to find the weather data that measures heavy-tailed or light-tailed relative to the normality of distribution. The measurement criteria for the normality to fit the model, the skewness value is determined to be less than three, and the kurtosis is less than three times of the standard error preferred (Sposito et al., 1983)<sup>7</sup>. The above which these values are considered to be

not a good fit for model (Stevens, J. P. 2009)<sup>89</sup>. The annexure is attached to show the values of skewness and kurtosis of the present study.

### **Test for Validity and Reliability:**

The researcher has conducted convergent validity and discriminant validity to ensure validity while conducting CFA for SEM analysis. The study employed a master validity test by using AMOS plugin to obtain the CR, AVE, MSV and correlation table values developed by James Gaskin<sup>10</sup>. This ensures that the factors under the study demonstrate adequate reliability and validity for testing the SEM model.

### **Composite Reliability Test:**

In order to test the internal scale consistency, the researcher has used a composite reliability test for the SEM analysis model. Composite reliability, sometimes referred to as construct reliability, measures the internal consistency of the scale used for CFA. It is similar to Cronbach's alpha which tests in the case of Exploratory Factor analysis (Netemeyer, 2003)<sup>11</sup>. It explains the variance between the total amount of true score variance compared to the total scale score Variance (Brunner & Süß, 2005)<sup>12</sup>. Otherwise, it is the indicator which explains the shared variance between the Observed variables employed as an Indicator of a latent construct (Fornell & Larcker, 1981)<sup>13</sup>.

The threshold for testing composite reliability for CFA is 0.70, said to be good reliability with 0.50 AVE, values anywhere from 0.60 to above are also considered to be reasonable. It is also debatable as different authors have suggested different values for the same. However, it is considered that the smaller the value, the lower will be the reliability level and the larger the composite reliability value, the higher reliability. The values above 0.95 are also considered to be not necessarily good as it is an indication of redundancy of the scale (Hulin, Netemeyer, and Cudeck, 2001)<sup>14</sup>.

The following table is the measure of Composite Reliability used for testing thresholds for evaluating the internal consistency of the scale employed for the SEM analysis.

CONSTRUCT	COMPOSITE RELIABILITY(CR) VALUE
Perceived Usefulness	0.900
Perceived Ease of Use	0.895
Accessibility	0.834
Behavioural Intention	0.836
Risk	0.823
Compatibility	0.894
Trialibility	0.831
Availability	0.712
Trust	0.881
Internet Usage Efficacy	0.905
Social Norms	0.849
Govt. Initiatives	0.913
Bank Promotion	0.875
Actual Digital Usage	0.851
Awareness	0.861

The table above shows the Composite reliability values for the constructs used in the analysis. As per the thresholds prescribed, the CR values are greater than 0.70 for all the constructs, which is considered to be a good reliability for the internal consistency of the scale for the study.

### Convergent Validity

The Average Variance Extracted (AVE) is used to test convergent validity. The convergent validity is a sub-part of the construct validity, where construct validity measures the construct to ensure whether the construct is actually measuring the same purpose or not. The Convergent validity takes two measures and ensures that the construct measures are related. The AVE is greater than 0.5 for all the constructs under the study. The AVE is considered to be a strict measurement which explains the convergent validity. According to Malhotra and Dash (2011), "AVE is a more conservative measure than CR. On the basis of CR alone, the researcher may conclude that the convergent validity of the construct is adequate, even though more than 50% of the variance is due to error." (Malhotra and Dash, 2011, p.702)<sup>15</sup>.

CONSTRUCT	AVERAGE VARIANCE EXPLAINED(AVE)
Perceived Usefulness	0.600
Perceived Ease of Use	0.681
Accessibility	0.558

Behavioural Intention	0.562
Risk	0.699
Compatibility	0.585
Trialibility	0.552
Availability	0.553
Trust	0.653
Internet Usage Efficacy	0.615
Social Norms	0.653
Govt. Initiatives	0.779
Bank Promotion	0.700
Actual Digital Usage	0.741
Awareness	0.756

From the above table, it is evident that all the values are above 0.50 for the construct under the study, and as per the thresholds, the study has fulfilled convergent validity to proceed for CFA.

### Discriminant Validity:

Discriminant validity is a measure which tests the uncorrelated or how distinct is the factors under the study. The discriminant validity is tested by using maximum shared variance, which is supposed to be less than the AVE for testing validity analysis. Discriminant Validity is achieved if the MSV or Average shared squared variance(ASV) is less than the Average Variance Extracted. In general, the AVE is considered to be a strict measurement which explains the convergent validity, it is stated that "AVE is a more conservative measure than CR. On the basis of CR alone, the researcher may conclude that the convergent validity of the construct is adequate, even though more than 50% of the variance is due to error." (Malhotra and Dash, 2011, p.702)<sup>16</sup>. To assess the discriminant validity Fornell and Larckers approach is used where AVE of each construct is supposed to be higher than the squared correlation between the construct and any other construct (Fornell and Larcker, 1981)<sup>17</sup>. The table also shows the MaxR(H), which is the maximum reliability indicator. The acceptable threshold of MaxR(H) is >0.70. It is also called as McDonald's construct reliability. "It shows the H coefficient, which describes the relation between latent construct and the measured indicator. It is unaffected by the sign which an indicator carries in loadings, also draws information from all indicators in such a way that commensurate with their ability to reflect the construct"(Hancock and Mueller, 2001)<sup>18</sup>.

**Table: Maximum Shared Variance and Maximum reliability indicators for Discriminant Validity.**

CONSTRUCT	MSV	MaxR(H)
Perceived Usefulness	0.593	0.901
Perceived Ease of Use	0.616	0.896
Accessibility	0.548	0.842
Behavioural Intention	0.503	0.846
Risk	0.096	0.823
Compatibility	0.596	0.901
Trialability	0.541	0.832
Availability	0.524	0.712
Trust	0.607	0.900
Internet Usage Efficacy	0.539	0.914
Social Norms	0.398	0.864
Govt. Initiatives	0.442	0.914
Bank Promotion	0.645	0.877
Actual Digital Usage	0.485	0.852
Awareness	0.510	0.866

From the above table, it is ensured that the MSV and MaxR(H) thresholds are fulfilled for the study to proceed with the analysis. The MaxR(H) coefficient indicators are above 0.70 as per the prescribed thresholds. And the MSV is less than the AVE.

**Table: Correlation among constructs, AVE and Squared Inter-Construct Correlation matrix.**

	PU	PEU	ACC	BI	RSK	COMP	TRL	AVAI	TRU	IUE	SN	GI	BP	ADU	AWR
PU	<b>0.775</b>														
PEU	0.679	<b>0.825</b>													
ACC	0.674	0.772	<b>0.747</b>												
BI	0.678	0.839	0.712	<b>0.749</b>											
RSK	0.132	0.167	0.163	0.213	<b>0.836</b>										
COM	0.701	0.703	0.804	0.702	0.094	<b>0.765</b>									
TRL	0.662	0.662	0.676	0.722	0.310	0.699	<b>0.743</b>								
AVAI	0.695	0.686	0.715	0.665	0.244	0.735	0.638	<b>0.743</b>							
TRU	0.726	0.779	0.680	0.655	0.000	0.713	0.529	0.581	<b>0.808</b>						
IUE	0.763	0.799	0.687	0.702	0.184	0.772	0.644	0.635	0.711	<b>0.785</b>					
SN	0.572	0.593	0.563	0.579	0.239	0.567	0.521	0.469	0.524	0.595	<b>0.808</b>				
GI	0.586	0.665	0.556	0.562	0.210	0.584	0.524	0.526	0.619	0.615	0.631	<b>0.882</b>			
BP	0.741	0.803	0.625	0.742	0.216	0.758	0.606	0.577	0.646	0.679	0.561	0.626	<b>0.837</b>		
ADU	0.658	0.697	0.619	0.689	0.113	0.692	0.614	0.581	0.604	0.658	0.492	0.530	0.623	<b>0.861</b>	
AWR	0.635	0.714	0.591	0.686	0.169	0.652	0.584	0.545	0.639	0.623	0.536	0.585	0.679	0.602	<b>0.870</b>

The table above shows the values corresponding to the AVE that are being highlighted in block letters. The values in the diagonal indicate correlations of the construct, and the corresponding values are square of correlations between the correlations obtained using the master validity plugins from Gaskins from AMOS software (Gaskin J., & Lim<sup>19</sup>It is stated that if AVE is higher than the square of the inter-construct correlation for each construct, then it is considered that the discriminant validity is supported(Farrell, A. M.<sup>20</sup>. In the above-mentioned model, the master validity table shows that the discriminant validity is established for the model.

## Testing of Model fit Indices for Confirmatory Factor Analysis for SEM:

The model fit indices for the goodness of fit for CFA model measures are stated as per the determinants calculated, and the threshold is given below (Hu and Bentler 1999).<sup>21</sup> The detailed thresholds with contextualized guidelines are stated in Hair et al.<sup>22</sup>. The standardized measures and their threshold i.e., Chi-Square/df (cmin/df) is < 3 good; < 5 is sometimes permissible. The p-value for the model should be >0.05. CFI values > 0.95 is considered to be great, >0.90 traditional; and >0.80 is sometimes permissible as the constructs under the study are large. GFI value is considered to be >0.95 while AGFI is >0.80 as per the base line model (Kaplan, 2000)<sup>23</sup>. However, this is not the same for all circumstances to have the goodness of fit indices greater than the baseline model. As the sample size varies and the number of constructs in the model increase, the prescribed indices change for goodness of fit (Hu & Bentler, 1995, p. 95)<sup>24</sup>. The threshold values for the badness of fit SRMR <0.09 and RMSEA <0.05 is considered to be good, 0.05 to 0.10 is moderate and >.10 is considered to be a bad fit. The incremental fit indices IFI >0.9 and TLI > 0.9. Indices described above of the model change when the model has complexity and a sample of more than 250 sizes, and the achievement of the goodness of fit varies with CFI (Hair et al., 2010)<sup>25</sup>.

## The Measurement Model fit Indices for testing Conceptual TAM Under the Study (Initial Untrimmed model):

The study employed maximum likelihood estimation for assessing CFA for the model test. The ML method estimation, standardized estimates and modification indices were used to calculate model parameters to assess the CFA model fit. The estimated values of the base model under the study are given below.

The Model has  $\chi^2 = 4753.010$ ,  $df = 1627$ ,  $p = .000$  and the CMIN/df i.e.  $\chi^2/df = 2.921$ , The model tested RMR value as 0.056, GFI = 0.802, AGFI=0.770. The baseline comparisons of the model IFI = 0.894, TLI= 0.880, CFI= 0.893 and RMSEA 0.054, PCLOS=0.000. The Untrimmed model has some of the goodness of the fit indices below the prescribed level of measurement. Hence, the researcher has gone for redefining and model trimming to fit the model better.

## Refinement of Model trimming for improving Measurement Indices:

The study focused on improving the model by calculating modification indices. The study has identified regression weights less than 0.7 and factor loading, which is less than 0.5, identified and deleted from the model to get model fit indices to improve. The constructs like RK3, INT1, INT2, UE1, and UE2 are removed from the model to improve model fit indices.

The study also used 'connecting of error' terms to improve the model fit. The following are the values of the trimmed model. The trimmed model has  $\chi^2 = 3635.125$ ,  $df = 1319$ ,  $p = .000$  and the CMIN/df i.e.  $\chi^2/df = 2.756$ . The model tested RMR value as 0.044, GFI = 0.898, AGFI=0.880. The baseline comparisons of the model IFI = 0.914, TLI= 0.903, CFI= 0.914 and RMSEA 0.051. PCLOSE= 0.021. The Untrimmed model has most of the goodness of the fit indices below the values. Hence, the researcher has gone for redefining and model trimming to better fit the model.

The model above has fulfilled the criterion for the goodness of fit for CFA to proceed for the structural equation model to fit ETAM model for the analysis.

## Testing Hypothesized Causal relationship of Structural Model for Conceptual TAM Path analysis:

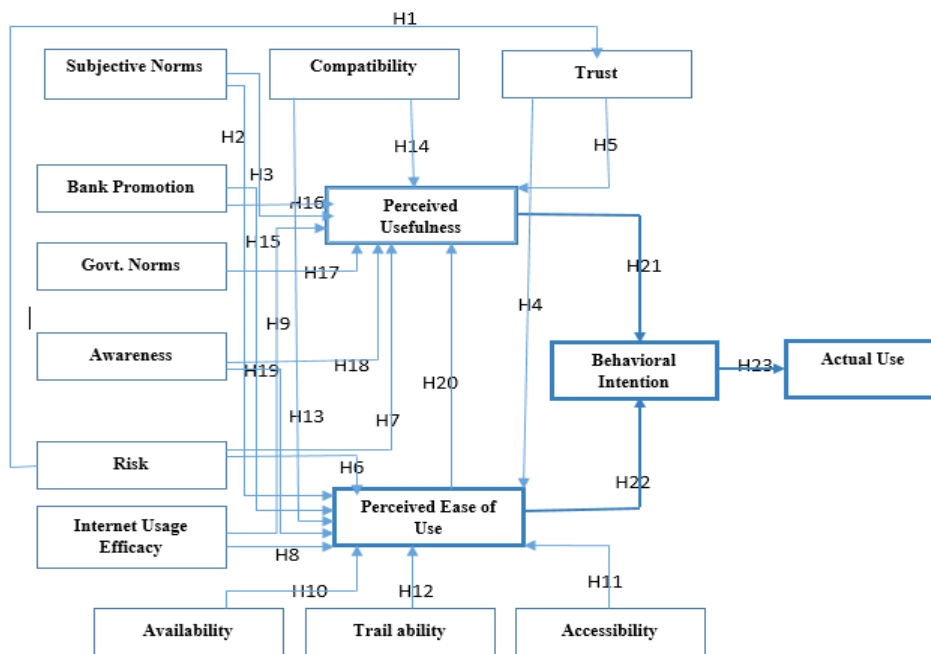
The figure below shows the testing of the conceptual model developed based on TAM3, TAM-3 is an integrated model which explains the individual level acceptance of Technology adoption and its use. Venkatesh and Bala develop this model by considering their own construct of TAM2 (Venkatesh & Davis)<sup>26</sup>, combining it with the actor determinant perceived ease of use and perceived usefulness on customers behavioural intention (Venkatesh)<sup>27</sup>. This model includes independent variables and dependent variables and measures the impact of those variables influencing the Behavioural Intention of the Individuals in adopting digital technologies in the banking sector (FinTech).

The present model has taken the variables, i.e., risk, trust, government initiatives, bankers promotion, awareness, social influence and internet usage

efficacy, on the variables perceived usefulness and perceived ease of use which will reflect on the behavioural intention of the individuals to drive towards actual usage of the system. On the other hand, the study also focused on testing variables like compatibility of technologies, availability, trialability, and accessibility influence the perceived ease of use, which will reflect on the behavioural intention to use digital technologies.

The figure below shows the path analysis of the Conceptual model developed based on the integrated TAM3 model developed by Venkatesh and Bala.

**Conceptual Frame Work of TAM for Digital Technologies Acceptance in the Banking Sector:**



The figure above is the conceptual model Developed by taking the Venkatesh and Bala E-TAM model to study the present Technology acceptance level in Banking Sector. The model incorporates the other variables, like availability, accessibility, awareness and trialibility etc., into the model to study the influence of exogenous variables on the acceptance model. It considers the basic TAM with extended variables for the analysis under the study.

**The standard regression weights calculated for the variables to test relation using E-TAM Model.**

Path analysis relation		Estimate	SE.	CR.	P-Value	Decision
TRU	<--- RK	.043	.052	.818	.413	Not Supported
PEU	<--- SN	.018	.018	1.000	.317	Not Supported
PU	<--- SN	.048	.021	2.280	.023	Supported
PEU	<--- TRU	.202	.026	7.662	***	Supported
PU	<--- TRU	.121	.033	3.701	***	Supported
PEU	<--- RK	.063	.028	2.285	.022	Supported
PU	<--- RK	.015	.032	.452	.651	Not Supported
PEU	<--- IUE	.138	.021	6.684	***	Supported
PU	<--- IUE	.109	.026	4.192	***	Supported
PEU	<--- AVL	-.001	.022	-.068	.946	Not Supported

Path analysis relation			Estimate	SE.	CR.	P-Value	Decision
PEU	<---	ACC	.101	.020	5.116	***	Supported
PEU	<---	TRL	.012	.026	.464	.643	Not Supported
PEU	<---	COM	.379	.030	12.791	***	Supported
PU	<---	COM	.412	.046	8.951	***	Supported
PEU	<---	BKP	.154	.019	7.940	***	Supported
PU	<---	BKP	.083	.025	3.343	***	Supported
PU	<---	GVT.P	.002	.018	.122	.903	Not Supported
PEU	<---	AWR	.113	.020	5.590	***	Supported
PU	<---	AWR	-.024	.024	-.972	.331	Not Supported
PU	<---	PEU	.298	.084	3.565	***	Supported
BI	<---	PU	.215	.061	3.541	***	Supported
BI	<---	PEU	.656	.083	7.871	***	Supported
ADU	<---	BI	.916	.082	11.242	***	Supported

### Estimates of the R Square Coefficient Value for the Dependent Variables:

The table below shows the  $R^2$  coefficient value for the dependent variables perceived ease of use, perceived usefulness, behavioural intention and actual system usage for the conceptual model under the study. The  $R^2$  value indicates the variance caused by the independent variable on the dependent variable under the study. The  $R^2$  value indicates that high or low in accordance with the use and context with which the regression model is developed.

Dependent Variables	R Square Value
Perceived Ease of Use	.907
Perceived Usefulness	.888
Behavioural Intention	.747
Actual Digital System Usage	.528

### Summary of Hypotheses testing using Path analysis:

The path model established above shows the causal relationship between the constructs and the study adopted to test the hypotheses.

	Hypotheses Statement	Decision
H <sub>1</sub>	Perceived risk positively influences the trust of the individuals in adopting digital technologies in the banking sector(Fintech).	Not Supported
H <sub>2</sub>	Social Norms positively influence perceived ease of use in adopting digital technologies in the banking sector(Fintech).	Not Supported
H <sub>3</sub>	Social Norms positively influence perceived usefulness in adopting digital technologies in the banking sector(Fintech).	Supported

H <sub>4</sub>	Trust positively influence perceived usefulness in adopting digital technologies in the banking sector(Fintech).	Supported
H <sub>5</sub>	Trust positively influence perceived usefulness in adopting digital technologies in the banking sector(Fintech).	Supported
H <sub>6</sub>	Perceived risk negatively influences perceived usefulness in adopting digital technologies in the banking sector(Fintech).	Supported
H <sub>7</sub>	Perceived risk negatively influences perceived usefulness in adopting digital technologies in the banking sector(Fintech).	Not Supported



H <sub>8</sub>	Internet Usage efficacy positively influences perceived usefulness in adopting digital technologies in the banking sector(Fintech).	Supported
H <sub>9</sub>	Internet Usage efficacy positively influences perceived usefulness in adopting digital technologies in the banking sector(Fintech).	Supported
H <sub>10</sub>	The availability factor positively influences the PEU in adopting digital technologies in the banking sector(Fintech).	Not Supported
H <sub>11</sub>	Accessibility factor positively influences PEU's adoption of digital technologies in the banking sector(Fintech).	Supported
H <sub>12</sub>	The trial ability factor positively influences the PEU in adopting digital technologies in the banking sector(Fintech).	Not Supported
H <sub>13</sub>	The compatibility factor positively influences the PEU in adopting digital technologies in the banking sector(Fintech).	Supported
H <sub>14</sub>	Compatibility factor positively influences the PU in adopting digital technologies in the banking sector(Fintech).	Supported
H <sub>15</sub>	Banks promotions positively influence PEU in adopting digital technologies in the banking sector(Fintech).	Supported
H <sub>16</sub>	Banks promotions positively influence PU in adopting digital technologies in the banking sector(Fintech).	Supported
H <sub>17</sub>	Govt. initiatives positively influence PU in adopting digital technologies in the banking sector(Fintech).	Not Supported
H <sub>18</sub>	Awareness positively influences PU in adopting the Digital Technologies in the banking sector(Fintech)	Supported

H <sub>19</sub>	Awareness positively influences PEU in adopting digital technologies in the banking sector(Fintech).	Not Supported
H <sub>20</sub>	Perceived Ease of Use positively influences perceived usefulness in adopting digital technologies in the banking sector(Fintech).	Supported
H <sub>21</sub>	Perceived usefulness positively influences individuals' behavioural intention in adopting digital technologies in the banking sector(Fintech).	Supported
H <sub>22</sub>	Perceived Ease of Use positively influences individuals' behavioural intention in adopting digital technologies in the banking sector(Fintech).	Supported
H <sub>23</sub>	Behavioural intention positively influences the actual digital usage of individuals in adopting digital technologies in the banking sector(Fintech).	Supported

**Discussion and conclusion:**

From the above data, it is evident that the factors influencing the adoption of digital technologies have a significant impact on the dependent variables like perceived ease of use and perceived usefulness. It, in turn, had resulted in the actual digital usage of technologies in the banking sector. The basic TAM Model, which includes only PU and PEU on behavioural intention, has shown that the model proposed by Davis (1986) is significant, and it can be accepted from the model that the respondents are willing to accept the technologies in banking. However, the study also attempted to understand the other exogenous and endogenous variables that influence perceived ease of use and perceived usefulness of the technologies, which reflects and impacts the behavioural intention of the respondents in using the technologies. When different variables were tested, the factors of social norms, the availability of technologies, and the trialability factor had no positive impact on the perceived ease of use. The factors like risk, government support and awareness have not influenced the perceived usefulness of the technologies in banking. The study

compared the  $R^2$  value to measure how well the Regression model is fit for the study made based on the Beta Values. The  $R^2$  value for the dependant variable perceived usefulness is .888 (88.8%), which is considered a good indicator that the variables strongly impact the construct. The  $R^2$  value for the dependant variable perceived ease of use is .907 (90.7%). It strongly explains the variance caused by Independent variables on the perceived ease of use. For the construct behavioural intention, the  $R^2$  value is .747, which indicates that the PU and PEU cause 74.7% of the variance, and the actual digital usage is .528. When compared to other variables for the construct, the actual digital use is significant, but it is moderate, where 52.8% only results in actual digital system usage of technologies in the banking sector.

Finally, the study concludes that the respondents under the study have a positive opinion which indicates that the usage of technologies has an advantage. It is a good sign from the respondents, which shows a high level of variance that caused perceived usefulness and perceived ease of use of technologies that drive the behavioural intention of the respondents. However, the final adoption of the technologies is not in the same accordance with the positive opinion of the respondents. There is a need to address certain issues restraining the respondents in resulting in actual usage.

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# Empirical Analysis of Workplace Incivility, Psychological Capital, Turnover Intention and Organizational Commitment in the Indian Service Sector

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## A b s t r a c t

*The primary goal of this study is to explore the relationship between psychological capital, organisational commitment, workplace incivility, and turnover intention in India's service sector. Only a few groups of scholars have studied these constructs, and these scholars have not analysed the relationships among these variables jointly. The Structural Equation Modelling (SEM) was used to test the hypotheses. The data was gathered from 750 service sector employees in India. According to the findings, psychological capital decreases the chances of workplace incivility and turnover intention. Furthermore, workplace incivility weakens organisational commitment and increases the chances of employees leaving the organisation. This research study intends to enlighten unexplored issues of organisational behaviour in India's service sector. The proposed research model has practical implication that the psychological capital creates positive emotions to enhance organisational commitment and in turn reduces the negative outcomes like incivility at the workplace and turnover intention.*

**Keywords:** *Organisational commitment, Positive organisational behaviour, Psychological capital, Turnover intention, and Workplace incivility,*

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## **1. Introduction**

Employee's behaviour is of great concern nowadays. The issues of psychological capital, organisational commitment, workplace incivility, and turnover intention have attracted the attention of many scholars. Psychological capital has emerged as a new management philosophy to promote the firm's long-term development, the development of better job attitudes among employees, as well as their knowledge and skills to increase productivity and efficiency. Organisations with a great amount of psychological capital have better chances to survive and thrive in the market. At the same time, workplace incivility has become a major issue within organisations, and different ways are tried to overcome it. However, in the Indian service sector, human resources policies for employee development include traditional policies such as better salary, bonuses, and work rewards, which are insufficient to achieve employees' dedication and interest towards organisations. As a result, firms must focus on psychological capital as a tool in addition to traditional human and social capital to boost employee commitment and interest. Therefore, this study will analyse the relationship between psychological capital, organisational commitment, workplace incivility, and turnover intention and the interrelationship of these variables to their roles in the maintenance and development of organisations in particular and the service sector in general. There is a wealth of research on the association between psychological capital, organisational commitment, workplace incivility, and turnover intention. Typical findings include psychological capital and workplace incivility (Norman, Avey, Nimnicht, and Graber Pigeon 2010; Roberts et al. 2011), psychological capital and turnover intention (Luthans, Smith, and Palmer, 2010), psychological capital and commitment (Youssef and Luthans, 2007; Larson and Luthans, 2006; Sen et al., 2017; Kim et al., 2017; Allen and Meyer, 1990; Etebarian et al., 2012), organisational commitment and turnover intention (Lee & Mowday, 1987; Michaels & Spector, 1982; Abrams, Ando, & Hinkle, 1998), workplace incivility and organisation commitment (Leiter and Maslach 1988; Wright and Cropanzano, 1998), and, workplace incivility and turnover intention (Cortina et al. 2001). However, these studies focus on these constructs individually, whereas there is no

such attempt made by the scholars to see the link between psychological capital, workplace incivility, organisation commitment, and turnover intention of employees collectively in a single model. The existing research cited above has not focused on employee's characteristics of the services sector in emerging markets, especially in India. This research will assist firms in understanding the role of psychological capital on organisational commitment, workplace incivility, and turnover intention to urge employees to perform more successfully and improve India's socio-economic growth.

## **2. Literature Review and Hypotheses Development**

### **2.1 Conceptual background**

#### **2.1.1 Psychological capital**

The psychological capital concept appears within the discipline of organisational behaviour during the start of the 21<sup>st</sup> century and plays an important contribution to the positive organisation behaviour movement (POB). The movement of positive psychology in organisations has strengthened the belief that psychological strengths and other tangible resources can help an organisation reshape employees' attitudes and promote desirable job outcomes (Lyubomirsky et al., 2005). Seligman (2002) says, "when we are engaged (absorbed inflow), perhaps we are investing, building psychological capital for our future." According to Avey et al. (2011), the efficiency and pertinence of positive psychological capital are favourably connected to desired job outcomes and adversely related to unpleasant job outcomes in their study. Psychological capital is stated as an individual's positive psychological condition of development, which is made up of four positive psychological resources: self-efficacy, optimism, hope, and resilience (Luthans et al., 2007). These four components are known as positive psychological capital, and they form the foundation of positive organisational behaviour (POB) (Luthans & Youssef, 2007). According to Luthans (2004), Psychological capital is beyond an organisation's human and social capital. While the focus of economic capital was on "what you have?" human capital focussed on "what you know?" and social capital focussed on "whom you know?", Psychological Capital in contrast to these, concentrates on individual "Who you are?"

and "what you can become?" (Luthans, Avey, Avolio, Norman, & Combs, 2006).

### **2.1.3 Workplace Incivility:**

Incivility, which is common in the workplace (Pearson & Porath, 2005), has become a research topic in organisational and social sciences (Lim, Cortina, & Magley, 2008), and it has infected organisational culture and workplaces (Pearson, C.M., 2011). Incivility in the workplace, according to Martin (1996), includes incorrectly answering the phone (e.g., just saying "yes"), failure to utilise courtesy (e.g., please and thank you), impatiently waiting over someone busy and leaving half a cup of coffee to avoid boiling another pot. Incivility at the workplace can be defined as disrespect towards other employees, interpersonal conflict or mistreatment among employees, and not recognising employees' good performances (Clark, Farnsworth, & Landrum, 2009). Most researchers have stated workplace incivility as a low-level harmful behaviour that can disrupt an organisation's norms (Andersson and Pearson, 1999). Incivility at the workplace leads to a negative organisational environment, which increases the rude behaviour of employees (Ghosh, Dierkes, and Falletta 2011). Workers who perceive rude behaviour in the workplace may express frustration, irritation, stress, or violent behaviour (Speedy, 2006; Reio & Ghosh, 2009; Sidle, 2009). Several negative organisational and health outcomes have been suggested by various researchers related to incivility at the workplace (Laschinger et al., 2012; Oyeleye et al., 2013, Lanzo et al., 2016, Hur et al. 2016). It was found that employees who become the targets of rude behaviour in the workplace may prefer to hide their feelings, which would sooner or later affect their good fortune and performance.

### **2.1.4 Organisational Commitment.**

Organisational commitment is an important variable in the field of organisational behaviour (Al Sada et al. 2017) as researchers are paying attention to the organisational commitment from time to time (Mowday et al., 1982; Chughtai and Zafar, 2006). The significance of organisational commitment in the field of organisational behaviour literature is that employee commitment towards their organisation has frequently been recognised as a substantial factor that regulates their job-related behaviours in

the organisations (Mowday et al., 1979; Meyer et al., 2002). Many researchers have provided descriptions and perspectives on organisational commitment and its components (O'Reilly and Chatman, 1986; Mowday et al., 1979). Al-Sada et al. (2017) stated commitment is an emotional state which creates the bond between the employees and the organisation and helps to create a sense among them whether to leave or stay with their organisation. Shoaib et al. (2021) suggested that because the corporate environment is continually changing, administrators and managers must develop new approaches to boost employee faithfulness and their commitment to the organisation. This helps organisations not only to increase their production and efficiency but also to help them gain a competitive advantage (Yiing and Ahmad, 2009). Organisational commitment, according to Meyer and Allen (1991), is split into three parts: (1) continuous commitment, in which employees consider costs and benefits before leaving the organisation, (2) normative commitment, in which workers improve their positive mental state when they receive incentives, thereby remains with the organisation (3) effective commitment, in which the employee develops a personal and emotional state with the organisation.

### **2.1.5 Turnover intention:**

The turnover intention concept in the existing literature has been used with different terms like tendency to leave, committed to leaving or intention to quit from the organisation. Turnover is a critical issue in organisations, not only for the employer but also for the entire organisation. It has both good and bad elements (Phillips and Connell, 2003). An employee's job withdrawal from their organisation and occupation, as well as their search for alternative positions, is termed as turnover intention (Blau 2007). Turnover intention is stated by Jaros (1997) as an employee's wish or desire to leave an organisation. Many studies have been conducted on turnover intentions in the field of human resources and organisational behaviour during the last few decades (Lee and Mowday, 1987; Tett and Meyer, 1993; Burguess et al., 2001). The term turnover is a noun that refers to the influx and outflow of people in an organisation, and it is a highly prevalent organisational occurrence. Involuntary and voluntary turnover are the two types of turnover. Turnover is

associated with the number of bad consequences for the organisations and has several social implications (Dalton and Todor, 1979).

## **2.1 Research hypotheses**

### **2.1.1 Psychological capital & Workplace incivility**

Roberts et al. (2011) discovered the link between workplace incivility, psychological capital, and stress concluding that people with a greater level of psychological capital have fewer chances to engage in CWBs (counterproductive work behaviours) and therefore have fewer odds of uncivil behaviour at work. Psychological capital has been shown to minimise negative workplace behaviours and increase good workplace behaviours. High levels of psychological capital were linked to lower counter-productivity (Avey, Luthans, and Youssef, 2010). They further discovered psychological capital was a stronger predictor of CWBs, showing that psychological capital and workplace misbehaviour are strongly linked. Norman et al. (2010) revealed that psychological capital was both directly and indirectly associated with workplace misbehaviour through organisational identity. According to Hashemi et al. (2018), employees with strong psychological capital is said to have psychological resources to avoid harmful behaviours such as workplace incivility, workplace violence, emotional weariness, and abusive supervision. The employees having high psychological capital remain calm, hopeful, optimistic, faithful, consistent and resilient whenever any untoward thing prevails (Woolley, Caza, & Levy, 2011).

As a result, we recommend the following hypotheses to be tested:

H1. Psychological capital negatively affects employees' workplace incivility.

H1a. Self-efficacy negatively affects employees' workplace incivility.

H1b. Optimism negatively affects employees' workplace incivility.

H1c. Hope negatively affects employees' workplace incivility.

H1d. Resilience negatively affects employees' workplace incivility.

### **2.2.2 Psychological capital & Turnover intention:**

Previous research has recommended that psychological capital and turnover intention are negatively related due to employees' tendency towards optimism (Avey et al., 2009, 2010). Many studies show that workers with a higher degree of psychological capital have better job satisfaction as well as a positive attitude, which leads them to stay in their jobs (Luthans et al., 2005, 2007). Employees who are happy in their jobs and with their employers have fewer chances to leave the organisation, demonstrating psychological capital has a negative effect on turnover intentions (Avey et al. 2010). A study conducted by Youssef (2004) on managerial and non-managerial employees found a positive and strong link between psychological capital and turnover intention. Employees with high psychological capital show a reduced tendency to leave the organisation even in high-stressed work conditions (Chiu&Tsai,2006; Wright&Boneet, 1997). Employees who always remain positive about their work situations, and show dedication are highly optimistic about their achievements and are satisfied with their work and have lower chances of leaving the organisation (Avey et al. 2009, 2010). De Lange et al. (2008) and Sweetman and Luthans (2010) discovered that workers with greater psychological capital do not engage in turnover intention behaviour. Another study conducted by Abbas et al. (2014) claimed that psychological capital helps employees to develop positive thoughts that do not allow employees minds for negative thoughts, such as intention to leave the organisation. In light of the above literature, we will identify whether the hypothesis given below holds in India's service sector.

H2: Psychological capital has negative relation with the Turnover intention

### **2.2.3 Psychological capital and organisational commitment**

Many empirical and theoretical research studies were conducted to better understand the association between psychological capital and organisational commitment. It has been discovered that a higher amount of psychological capital is beneficial to increase organisational commitment

and the willingness of employees to remain with the organisation for a long time (Larson and Luthans, 2006; Kim et al., 2017). Various studies have been conducted to see the relationship between psychological capital and organisational commitment (Etebarian et al., 2012; Youssef and Luthans, 2007; Sen et al., 2017). The sub-components of psychological capital also act as a powerful tool to enhance the level of commitment among employees working in different organisations. In his study, Schneider (2001) suggested that optimism is a person's optimistic tendency to survive difficulties and challenges in life. Employees having an optimistic approach helps them to expect better future happenings in case there are uncertain environmental circumstances (Carver and Scheier, 2002). Furthermore, resilient employees will respond positively to adversity or take considerable risks for the company's benefit (Masten and Reed, 2002). Resilient employees are more likely to stick together and overcome challenges. Therefore, the components of psychological capital have a favourable association with organisational commitment (Rego et al., 2016; Newman et al., 2014;). Accordingly, the following hypotheses were suggested as supported by the above literature:

H3. Psychological capital positively affects employees' organisational commitment.

H3a. Psychological capital positively affects employees' continuance commitment.

H3b. Psychological capital positively affects employees' normative commitment.

H3c. Psychological capital positively affects employees' affective commitment.

#### **2.2.4 Workplace incivility and organisational commitment:**

Leiter and Maslach (1988) discovered a negative link between co-worker/supervisor incivility and organisational commitment. The results of their research displayed that co-worker incivility had an indirect and negative impact on organisational commitment through emotional tiredness, while supervisor incivility had a direct effect on organisational commitment. Workplace Incivility, according to several studies, harms individual behaviour and leads to negative outcomes like decreased organisational commitment (Cortina et al., 2001; Jackson and Maslach, 1982; Wright and

Cropanzano, 1998; Meyer et al., 2002). Barling and Phillips (1993) discovered a relation between uncivil behaviour and lower organisational commitment. Leather et al. (1997) investigated that individuals who were subjected to uncivil behaviours had a lower organisational commitment. Several other studies also showed workplace incivility as a negative predictor of organisational commitment (Allen & Meyer, 1996; Caza & Cortina, 2007; Miner-Rubino & Reed, 2010; Smith et al., 2010; Hershcovis, 2011; Liu et al., 2019). Accordingly, the following hypothesis was proposed:

H4. Workplace incivility negatively affects employees' organisational commitment.

H4a. Workplace incivility negatively affects employees' continuance commitment.

H4b. Workplace incivility negatively affects employees' normative commitment.

H4c. Workplace incivility negatively affects employees' affective commitment.

#### **2.2.5 Workplace incivility and Turnover intention**

Workplace incivility and turnover intention have a strong negative relationship with each other that directly affects the manpower practices like recruitment, selection, training, and retaining the workforce (Miner-Rubino and Reed, 2010). Workplace incivility not only increases the chances of employees leaving the organisation but also affects the organisation's overall performance. Cortina et al. (2001) discovered that workers withdraw physically or mentally from work environments when exposed to workplace incivility. This departure can be seen as absenteeism during times of uneasiness or acts of total abandonment during the most heinous peaks of suffering (Adams, 1965; Donovan et al., 1998; Shore et al., 2006). Tepper (2000) found that employees who have dealings with offensive managers had greater turnover rates and less involvement toward their jobs and the organisation. Many other studies on workplace incivility have revealed that these uncivil workplace behaviours may lead to job loss or increased turnover intentions (Loh and Loi, 2018; Wilson and Holmval, 2013; Tricahyadinata et al., 2020; Manzoor et al., 2020). Accordingly, following hypothesis is suggested.



H5. Workplace incivility has a positive impact on turnover intention.

### **2.2.5 Organisation commitment and Turnover intention:**

Allen and Meyer (1990) stated that organisational commitment bonds an employee to an organisation, thereby decreasing the chances of turnover intention. Several studies have looked into the relationship between employee's organisational commitment and turnover intentions, and it has been discovered that there is a negative association between organisational commitment and the possibility of turnover (Mowday et al., 1979, 1982; Kim and Brymer, 2011; Schwepker, Jr, 2001; Kim et al., 2016; Yang and Chang, 2008; Peters, Bhagat, and O'Connor 1981). Organisational commitment is said to consist of three components, and each of these components has an impact on employee turnover intentions. The affective commitment had been found to have a considerable negative influence on intention to quit, according to Whitener and Walz (1993), whereas continuance commitment had been found to have no effect. Meyer, Allen, and Smith (1993) discovered that affective commitment and employee's intention to leave the organisation has a significant negative relationship, whereas normative commitment is found to have a weaker but substantial effect on turnover intention, and continuance commitment is found to have no effect on the decision to leave. Accordingly, the following hypotheses were suggested:

H6. Organisational commitment negatively affects employees' turnover intention.

H6a. Continuance commitment negatively affects employees' turnover intention.

H6b. Normative commitment negatively affects employees' turnover intention.

H6c. Affective commitment negatively affects employees' turnover intention.

## **3. Methodology**

### **3.1 Design and sample**

From June 2020 to July 2021, this research was carried out. A convenient sampling method was used for research purposes, and questions were

asked to both superiors and co-workers in the service sector. The respondents for this study were selected from public and private healthcare and educational intuitions in north Indian states and union territories like Jammu and Kashmir, Delhi, Punjab and Haryana. The database consisted of healthcare professionals and higher education employees working in major hospitals and universities in north India. All respondents are academically very sound and have a good hold on the English language because of that reason, our surveys and communications were in English medium. Due to covid 19 pandemic and guidelines of the government to follow SOPs, we conduct our survey online using the internet, google form and other social media tools. We sent out invitations to participate in this study at random to healthcare and higher education employees. The invitation included a brief description of the research study as well as an HTML link to the online survey. The survey was developed in a way so that the Internet Protocol (IP) address was linked with every response and automatically discarded several answers from the same IP address. The overall number of questionnaires sent was 1,350, and after reviewing the results, the final sample chosen for testing was 750, with 430 (57%) women and 320 (43%) males. In terms of age, 400 persons under the age of 30 (53%) and 350 people over the age of 30 (47%) responded.

The research consists of qualitative as well as quantitative methods. The qualitative method was used to create the measurements and scales relevant to the study's setting and also to conduct a sequence of in-depth interviews with Specialists. The quantitative technique is used to investigate the research ideas. The scales for quantitative techniques were tested using Cronbach's alpha reliability and exploratory factor analysis (EFA). The structural equation modelling (SEM) was used to test the study model and the scales' reliability, convergence, and discriminant values were assessed using confirmatory factor analysis (CFA).

### **3.2 Research Instruments**

The variables examined in this study included psychological capital, organisational commitment, workplace incivility and turnover intention. This research included sub-variables of psychological capital as hope, optimism, resiliency, and self-efficacy,

while organisational commitment includes affective, normative, and continuation commitment. The original scales used to measure psychological capital comprise four sub-variables with 24 questions from Luthans et al. (2007), workplace incivility scale used includes seven questions from Cortina et al. (2001), organisational commitment scale includes three sub-variables from Meyer and Allen (1991), and turnover intention include three questions from Mobley et al.'s (1978) scale. To measure the research variables and to suit the research setting in India, the research team altered the scales using the group discussion approach. The observed factors were assessed using a five-point Likert scale, with 1 denoting strongly disagree, 2 denoting disagree, 3 denoting neutral, 4 denoting agree, and 5 denoting strongly agree.

## 4. Research Results

### Instrument validation

Confirmatory factor analysis shown in Table-1 was used to evaluate the validity of the variables in the proposed study model. For testing construct validity, Hair et al. (1998) suggest the Kaiser–Meyer–Oklin (KMO) measure of sample adequacy and Bartlett's test of sphericity, while Straub et al. (2004) prefer Cronbach's reliability test to evaluate internal measurement consistency. To determine how much of the common variance can be explained by all factors, the total variance explained (TVE) score is utilised. The structural equation modelling (SEM) method was used to evaluate the overall model fit. To measure construct validity, five indices were used:  $\chi^2/\text{degree of freedom}$  ( $\chi^2/\text{df}$ ), comparative fit index (CFI), goodness-of-fit index (GFI), root mean square residual (RMR), and Tucker–Lewis index (TLI).

Table 1 shows that the reliability and confirmatory factor analysis produced satisfactory results. As can be observed, Bartlett's test of sphericity score is satisfactory (significance less than 0.05), KMO is more than 0.5 (Hair et al., 1998), and all factor loadings are within acceptable ranges (above the 0.5 thresholds; Hair et al., 1998). All of the components have a good TVE score (above 0.5), and Cronbach's alpha is also more than 0.6. (Zikmund et al., 2010). A total of 12 items out of 52 items that were originally used were removed from this analysis.

### Discussion of Results

The results showed strong backing for hypothesis H1, that psychological capital has a negative effect on workplace incivility in India's service sector. Hashemi et al. (2018) result supports our findings that employees with a greater amount of psychological capital have psychological resources that prevent them from negative behaviours like workplace incivility as psychological capital helps employees cope better with anxiety, depression and stress. Employees' psychological capital places a high value on employees' compassion, generosity, and wisdom, but it also emphasises how to minimise negative employee behaviour. Employees with a greater amount of psychological capital find it easier to deal with discourteousness or disrespectful situations than those with a lesser amount of psychological capital (Roberts et al., 2011). The H1a, H1b, H1c, and H1d hypotheses that employees' optimism, hope, self-efficacy, and resiliency (components of psychological capital) in India's service sector have a negative relationship with workplace incivility are also supported by study results. Employee psychological capital components have been shown to buffer negative outcomes by allowing employees to have strong faith in their abilities during difficult situations (Rhee et al. 2017).

The results also showed strong support for **the H2** hypothesis that psychological capital has a negative relation with the turnover intention of employees in India's service sector at a meaningful 5% significance level. Our results are similar to the research conducted by Peterson & Luthans (2003) and Avey et al. (2010), as their research proposes that employees with a greater amount of psychological capital have consistently greater performance and employee's retention rates. Psychological capital and its sub-components helps to decrease anxiety, vulnerability, uncontrollability, and unpredictability that lead employees to retain their position in the organisation (Snyder and colleagues 1991). Psychological capital acts as a buffer on intent to turnover employees (Shrestha, A. K., & Jena, L. K. 2021).

The results also showed a strong backing for **H3** hypothesis that psychological capital has a strong positive effect on employees organisational commitment in India's service sector and is also

supported at the significance level of 1% by our research results. The study's results are similar to Sahoo and Sia's (2015) on the importance of psychological capital to increase employee organisational commitment. Furthermore, at significant levels of 1% and 10%, the data support the H3a, H3b, and H3c hypotheses that psychological capital positively influences continuance, normative, and affective commitment. Employees in India's service sector with a greater psychological capital have greater chances of showing a positive attitude, performing well at work, and focusing on organisational commitment. This is because the workers in India's service sector predominantly have an agricultural family background and are therefore closely related, energetic and ready to make efforts to accomplish goals, bear tough and unsafe conditions and express optimism about the events that are occurring in the organisation. Simultaneously, fostering psychological capital among agriculture family-based people in the form of optimism and joy of life (Yalcin, 2016). Employees' continuance, normative, and affective commitment in India's service sector can be considered to be influenced by psychological capital (Yildiz, 2018).

The results also showed strong backing for the **H4** hypothesis that workplace incivility negatively affects employees' organisational commitment in India's service sector at a significance level of 1%. The result of Morrison, R. L. (2008) supports our findings that workplace incivility negatively affects employees' organisational commitment as they argue that the influence of workplace incivility is as reasonable as employees who experience uncivil behaviour from their co-workers/supervisors who would feel less committed towards their organisation. The H3a, H3b, and H3c hypothesis test results display that workplace incivility negatively affects affective commitment of employees at a significance level of 10% and negatively affects normative commitment of employees at a significance level of 1% and no convincing proof of an effect on continuance commitment. Workplace incivility negatively affects affective commitment is also supported by earlier research (Tarraf, 2012). Workplace incivility also negatively affects normative commitment; hence, it collectively affects organisational commitment (Bushell, 2013).

The results showed a strong support for the **H5** hypothesis that workplace incivility positively affects the employee's turnover intention in the service sector of India at a 1% significance level. The results revealed that the impacts of workplace incivility were substantial enough to affect employees' intentions to leave. This result is consistent with Lim & Cortina (2005) and Lim, Cortina, & Magley (2008) findings on the positive linkage between workplace incivility and employee turnover intentions. Employees in India's service sector will be more likely to depart if there is more workplace incivility. Employees withdraw physically or psychologically from work surroundings when they are exposed to workplace incivility. Therefore, it is safe to assume that incivility at the workplace in India's service sector enhances employee emotions of job discontent, and when this unhappiness reaches a critical level, employees leave their organisations (Adams, 1965; Donovan et al., 1998). As a result, it is possible to conclude that there is a large culture of uncivil behaviour in Indian workplaces. These unsocial practices also cause employee dissatisfaction, leading to many employees quitting their jobs.

The H6 hypothesis that organisational commitment negatively affects employee turnover intention in India's service sector at the 5% significance level is also well supported by the results of this study. The results showed that employees who are more committed to their firms have lesser chances to leave, implying that employees will only leave if their commitment is waning. This suggests that the results are in line with those of Lim et al. (2008) and Griffin (2010), who found that organisational commitment negatively affects employee's turnover intention. The most widely held beliefs about commitment are that it is a psychological condition that links an employee to its organisation and that it is an indicator of individuals who are firmly dedicated to an organisation and are least likely to leave. As a psychological condition, commitment is characterised as a worker's relationship with its organisation, as well as the decision to continue with the organisation (Meyer & Allen, 1991). The H6a, H6b and H6c hypotheses that affective, normative, and continuance commitment negatively affects employee's turnover intention, the 1 and 10% significance levels are also supported by the study results. Meyer and Allen's (1993) organisational commitment model is the most widely

used multidimensional model. Affective, normative, and continuation components are all regarded to contribute to employee retention in this approach.

The correlation matrix and Standardised structural paths are shown in tables 2 and 3, respectively. Figures 1 and 2 represents Proposed Research models.

## 5 Implications

The aim of this research is to look at the relationship between psychological capital, organisational commitment, workplace incivility, and turnover intention in the Indian service sector. The findings should help researchers better understand the psychological capital theory and workplace incivility in an Indian-origin firm. The study's findings convey critical messages about organisational behaviour in the service sector in emerging markets such as India. Psychological capital, in particular, negatively affects workplace incivility and turnover intention while positively affecting organisational commitment. As a result, leaders and consultants may aim to nurture and create psychological capital inside organisations that are suited for the Indian culture, particularly in the service sector, and to connect corporate culture with the Indian values and expanding markets. Jung and Yoon (2015) found that employees with high levels of resiliency, hope, and optimism about their professions will improve organisational commitment. Employees' improved positive mood directly affects their organisational commitment. This has revealed the need for managers in organisations to establish psychological capital in their staff to boost organisational commitment and productivity (Yildiz, 2018).

In contrast to other types of human and social capital management, which depend upon some limited training programmes, PsyCap management can be improved through a wide range of management programs such as goal setting, feedback systems, etc. (Luthans & Youssef, 2004). Employees' skills to cope with difficult work settings will improve as a result of selection and placement built on strengths, along with opportunities for training intended to build these capacities. This will reduce their tendency to indulge in uncivil behaviours, increase commitment and diminish withdrawal behaviours.

According to the study's findings, employees' psychological capital negatively affects the turnover intention of employees. We recommend that human resource training and enlargement activities that acknowledge and promote the undervalued positive or helpful resources of psychological capital may help employees manage stress and, as a result, will reduce voluntary turnover (Avey et al. 2009). We strongly encourage employees to participate in the organisation's innovation and progress programmes to uplift their basic constructs of psychological capital. Employee participation will make them feel like the organisation's problems are their own, that they are a part of the organisation, and that they are creating an emotional commitment towards their organisation (Blomme et al., 2010). Therefore, they will not leave the organisation.

Since our findings display that incivility at the workplace has a substantially detrimental impact on employee engagement to the firm. As a result, HRD professionals should consider macro-level tactics to restrict incivility and minimise its impacts, such as developing policies and codes of conduct that encourage respect and discourage incivility (Pearson et al., 2005). Cortina (2008) suggested that the workplace environment can either encourage or discourage incivility. Organisational leaders must be cautious in modelling and creating acceptable behavioural standards because workplace norms are formed through traditions, culture, and regulations (Estes, B., & Wang, J., 2008). Furthermore, managers must ensure that these rules are enforced because it is vital for maintaining civility norms. If left uncontrolled, uncivil behaviour may erode the norms of civility and become ingrained in an organisation's culture (Andersson & Pearson, 1999).

People's moral judgments and perceptions of moral concerns may be influenced by their placed characters (Leavitt et al. 2012). Being respected and valued are the main sources of workers' sense of happiness and belongingness with their organisation (Walumbwa et al. 2011), and whenever organisations fail to deal with incivility in the way workers expect, the negative feelings may intensify and ultimately increase the turnover intention of employees. Workplace incivility has detrimental effects on workers' emotional well-being, which is linked to the increased chances of turnover intention (Huang,

& Lin 2019). To deal with workers intention to quit, leaders and managers can create more avenues for reporting incivility, offer stress counselling or boost comfortable social networks that may help promote employees organisational commitment and positive relationships.

Organisations in the service sector must make suitable adjustments in their organisational culture so that the managers are in a position to reduce incivility behaviours within organisations, which may help them in overcoming employees' intention to leave (Rahim, & Cosby, 2016). HRD practitioners and managers should assess organisational commitment regularly to collect information on workers' tendency for turnover as the outcomes of the study specify that organisational commitment affects employees' turnover intention. This information should benefit practitioners in assisting organisations with human resource problems relating to the turnover intention of employees.

Furthermore, Avey et al. (2011) revealed that psychological capital could be used to foster positive attitudes, actions, and outcomes and mitigate negative employee behaviour. Psychological capital imparts energy within individuals through positive components of psychological capital like self-efficacy, optimism, hope, and resiliency which might help them to improve organisational commitment, lower staff turnover, and decrease workplace incivility (Idris and Manganaro, 2017 and Roberts et al. 2011). It can be inferred that strengthening psychological capital shall be given priority within organisations, particularly in India's service sector and enterprises in general. As a result, educational and healthcare administrators should expand their knowledge and abilities so that psychological capital can be exploited for the benefit of both organisation and employees. Establishing the linkages between these research variables can assist service sector managers in India in making better judgments regarding psychological capital, workplace incivility, turnover intention, and organisational commitment.

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**Table-1 Measurement Validation**

Items	Items	Mean	SD	KMO	Bartlett's sig	TVE	Cronbach's $\alpha$	Loadings
<b>Psychological capital</b>								
<i>Self efficacy</i>	6	4.03	0.78	0.770	0.00	71.750	0.870	> 0.818
<i>Optimism</i>	6	3.20	1.08	0.790	0.00	74.983	0.890	> 0.783
<i>Hope</i>	6	3.77	0.76	0.835	0.00	57.550	0.820	> 0.711
<i>Resiliency</i>	6	3.91	0.38	0.501	0.00	67.091	0.505	> 0.820
<b>Organisational Commitment</b>								
<i>Affective Commitment</i>	3	4.03	0.89	0.907	0.00	73.580	0.930	> 0.790
<i>Continuance Commitment</i>	3	3.40	0.79	0.693	0.00	53.920	0.740	> 0.555
<i>Normative Commitment</i>	3	3.60	0.96	0.893	0.00	67.635	0.910	> 0.880
<i>Workplace incivility</i>	7	3.85	0.80	0.784	0.00	66.310	0.820	> 0.735
<i>Turnover Intention</i>	3	3.98	0.810	0.821	0.00	73.215	0.878	> 0.813

**Table-2 Correlations between constructs**

Correlations	Coefficients	Critical ratios	p-value
<i>Work place incivility</i> ↔ <i>Psychological capital</i>	-0.083	30.70	0.00
(1) <i>work place incivility</i> ↔ Hope capital	-0.044	29.52	0.00
(2) <i>work place incivility</i> ↔ Resiliency capital	-0.063	30.08	0.00
(3) <i>work place incivility</i> ↔ Optimism capital	0.049	26.90	0.00
(4) <i>work place incivility</i> ↔ Efficacy capital	0.199	23.08	0.00
<i>Psychological capital</i> ↔ <i>Turnover intention</i>	0.246	21.97	0.00
<i>Psychological capital</i> ↔ <i>Organisational commitment</i>	0.961	3.98	0.00
(1) <i>Psychological capital</i> ↔ <i>Affective commitment</i>	0.086	25.96	0.00
(2) <i>Psychological capital</i> ↔ <i>Continuance commitment</i>	0.700	11.87	0.00
(3) <i>Psychological capital</i> ↔ <i>Normative commitment</i>	0.401	18.47	0.00
<i>work place incivility</i> ↔ <i>Turnover intention</i>	-0.127	32.10	0.00
<i>work place incivility</i> ↔ <i>Organisational commitment</i>	0.300	20.73	0.00
(1) <i>work place incivility</i> ↔ <i>Affective commitment</i>	0.044	27.03	0.00
(2) <i>work place incivility</i> ↔ <i>Continuance commitment</i>	0.063	26.52	0.00
(3) <i>work place incivility</i> ↔ <i>Normative commitment</i>	0.340	19.83	0.00
<i>Organisational commitment</i> ↔ <i>turnover intention</i>	0.381	18.91	0.00
(1) <i>Affective commitment</i> ↔ <i>turnover intention</i>	0.078	26.13	0.00
(2) <i>Continuance commitment</i> ↔ <i>Turnover intention</i>	0.257	21.72	0.00
(3) <i>Normative commitment</i> ↔ <i>turnover intention</i>	0.164	23.94	0.00

**Table-3 Standardised structural paths**

Structural path	Estimate	Standard error	p-value
<i>Work place incivility</i> ↔ <i>Psychological capital</i>	-0.083	0.033	0.106
(1) <i>work place incivility</i> ↔ Hope capital	-0.199	0.051	0.000
(2) <i>work place incivility</i> ↔ Resiliency capital	-0.050	0.025	0.243
(3) <i>work place incivility</i> ↔ Optimism capital	-0.044	0.400	0.306
(4) <i>work place incivility</i> ↔ Efficacy capital	-0.063	0.046	0.141
<i>work place incivility</i> ↔ <i>Turnover intention</i>	0.114	0.041	0.007
<i>work place incivility</i> ↔ <i>Organisational commitment</i>	-0.395	0.041	0.007
(1) <i>work place incivility</i> ↔ <i>Affective commitment</i>	-0.081	0.048	0.061
(2) <i>work place incivility</i> ↔ <i>Continuance commitment</i>	-0.058	0.037	0.182
(3) <i>work place incivility</i> ↔ <i>Normative commitment</i>	-0.374	0.036	0.000
<i>Psychological capital</i> ↔ <i>Turnover intention</i>	-0.233	0.085	0.000
<i>Psychological capital</i> ↔ <i>Organizational commitment</i>	0.943	0.123	0.000
(1) <i>Psychological capital</i> ↔ <i>Affective commitment</i>	0.711	0.129	0.000
(2) <i>Psychological capital</i> ↔ <i>Continuance commitment</i>	0.098	0.064	0.000
(3) <i>Psychological capital</i> ↔ <i>Normative commitment</i>	0.429	0.074	0.000
<i>Organisational commitment</i> ↔ <i>turnover intention</i>	-0.195	0.043	0.002
(1) <i>Affective commitment</i> ↔ <i>turnover intention</i>	-0.080	0.039	0.000
(2) <i>Continuance commitment</i> ↔ <i>Turnover intention</i>	-0.158	0.051	0.000
(3) <i>Normative commitment</i> ↔ <i>turnover intention</i>	-0.168	0.037	0.073

# Entrepreneurial Activities of Women Self-Help Groups and Improvement in Quality of Life and Standard of Living of Members

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## Introduction

In common parlance, quality of life refers to the general wellbeing of a person or society in terms of health and happiness rather than wealth. The World Health Organisation defines the quality of life as an "individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards, and concerns." The Collins English Dictionary defines the quality of life as a state of complete physical, mental and social wellbeing. According to the Cambridge English Dictionary, Quality of life means the level of satisfaction and comfort a person or group enjoys. It is difficult to define the quality of life in absolute terms as it is a subjective terminology. It is the measure of the overall wellbeing experienced by a person or group of people with reference to health, comfort, happiness and satisfaction. The Research Unit of the University of Toronto defines the quality of life as the degree to which a person enjoys the important possibilities of his/her life. Ruzevicius (2007) has identified nine indicators of quality of life, they are material welfare, health, family life, social life, employment, political stability, political freedom and gender freedom.

Standard of living refers to the relative measure of the material comforts as represented by income level, housing, transportation, luxuries and comforts, education, entertainment opportunities etc., possessed by people living in different geographical regions. According to Investopedia, the standard of living is the wellbeing of an average person in a given population with reference to material goods and services available. Standard of living is a comparison tool when describing two different geographical areas. For example, the living standard of people in India and Australia or the standard of living of people in various states in India like Kerala, Maharashtra and Punjab. As a measurement of how well off a group of people or an individual perceive themselves to be, standard of living considers factors such as level of family income, housing, medical care, education, transportation facilities, recreational opportunities etc., (Rao and Min, 2017). Some of the researchers in the field of Sociology uphold the opinion that the standard of living is focused more on the consumption of material things and the contentment of people (Cottam and Magnus 1942).

## Kudumbashree

An all-women Community-Based Organization (CBO) established in Kerala State in the year 1998, consists of Self-help groups with membership and participation of women from low-income families with the patronage of the State Government. *Kudumbashree* is the popular name of Kerala State Poverty Eradication Mission, registered under the Travancore Kochi Literary, Scientific and Charitable Societies Act 1955. Being the flagship program of the Government of Kerala for poverty eradication, Kudumbashree provides self-employment opportunities to women who belong to the lower strata of society.

Women's Entrepreneurship is one of the core functional area of Kudumbashree. In addition to economic wellbeing, Kudumbashree focuses on socio-cultural wellbeing and the overall development of the participating members through various programs and projects.

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This paper is an examination of whether there is an improvement in the standard of living and quality of life of the women and their family members as a result of their participation in entrepreneurial activities under Kudumbashree.

## Review of Literature

Standard of living is one of the main criteria for measuring the Human Development Index (HDI) of various countries by the United Nations Development Program. The social capital variables that relate to the feeling of safety, access to help and a sense of belonging are all significantly and positively related to the standard of living. The higher the strength of the social capital network, the better will be the living standard of people (Roskruege, Poot and King 2016).

The Research Unit of the University of Toronto has identified three major domains of quality of life as Being, Belonging and Becoming. The *Being domain* includes three aspects, i.e., Physical being (physical health, personal hygiene, nutrition, personal appearance etc.), psychological being (feelings, mental health, emotions and feelings, self-control, etc.) and spiritual being (values and spiritual beliefs, and hope for future). The *Belonging domain* also has three sub-divisions, namely Physical belonging (the personal connections of a person with his/her place of residence, place of work and neighbourhood), Social belonging (sense of acceptance by others in family and society) and Community belonging (education, employment and income, access to health and social services, community activities). The three dimensions of the *Becoming domain* include a) Practical becoming (refers to the activities carried out to achieve personal goals and wishes), b) Leisure becoming (indoor and outdoor activities such as watching TV, cycling, walking etc.) and c) Growth becoming (refers to activities to improve knowledge and skills to adapt the changes in life).

Hoffer (1929) is of the opinion that the cost of living, level of living and efficiency of living are the core areas constituting the standard of living of people. The cost of goods and services, the consumption pattern, and the degree of efficiency a family attains in purchasing and using goods and services represent the family's standard of living. Further, food, clothing, housing, health care, personal expenses, etc., are reflections of the standard of living. Mahmood et

al. (2016) have conducted a study on the role of microfinance in poverty alleviation and improving the living standard of the poor households in the Dera Ghazi Khan Division of Pakistan. They found out that microfinance positively affects the income generation and consumption level of the poor. Madzik, Pitekova and Dankova (2015) examined the relationship between the competitiveness of selected countries and the standard of living of their population. They have identified a correlation between GDP per capita and population, living standard and international competitiveness and some aspects of living standards. High living standard and the feeling of satisfaction arising out of it is not only the result of material support held by individuals but also the impact of the social, ethical, ecological and human aspects of life and its quality. Roskruege, Poot, and King (2016) suggested that the social capital variables that relate to the feeling of safety, access to help and sense of belonging are all significantly and positively related to the standard of living. Higher the strength of the social capital network, the higher the standard of living of people. Zautra and Goodheart (1979) have highlighted some of the demographic factors affecting the quality of life, such as age, marital status, sex, socioeconomic status and social desirability. They further expressed that quality of life refers to the *goodness* of life, which is an outcome of the subjective evaluation of life experience and objective assessment of the external conditions. Rao and Min (2017) have highlighted a few indicators such as nutrition, shelter, living conditions, health care, clothing, education, communication facilities, transport facilities, freedom to gather and quality of air etc., as the universal set of material factors and conditions that households and societies require a minimum level to support a decent living standard. Anand et al. (2019) have found out that participation in programmes focusing on poverty alleviation, empowerment, etc., through SHGs enhances the capabilities of women in several areas of significance to the quality of life. Mukherjee (1989) suggested two perspectives of quality of life: social indicators, which consider what people need, and conventional quality of life research, which studies what people want to improve their quality of life. Birciakova, Stavkova and Antosova (2015) have classified the indicators of standard of living into three groups, namely, economic, social and environmental. Size of population, health

care facilities and expenses for education and level of air pollution are the significant factors affecting the standard of living. The Organization of Economic Cooperation and Development (2011) has identified ten factors as indicators for measuring wellbeing in life such as income and wealth, employment and earning, housing conditions, health status, education and skills, social relationship, civic engagement, environmental quality, personal security and work-life balance. Shin (1979) has suggested that quality of life is influenced by an individual's physical and mental health, the degree of independence, social relationship with the environment etc. Gilgeous (1998) is of the opinion that the value system and the cultural environment in which a person lives is an influencing factors of quality of life. Veenhoven (2000) has highlighted four dimensions of quality of life, i.e., the liveability of the environment, inner appreciation of life, self-assessment, and higher values and goals in life, which are necessary for the fulfilment of a good life.

Fazalbhoy (2014) has identified that there is a positive correlation between women's entrepreneurship and Self-Help Groups (SHG) because the SHG facilitates the empowerment of women in several areas of entrepreneurship. Providing information about various government schemes of entrepreneurial development, linking with financial institutions and organizing capacity-building training programs, etc., are some of the key areas of SHG's involvement in promoting women Entrepreneurs at the micro-level.

Jyothi Yadav(2021) highlighted the role of Self-Help Groups in promoting women's entrepreneurship in the rural areas of India. The various kinds of support and encouragement provided by the SHG to rural women for starting small business ventures are very much instrumental in the development of women's entrepreneurship.

Swapna Dutta(2016), in her study on women's entrepreneurship in Assam, found that Self-Help Groups have played a significant role in the development of micro-entrepreneurship by rural women, especially in the area of Cottage industries. Further, she has pointed out that there are several factors that encourage the women to engage in entrepreneurial activities, and at the same time, they faced many issues and challenges in the course of carrying out their business ventures.

Bharathi and Masthani (2014) believe that encouraging women towards entrepreneurship leads to inclusive growth of the country as they represent half of the population of the nation. Economic independence, need for additional income for the family, self-employment opportunities, improvement in social status, etc., are the factors encouraging women to engage themselves in business ventures. On the other hand, the issues faced by women in their business include personal mobility, family ties-ups, lack of self-confidence and managerial skills, etc.

HinaShah(2013) is of the opinion that women's entrepreneurship is an untapped source of economic growth in India. The factors mainly responsible for this situation are socio-cultural setup and the challenge of maintaining a proper work-life balance. The role of policy-makers in the Government, Financial Institutions, and NGOs is very significant in promoting and developing women's entrepreneurship in the country.

Ramija (2019) has pointed out that women's entrepreneurship can make a strong contribution to the wellbeing of families and communities, programs for poverty eradication and women empowerment, etc., to facilitate the achievement of sustainable development goals of the United Nations. Further, she identified the reasons for the current trend of the increasing number of women entrepreneurs in India. The overall change in the perception of entrepreneurship, better access to education, increasing social acceptance of women in the field of business, better infrastructural facilities and access to finance, success stories of women in entrepreneurship, etc., are the factors responsible for the rise of women entrepreneurs.

### **Objectives of the study.**

The present study is focused on the objective of examining whether there is an improvement in the standard of living and quality of life of women members and their family members as a result of their involvement in entrepreneurial activities and other programs under the banner of Kudumbashree.

## Methodology of sample selection and Data Collection

The population of the present study consist of women members of Self-Help Groups (SHG) under Kudumbashree in the Alappuzha district. The multistage stratified random sampling method is used for sample selection. The sample size of 450 respondents consists of both urban and rural representatives from the Alappuzha district.

The primary data for the study is obtained from a survey conducted among 450 women members who are engaged in different entrepreneurial activities under the banner of Kudumbashree in the Alappuzha district of Kerala State. To facilitate the survey, a structured questionnaire was distributed to the respondents. Secondary data for the study is obtained from the official website of Kudumbashree, Research articles published in journals, and the websites of a few international organizations.

For the purpose of the present study, the following variables are considered as the factors influencing the standard of living and quality of life of people. These factors include housing, toilet facility and drinking water at the residence, use of LPG for cooking, electricity for lighting, use of modern home appliances like washing machine, mixer and grinder, refrigerator, improvement in food habits, nutrition and health care awareness, improvement in the education of family members of the respondents, participation in recreational activities and usage of own vehicle for travel.

## Analysis of data

**Table 1: Home Appliances and Fixed Assets acquired by members Before and After joining Kudumbashree based on Caste of respondents**

		Caste Group		
		OBC	SC/ST	General
<b>Home Appliances</b>				
Washing Machine	Before Joining Kudumbashree	0	0	1
	After Joining Kudumbashree	10	28	25
	Change (+/-)	(+10)	(+28)	(+24)

Water Purifier	Before Joining Kudumbashree	0	0	0
	After Joining Kudumbashree	41	56	26
	Change (+/-)	(+21)	(+36)	(+26)
Electric Kitchen Equipment	Before Joining Kudumbashree	2	4	5
	After Joining Kudumbashree	63	105	66
	Change (+/-)	(+61)	(+101)	(+61)
TV	Before Joining Kudumbashree	8	8	19
	After Joining Kudumbashree	99	183	100
	Change (+/-)	(+91)	(+175)	(+89)
Fridge	Before Joining Kudumbashree	1	1	1
	After Joining Kudumbashree	83	159	100
	Change (+/-)	(+82)	(+158)	(+99)
<b>Fixed Asset</b>				
House Property	Before Joining Kudumbashree	104	187	115
	After Joining Kudumbashree	11	9	6
	Change (+/-)	(- 93)	(- 178)	(- 109)
Jewellery	Before Joining Kudumbashree	3	12	12
	After Joining Kudumbashree	27	63	44
	Change (+/-)	(+24)	(+51)	(+32)
Car	Before Joining Kudumbashree	0	0	0
	After Joining Kudumbashree	0	0	0
	Change (+/-)	(-)	(-)	(-)
2-Wheeler	Before Joining Kudumbashree	0	0	1
	After Joining Kudumbashree	30	74	54
	Change (+/-)	(+30)	(+74)	(+53)
Furniture	Before Joining Kudumbashree	52	100	62
	After Joining Kudumbashree	7	17	10
	Change (+/-)	(- 45)	(-83)	(-52)

Computer	Before Joining Kudumbashree	0	0	1
	After Joining Kudumbashree	2	2	10
	Change (+/-)	(+2)	(+2)	(+9)

Source: primary data

From the above analysis, it is clear that there is a substantial increase in the acquisition of home appliances and fixed assets by the women members subsequent to their membership in Kudumbashree and engagement in entrepreneurial activities.

**Table 2: Increase in family expenses after joining Kudumbashree**

Increase in family expenses	Frequency	Percent
Yes	427	95
No	23	5

Source: primary data

**Table 3: Improvement in Food habits**

Whether or not food habits improved	Frequency	Percent
Yes	426	94.67
No	24	5.33
Total	450	100.0

Source: primary data

**Table 4: Participation in entertainment programs with family after joining Kudumbashree**

Participation in Recreational programs	Frequency	Percent
Yes	378	84
No	72	16

Source: primary data

**Table 5: Improvement in the education level of family members after joining Kudumbashree**

Improvement	Frequency	Percent
Yes	414	92
No	36	08
Total	450	100.0

Source: primary data

**Table 6: Awareness about health and nutrition after joining Kudumbashree**

Awareness of Health and Nutrition	Frequency	Percent
Yes	450	100
No	00	00

Source: primary data

**Table 7: Primary source of family income**

Business venture under Kudumbashree	Frequency	Percent
Yes	75	16.7
No	375*	83.3
Total	450	100.0

Source: primary data

**Table 8: Other sources of family income**

Source of family income	Frequency	Percent
Income of Spouse	315	84.00
Income from employment guarantee scheme of Govt.	43	11.47
Income of employed son/daughter	17	4.53
Total	375*	100

Source: primary data

**Table 9: Monthly average income generated from business venture under Kudumbashree**

Level of income per month	Frequency	Percent
Less than Rs. 6,000	89	19.8
Rs. 6,000 – 10,000	257	57.1
Above Rs. 10,000	104	23.1
Total	450	100.0

Source: primary data

**Table 10: Residential accommodation - own house or rented house**

Accommodation status	Frequency	Percent
Own House	440	97.8
Rented House	10	2.2
Total	450	100.0

Source: primary data



**Table 11: Source of Drinking water at residence**

Source	Frequency	Percent
Own source	279	62
Public supply by the local authority	171	38
Total	450	100.0

Source: primary data

**Table 12: Toilet facility at house**

Type of toilet	Frequency	Percent
Temporary type	81	18
Permanent type	369	82
Total	450	100

Source: primary data

**Table 13: Electricity connection at residence**

Electricity connection at residence	Frequency	Percent
Yes	450	100
No	00	00

Source: primary data

**Table 14: Energy for cooking at residence**

Type of energy	Frequency	Percent
LPG cooking gas	444	98.7
Firewood	6	1.3
Total	450	100.0

Source: primary data

### Findings of the study

1. The analysis of data reveals that there is a substantial increase in the acquisition of home appliances like TV, refrigerators, electric kitchen equipment, water purifier etc., and other fixed assets such as two-wheeler, computers, household furniture etc., by the women members subsequent to their membership to Kudumbashree and engagement in entrepreneurial activities. More than one-third of the women respondents are able to own Two-wheelers (Scooters) after their membership in Kudumbashree and participation in entrepreneurial activities. This physical welfare or material prosperity gained by women subsequent to joining Kudumbashree is

an indication of improvement in the quality of life. According to Ruzevicius (2000), material prosperity is one of the nine indicators of quality of life.

2. All of the women except a few have agreed that subsequent to their association with Kudumbashree entrepreneurial activities, there is an increase in their monthly family expenses and a change in food habits. Since there is an increase in the income level of families, they are able to participate in various entertainment programs with family.

3. The education level of family members of Kudumbashree women, especially their children's educational status, got improved significantly. Now there are many graduates and post-graduates in the family of women members of Kudumbashree. Many of the elderly persons in their families also actively associate with the literacy programs under Kudumbashree.

4. It is interesting to know that the association with Kudumbashree and participation in various programs, helps the members to have a better awareness of the significance of health and nutrition in day-to-day life.

5. Eighty three percentage of the respondents have agreed that the income earned by them out of the entrepreneurial activities under Kudumbashree banner is supplementary to the primary source of family income earned by their spouses. The level of income from entrepreneurial activities under Kudumbashree ranges from Rs.6000 to 15000 per month. So, the women have the financial capability to acquire home appliances and other assets as per the requirement. However, seventeen percentage of members have agreed that the income earned by them out of the entrepreneurial activities under Kudumbashree is the main source of income to manage their family affairs.

6. From the information collected from the members, it is clear that there are basic infrastructure facilities like housing, permanent toilet and electricity connection at their residence. Further, the majority of them are using LPG as energy for domestic cooking. However, few families are still using firewood for cooking purposes in addition to LPG.

6. The Local Government Body general elections 2020 in Kerala is an evidence of the progress and improvement in the quality of life and standard of living of members of Kudumbashree. A total of 7058 women who are active members of Kudumbashree won the Local Body Elections-2020 (City Corporations/ Municipalities and Gram Panchayaths), which is more than one-third of the total number of local Body members in the State. Out of these winners, many of them got elected as the Chairpersons of the Local Bodies. This notable achievement is an evidence of the improvement in the social status and personal empowerment, which are considered indicators of the quality of life enjoyed by the members of Kudumbashree.

## Conclusion

During the last two and a half decades of its existence, Kudumbashree has achieved remarkable progress in its overall functioning as a women-oriented community development organization. The contribution of Kudumbashree in moulding the personality of the women belongs to the lower strata of society and bringing them to the forefront of society as socially and politically empowered persons are highly commendable and appreciable. Further, Kudumbashree is very much instrumental in improving the standard of living and quality of life of the member women and their families. The result of the present study is clear evidence of the role played by Kudumbashree in improving the standard of living of the women members and their families. It is the personal conviction of the women members that Kudumbashree has totally changed their life and destiny beyond their expectations. Now the women who were considered marginalized and voiceless in the past have become powerful voices of public life in Kerala. The findings of the study confirm that participation in entrepreneurial ventures and other programs under Kudumbashree has substantially contributed to improving the quality of life and standard of living of women members and their families.

## Scope for Further research

There is scope for further research based on the financial behaviour of Kudumbashree members engaged in entrepreneurial activities in Kerala.

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[www.sdgs.un.org](http://www.sdgs.un.org)

## Impact of Opportunity-Driven Factors on Venture Creation Decision among Non-Resident Indians

Shacheendran V\*

Subin M K\*\*

### A b s t r a c t

*Entrepreneurship is the influential key to the economic development of any country. It brings crucial transformations that change regardless of the boundaries. In the present study, the entrepreneurship decision of Non-Resident Indians from Kerala is studied. The association of certain opportunity-driven factors with venture creation is studied by employing SEM in the research work. The findings of the study depict that income and wealth creation thought and independence on work has a significant influence on NRI's Venture creation decision. At the same time, the family support for starting a venture in Kerala is less, and it does not have a great association with their venture creation decisions.*

**Keywords:** Family Support, Income and Wealth Creation, Independence on Work, SEM, and Venture Creation Decision

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## INTRODUCTION

Entrepreneurship fosters a nation's socio-economic development by offering innovative products and services, generating employment opportunities, and thereby enhancing the standard of living. Thus, an entrepreneur must be cautious about carrying out tremendous efforts to bring such development. An entrepreneur is a practical person, and he knows things that are necessary to bring a business into reality (Gordon et al., 2009). Aspiration is a fatal key to achieving something (Wiklund & Shepherd, 2003). An individual's intention significantly influences his decision to be an entrepreneur or not.

New venture creation and consequent entrepreneurship development are highly affected by entrepreneurial intention, which is an instinct occurring in the minds of a person to start a venture. There is a limited possibility for one to become an entrepreneur accidentally, even though necessity forces self-employment (Giacomin et al., 2011). The vision and insights of a potential entrepreneur develop an aspiration, which creates ventures in most cases. The business venture is a result seeded by entrepreneurial intention.

The study is concerned with venture creation decisions among Non-Resident Indians (NRIs) who immigrated to foreign countries in the Kerala context. The NRIs are the main sources of foreign remittance to the country. The pillars of the Kerala economy are built with remittances by the NRIs. Table 1 shows the remittance by NRIs over the past years.

**Table 1 Details of remittances by NRIs to Kerala over the years**

Years	Remittances (Crores)
1998	3,530
2003	7,965
2008	12,511
2011	15,129
2013	24,374
2018	30,717

Source: KMS Survey 2018

Channelizing their investments into productive ventures may bring positive changes to the economy. According to the Kerala Migration Survey (KMS 2018), more than half of the emigrants are returning to their natives. Table 2 shows the status of the return of NRIs to Kerala.

**Table 2 Status of Return Emigrants**

Years	Return Emigrants
1998	739,245
2003	893,942
2008	1157,127
2011	1150,347
2013	1252,471
2018	1294,796

Source: KMS Survey 2018

The permanent or temporary return of such Non-Resident Indians (NRIs) to their home country may encourage considerable investments in many potential areas, including entrepreneurial investments with their competencies moulded and reserves accumulated during the overseas stay (Rajan & Zachariah, 2018).

Kerala's current dynamic environment and situation unfold numerous entrepreneurial opportunities (Oommen, 1981) for the Non-Resident Indians to capitalize on. Exploring these opportunities is being fascinating for a potential entrepreneur, and certain factors pursue their entrepreneurial intentions. Many diversified factors at the same time influence an expatriate's venture creation decision in the home country. Hence it becomes crucial to get insights into the specific variable which develops entrepreneurial intention. Thus the study aims to examine the influence of certain opportunity-driven factors on venture creation decisions among Non-Resident Indians who were engaged in any economic activity abroad over a while. The study is undertaken with three variables that influence the venture creation decision of an NRI. The association of income and wealth creation, independence on work, and family support with their impact on venture creation decisions is analyzed by producing a hypothesized model. The questionnaire included twenty factors representing various variables. The

variable income and wealth creation was measured using five factors, independence on work by five factors, family support by six factors, and venture creation decision by four factors. The study deals with three independent variables, which are, income and wealth creation, independence on work and family support, and one dependent variable, venture creation decision.

## REVIEW OF LITERATURE

### Venture creation decision

One's decision to undertake entrepreneurship as a career is preceded by strong entrepreneurial intention, which is the leading force that ignites the entrepreneurial initiation (Yildirim, 2016). The entrepreneurial decision may be economical or non-economical and differs from person to person (Basu, 2004). Aspiring entrepreneurs are critical and creative thinkers with innovative capabilities (Hatthakijphong & Ting, 2019). Economical, societal, cultural, personal, and psychological factors are prominent in inculcating such entrepreneurial thoughts among them. Many studies were focused on the entrepreneurial intention succeed over venture creation decision of individuals using psychological factors (Córcoles-Muñoz et al., 2019; Escolar-Llamazares et al., 2019; Kgagara, n.d.; Laguía et al., 2019; Mahfud et al., 2020; Margahana, 2019) which are pertinent in venture creation decision. Entrepreneurial intent fosters future entrepreneurship potential, leading to venture creation (Yildirim, 2016).

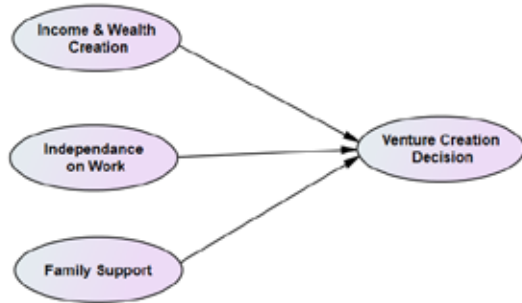
Amicable market opportunities are there for business initiation among people. Kirkley (2016), in his study, examined the various factors that influence the new venture creation decision, and the study reveals that the vision of utilizing unexploited opportunities fosters a chance to venture creation. The availability of potential resources attracts potential entrepreneurs and subsequently, local resources are utilized significantly (Devkota, 2016). Recognizing these market opportunities and conditions has a salient role in venture creation decisions (Kirkley, 2016). Returned expatriates are more likely to take advantage of their entrepreneurial knowledge to explore these favourable market situations to fulfil their venture creation aspirations (Park & Chu, 2018). Before launching the firm or taking venture creation decisions, the potential entrepreneurs prepare

themselves in a practical sense (Hatthakijphong & Ting, 2019). An expatriate visiting his home country may go through certain factors and forces that motivate him towards entrepreneurial venturing.

### Opportunity Driven Factors

In general, motivation has an important role in occupation choices which actually delivers values of work (Vuorio et al., 2018) and also encourages interest in entrepreneurship (Herdjiono et al., 2017). Various motives are diversely connected to entrepreneurial intention (Hessels et al., 2008). Entrepreneurial motivation can be stated as an inner urge that induces a person to venture into entrepreneurship (Chhabra et al., 2020). A combination of certain necessity-driven factors (push factors), which influence one in becoming an entrepreneur and certain opportunity-driven factors (pull factors), which attract one to choose entrepreneurship as a career, together motivates a person to engage in business venturing (Chhabra et al., 2020). Thus motivation boosts entrepreneurial traits by encouraging one to work hard to become a successful entrepreneur and inculcate a spirit in approaching available opportunities (Herdjiono et al., 2017).

In the words of (Yildirim, 2016), the potential of identifying amicable opportunities and exploring them to produce value makes a real entrepreneur. Opportunity-driven factors are those factors which develop an inclination of an individual to choose entrepreneurship as a career (Chhabra et al., 2020). Certain opportunity-driven factors are the desire to be independent, family support, and income and wealth creation (Chhabra et al., 2020; Dawson & Henley, 2012; Gatti et al., 2019; Herdjiono et al., 2017; Hessels et al., 2008; Park & Chu, 2018). In the context of entrepreneurship among Non-Resident Indians, such Opportunity driven factors seem more influential.

**Figure 1 Conceptual Model**

Source: Primary data

Income and wealth creation is the common purpose of all human beings, which may sometimes lead to start-up decisions. Even though people starting to start a venture are motivated by their necessity factors, they are not so much intended for growth (Hessels et al., 2008). The highest probability of entrepreneurship relies on overseas savings of the people returning to home countries (Kwong & Thompson, 2016), which might be kept for investment purposes. 'Wanted more money' or wealth creation is the pivotal factor that attracts to create ventures (Dawson & Henley, 2012). Entrepreneurial growth is possible only with increased wealth motive as it positively contributes to entrepreneurial ambitions (Hessels et al., 2008). A higher increase in the wealth motive of an individual seems to be unavoidable in flourishing ambitious entrepreneurship (Hessels et al., 2008), which is needed for money foster entrepreneurship intention and business formation (Dawson & Henley, 2012). The current paper intends to test the association between the need for income and wealth creation and venture creation decisions. The following hypotheses are used:

**H1: Income and wealth creation are significantly associated with the venture creation decision among Non-Resident Indians.**

Lee and Venkataraman (2006) state that entrepreneurship is the search for alternative opportunities. Independence in work is a major factor reflecting on the career choice of potential entrepreneurs (Cassar, 2007), that is, they are supposed to be independent and hesitate to rely on others. Independence at work is a great catalyst that motivates people for their well-being (Gatti et al., 2019), and therefore it ignites business formation

thought. Thus venture formation is pertinent for those who require independence throughout their career (Dawson & Henley, 2012). Thus based on the studies mentioned, below mentioned hypothesis is developed and tested to state the association between independence on work and venture creation decisions.

**H2: Independence on work is significantly associated with the venture creation decision among Non-Resident Indians.**

According to (Shapiro & Sokol, 1982), the social aspects, more specifically the family environment, has a critical role in nurturing entrepreneurial intentions. The family institution has a great role in one's decision to be an entrepreneur (Sahut & Peris-Ortiz, 2014). It is a result of how parents educate children, the relationship between family members, and overall support, which is capable of creating a strong inclination towards entrepreneurship (Herdjiono et al., 2017). People with entrepreneurial parents are more likely to be entrepreneurs (Lindquist et al., 2015). Even if the parents have no entrepreneurial background, the support from the family has a significant influence on the willingness to engage in entrepreneurial activities (Fatoki, 2014). Based on mentioned studies, the given hypothesis is framed and tested to state the association between family support and venture creation decision.

**H3: Family support is significantly associated with the venture creation decision among Non-Resident Indians.**

Most number of the research works illustrated inconclusive results in this area. Non-Resident Indians play a major role in the country's development, and most of them are Keralites. The availability of certain factors may attract them to settle and begin new ventures in Kerala. The rationality behind the paper is to study and state the effect of certain factors on the venture creation decision among NRIs.

## METHODOLOGICAL FRAMEWORK

### Research Design and the Sample

To assess the venture creation decision, a study was undertaken among Non-Resident Indians in Kerala, India. It made use of a descriptive research design. The sampling method employed was convenience

sampling. The samples of the study were the NRIs who were staying or had spent a period overseas undertaking some economic activities. A questionnaire was deployed for data collection. The sample includes 232 NRIs in Kerala. Though the questionnaire was distributed to 250 NRIs, only 232 questionnaires were found complete and relevant for the analysis. Table 3 shows the basic details of the respondents.

**Table 3: Demographic details of the respondents**

Demographic	N	%	Mean
<b>Age</b>	2.8147		
25 & below		25	10.8
26-35		66	28.4
36-45		80	34.5
46-55		49	21.1
56 & above	12	5.2	
<b>Educational qualification</b>			3.0172
Uneducated		21	9.1
Matriculation		68	29.3
Graduation		70	30.2
Post-Graduation		32	13.8
Others		41	17.7
<b>Overseas Experience</b>			3.7974
Less than a year		12	5.2
1- less than 3 years		21	9.1
3- less than 5 years		46	19.8
5- less than 10 years		76	32.8
Above 10 years		77	33.2

Source: Primary data

## Research Tool

Data collection for the current work was done through a well-framed questionnaire. One scale has been used for dependent and independent variables by modifying it, and the authors developed the others.

Venture Creation Decision is taken as the dependent variable for the study and measured based on a multidimensional scale which has been adopted and modified by Liñán & Chen (2009). It had four questions on a five-point Likert scale ranging from strongly disagree to strongly agree. Venture creation decision is measured using questions relating

to the preference of entrepreneurship career, the attractiveness of entrepreneurship career, feasibility with entrepreneurship career, and mental preparedness to start a firm.

Income and wealth creation is treated as independent variables. Five questions on a five-point Likert scale ranging from strongly disagree to strongly agree were employed. The questionnaire included questions related to long-term financial goals, preparedness to take risks, etc., to assess income and wealth creation.

Independence on work is also treated as an independent variable in the study. Five questions were used on a five-point Likert scale ranging from strongly disagree to strongly agree. Independence on work is measured with the questions related to freedom of work throughout a career, self-reliance than dependence, etc.

Family Support is another independent variable taken in the study. Six questions on a five-point Likert scale ranging from strongly disagree to strongly agree were adopted. To analyze the family support interest of family members in entrepreneurship, motivation by family members in entrepreneurship, etc., have been used.

Reliability and validity of the constructs were ensured through a Confirmatory Factor Analysis (CFA) model using AMOS version 22, and path analysis was used to ascertain the association between dependent and independent variables of the study. Two hundred thirty-two questionnaires were coded into SPSS. The factor-wise reliability and validity are tested, and the researchers succeeded in it, which is shown in Table 4.



**Table 4: Summary of Confirmatory Factor Analysis**

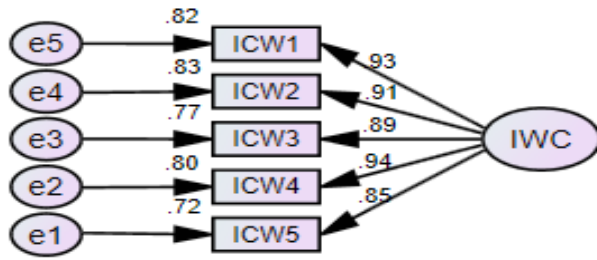
Variables	Label	Standardised Factor Loadings	R2	Composite reliability	AVE	MSV
VC	VC1	0.75	0.68	0.75	0.58	0.29
	VC2	0.88	0.77			
	VC3	0.74	0.67			
	VC4	0.90	0.81			
IWC	IWC1	0.93	0.82	0.77	0.67	0.22
	IWC2	0.91	0.83			
	IWC3	0.89	0.77			
	IWC4	0.94	0.80			
	IWC5	0.85	0.72			
IOW	IOW1	0.78	0.65	0.73	0.65	0.16
	IOW2	0.90	0.79			
	IOW3	0.93	0.83			
	IOW4	0.89	0.78			
	IOW5	0.84	0.71			
FS	FS1	0.86	0.75	0.83	0.62	0.25
	FS2	0.85	0.73			
	FS3	0.75	0.58			
	FS4	0.79	0.63			
	FS5	0.82	0.67			
	FS6	0.86	0.74			

Source: Primary data

## DATA ANALYSIS AND THE RESULTS

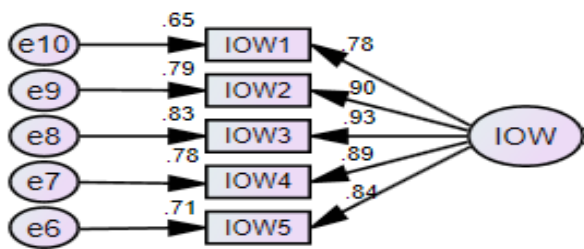
The Confirmatory Factor Analysis (CFA) defined the fitness of the model of the four variables, and the model fit was found to have adequate data. Table 5 depicts the results of the CFA for the four variables with the validity of scale and goodness of fit. Model fit and goodness of fit indices include chi-square/degree of freedom (CMIN/df), goodness-of-fit index (GFI) and adjusted goodness-of-fit index (AGFI), Tucker–Lewis index (TLI), Normed fit index (NFI). Incremental fit index (IFI) and badness of fit indicator like root mean square error of approximation (RMSEA). Figure 2 indicates the regression of income and wealth creation with their factors. Figure 3 represents the regression of independence on work with their factors. Figure 4 shows the regression of family support with their factors. Figure 5 represents the regression of venture creation decisions with their factors. All the indicators of AMOS confirm that all the variables have better results regarding the goodness of fit, that is, all the indicators of model fit are within the permitted rates and are consistent with past studies (Cangur & Ercan, 2015; David A. Kenn, 2020).

**Figure 2: Measurement model of IWC**



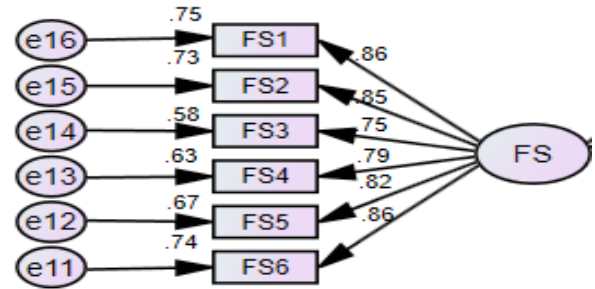
Source: Primary data

**Figure 3: Measurement model of IOW**



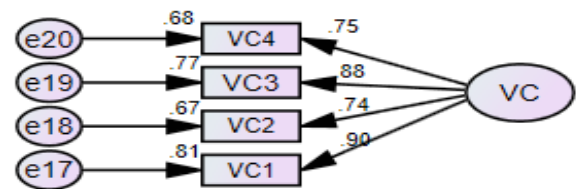
Source: Primary data

**Figure 4: Measurement model of FS**



Source: Primary data

**Figure 5: Measurement model of VC**



Source: Primary data

**Table 5 Measurement Model of different Constructs**

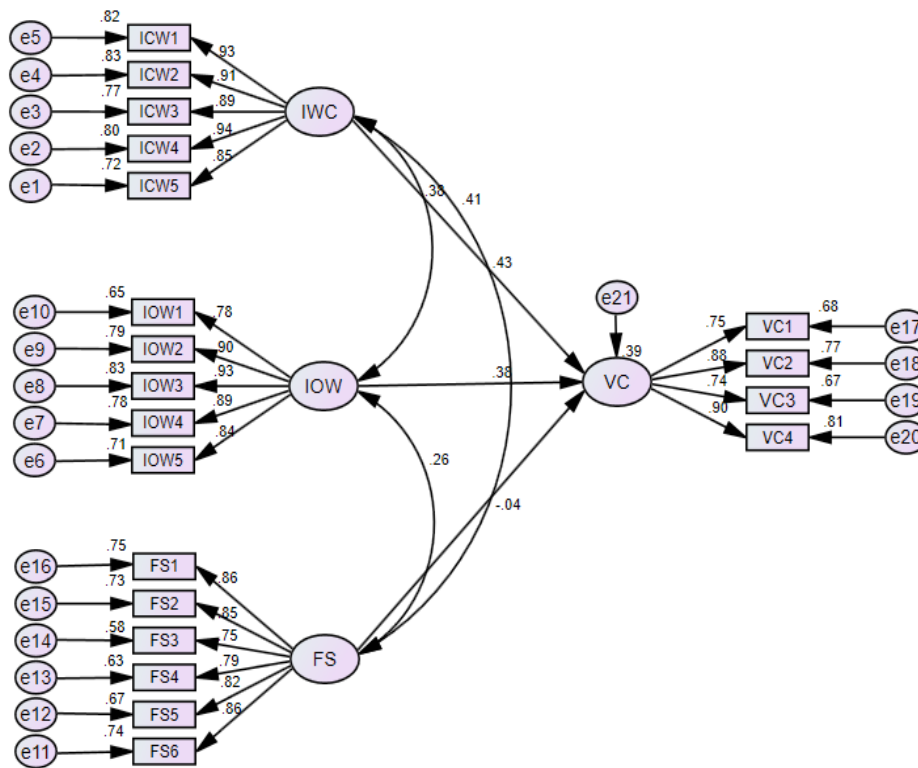
Variables	CMIN/df	AGFI	GFI	RMSEA	NFI	IFI	TLI
IWC	3.313	0.92	0.95	0.05	0.901	0.900	0.987
IOW	2.24	0.93	0.96	0.06	0.911	0.927	0.901
FS	2.654	0.90	0.92	0.037	0.907	0.956	0.909
VC	2.346	0.94	0.98	0.04	0.921	0.968	0.981

Source: Primary data

**Model fit**

The researchers tried to study the relationship between income and wealth creation, independence on work and family support with venture creation decisions through Structural Equation Modelling (SEM), as depicted in Figure 6. The relationship between the three independent variables and the dependent variable is drawn in AMOS graphics and their model fit indices are presented in Table 5. The value of AGFI, GFI, NFI, TLI, and IFI fulfil the conditions of model fit as they are more than 0.9, which is the threshold limit. The value of RMSEA also shows a good fit, and all the values are below 0.08, which is the allowable threshold limit. For the variables VC and IWC, it is less than or equal to 5, which is the best result. The CMIN/df is better if it is between 1 and 5. More than 5 is a poor fit. Here the values are between the limits, which show the model is the best fit.

Figure 6: Structural Model



Source: Primary data

**Path Analysis and Results**

To test the developed hypothesis, path analysis was done, whose results are presented in Table 6. Path analysis was done to test the developed hypothesis. The table indicates the regression weight and critical ratio test that signifies only Income and wealth creation (\*\*\*,  $p < 0.05$ ) and Independence on work (\*\*\*,  $p < 0.05$ ) have a strong association with the dependent variable venture creation decision among NRIs in Kerala. One of the independent variables, family support ( $0.388, p < 0.05$ ), does not indicate a significant association with the dependent variable venture creation decision. Therefore, it can be concluded that the study supports H1 and H2 but does not support H3. Thus both hypotheses H1 and H2 are accepted (Figure 6), that is, income and wealth creation is significantly associated with the venture creation decision among Non-Resident Indians and independence on work is significantly associated with the venture creation decision among Non-Resident Indians, respectively. The H3 is rejected

(Figure 6), which is that family support is insignificantly associated with the venture creation decision among Non-Resident Indians. That means family support does not have an association with venture creation decisions.

Table 6 Results of the structural model

Paths	Estimates	SE	CR	P
VC IWC	0.493	0.071	6.956	***
VC IOW	0.532	0.078	6.851	***
VC FS	-0.048	0.053	0.916	0.388

Source: Primary data

**DISCUSSION AND CONCLUSION**

The main purpose of this research article was to find out the effect of certain opportunity-driven factors on venture creation decision among Non-Resident Indians (NRIs). There are many factors behind one's

entrepreneurship decision, but for this study income and wealth creation, independence on work, and family Support are taken as independent variables as they are the most important factors (Dawson & Henley, 2012; Fatoki, 2014; Kwong & Thompson, 2016). The results illustrate that thought of income and wealth creation has a high association with an NRIs venture creation decision. In connection with past studies (Dawson & Henley, 2012; Fatoki, 2014; Gatti et al., 2019; Lindquist et al., 2015), the present study also agrees with the fact that income and wealth creation aspires entrepreneurship thought. The research also finds that independence in work has a great association with venture creation decisions of NRIs in Kerala. This finding is in line with the previous studies (Dawson & Henley, 2012; Gatti et al., 2019) that the freedom of work in the career is a main motivating fact behind the entrepreneurial decision. Everyone require their own space for spending their time, therefore freedom in their working place is essential as they spent most of their life there. The need for independence leads most of the young generation to the thought of an entrepreneurial career. The study also stresses the same view with the findings.

Family support is also pertinent in the venture creation process for all the individuals, as a good family environment can bring a peaceful mind to engaging in business activities (Herdjiono et al., 2017; Lindquist et al., 2015; Shapero & Sokol, 1982). However, the results of the study indicate that the family support for beginning a venture in Kerala is less and it is not significantly associated with venture creation decisions among NRIs in Kerala. Family support is a motivation for people to start a new venture, but it does not have a significant association here in the study, and therefore hypothesis H3 did not accept in the study.

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## Investigating Unified Payments Interface Linked Applications: Analyzing Preference of Generations

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### A b s t r a c t

*Mobile commerce has become the primary payment mode for online shopping and digital transaction in India. Technology survey generation is influenced by the Unified Payment Interface to make the transactions between peer-to-peer and peer-to-merchants. It is focused on stealing the market share of net banking. The researcher would like to examine the Unified Payment Interface preferred by generations and also investigate the factors influencing the generations in preferring particular applications for digital transactions. The study is descriptive in nature and used a structured questionnaire to collect the response from the respondents using snowball sampling techniques. The researcher used corresponding analysis and regression analysis to evaluate the relationship and impact level among the variables through the SPSS package. The study used the following factors to measure the impact level such as perceived security, ease of use, facilitating condition, behaviour intention, social influence and so on. Among these factors, security, facilitating conditions, and perceived ease of use have a positive impact on the consumers preferring the UPI-linked applications. Hence the service providers should improve the quality as well as the awareness level of the consumer to serve the generations equally.*

**Keywords:** UPI, Digital Transaction, IMPS, VPA, Mobile Banking Applications.

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## 1.1 INTRODUCTION

There is rapid growth and development in the perspective of E-commerce in India. There is certainly a considerable span for the development from fundamental access to the internet to the advancement of online payment methods. Internet diffusion leaves three out of four Indians without access. In order to prop up and extend the scheme, the government promoted digital India and skill India to progress the habit of internet facilities. This, in turn, figured the growth of the Indian economy through digital transactions. The implementation and consciousness increased after the demonetization of currency notes in the year 2016. The level of responsiveness and the preference for paying and buying online increased rapidly. The folks were aware of various modes of digital transactions such as NEFT, RTGS, UPI and Mobile Banking Applications such as Google pay, phonepe, Paytm and other banking applications.

Technology survey generation, highly influenced by the Unified Payment Interface, has granted the citizens of India to transfer money from one bank account to another bank account on a regular basis. The Unified Payment Interface system was developed by NPCI and linked with the Government of India to develop the economy as a faceless, paperless and cashless payment system. In order to make banking services more accessible to wider spectators, the Unified Payment Interface provides services such as sending, receiving and requesting money through a Virtual Payment Address.

Early on, banking services required host details about the receiver bank accounts, whereas UPI transactions require only a VPA address or mobile number or debit card number if the receiver bank is linked with UPI. This will make ease of access and gather acceptance from the public. The UPI-enabled platform has limited its services upto one lakh rupee per day for ten UPI transactions per day. It is a real-time payment system basically done through IMPS and also allows the user to pay bills and recharge through various applications. In a few years, the economy will witness the development of UPI and moderate the generations' intention through offerings. Hence the researcher would like to investigate the most preferred UPI platform for Digital transactions focusing on generations.

## 1.2 OBJECTIVE OF THE STUDY

- To understand the preference of the generations in using UPI-linked applications.
- To analyze the factors influencing the consumer preference of choosing the applications.

## 1.3 HYPOTHESES

- UPI linked applications do not have an association with the age group of the consumers for digital transactions.
- UPI linked applications do not have a significant difference with the factors influencing the consumer in preferring the application for digital transactions.

## 1.4 REVIEW OF LITERATURE

Drew M. Anderson *et al.* (2017) studied the electronic payment systems considering the consumers vulnerable. The researcher aims to evaluate the characteristics of the population by the shift and administration data on social security in electronic payments. The study reveals that most of the consumers were unaware of electronic payments because they are small in number and have experienced only payment cards, and lack tech knows how. The shift from physical cash to electronic payments does not clearly explain the increasing value of banking. However, certain consumers updated to e-payments but still, but it is a slow process among the most valuable householders.

Abhipsa Pal *et al.* (2017) examined the security of mobile payment. The researcher analyzed the risk factor associated with the mobile phone payments system. The study identified that the confidentiality issue is the influencing factor in mobile payment systems except for USSD. However, risk factors high lights the user's adoption of new technology. The service providers concentrated on reducing the risk, but still, security is a concern. There are serious privacy concerns with the services, and the application demands the user for private data without providing clear information about why it is required. So certain concerns become a drawback for these technologies, which were unable to adopt by the users in a fully trusted form.

Aditya Samant and Mukesh Kumar (2016) emphasized cashless transactions enabled by technology and improvement in the quality of services. The researcher found that while people are getting contented with cashless payments, some attitude issues are holding back many from the implementation of the newer platforms. The findings also suggest that the usage behaviours of those who have taken to cashless modes could be sensational towards security threats.

Deepak Mathue (2016) studied the awareness about security in the E-Payment system. The researcher would like to explain the awareness about the security provided in EPS. The result reveals that it is impossible to suggest which payment systems are best in security and privacy policy. Some EPS modes are similar and different in the same minor details. The consumer should have technological knowledge before updating the use of any electronic payment system.

Elisa Tauilla (2015) studied the challenges faced while adopting mobile payment in Thailand. The researcher evaluates the key drivers of mobile payment adoption along with the challenges faced in the technology in Thailand. The researcher reveals that advertising technology will increase the usage of electronic and mobile payments. It also involves the trustworthiness of users and industry stakeholder who plays a major role in collaborating on infrastructure development and policy modification to facilitate acceptance of the mobile payment system. An increase in security and privacy policy will definitely increase the trust and confidence level and using mobile payment and electronic systems.

Akhavan Saffar and H. Mohammad Zadeh Moghadam (2012) examined the quality of the services provided through online portals of electronic banks in the country. The researcher found that factors such as trustworthiness, accessibility, security, accountability, and cash performance positively influence the satisfaction level of the consumers, whereas they are non-user-friendly due to technological changes and lack of information influence the negative aspects in adoption as well as the quality of the service rendered through electronic banking.

## 1.5 ANALYSIS AND INTERPRETATION OF DATA

### 1.5.1 CORRESPONDENCE ANALYSIS

$H_0$ : There is no association between the UPI-linked applications and the age group of the consumers for digital transactions.

Correspondence Table						
UPI link applications	Age Group					Active Margin
	Below 18	18-25 Yrs	25 -32 Yrs	32-40	Above 41	
Phonepe	0	0	4	0	0	4
Paytm	0	1	0	3	0	4
Bhim	0	0	0	0	1	1
Googlepay	3	0	10	4	1	18
Sbi Pay	0	0	2	1	0	3
Active Margin	3	1	16	8	2	30

Sources: Primary Data

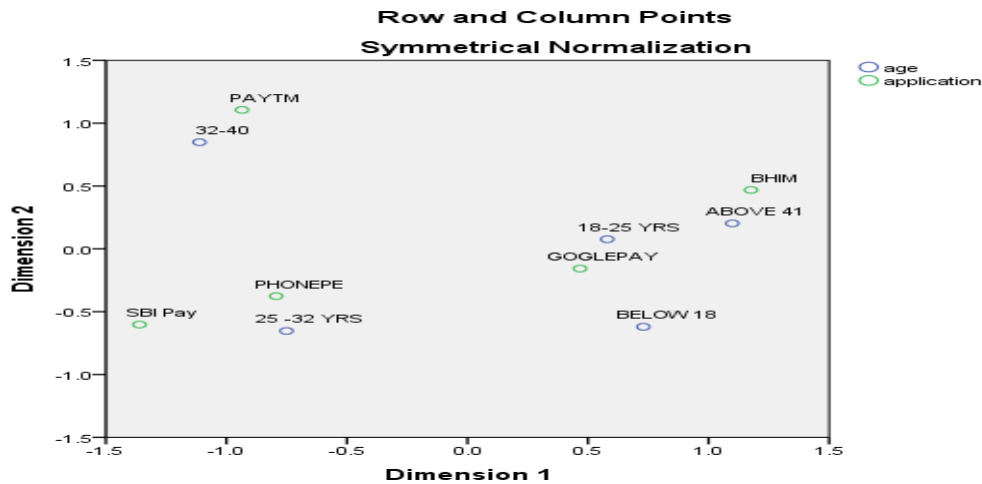
Correspondence analysis is a descriptive technique intended to examine two-way frequency cross-tabulation. The tables contain measures of correspondence between rows (Age Group) and columns (UPI link applications). The above table shows the preference of UPI link applications among the generations for digital transactions.



Summary								
Dimension	Singular Value	Inertia	Chi Square	Sig.	Proportion of Inertia		Confidence Singular Value	
					Accounted for	Cumulative	Standard Deviation	Correlation 2
1	.718	.516			.522	.522	.149	.955
2	.672	.452			.458	.981	.115	
3	.138	.019			.019	1.000		
Total		.987	29.600	.020 <sup>a</sup>	1.000	1.000		

a. 16 degrees of freedom

Correspondence Analysis is used to test for the total variance explained, along with the associated probability through chi-square statistic. Hereby the summary table shows whether the model is fit. In that case, the model is significant at .020 which is lesser than the alpha of 0.05 and a chi-square value of 29.600.



**A biplot displaying the dimensions score for both age group and UPI linked application.**

The score compares the dimensions across the variables. Correspondence analysis is a standardized measure of the relationship between the variables. Here we see that the age group between 18 years to 25 years and below 18 years prefer to use google pay UPI linked applications, 25 years to 32 years prefer SBI pay and phonepe. Whereasthe age group between 32 and 40 years prefer Paytm for transactions.

**1.5.2 REGRESSION ANALYSIS:**

**H<sub>0</sub>:** There is no significant difference between UPI linked applications with the factors influencing the consumer in preferring the application for digital transactions.

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.742 <sup>a</sup>	.550	.347	1.00256	.550	2.715	9	20	.030

a. Predictors: (Constant), FC, SI, Trust, BI, TC, PE, EE, EA, PS

The above table shows the overall model fit for the analysis of data. R-value is .742 which shows the correlation between the factors and UPI linked applications.

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.564	9	2.729	2.715	.030 <sup>b</sup>
	Residual	20.103	20	1.005		
	Total	44.667	29			
a. Dependent Variable: application						
b. Predictors: (Constant), FC, SI, Trust, BI, TC, PE, EE, EA, PS						

The result of the ANOVA test reveals that  $f(20, 9) = 2.715$ ,  $p = 0.030$  which is less than the significant value of 0.05. Hence it shows the applications and the influencing factors have a positive impact on generations to prefer the application for digital transactions.

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	17.923	7.030		2.549	.019
	Trust	-3.923	2.568	-1.286	-1.528	.142
	PS	4.462	1.581	2.180	2.823	<b>.011</b>
	PE	-2.769	.777	-1.330	-3.564	<b>.002</b>
	TC	.769	.385	.634	1.998	.059
	EA	1.026	1.659	.412	.618	.543
	EE	.538	1.373	.267	.392	.699
	SI	-.795	.636	-.432	-1.250	.226
	BI	.769	.615	.388	1.250	.226
	FC	-3.000	.868	-1.441	-3.455	<b>.003</b>
a. Dependent Variable: application						

The coefficient tables explain the impact level of the variables. The result shows that perceived security, ease of use and facilitating conditions influence the preference of choosing the application linked with the Unified Payment Interface for digital transactions.

## 1.6 FINDINGS OF THE STUDY

- The majority (70%) of the respondents were male.
- Most (56.7 %) of the respondents belong to the age group of 25 years to 32 years and their monthly income lies between 20001 to 30000.
- The correspondence analysis test reveals that UPI linked applications have a positive association with the age group of the consumers for digital transactions.
- Regression analysis estimates the relationship between UPI linked applications and factors. Among them, perceived security, ease of use and facilitating conditions have a significant impact on the applications used for digital transactions.

## 1.7 SUGGESTIONS

The Government of India and NPCI have to develop an awareness programme for the adoption of digital transactions among all generations. The providers should focus on upgrading the system of safe and security in order to gain acceptance from generation X.

## 1.8 CONCLUSION

Unified Payment Interface provides features such as sending, receiving and requesting money, helping to create own Virtual Payment Address and providing a quick response Code to scan for payments. The National Payments Corporation of India (NPCI) and the Government of India jointly created this system in order to develop the economy to digitalize all the activity and the system to be a competitor for former countries. The researcher investigated, and the result reveals that security and simplicity factors influence the preference of using particular UPI inked applications. Among the applications, the google pay app is preferred most by the consumer for digital transactions. Hence the service providers have to consider the factors that will motivate the users to process their transactions easily and conveniently.

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## Personal Financial Planning and Financial Wellbeing: A Study on School Teachers in Jorhat District, Assam

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Ujjal Bhuyan\*\*

### A b s t r a c t

*Today we live in a world which is best described by the VUCA (Vulnerability, Uncertainty, Complexity and Ambiguity) factor. In such a world, with a growing level of uncertainty, personal financial planning is of paramount importance. A comprehensive financial plan encompassing all the crucial aspects of personal finance: savings, insurance, investment, retirement, taxation and estate, would not only prepare one for 'rainy days' but also ensure fulfilment of various short and long term financial goals. Moreover, at present times, with the onset of the novel coronavirus, people around the globe have faced economic insecurity and liquidity crunch. In order to survive such difficult times, personal financial planning is not only a good proposition but has become a basic requirement. The paper attempts to highlight the level of financial planning and financial wellbeing, along with the reasons and challenges faced by respondents while planning. In addition to this, the researcher attempts to determine the association between financial planning and financial wellbeing.*

**Keywords:** *VUCA, financial planning, economic insecurity, financial wellbeing etc.*

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## 1. INTRODUCTION

The socio-economic structure of the country witnessed significant changes over the years. From shifting of people to a nuclear family setup from a traditional joint family structure (thereby putting a cap on their income sources), ever-rising price levels owing to inflationary forces (limiting purchasing power), and a longer span of lives owing to modern-day health care facilities, are some of the changes which have called for a comprehensive financial plan. Moreover, modern times are best characterised by the VUCA (Vulnerability, Uncertainty, Complexity and Ambiguity) factor. At such times, a lack of financial planning is not a good proposition for one's financial stability and financial resilience. To make things worse, with the outbreak of the novel coronavirus, in addition to businesses facing irrevocable losses, individuals around the globe have faced economic insecurity, arising from their job losses or from massive pay cuts. Personal financial planning would not only provide a cushion for these unforeseeable events but also assist one in achieving other short and long term financial targets. Personal financial planning is the process of designing and implementing a comprehensive strategy to meet one's financial objectives. It is a goal-oriented process that entails a thorough examination of a person's current financial situation and the development of necessary strategies to fulfil short- and long-term financial goals.

## 2. LITERATURE REVIEW:

**Altfest L. (2004)**, in his study, describes personal financial planning as a method that enables households to take care of their financial needs in the most efficient manner. He also describes it as an umbrella term that incorporates all the elements, retirement planning, tax planning, cash flow management, investment planning, credit planning and estate planning, that reflect the financial interest of a household. **Colaco G. and Rao D. (2016)**, in their study, highlight personal financial planning as an all-inclusive plan, conceptualized and implemented by an individual to fulfil his/her financial needs. The plan covers areas such as money management, insurance, investment, estate, retirement and credit planning. **Prawitz, A. et al. (2006)** measured financial well-being on a subjective basis, which included

eight components: current level of financial stress, financial condition, households' ability to bear their monthly expenditure and for future emergencies and trimming on entertainment and other activities owing to financial concerns. **Consumer Financial Protection Bureau (CFPB, 2015)** measured financial well-being on four important dimensions: financial control, financial freedom in making life choices, financial resilience and staying on track to meet one's financial targets. People who are well equipped and competent at money management are more likely to exhibit a higher level of economic wellness (**Sabri, M. and Leila, F. (2013)**). Personal financial planning is a holistic way of looking at managing one's finances in an attempt to achieve financial satisfaction and witness lower levels of financial stress. Desirable financial behaviours such as developing or having a financial plan to attain one's financial targets have a positive influence on the financial well-being of the individuals (**Mahdzan, N. et al. (2019)**). Previous literature strongly advocates for the significant positive influence of financial planning on individuals' financial wellbeing. Financial planning, as a component of responsible financial behaviour, has a strong positive influence on the financial well-being of individuals (**Sehrawat, K. et al. (2021)**). **Adam, A.M. et al. (2017)** in their study shed light on the significant positive effect of financial planning on the financial wellbeing of retirees. Moreover, **Xiao, J.J. and O' Neill, B. (2018)** in their study highlighted the propensity to plan to have a significant positive impact on the financial satisfaction of the individuals. Financial satisfaction was taken as a measure of financial well-being in their study.

## 3. SIGNIFICANCE OF THE STUDY

The significance of personal financial planning lies in one's paramount importance in achieving financial independence and economic wellbeing. Over the years, the socio-economic structure of society has seen some significant changes, which has enhanced the need for a holistic financial plan to achieve one's financial goals. Moreover, planning one's finances plays a crucial role in ensuring financial security and stability, especially at present times of uncertainty.

## 4. OBJECTIVES OF THE STUDY

The following are the objectives set for the study:

1. To determine the level of personal financial planning and financial wellbeing among the respondents.
2. To shed light on the reasons behind personal financial planning and challenges faced by them in planning their finances.
3. To shed light on the relationship between the personal financial planning of the respondents and their subjective financial wellbeing.

## 5. HYPOTHESIS

Ho: Financial wellbeing is not statistically significantly different across the levels of personal financial planning.

## 6. RESEARCH METHODOLOGY

The study is based on primary data and a well-structured questionnaire has been administered for the same. The nature of the study is descriptive as well as analytical. The target population is government school teachers residing in Jorhat District. In the district, there are 1,690 government schools, having a total of 6275 teachers as per data gathered from the Office of the Inspector of Schools database, Jorhat in the year 2019. Using a Krejcie and Morgan Table, for the finite population of 6275 teachers, the sample size comes to be 364. Considering a response rate of 80 per cent, the proposed sample size would be 455. However, only 400 respondents' responses were found to be complete and useful for the study. In an attempt to make the sample more representative in nature, respondents were selected from five educational blocks (Central Jorhat, East Jorhat, Jorhat, North West Jorhat and Titabor) of Jorhat District, Assam, under AxomSarbaSiksha Abhiyan. The sample size of 400 teachers was selected from each of the five blocks on a proportionate basis. The selection of schools was, however, made on a random basis. For categorization of respondents into different levels of financial planning and financial wellbeing, the percentile is used (Below 33<sup>rd</sup> percentile- low, above 33<sup>rd</sup> to below 66<sup>th</sup> percentile- medium and above 66<sup>th</sup> percentile- high). Personal financial scores were calculated based on their response to various aspects of planning selected for the study: savings and expenditure, insurance, investment, retirement, taxation, estate planning and their strict adherence to planning and reviewing and revising it in the

light of changes in one's personal life. Responses were collected on a five-point Likert scale. In respect of financial well-being, it was based on their responses to ten questions administered to them, which intended to capture their level of economic wellness. Based on these responses, collected on Five-point Likert Scale, categorization of respondents (Below 33<sup>rd</sup> percentile- low, above 33<sup>rd</sup> to below 66<sup>th</sup> percentile- medium and above 66<sup>th</sup> percentile- high) was done with the help of percentile. Kruskal-Wallis H test is conducted to determine whether a statistically significant difference in planning existed among the three levels of financial well-being and Spearman Rho would throw light on the correlation between the two ordinal variables: personal financial planning and financial wellbeing. Henry Garrett's ranking method has been applied to provide ranking to the reasons for planning.

## 7. ANALYSIS OF DATA

Out of 400 respondents selected for the study, 35 per cent fall into the low level of financial planning category, followed by about 37 per cent in the moderate level of financial planning and about 28 per cent in the high level of financial planning cohort (table 1). This categorization is done with the help of percentile, on the basis of their responses to various aspects of planning as mentioned in section 6 (research methodology) of the paper.

### 7.1 Level of personal financial planning

**Table 1: Categorization of respondents on the basis of the level of personal financial planning**

	Frequency	Per cent
Low	140	35.0
Medium	147	36.8
High	113	28.3
total	400	100.0

Source: computed data

The primary data highlighted that the selected respondents showed planning in three dimensions of personal finance: saving (92 per cent), insurance (54 per cent) and investment (52 per cent). But in case other important dimensions of personal finance: debt (36 per cent), retirement (35 per cent), tax (29 per cent) and estate planning (16 per cent), the

planning is low as less than 50 per cent of the total respondents agreed to have planned in these aspects. Moreover, in case of strict adherence to the developed plans and reviewing and revising it in the light of the changes in one's personal life, the percentage is merely 19 per cent and 34 per cent respectively. This highlights the lack of holistic financial planning among the respondents.

**Table 2: Percentage response to select aspects of personal financial planning**

Aspects	Savings and expenditure	Insurance	Investment	Debt	Retirement	Estate	Tax	Strict adherence to plans	Review and revise
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
	92	54	52	36	35	16	29	19	34

Source: primary study

## 7.2 Reasons for personal financial planning:

The responses were collected to determine the reasons behind the personal financial planning of the respondents. Garrett's ranking method has been applied to provide ranking to the reasons for planning. Based on the aforesaid ranking method, financial preparedness for future uncertainties (Rank 1) was found to be the most probable reason behind the personal financial planning of the respondents. Followed by becoming financially self-reliant (rank 2), building wealth (rank 3), having a stress free post-retirement (rank 4), better management of income (rank 5), safeguarding the future needs of the dependents (rank 6), for achieving financial discipline (rank 7) and for gaining financial understanding and confidence in financial affairs (rank 8).

### HENRY GARRETT'S RANKING METHOD:

**Table 3: Ranking of statements**

STATEMENTS	Average Score (Garrett Score/ total No. of respondents)	Ranks
1. For better management of income.	46.925	5
2. For achieving financial discipline by keeping spending on track.	32.845	7
3. For gaining financial understanding and confidence in financial matters.	29.625	8
4. To become financially self-sufficient.	66.655	2
5. To be prepared for future uncertainties.	75.0575	1
6. Building wealth.	54.18	3
7. To have a stress-free post-retirement life.	51.1	4
8. To safeguard the future needs of the dependents.	44.7625	6

Source: primary study

## 7.3 Challenges to personal financial planning

Based on primary data collected (Table 4), about 90 per cent of the respondents found personal financial planning a challenging task. 86 per cent of the respondents agreed to uncertainty with regard to the future is the primary challenge in financial planning. In addition to this, a feeling of fear and anxiety is also found to be acting as a hindrance in their planning, a significant percentage i.e. 80 per cent, agreed to the same. Other reasons stated by respondents as obstacles in their financial planning are low level of awareness

in the financial planning domain (77 per cent), indecisiveness concerning where to start (75 per cent) and finding it unappealing and monotonous (40 per cent).

**Table 4: Responses to challenges faced in personal financial planning**

SL.NO	CHALLENGES	% AGREED
1	Low level of awareness	77
2	Unappealing and monotonous	40
3	Not sure where to start	75
4	Future is too uncertain	86
5	Feeling of fear and anxiety	80
6	Not a challenge	10

Source: primary study

## 8. FINANCIAL WELLBEING

Out of 400 respondents selected for the study, about 35 per cent fall into the low level of financial well-being category, followed by about 31 per cent in the moderate level of financial well-being and about 34 per cent in the high level of financial well-being cohort (table 5). This categorization is done with the help of percentile, on the basis of their responses to the statements administered to measure the subjective financial wellbeing of the respondents as mentioned in section 6 (research methodology) of the paper.

**Table 5: level of financial wellbeing**

Levels of financial wellbeing	Frequency	Percent
low	142	35.5
medium	123	30.8
high	135	33.8
Total	400	100.0

Source: primary study

## 9. ASSOCIATION BETWEEN PERSONAL FINANCIAL PLANNING AND FINANCIAL WELLBEING

In order to determine the relationship between the personal financial planning of the respondents and their level of financial wellbeing, the Kruskal-Wallis H

test and Spearman Rho are computed. Kruskal-Wallis H test is applied to shed light on whether a statistically significant difference in financial wellbeing existed among the three levels of financial planning and Spearman Rho would throw light on the correlation between the two ordinal variables: personal financial planning and financial wellbeing. Tables (7) indicate that there is a statistically significant difference in the level of financial wellbeing among the three categories of financial planning (chi-square value H (2) equal to 140.165 and p-value = 0.00, with a mean rank of 117.68, 221.67 and 275.58 for low, medium and high financial planning category).

**Table 6: Kruskal Wallis H test (Mean ranks)**

	Financial planning	N	Mean Rank
Financial Wellbeing	low	140	117.68
	medium	147	221.67
	high	113	275.58
	Total	400	

Source: Computed by author

**Table 7: Kruskal Wallis H test (significance test)**

Test Statistics <sup>a,b</sup>	
	Financial Wellbeing
Chi-Square	140.165
df	2
Asymp. Sig.	.000
a. Kruskal Wallis Test	
b. Grouping Variable: Financial planning	

Source: computed by author

The cross table (8) highlights that about 65 per cent of the respondents with a higher level of personal financial planning fall in the higher level of financial wellbeing, while only about 36 per cent of the respondents could be grouped into 'moderate' level of planning category and merely about 6 per cent of the respondents falling in the 'low level' of financial planning cohort could be grouped into 'high' financial wellbeing cohort. Similarly, a lower percentage of respondents in the high financial planning category fall in the low financial wellbeing category as compared to the other respective categories.



**Table 8: Cross-tabulation between financial planning and financial wellbeing**

Cross tabulation						
			Financial Wellbeing Category			Total
			LOW	MEDIUM	HIGH	
FINANCIAL PLANNING CATEGORY	LOW	Count	99	33	8	140
		% within FINANCIAL PLANNING CATEGORY	70.7%	23.6%	5.7%	100.0%
	MEDIUM	Count	32	62	53	147
		% within FINANCIAL PLANNING CATEGORY	21.8%	42.2%	36.1%	100.0%
	HIGH	Count	11	28	74	113
		% within FINANCIAL PLANNING CATEGORY	9.7%	24.8%	65.5%	100.0%
Total		Count	142	123	135	400
		% within FINANCIAL PLANNING CATEGORY	35.5%	30.8%	33.8%	100.0%

Source: Computed by author

The spearman's Rho as computed to determine the correlation between the two variables (financial planning and financial wellbeing) is 0.585. This indicates a moderate level of positive correlation existing between the variables.

**Table 9: Correlation between financial wellbeing and financial planning**

Correlations				
			Financial wellbeing	Personal Financial planning
Spearman's rho	Financial wellbeing	Correlation Coefficient	1.000	.585**
		Sig. (2-tailed)	.	.000
		N	400	400
	Personal Financial planning	Correlation Coefficient	.585**	1.000
		Sig. (2-tailed)	.000	.
		N	400	400

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: author's computation

## 9. CONCLUSION

The study attempted to shed light on the level of financial wellbeing and financial planning among the selected respondents and also to determine the association between the two. Moreover, the researcher also attempted to bring to light the reasons for individuals' inclination towards planning and the various challenges faced by them while planning on different aspects of personal finance. The findings of the study showed a moderate level of financial planning among the selected school teachers, while in the case of financial wellbeing, the level of subjective financial well-being was found to be low. A significant positive relationship was found between the financial planning of the respondents and their level of financial wellbeing. Based on the Henry Garrett's ranking method, financial preparedness for future uncertainties was found to be the most

probable reason behind personal financial planning of the respondents, followed by becoming financially self-reliant, building wealth, having a stress free post-retirement, better management of income, safeguarding future need of the dependents, for achieving financial discipline and for gaining financial understanding and confidence in financial affairs. In the aspect of challenges faced in planning, the majority of the respondents agreed to uncertainty with regard to the future as the primary challenge in financial planning. In addition to this, a feeling of fear and anxiety is also found to be acting as a hindrance in their planning. Other reasons stated by respondents as obstacles in their financial planning are low level of awareness in the financial planning domain, indecisiveness with respect to where to start and finding it unappealing and monotonous.

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## Personal Skills are the backbone of Women Agropreneurs: An analytical Purview

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P. Jegan\*\*

### A b s t r a c t

*The contribution of women to the nation's progress and the welfare of the families is got great recognition through entrepreneurship. As a result of economic empowerment, women reinvest their earnings in their communities' economic growth, resulting in greater self-reliance, prosperity, and food security. Through the consistent effort of women entrepreneurs, they evolve new markets and fulfill untapped customer needs through innovative businesses. This study focuses on the skills possessed by 240 sample women agropreneurs in the Kanyakumari District of Tamilnadu. The researcher used ANOVA, Cronbach's Alpha, Descriptive Statistics, KMO and Bartlett's Test, Factor Analysis, Component Transformation Matrix, Correlation Analysis and mediation analysis to analyze and interpret the results with the help of SPSS AND AMOS. The result reveals that the entire personal skills are categorized into three components, namely Inherent Skills (38%), Acquired Skills (36%), and Challenging skills (25%). The Cronbach's Alpha value is high for all the factors, namely Inherent Skills (.970), Acquired Skills (.975), and Challenging skills (.954). According to correlation analysis, there is a significant relationship between Inherent Skills and Acquired Skills (.766\*\*), and Acquired Skills (.641\*\*), and Acquired Skills has a significant association with Challenging Skills (.709\*\*), depicting the fact that Inherent Skills are more prudent in attaining Acquired Skills and Challenging Skills. There is a full mediation effect as the value of the indirect effect is less than 0.05, and the direct effect is 0.518, which is more than 0.05. The Sobel test also proves it as the value of the Sobel Test is 5.90 and the p-value is 0.000. The conclusion derived from the analysis is that the individual women possess the inherent skills by entering into entrepreneurship the women can acquire specific skills, and by the way, the women agropreneurs inherit the challenging skills.*

**Keywords:** *Acquired, Agropreneurs, Challenging, Entrepreneurship, inherent, Mediation, Skills, Women*

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## Introduction

The imperative role of entrepreneurship is the root cause for the growth of any community. Any nation's industrial growth depends on the spread of entrepreneurship culture and high-quality business development services. Entrepreneurial skills are regarded as the foundation of the Industrial Revolution and the alleviation of mass unemployment and poverty. Through entrepreneurship, women's contributions to the advancement of the nation and the well-being of families have received widespread recognition. Women's economic empowerment allows them to reinvest their profits in their communities' economic progress, resulting in increased self-reliance, wealth, and food security. Through the consistent effort of women entrepreneurs, they evolve new markets and fulfill untapped customer needs through innovative businesses. In support of these initiatives taken by the womenfolk, the community should stimulate women entrepreneurs in general and women agropreneurs in particular in their enterprise. Due to increased urbanization in developing countries, the demand for agricultural goods has shifted demand. Changes in food systems provide opportunities for agripreneurship, or entrepreneurship in agriculture and agro-based sectors, both on the farm and beyond the farm gate. However, rural women around the world typically lack equal access to vital services that could otherwise lead to employment and agripreneurship due to restrictive cultural norms, discrimination, and legal restrictions. Access to market intelligence, business consulting services, financial assets, and mentors is more difficult for rural women entrepreneurs than their male counterparts. Women Agropreneurs refers to the women involved in agriculture and agro-based industries. As an entrepreneur, the woman gains more economic power than a mere worker because ownership bestows control over assets and liabilities and gives her self-confidence and independence. To prove their efficiency and to withstand the competition, the women agropreneurs need personal and professional skills. Through identifying entrepreneurial skills, a women generation the skills for their self-development (I. Ismail, Husin, Abdul, Mohd, & Che, 2016; Jovane, Seliger, & Stock, 2017; Wickstrøm, Liu, & Schøtt, 2017). Chengadu and Scheepers (2017) addressed how women entrepreneurs navigate

their industry, including the hurdles they experience and their achievements. The findings suggest that, among other things, a supportive family, as well as encouragement and support from the immediate social context or community, facilitates women's growth. Mazonde (2016) wants to learn about female entrepreneurship from the perspective of women entrepreneurs, and she uses a social constructivist theoretical framework to do so. The talents of 240 women agropreneurs in the Kanyakumari District of Tamilnadu are the focus of this study.

## Review of Literature

Women's entrepreneurship has the potential to make a substantial contribution to the advancement of women's rights and is widely recognized as a fundamental component of women's economic empowerment (The Asia Foundation, 2018). Women are considered a nation's significant human resource (Pierce, Achdiawan, & Roshetko, 2016; Tartari & Salter, 2015). Women are eager to enter the field of retailing and contribute to the nation's development. Women from all trades are now prepared to engage in any form of company and pursue careers in trade, industry, engineering, and others. Women's entrepreneurship is becoming more widely recognized today, and initiatives are being taken to promote women's entrepreneurship. Women are required to be properly formed with other entrepreneurial traits and talents to confront the demands of global markets, keep up with changing trends, and be competent enough to maintain and strive for greatness in the entrepreneurial area. (Bumatay, Sulabo, & Ragus, 2008; Fini, Marzocchi, & Sobrero, 2009; Holwerda, 2018). Micro-economic entrepreneurship's empowerment of women resulted in women's empowerment in all spheres, including socio-economic opportunity, property rights, political representation, social equality, personal rights, family development, market development, community development, and the nation's development. (D. Ismail, Khairy, & Domil, 2014; Schneider, 2017; Suzana et al., 2014). The growth of women's entrepreneurship has been relatively high in developing nations as compared to developing countries (Khayri, Yaghoubi, & Yazdanpanah, 2011; Nardi & Fella, 2017; Rachwa, 2011; Sánchez & Sahuquillo, 2012; Stephany, Fontinele, Maria, Barros, & Moraes, 2017; Yang,

Liu, & Mai, 2018). Gender-specific factors like as agriculture, food, money, life prospects, and attitudes toward domestic violence are examined in Sulawesi intra-household decision-making. (Pierce et al., 2016). According to the study's findings, women entrepreneurs' aggressive and proactive approach leads them to make fewer sensible decisions (Ürü, al, Atan, & Aksu, 2011). Women face many levels of stress and contradicting sensations due to conflicting social conventions and roles. The superwoman persona, and "gender fatigue," a word and notion are coined by Elisabeth K. Kelan (2009). This strain is referred to as "role conflict" by Sucheta Agarwal and Usha Lenka (2015: 356), who argue that it is harmful and affects women's physical and emotional health and behavior.

The earlier studies reveal that the contribution of women to the development of the economy is vital in general and in agriculture in particular. Micro-economic entrepreneurship's empowerment of women resulted in women's empowerment in all spheres, including socio-economic opportunity, property rights, political representation, social equality, personal rights, family development, market development, community development, and national development. Women face many levels of stress and contradicting sensations due to conflicting social conventions and roles. Female entrepreneurs' aggressive and proactive approach causes them to make fewer sensible decisions. The present study deals with the possession of entrepreneurial skills among Women Agropreneurs.

## Objectives of the Study

The major objective of the study is to explore the personal skills of the women entrepreneurs in different dimensions and to find the mediation effect among the components of personal skills.

## Research Methods

This research is based on a primary survey taking a sample of 240 women agropreneurs actively involved directly in agriculture and agro-based business from Kanyakumari District of Tamilnadu based on Cochran's Sample Size Formula. Stratified random sampling is followed where Kanyakumari District is taken as the first strata, six taluks are considered as second strata and the nine blocks are taken as the third strata, and

from each block, women agropreneurs are drawn proportionately covering 240 women agropreneurs as the sample. The data were collected by the Direct Interview Method with the help of the Interview Schedule. Trade wise the entire agro-based activities are subdivided into Rubber and Cashew based, Banana and Coconut based, Honey and Dairy-based, Fish processing and Fishnet industries, Horticulture and Floriculture based, and Handicrafts, Terracotta and Pottery based which are popular in the district and the sample covers 40 in each trade. The entrepreneurial traits inherent in them and acquired through entrepreneurship are the core focus of the research. The present paper threw light on the personal skills of women agropreneurs are analyzed with the help of 34 statements. The researcher used ANOVA, Cronbach's Alpha, Descriptive Statistics, KMO and Bartlett's Test, Factor Analysis, Component Transformation Matrix, Correlation Analysis and mediation analysis to analyze and interpret the results with the help of SPSS and AMOS.

## Attainment of Personal Skills from Agropreneurship

Entrepreneurship is the combination of risks and challenges wherein one should be ready to face both success and failures together. Ideally speaking, anyone who can start a business professional and is willing to undertake risks can become an entrepreneur, but not all entrepreneurs can never attain success. Certain specific characteristics of entrepreneurship make an entrepreneur successful irrespective of the type of trade undertaken. Here the researcher attempted to locate the attainment of Personal Skills for the sample women agropreneurs.

$H_0$ : Personal Skills of Women Agropreneurs show no significant differences.

**Table 1 Personal Skills of Women Agropreneurs: Reliability Statistics**

Category		Sum of Squares	df	Mean Square	F	Sig
Between People		3160.64	239	13.22	6.054	.000
Within People	Between Items	46.45	33	1.41		
	Residual	1833.84	7887	.233		
	Total	1880.29	7920	.237		
Total		5040.93	8159	.618		
<b>Reliability Statistics</b>						
Cronbach's Alpha		.982				
Number of Items		34				
Grand Mean = 2.0576						

Source: Computed

The Sum of Squares between People is 3160.64 and Between Items is 46.45, the Mean Square between People is 13.22 and Between Items is 1.41, according to the test of dependability statistics for Women Agropreneurs' Skills. F (239, 33): 6.054 has a p-value of 0.000, which is less than 0.05, indicating that the claims for Entrepreneurial Skills are statistically significant. The grand mean is 2.0576, and the Cronbach's Alpha score was .982, indicating that the assertions are highly reliable for further statistical analysis.

**Table 2 Descriptive Statistics of the Personal Skills of Women Agropreneurs**

Skills	Mean	Std. Deviation	Communalities
Determination	2.0750	.81474	.806
Humour	2.0875	.77934	.852
Competitive	2.2042	.82583	.900
Independence	2.1042	.79852	.884
Intelligence	2.1333	.79679	.836
Sense Of Self	2.1167	.80981	.788
Vivacious	2.1208	.80660	.919
Cultural Assimilation	2.1167	.84024	.785
Moral Values	2.1542	.79036	.821
Religious	2.1833	.77063	.771
Marginality	2.1000	.80687	.844
Work Ethics	2.1375	.85438	.761
Individual Smartness	2.0958	.79432	.749
Ability to Recognize Highly Potential Business Opportunity	2.0250	.82292	.797
Creativity	2.1667	.83173	.854
Innovativeness	1.9875	.72885	.803
Self-Efficacy	1.9167	.78248	.702
Self Confidence	2.0167	.73163	.768
Self-Belief	1.9958	.76808	.641

Dedication & Hard-Work	1.9125	.75202	.729
Internal Locus of Control	2.0125	.76799	.701
Risk-Taking Propensity	1.9250	.71637	.781
Attitude Towards Risk	2.0333	.76463	.671
Taking Calculated Risk	2.0625	.74895	.714
Tolerance Of Uncertainty	2.0375	.76169	.829
Sincerity And Commitment	2.0000	.77081	.767
Ambiguity	2.0542	.75517	.726
Endurance	2.0875	.79001	.710
Continuing For a Long Time	1.9333	.76791	.769
Good Planning	2.0708	.74821	.771
Ability to make Decisions	1.9583	.78581	.663
Flexibility	2.0083	.77076	.714
Adaptive to Change	2.0542	.75517	.686
Goal-Oriented	2.0708	.82278	.796

Source: Primary Survey

It is interpreted from the analysis that the mean value is high for the Competitive skill ( $\bar{X}$ : 2.2042) and is low for Self-Efficacy ( $\bar{X}$ : 1.9167), the standard deviation is high for Work Ethics ( $\sigma$ : .85438), and is low for Risk-Taking Propensity ( $\sigma$ : .71637). Regarding Communalities, all the values of the skills statements are more than 0.5, which proves the reliability of all statements.

**Table 3 Reliability Test for Entrepreneurship Skills**

Bartlett's Test and KMO		
Kaiser-Meyer-Olkin sampling adequacy measure.		.717
Bartlett's Test of Sphericity	Chi-Square	15609.649
	Degrees of Freedom	561
	p-value	.000

Source: Derived

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy has a value of .717, which is more than adequate for the test, according to the KMO and Bartlett's Test of Sampling Adequacy. According to Bartlett's Test of Sphericity, the Chi-Square value is 15609.649 for a degree of freedom of 561, and the p-value is 0.000, indicating that the assertions are statistically significant and suitable for factor analysis.

**Table 4 Factor Analysis for the Personal Skills**

Rotated Component Matrix			
	Components		
	Inherent Skills	Acquired Skills	Challenging Skills
Independence	.775		
Intelligence	.762		
Determination	.759		
Moral Values	.740		
Sense of Self	.726		
Cultural Assimilation	.718		
Humour	.697		
Work Ethics	.693		
Individual Smartness	.689		
Flexibility	.688		
Dedication & Hard-Work	.677		
Internal Locus of Control	.673		
Self-Efficacy	.670		
Self Confidence	.633		
Religious	.626		
Self-Belief	.592		
Good Planning		.847	
Innovativeness		.809	
Sincerity and Commitment		.807	
Ambiguity		.785	
Taking Calculated Risk		.784	
Attitude towards Risk		.776	
Ability to make Decisions		.761	
Endurance		.757	
Ability to Recognize Highly Potential Business Opportunity		.738	

Dedication & Hard-Work		.732	
Risk-Taking Propensity		.699	
Competitive			.805
Creativity			.781
Vivacious			.777
Tolerance of Uncertainty			.736
Goal-Oriented			.727
Marginality			.715
Consistent effort			.710
<b>% of Variance</b>	<b>29.495</b>	<b>28.211</b>	<b>19.678</b>
<b>Cumulative %</b>	<b>29.495</b>	<b>57.706</b>	<b>77.383</b>
<b>% to total</b>	<b>38</b>	<b>36</b>	<b>25</b>
<b>Cronbach's Alpha</b>	<b>.970</b>	<b>.975</b>	<b>.954</b>

Source: Primary Survey

As per rotated factor analysis, the entire personal skills are categorized into three components, namely Inherent Skills (16 statements), Acquired Skills (11 statements), and Challenging skills (7 statements). The further elaboration of the same is narrated below.

**Inherent Skills:** The various skills filtered under this component are Independence (.775), Intelligence (.762), Determination (.759), Moral Values (.740), Sense of Self (.726), Cultural Assimilation (.718), Humour (.697), Work Ethics (.693), Individual Smartness (.689), Flexibility (.688), Dedication & Hard-Work (.677), Internal Locus of Control (.673), Self-Efficacy (.670), Self Confidence (.633), Risk-Taking Propensity (.626), and Self-Belief (.592). This component has a variance of 29.49, forming 38 percent out of the total, which has the reliability Cronbach's Alpha value of .970, stating high significance.

**Acquired Skills:** The skills coming under this component are Good Planning (.847), Innovativeness (.809), Sincerity and Commitment (.807), Ambiguity (.785), Taking Calculated Risk (.784), Attitude towards Risk (.776), Ability to make Decisions (.761), Endurance (.757), Ability to Recognize Highly Potential Business Opportunity (.738),



Dedication & Hard-Work (.735), and Risk-Taking Propensity (.699). This component has a variance of **28.211**, forming 36 percent out of the total, which has the reliability Cronbach's Alpha value of .975, stating high significance.

**Challenging Skills:** The various skills categorized under this component are Competitive (.805), Creativity (.781), Vivacious (.777), Tolerance of Uncertainty (.736), Goal Oriented (.727), Marginality (.715), and Consistent effort (.710). This component has a variance of **19.678**, forming 25 percent out of the total, which has the reliability Cronbach's Alpha value of .954, stating high significance.

**Table 5 Component Transformation Matrix on the attainment of Personal Skills**

Component Transformation Matrix			
Components	Inherent Skills	Acquired Skills	Challenging skills
Inherent Skills	.631	.609	.480
Acquired Skills	.562	-.786	.257
Challenging skills	-.534	-.108	.839

Source: Derived

Inherent Skills by itself has a close positive association with Inherent skills (.631), Acquired Skills (.609), and with Challenging Skills (.480). Acquired Skills has a negative association with itself (-.786), little positive association with Challenging Skills (.257), and moderate positive association with Inherent skills (.562). The component Challenging skills have a high positive association with itself (.839), negative association with Inherent skills (-.534), and negative association with Acquired Skills (-.108). Hence, it is ascertained that the Inherent Skills help the women imbibe Acquired Skills, thus leading to Challenging Skills.

**Table 6 Correlation Analysis for the attainment of Personal Skills**

Spearman's rho Correlations				
		Inherent Skills	Acquired Skills	Challenging Skills
Inherent Skills	r	1.000		
	Sig.	.		
Acquired Skills	r	.766**	1.000	
	Sig.	.000	.	
Challenging Skills	r	.641**	.709**	1.000
	Sig.	.000	.000	.

Source: Derived

It is identified that there is a significant association between Inherent Skills and Acquired Skills (.766\*\*), and Acquired Skills (.641\*\*), and Acquired Skills has a significant association with Challenging Skills (.709\*\*), depicting the fact that Inherent Skills are more prudent in attaining Acquired Skills and Challenging Skills.

Figure 1

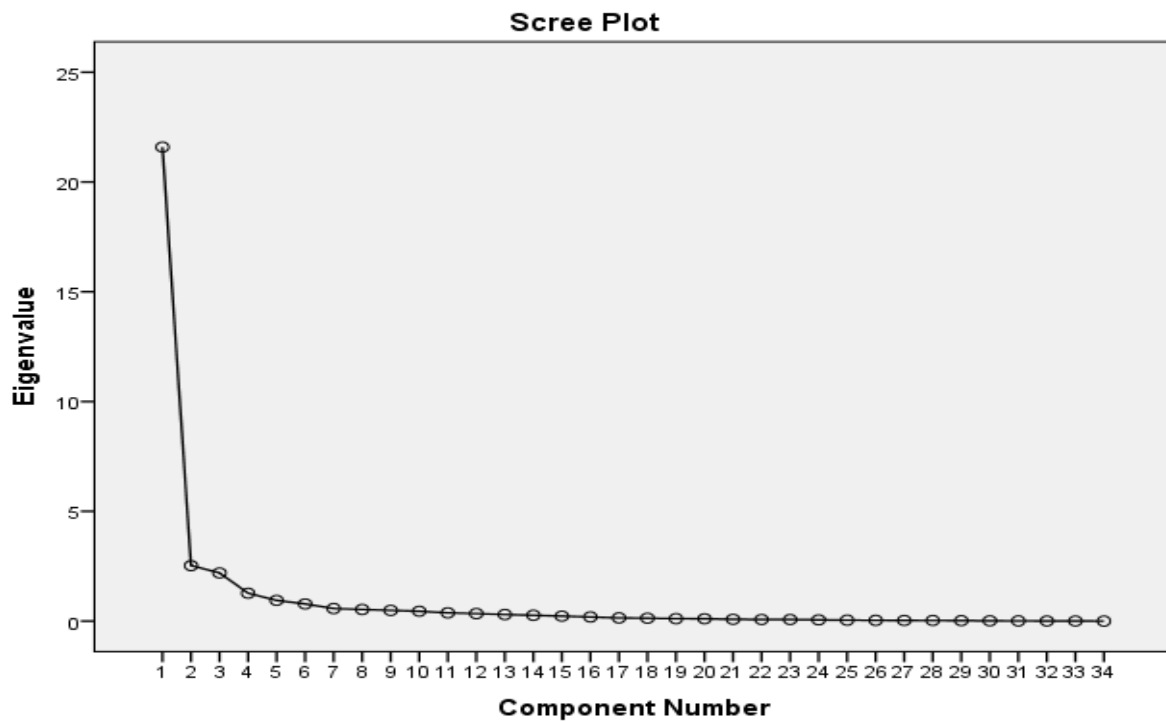


Figure 2

Path Analysis for the Personal Skills

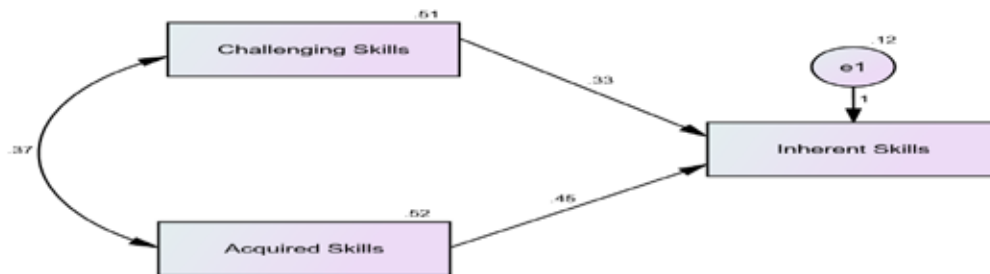


Table 7 Regression Weights for the Skills of Women Agropreneurs

Constructs			Estimate	S.E.	C.R.	P	Result
Inherent Skills	<---	Challenging Skills	.335	.046	7.294	.000	Significant
Inherent Skills	<---	Acquired Skills	.454	.045	10.000	.000	Significant
Covariance							
Challenging Skills	<-->	Acquired Skills	.371	.041	9.087	.000	Significant
Correlation							
Challenging Skills	<-->	Acquired Skills	.727				

Source: Derived

As per the Regression weights, it is ascertained that there is a significant relationship between Inherent Skills and Challenging Skills (C.R: 7.294, p: 0.000, S.E.:.046) and also between Inherent Skills and Acquired Skills (C.R: 10.000, p: 0.000, S.E.:.045). The covariance between Challenging Skills and Acquired Skills is significant (C.R: 9.087, p: 0.000, S.E.:.041). The correlation between these two is positive to the tune of 0.727, which indicates the closeness of Challenging Skills and Acquired Skills.

**Table 8 Mediation effects on the Skills of Women Agropreneurs**

	Acquired Skills	Challenging Skills	Mediation Effect
<b>Total Effects</b>			
Inherent Skills	.518	.378	Sobel Test value 5.90
<b>Direct Effects</b>			
Inherent Skills	.518	.378	P-value: 0.000
<b>Indirect Effects</b>			
Inherent Skills	.000	.000	

Source: Derived

There is a full mediation effect as the value of the indirect effect is less than 0.05 and the direct effect is 0.518, which is more than 0.05. The Sobel test also proves it as the value of the Sobel Test is 5.90 and the p-value is 0.000. The total effect and direct effect between Inherent Skills and Acquired Skills is 0.518 and that of Inherent Skills and Challenging Skills is .378. The indirect effect is 0.000 for both Acquired Skills and Challenging Skills when compared to Inherent Skills.

**Conclusion**

Women's enthusiastic and imaginative entry as entrepreneurs and agropreneurs resulted in a considerable transformation and growth in the country's economic success. Women-owned enterprises are becoming a more important role in society, encouraging and motivating others while increasing job prospects in the country. The current study, which included 240 women agropreneurs from the Tamilnadu district of Kanyakumari, found that the 34 statements taken to test the personal

skills are reliable and adequate as per reliability statistics and are statistically significant. As per factor analysis, the entire personal skills are categorized into three components, namely Inherent Skills (38%), Acquired Skills (36%), and Challenging skills (25%). The Cronbach's Alpha value is high for all the factors, namely Inherent Skills (.970), Acquired Skills (.975), and Challenging skills (.954). The Component Transformation Matrix reveals that the Inherent Skills help the women imbibe Acquired Skills, thus leading to Challenging Skills. According to correlation research, there is a substantial relationship between Inherent Skills and Acquired Skills (.766\*\*) and Acquired Skills (.641\*\*), and Acquired Skills has a significant association with Challenging Skills (.709\*\*), depicting the fact that Inherent Skills are more prudent in attaining Acquired Skills and Challenging Skills. There is a full mediation effect as the value of the indirect effect is less than 0.05 and the direct effect is 0.518, which is more than 0.05. The Sobel test also proves it as the value of the Sobel Test is 5.90 and the p-value is 0.000. The conclusion derived from the analysis is that the inherent skills are possessed by the individual women, by entering into entrepreneurship the women can acquire certain skills and by the way, the women agropreneurs inherit the challenging skills. Women's entrepreneurship has enormous potential as a driver of economic development, job creation, personal development, and self-empowerment, in addition to empowering women. Hence, it is vital to encourage the involvement of female agropreneurs by tapping and recognizing their potential to foster the nation's socio-economic growth.

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# Social Media Entrepreneurship: An Analytical Study Based on Diffusion Innovation Theory in a Selected Population from Vithura Village

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## A b s t r a c t

*The study was conducted to analyze the scope of social media entrepreneurship in the present scenario on the basis of the Diffusion Innovation Theory. The randomly selected samples are the social media users belonging to the age group between 18 to 60 years old. Survey method was used to collect sixty responses through an online survey tool that was to say through a well-prepared questionnaire. The collected data were analyzed and interpreted through percentage distribution. The study was proposed to identify the socio-economic background of the respondents, to find out the possibility of people being an entrepreneur in online media and the purchase behaviour of the people through online media. The study results revealed that the respondent's online behaviour and their instantaneous tendency to adopt the technological possibility open up a novel online business culture and thus expand the scope of social media entrepreneurship which ensures the application of diffusion theory in the study area.*

*Keywords: Social Media, Entrepreneurship, Diffusion Innovation Theory, Business*

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## **1. INTRODUCTION**

Human intelligence develops many innovations to please their day-to-day activities, and world interconnection happens through the internet. The development of internet technologies, like many other areas, has transformed the way businesses do business (Cicek 2018). The invention of the internet expands mobile communication, social shaping, intrinsic affordances and network evolution (John Naughton, 2016). The internet tool makes different ideas into the society like it makes consumers more accessible. It has created a completely new form of communication device that makes the process of exchanging information much faster than earlier, and due to this invention, firms and companies are compelled to rethink how they could communicate with their customers (Jaokar, Jacobs, Moore and Ahvenainen, 2009). The digital revolution started with the use of social media. According to Andreas Kaplan (2015), social media were an application built by the internet with the ideological and technological help of web 2.0, and the user could create their own content. Social media communication easily shares the information to users or customers without delay and reserves time by providing a provision to communicate through video calls, pictures, text messages, free calls, etc., and social networking allows businesses to gain access to resources (Jagongo, Kinyua 2013). Online behaviour of users not only provides knowledge and entertainment but also it has wide scope in entrepreneurship.

Social media fashioned a new trend in entrepreneurship. The Schwab foundation defines social entrepreneurship as a practical, innovative and sustainable approach to benefit society in general, emphasizing those who are marginalized (Georges Abi-Aad, 2015). People spend their major portion of the day on social media sites. One could promote young entrepreneurs and reduce unemployment with the help of social media since it helps the entrepreneur interact with customers directly. Online businesses yield profit returns through buying and selling goods.

Entrepreneurial success is the level to which the entrepreneur's enterprise converges with the

owner's view and the community's expectations (Kakish and Haddad S, 2018). Nowadays, researchers have attempted to explain the tool of the internet revolution in the commercialization of products and the creation of new firms and different types of services (Angelides, 1997; Lancioni et al., 2000; Batjargal, 2007).

Gunelius (2011) suggests five ways to boost business by using social media for relationship building, brand building, publicity, promotions, and market research. These five ways can be helpful in different perspectives like building a customer-friendly relationship between the customers and influencers, the conversation that the company gets a chance to make awareness about their brand, sharing the information and modifying the negative perceptions, providing discounts and other opportunities and finally to get information about the demographic data, future trends and competitors information to expand their market and thereby increase the market share.

Entrepreneurs are in the position of being one of the most important driving forces of economies (Dutta et al., 2009). Oxford Dictionary defined an "entrepreneur as a person who undertakes the responsibility of business or businesses, together with the possibility of profit or loss" (Oxford Dictionaries English (2018). Normally entrepreneurs go with local business strategies and find it difficult to popularize their brand. But social media helps their brand reach all over the world through advertisement, posting information related to the product to a public profile, sharing content from one person to another, branding through a satisfactory survey, to promote online and offline business. The possibility of entrepreneurship success depends on the application of diffusion innovation theory in the field of business.

### **DIFFUSION INNOVATION MODEL**

Diffusion is a method or system of transmission of ideas, technologies and commodities through modern communication channels during a particular period. This system was a special form of communication which focused on delivering information about the new ideas, technologies, services, commodities etc. It was important in the sense that this could help to promote progress and tries to address the burning

issues concerned with the society, and make the society address the unemployment and other social issues, especially in a country like India. Nowadays, the diffusion principles and delivery of various processes have been gaining wide importance since the emergence of different social media platforms and during the time of advancement of internet technologies in the 21<sup>st</sup> century (Cizek, 2018). Now many researchers conducted the studies on diffusion process in the last decades, particularly after the publication of Everett M. Roger's book titled 'The Diffusion of Innovations' in 1962 as its first edition. Later it came to be known as the Diffusion of Innovations (DOI) model, often referred to as the Diffusion of Innovations theory. This theory explained how a communication channel could influence the adoption of new ideas, technologies and processes (Kreps Gary 2017). Nowadays, research in this field has reached different perspectives on various issues like "agriculture, engineering, sales, education, architecture, technology, public policy, and health care, and was applied to a range of different issues, such as the adoption of new technologies, consumer purchasing behaviours, and public support for political issues and candidates" (Kreps Gary 2017). Roger (2010) maintains that a sound system can only communicate new innovations over time.

**Significance of the study:** Social media would improve our economic growth and the chance to explore the business through social media entrepreneurship.

## 2. OBJECTIVES OF THE STUDY

1. To know the socio-economic background of the respondents.
2. To find out the possibility of people becoming an entrepreneur through online media.
3. To access the purchase behaviour of the people through online media.

## 3. METHODOLOGY OF THE STUDY

- **Study Area**

The study was carried out in the Vithura village of Thiruvananthapuram, a district in Kerala, at the beginning of 2021. Samples were collected from sixty respondents. Twenty-one males and thirty-nine females have participated in this online survey method.

- **Sampling and Experimental Procedure**

The samples were collected randomly, taking into consideration their age, gender, religion, educational status, family income per year, number of children, the possibility of respondents being an entrepreneur, and the purchase behaviour of the respondents through the survey method. A well-prepared questionnaire was sent through the respondent's social media account. The collected data was analyzed and interpreted through percentage distribution. Here the study tries to examine how far the diffusion theory was effective for social entrepreneurship in Vithura village, Trivandrum District of Kerala.

## 4. RESULTS AND DISCUSSION

An entrepreneur primarily focuses on money and profit. Social media entrepreneurship was a great venture seeking money, profit, and growth for the firm. The profile of the respondents is shown in the below tables:

### 4.1. Socio-Economic Background of the Respondents

Table - 4.1.1

SI No	Category	No of Respondents	%
<b>Age (Years)</b>			
1	18-24	18	30
2	24-35	33	55
3	35-60	9	15
<b>Gender</b>			
1	Male	21	35
2	Female	39	65
<b>Religion</b>			
1	Hindu	42	70
2	Christian	14	23.4
3	Muslim	4	6.6
<b>Educational Qualifications</b>			
1	Primary	-	
2	UP	3	5
3	HS	3	5
4	Plus two	9	15
5	UG	30	50
6	PG	15	25
<b>Marital status</b>			
1	Married	33	55
2	Single	27	45



	Widower	-	
<b>Family Income per year (Rs)</b>			
1	<100000	15	25
2	100000-200000	21	35
3	200000-300000	12	20
4	> 300000	12	20
<b>Number of Children</b>			
1	One	14	23.4
2	Two	10	16.6
3	No child	36	60

The above table shows that sixty respondents were collected for the analysis of their socio-economic background of the respondents.

**Age:** In the above table, out of sixty respondents, the majority (55 per cent) were aged between 24 and 35, and thirty per cent of respondents were between 18 and 24. They were mostly youngsters. Participants from the 35 to 60 age group were very few (15 per cent).

**Gender:** In this study, sixty respondent's majority of respondents were women (65 per cent), and thirty-five per cent were men. The study indicates that women respondents were very much interested in social media entrepreneurship.

**Religion:** In the above study of sixty respondents, the majority were from the Hindu religion (70 per cent). Respondents from other religions were very few.

**Educational qualifications:** In the above table majority of them completed their graduation (50 per cent), and twenty-five per cent of respondents had post-graduation. But the interesting fact is that five per cent of respondents have upper primary qualifications only.

**Marital status:** In the above table of sixty respondent's majority of the people are married (55 per cent), and forty-five per cent of people are unmarried.

**The family income per year:** Today's generation takes care of their economic status and is cautious in making every minute productive. The above table denotes that the majority of the respondents (35 per cent) have income between one lakh and two lakh per year. Thirty per cent of the respondents only earn more than three lakh per year. In this instance, we can infer that social media entrepreneurship is becoming an effective tool for income generation.

**The number of children:** In the above table, forty-five per cent of the respondents are single. The majority of the respondents (sixty per cent) have no children. It might be observed that financial instability furthers the problem of unreasonable birth control. It is generally perceived that having a child would have a serious financial effect on low-income families, and consequently, a considerable number of couples are disbanding their parental intentions.

#### 4.2.Possibility of People to be an Entrepreneur in Online Media

(Table :4.2.1)

SI No	Category	No of Respondents	%
<b>Hobbies of the Respondents</b>			
1	Yes	60	100
2	No	0	-
<b>Total</b>		<b>60</b>	<b>100</b>

##### 4.2.1. Hobbies of the Respondents

Table: 4.2.2

SI No	Hobbies	Number of Respondents	%
1	Social media	30	50
2	Singing	6	10
3	Dancing	3	5
4	Writing	3	5
5	Video making	6	10
6	Shopping	12	20
<b>Total</b>		<b>60</b>	<b>100</b>

##### 4.2.2. social media usage

The above table (4.2.1) reveals that the majority of the respondents spent more time on social media, which means fifty per cent of the total respondents spent their leisure time on social media.

The table above table (4.2.2) discusses another prominent hobby among respondents, i.e., shopping. Twenty per cent of respondents have shopping as their hobby. The study shows that traditional hobbies like singing, dancing and writing are rarely seen among respondents. An interesting finding from the study was that a new generation hobby

like video making is becoming prominent among the respondents (10 per cent). The study also indicates that social media developed as a platform that brings together options for different aptitudes like singing, dancing, and writing. A clear indication from the study was that the influence of social media usage has a very negative impact on traditional skills, but still, we can see that many respondents are using social media as a tool to promote their physical skills. Social media was an eminent tool for the diffusion of innovation among the present generation. But still, the diffusion has both positive and negative indexes.

#### 4.2.3. Most Interested Area of Social Networking Sites

Figure: 4.2.1



The above pie chart implies that thirty-nine per cent of respondents are using social media for mere entertainment, which intimates that the majority of respondents see social media as a tool to spend their leisure time. However, a relevant percentage of respondents use social media for functional purposes like shopping (22 per cent). The fact that another 22 per cent were using social media for messaging was an expected outcome. It is a widely accepted fact that a relevant percentage of people use social media for messaging. We can infer that there was a wide scope for entrepreneurship using the advancement of social media. The entrepreneurs can improvise their business based on diffusion theory using social media.

#### 4.2.4. Details of Websites Maintainers.

Table: 4.2.3

SI No	Category	No of Respondents	%
1	Yes	9	15
2	No	51	85
<b>Total</b>		<b>60</b>	<b>100</b>

The above table shows that out of 60 respondents, most do not maintain websites that are helpful in expanding their business as an entrepreneur. If done, they could improve the possibility of their vast business superior. It would help them to earn income from websites as well they could help reach their products and services through these websites. The study shows the need to create awareness among entrepreneurs about the positive impact of websites. A website was a good communication tool, as described in the diffusion theory.

#### 4.2.5. Respondents' Interest in Online Shopping.

(Table: 4.2.4)

SI No	Category	No of Respondents	%
1	Yes	54	90
2	No	6	10
<b>Total</b>		<b>60</b>	<b>100</b>

A very interesting fact derived from the above table was that ninety per cent of the respondents showed interest in online shopping. It was a good indication and a ray of hope for online entrepreneurship. Through online shopping, entrepreneurs could save advertisement charges and agent commission. Therefore, by maintaining a website of one's own, an entrepreneur can either sell their products at a low price or make an offer sale on their products. In turn, it becomes beneficial to both the entrepreneurs and customers. The trend toward online shopping can be clearly seen in this study. Online shopping sites are the best tool for diffusing new ideas and products.

#### 4.2.6 Online Behavior versus Business Opportunity.

(Table: 4.2.5)

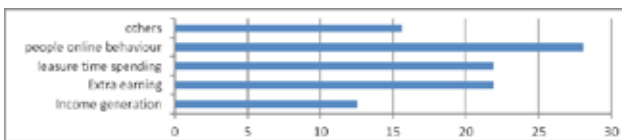
SI No	Category	No of Respondents	%
1	Yes	46	76.6
2	No	14	23.4
<b>Total</b>		<b>60</b>	<b>100</b>

The majority of the respondents believe that spending more time online improves business opportunities. Being online, they would be notified about updates from gmail and different business applications. This indicates that they could increase their earnings,

profit, etc., by spending more time online and reading related articles. As per the diffusion theory, the spread of innovations can be only made through proper channels. Online applications are a good tool in this aspect.

#### 4.2.7. Factors Influencing a Social Media Entrepreneur

Figure: 4.2.2



In the above graph, it was interestingly noted that the majority of the people come under the people online behaviour category. This category includes the people who use social media for purposes other than leisure time and extra earnings. Notably, above twenty per cent of respondents use social media for leisure and extra earning. A very good trend was that 12.5 per cent of respondents use social media for income generation. This indicates a very positive spread of innovations mentioned in the diffusion theory.

#### 4.2.8 Response to be An Entrepreneur.

Table: 4.2.6

SI No	Category	No of Respondents	%
<b>Interested in being an entrepreneur</b>			
1	Yes	60	100
2	No	-	-
<b>Total</b>		<b>60</b>	<b>100</b>
<b>Interested mostly in</b>			
1	Offline	21	35
2	Online	36	60
3	Both	3	5
<b>Total</b>		<b>60</b>	<b>100</b>

The above table revealed that a cent per cent of the respondents wish to see themselves as an entrepreneur, but interestingly sixty per cent wish to do business through an online channel. Whereas thirty-five per cent still believe in traditional business techniques, a small portion of the respondents use both techniques in their business and using both

techniques simultaneously will be more helpful for the businessman. However, most of the respondents are not aware of this. In this instance, entrepreneurs using offline techniques should be made aware of the benefits of online techniques. Diffusion theory would apply only when more entrepreneurs use both techniques alternately.

#### 4.2.9. Respondents' Response in Proper Awareness in Doing in Online Entrepreneurship.

(Table: 4.2.7)

SI No	Category	No of Respondents	%
1	Yes	6	10
2	No	54	90
<b>Total</b>		<b>60</b>	<b>100</b>

In this table, early we discussed that a good number of respondents like to do entrepreneurship through online media. However, a more detailed study shows that even though they like to do online business, they do not have proper knowledge about the applications to use and the techniques to earn money. This means that entrepreneurs should be given more awareness and training rather than vague ideas. Then the only proper application of diffusion theory becomes more successful.

#### 4.3 Purchase Behavior of the People through an Online Media

People's interest in businesses allows them to flourish. As a reason, it is essential to be able to make purchasing decisions.

##### 4.3.1. Details of Respondent's Social Media Purchase

Table: 4.3.1

SI No	Category	No of Respondents	%
<b>Purchase done in</b>			
1	Weekly	24	40
2	Monthly	21.6	36
3	Yearly	4.8	8
4	Whenever I need	7.2	12
5	Not interested	2.4	4
<b>Total</b>		<b>60</b>	<b>100</b>

Purchased from			
1	Flipkart	19.5	32.5
2	Amazon	-	-
3	club factory	12.2	20.33
4	Myntra	17.1	28.5
5	Based on advertisement	4.89	8.15
6	Others	6.1	10.1
<b>Total</b>		<b>60</b>	<b>100</b>

The above table describes new trends in respondents' shopping frequency. Notably, most of the respondents do the shopping weekly, indicating a bigger change in the shopping habits of society. Weekly shopping started to replace conventional monthly shopping. The arrival of new shopping applications plays a bigger role in this prospect. Twelve per cent of respondents put no time bound for shopping. They do shop whenever they need it.

#### 4.3.2. Level of Satisfaction among Respondents for Online Shopping

Table: 4.3.2

SI No	Category	No of Respondents	%
<b>Genuineness of online products</b>			
1	Yes	51	85
2	No	9	15
<b>Total</b>		<b>60</b>	<b>100</b>
<b>Satisfied with online shopping</b>			
1	Yes	45	75
2	No	15	25
<b>Total</b>		<b>60</b>	<b>100</b>

In table 4.3.2, the majority of the respondents (85 per cent) believed that they were getting the same product displayed on online sites. Also, it is notable that seventy-five per cent of respondents are satisfied with online shopping. This study ensures the genuity of the path (social media) of the diffusion of innovations.

#### 4.3.3. Respondents' Interest to Maintain an Online Shop

Table: 4.3.3

SI No	Category	No of Respondents	%
<b>Interested respondents to maintain online shop</b>			
1	Yes	54	90
2	No	6	10
<b>Total</b>		<b>60</b>	<b>100</b>
<b>Interested area for online Shop</b>			
1	Cosmetic	28.9	48.3
2	Electronic	6.2	10.4
3	Household things	2	3.4
4	All products focused	4.13	6.9
5	Textiles	2	3.4
6	No idea	16.5	27.6
<b>Total</b>		<b>60</b>	<b>100</b>

In the above table, it was very interesting to see that majority of the people are interested in maintaining online shops. Among these majority of respondents prefer cosmetics shops (48.3 per cent). Also, we could see that 27.6 per cent of respondents like to maintain an online shop. However, they do not have an idea about the areas they could opt. Such people should be given proper guidance to bring them to the entrepreneur's level.

## 5. CONCLUSION

The above study analyzes the changing attitude of different categories of society towards social media entrepreneurship and how it would influence the diffusion innovation model. Social media users in Vithura are progressing towards social media entrepreneurship. The study observed that respondents do not consider social media as a primary income source or as a trusted source of income, but they consider it as an extra earning source. The study found that cent per cent of the respondents like to be an entrepreneur. Thirty-five per cent of respondents trusted traditional business only. In this particular study, the author analyzed how the interest of society in shopping could be utilized to promote social media entrepreneurship. Ninety per cent of respondents are interested in maintaining an online shop.

As described by diffusion innovation theory, diffusion of innovation and ideas become strong when new powerful media of communication are involved in society. Social media has a high hand in bringing a revolution in the present society. It gives a good direction to a positive perspective of society toward social media entrepreneurship.

**Future Implication of the Study:** The trend of people spending more time on social media could be utilized to make society benefit economically. People cannot think about the business without social media and change the trend in business. The easy way to attract the customers is that they can be educated to spare a part of their time spent on entertainment for entrepreneurship. Also, the attitude of spending more time online can be diverted to purchase behaviour. Thus, developing people to earn primary income online with offline business is indispensable for the future.

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# The Effect of Performance Appraisal on Job Satisfaction and Organizational Commitment of Select Insurance Employees

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**Purpose** – *The purpose of this research paper is to investigate the effect and impact of performance appraisals conducted for employees in the Insurance Sector on job satisfaction and organizational commitment.*

**Design/Methodology/Approach** – *The sample size consists of 273 employees of insurance companies. SPSS version 22 was used to perform regression analysis on the obtained data.*

**Findings** – *The findings supported the hypothesis that performance appraisal does have a significant positive impact on both job satisfaction and organizational commitment. The findings also supported the hypothesis that performance appraisal positively influences employee satisfaction and commitment to their job and organization.*

**Research Limitations** – *The limited and selected sample of the research and the research context limit the scope to which the conclusions of this study may be generalized.*

**Practical Implications** – *The organization must take measures to communicate and develop the existing models used in performance appraisals in order to boost productivity and motivation.*

**Originality/Value** – *This study indicates the need to redefine the usage of performance appraisal and its relevance in the organization, understanding its influence on employees' performance and their level of job satisfaction and commitment towards the organization in an industry with a huge proportion of workers.*

**Keywords:** *Performance Appraisal, Job Satisfaction, Organizational Commitment, Insurance*

## A b s t r a c t

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## **Introduction**

The organization has to measure employees' efficiency as a key component of the business environment. The insurance sector has been considered one of the growing financial services throughout the world (Mathur et Paul, 2014). The usage of the right performance appraisal, which is convenient to the environment, improves job satisfaction and shows an indirect impact on organizational commitment (Fu & Deshpande, 2013). The employees in an organization using a perfect performance appraisal system having different methods get motivated automatically. The performance appraisal system increases employee productivity in relation to the organization's expectations. When employees are satisfied with their jobs, their commitment to the work increases, as does their productivity (Deepa et al., 2014).

The performance appraisal process not only focuses on monetary outcomes but also on non-monetary too. The appraisals, which are non-monetary, do not have an effective influence on the job satisfaction of employees. The employees who are available to experience scoring high for those appraisals which do not have monetary outcomes reduce a person's job satisfaction. The appraisals related to tangible consequences such as a bonus or a pay raise are very important in which the organization has to design the appraisal system to focus on the employees' job satisfaction (Kampkotter, 2017). Organizations usually state that investing in Performance Appraisal is time-consuming and dissatisfying. These problems have arisen with the usage of traditional methods that focus on past performance rather not on the future. There are many drawbacks in using traditional methods of performance appraisal, which have been solved by replacing them with modern or new-age methods of performance appraisal. With the usage of technology and other software, measuring one's performance is neither hard nor time-consuming (Mayank, 2020). In the past few years, there has been an increase in the number of jobs in the insurance sector, so the managers have to update their performance appraisal methods for better and more effective performance evaluation (Kalkavan, 2014).

Both managers and employees should be involved in the performance appraisal process. Typically,

the employees are avoided in the process, and the performance feedback is also not provided. This makes them lose the opportunity to improve their performance (Iqbal et al., 2015). A healthy work environment in an insurance company increases productivity and better relations with colleagues. The required amount of workload and incentive could help construct a positive job satisfaction and the work environment (Awan et Tahir, 2015). As a result of privatization, the companies were forced to have immense competition in their business generation. This decreases job satisfaction as there is an increase in the work pressure on individuals. A manager has to measure job satisfaction as a tool for calculating employee retention. The employees would like to learn about their surroundings and improve their skills according to the changes happening around them to stay active in the competition (Singh et al., 2012). For the past few years, the insurance sector has been facing challenges in growth. In the human aspect, these arise as attrition, job stress, and employee engagement are low, as well as lower levels of trust and understanding. The application of social exchange theory in which the employees are valued and rewarded for their contribution, which is also valuable, results in developing organizational commitment. This theory displays the relation between perception and employee well-being. Employee well-being is defined by work-life balance and job satisfaction (Garg et al., 2017). Insurance companies are also facing issues in becoming more efficient, creative, flexible, and productive to generate intangible output for the organization. With the usage of the right resources, the organizations could have a well-planned strategy that meets the wants and needs of their employees, who are mostly under pressure, also keeping the experienced employees to make them work in a superior job (Siddiqi & Tangem, 2018). The employees' commitment to the job increases and results in increased productivity. This increases sales and decreases employee turnover, also decreasing absenteeism. Many methods could be used for employee retention depending on their performance, satisfaction, and commitment, such as a Supervision System, Transparency in Evaluation, Training, and Development, Compensation, Orientation, and other tools and techniques. If not improved, it might lead to a recession (Risal, 2018).

The focus of this research is to explore how new methods of performance appraisal affect individuals' job satisfaction and commitment to the organization. This could be an applicable research question as there is a lack of communication, poor rating methods, and different forms of bias are identified, which showed a decrease in job satisfaction and poor productivity of employees having not much organizational commitment to their work.

## **Literature Review**

### **Theoretical background and Hypothesis development**

#### ***Performance Appraisal***

Performance appraisal is described as the process of assessing employees in order to determine how well they do their work in accordance with performance standards (Dessler, 2000). In recent years, performance appraisal has been utilized to motivate employees and recognize the need for improvement in the workplace. Performance appraisal is considered a continuous process, and no standard can be maintained, yet this can be viewed as – planning the way of evaluating the performance of employees and, in turn, improving their performance depending on the evaluation conducted (Kaynak, 2003).

#### ***Performance appraisal and Job Satisfaction***

Job satisfaction is defined by Locke (1969) as "The pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values". Employees being satisfied with their work will lead them to feel a part of the organization and will be committed to their work. Financially and/or non-financially, performance management and feedback will motivate employees in a very positive manner.

The role of the supervisor is the main performer in the Performance Appraisal because they are generally the appraisers, and the effectiveness of performance appraisal is determined by the level of faith that the employer and employee have in each other. In addition to this the study also agrees that the design and instruments used for performance appraisals are important, but one should also focus on the level of competence of a supervisor who will

implement the appraisal systems (Abdelhadi et al., 2015).

The employees' inner motivation and satisfaction greatly depend on the effectiveness of an appraisal of performance, say reports and studies. A report examined how workplace culture facilitates the effectiveness of the performance appraisal process in improving self-performance and staff retention. Performance appraisals that are regarded to be more precise will be treated more favourably by employees, perhaps leading to increased satisfaction with the appraisal system (Harrington & Lee 2015). If an effective workplace atmosphere functions as a mediator in the way that we propose, the assessment process and its effectiveness will allow for a better performance report completed by oneself, more job satisfaction, and greater employee retention. The outcome of the employees gets reduced by a negative workplace, and in the same way, positive workplace culture will reinforce the relationships between the organization's individuals' job performance and commitment (Cravens et al., 2015). There have been earlier ways of explaining the strong association between career advancement and success, participation of employees in the work, feedback and acceptance of the positive or negative feedback in the appraisal, and setting goals positively affecting employees' job satisfaction. (Linna et al., 2012). These studies also indicate the relationship of employees' job satisfaction with organizational commitment. When employees are sure about the way the appraisal is measured and is conducted in a non-biased way and for the betterment and development of the employees, the employees will become more satisfied and committed to their job and the organization, which will surge the overall organization productivity too (Fakhimi & Raisy, 2013). Some more researchers say that successful performance appraisal will most probably lead to increased job satisfaction (Jawahar, 2006) and organizational commitment of the employees (Kuvaas, 2006). A report says giving constructive feedback will positively enhance career performances and opportunities, which will impact employee satisfaction (Sommer & Kulkarni, 2012). Employee's participation in performance appraisal systems and even the feedback (as noted earlier) play a very great impact on employees' job satisfaction and therefore becomes a critical part



when it comes to designing perfect performance appraisal systems for any organization (Cawley et al. 1998; Selvarajan & Cloninger, 2012). The rising emphasis on academic performance underlines the relevance of performance management systems (PMSs) throughout institutions, with the success of PMSs being strongly (negatively) correlated with job satisfaction and academic retention (job-related stress). As a result, the purpose of this study is to contribute to the performance management research by giving a detailed understanding of how university administration can improve the performance of PMSs, as measured by work-related attitudes and the resulting effect on organizational performance, by focusing on particular characteristics of the performance appraisal system (Pop-Vasileva, 2011). Performance assessments, salesperson organizational commitment, and job happiness all have linkages. (Pettijohn, 2001)

According to some academics, there is a link between job satisfaction and the appraisal process. According to Lau and Sholihin (2005), the relationship between non-financial mechanisms of performance evaluation and job satisfaction is mediated by fairness in performance evaluation methods and faith in supervisors. The findings indicate that if dependents perceive the performance appraisal to be fair and their superior authority to be credible seems to be reliable that the effectiveness of the systems is enhanced. A report also suggests that there is no direct impact on performance appraisal and job satisfaction. Rather, there are other internal and external dimensions that affect these variables relatively differently (Agarwal & Mehta, 2014). A longitudinal study was carried out to investigate the effects of performance appraisal responses on work satisfaction (Jawahar, 2005). The research was also done on federal employees to ascertain their perceptions of their performance evaluation systems as well as the impact on job satisfaction. Other elements influencing employee satisfaction are examined to be the perception of supervisors and the level of feedback mechanism provided by them. There was an analysis of four major proportions of performance appraisal systems which are timeliness, feedback, goal settings, and procedures with overall satisfaction (Blau, 1999). Reports have studied the outcome of appraisal over job attitudes (Levy and Williams, 1998). According to studies, employees'

opinions of being treated fairly are substantially related to job satisfaction (Colquitt et al. 2001). Employees may regard accurate appraisals as reliable (O'Reilly & Anderson, 1980), and as a result, they may have positive evaluations of the evaluation system (Tziner et al., 2002).

A crucial character is performed by justice perceptions of the performance appraisal in changing the attitudes of staff. Satisfaction with the appraisal process is the missing part between applied human resource practices and the attitudes and abilities that influence employee performance, suggests a finding (Shrivastava & Purang, 2016). There is a strong impact of appraisals with unanticipated rewards on job satisfaction suggests that appraisal systems would not need to be changed for specific employees with unpredictable personalities (Kampkotter, 2017). A high-quality performance appraisal aims to boost an employee's job satisfaction in a company. A low degree of job satisfaction may result from a poor performance appraisal process, where employees believe that their value to the firm is insignificant. It is not appreciated that the maximum amount as their output supports their limited capacity as compared to what a corporation expects from the workers (Wahjono et al., 2016). It was also statistically found that there is an impression of the performance appraisal evaluation method (PAE) on motivation and job performance. Although organizations from different sectors might use various methods to gauge their employees' performance, overall results have indicated that there was an impression of how the workers were evaluated on their performance (Jedaia et Mehrez, 2020). Therefore, the hypothesis proposed is

*H1: Performance Appraisal significantly impacts the job satisfaction of the employees.*

### **Performance Appraisal and Organizational Commitment**

Organizational commitment is the workers' psychological attachment to the organization and their active engagement in performing their work. This organizational commitment helps improve the skills of both employees and the organization, which results in an improvement in their productivity. Employees are said to be loyal to the organization when they are completely involved in their work and

commit to greater improvement of their productivity and career. This shows that organizational commitment leads to productivity.

The three parameters contribute to organizational commitment (Maxwell & Steele, 2003):

- a) One has to accept and have a strong belief in the values and goals created and followed by the organization.
- b) One should have the willingness to apply their maximum effort in support of the organization.
- c) One has to have an aspiration to have consistent organizational belongingness.

Organizational commitment is classified into different segments those are affective, normative, and continuance (Meyer & Allen, 1997)

*Affective commitment:* It is the content of individuals with the organization and satisfaction with their involvement in performing tasks in the organization (Bergman, 2006). The dedication of the workers towards the organization determines affective commitment.

*Normative commitment:* Normative commitment defines employees' value towards the organization. The employees give importance to the organization in such a way that they have to stay in the organization (Dawley et al., 2005). The work environment and ethics make the employees stay in the organization, which increases employee loyalty and influences their commitment (Clugston, 2000).

*Continuance commitment:* The employees sense that they have to stay in the organization, which could be the costs they face if they think of departing from the organization. They are no alternatives for a job shift, and they do not want to change the organization as they prefer to work there (Clugston, 2000). The employees having affective commitment want to stay because they want to work in the organization. Those having continuance commitment always need to stay in the organization as they have no choice. The other has a normative commitment to stay in the organization because they have to (Kaplan & Kaplan, 2018).

Organizational commitment is behaviour that reflects employees' loyalty toward the organization. Work performance has a strong and favourable connection with organizational commitment (Eliyana, 2019). Employees that perform well tend to have a strong organizational commitment, which is among the most crucial mindsets to have. Employees who are more dedicated to the organization outperform those who are less committed. The organization's performance appraisal system and the methods they use determine their commitment or willingness to work in the organization. They perform to achieve success and strive to be part of achieving the organization's goals and missions (Jafri & Lhamo, 2013). The organizational commitment which is affective, normative, and continuance, either combined or independently influences employees' performance. Employees with a higher level of commitment are considered to be highly performable and motivated at their peak levels of performance. As a result, the performance appraisal system must be designed in such a way that it measures employee performance and its impact on organizational commitment. (Berberoglu, 2015). From this, we can derive that the employees who had been apprised effectively according to their performance with the usage of the right performance appraisal get motivated instantly without much effort from the management. Once the employees find that they are satisfied with the job they perform, they are committed to the work until they find that their productivity has increased (Deepa et al., 2014).

The employees are evaluated by their supervisors, who are mostly Line Managers. Their contribution is vital in applying the performance appraisal standards. They communicate this procedure to the employees under them. The influence of line managers in implementing performance appraisal influences employees' commitment. The value of these line managers in implementing HRM practices in the organization for performance-related outcomes is high. The employees' experience with the performance appraisal methods by the line manager's way of communicating those standards to the employees is examined in the organization. (Farndale & Kelliher, 2013). The HRM practices give a better commitment to the employees towards the organization and may positively affect their attitudes and behaviour. Organizational commitment solely

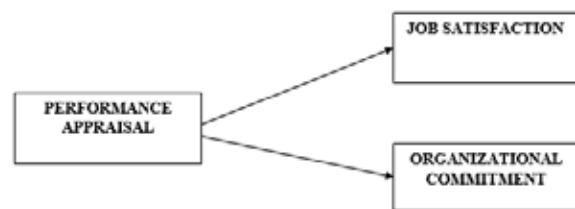
depends on the performance appraisal system used by the organization. This occurs due to how the performance appraisal evaluation when it gets affected by the procedures of development followed by the organization (Kadiresan et al., 2015). Performance Appraisal with HRM expertise drives employee insights toward organizational commitment in many methods.

The salary adjustment decisions made by the organization influence the employees are seen as result-oriented (how much the organization is paying the employees) instead of procedure-oriented (how those payment decisions are decided), which could affect altering those decisions made through perceived procedural justice. The other is promotional decisions which are firmly related to the belief that employees have distributive and procedural justice. The effects of practising administrative performance appraisal, which are salary adjustments, performance standards, and promotional decisions, are huge on the employees' work attitudes and behaviours. With the extensive usage of the practices, the employee's views of organizational justice strengthen and increase the amount of organizational commitment (Cheng, 2014). The fair performance appraisal systems that are usually informative, transparent, and participatory, which involve employees, can create positive organizational commitment so that they remain in the same organization for a long time. This is called organizational longevity. When the performance standards of the employees fall below the average, the management makes them develop the required skills and helps them grow. This includes providing training sessions, consultations, or job changes depending on their performance. When the employees feel that the organization is putting effort into them, they too contribute more to the company. The organizations devote most of their time and money to growth by identifying the need for training which are well-timed and useful in considering feedback. The organizational contribution of the employees to their personal development could have led to the employees' passion for the organization (Ahuja et al., 2018).

Appropriate organizational commitment is vital since it demonstrates the employees' commitment to stay with the organization. The efficiency of an organization is difficult to achieve if employees' views

toward the organization are negatively impacted. (Cesario, 2017). The organization has two types of employees, i) Knowledge workers (who are acquired with most of the technical skills and experience in the field of work) and ii) Talent workers (who have high potential to grow and have special skills). The requirements are different for them. Knowledge workers are motivated by the monetary appraisal, and the Talent workers' requirements are different. They need appreciation, and the organization must identify their contribution. The organizational commitment of talented workers has to be high. This creates an impact on the organizational climate and the management performance appraisal system. The organization has to improve its standards of evaluating its employees. The recognition of talented workers and continuous appreciation will increase the commitment level towards the organization (Nagi, 2020). Thus, we expect the employees' performance appraisal will have a significant impact on their organizational commitment and present the following hypothesis:

*H2: Performance Appraisal has a significant impact on the organizational commitment of the employees.*



**Figure 1: Conceptual framework**

## Methodology

### Sample and Procedures

The data which was collected for the research was using a structured questionnaire through an organized online survey. The sample consists of 273 respondents. The target population and sample consist of employees working in various companies in Insurance Sector. SPSS Version 22 was used to run a regression to assess the research hypothesis.

### Measures

*Job Satisfaction* consists of 3 items that were evaluated using a five-point Likert Scale (1= Mostly

false; 5 = Mostly true). Those were “I frequently think about leaving my job; I feel comfortable with the way I perform every day in my role; I am very much satisfied with my job.” The respondents with high scores imply higher job satisfaction. (Deshpande, 2013). The reliability of the Job satisfaction scale is .83.

The *Organizational Commitment* scale is estimated on a 5-point scale (5 – Strongly Agree; 1 – Strongly Disagree) using nine items which are of three different dimensions. The first is the affective commitment which includes three items. The sample items such as “It is a pleasure and happy to contribute most of my time to this organization. I do not feel a strong sense of belonging to my organization.” The second dimension has a normative commitment, which includes three items of which “I have no commitment to stay with my current employer; Even if it benefits me, I feel it would be wrong in leaving the organization,” were used. The third dimension used for the research was a continuance commitment that was measured with three items. The items in the sample were, “It would be very hard for me to leave my organization right now, even if I wanted to, and there is a scarcity of alternatives for me which is one of the few I am not willing to leave this organization.” The nine items were allowed to be combined to generate an index of the entire organizational commitment. The items were evaluated based on a 5 – point (5 = Strongly Agree; 1 = Strongly Disagree) Likert Scale (Deshpande, 2013). The reliability of the Organizational Commitment scale is .83.

Performance Appraisal is measured on different aspects such as Satisfaction, Fairness, and Purpose the scale, which includes nine items, was examined on a seven-point scale. (1 = Strongly Disagree, 7 = Strongly Agree) (Brown, 2013). The items include “I had an idea of how good I was performing provided with my appraisal review. The fairness measure, consisting of 3 items, was rated on a five-point scale. (1 = Not all True, 5 = Very True). The items include “The performance appraisal review accurately reflected how well I performed. I felt the performance reviews were handled fairly at my company”. The scale containing three items defining purpose was assessed on the five-point scale (1 = not frequently, 5 = Very Frequently). The items include “The appraisal system provides an opportunity for career planning.” The reliability of the Job satisfaction scale is .82.

## Data Analysis and Interpretation

**Table 1** Demographic Characteristics of the Participants

Variables	Frequency	%
<b>Gender</b>		
Male	202	74.0
Female	71	26.0
<b>Age</b>		
21-25 Years	34	12.5
26-30 Years	42	15.4
31-35 Years	16	5.9
36-40 Years	132	48.4
Above 40 Years	49	17.9
<b>Educational Qualification</b>		
UG	185	67.8
PG	88	32.2
<b>Marital Status</b>		
Married	215	78.8
Unmarried	58	21.2
<b>Work Experience</b>		
1-5 Years	55	20.1
6-10 Years	131	48.0
11-15 Years	56	20.5
Above 15 Years	31	11.4
<b>Insurance</b>		
Life Insurance	158	57.9
Non-Life Insurance	115	42.1

Note: n=273

The sample characteristics are given in a detailed summary in Table 1. The responses were limited to 273 who work in different companies in the industry. The respondents' gender comprises both Male (n=202) and Female (n=71). The respondents were maximum in the age group of 36-40 (n=132) and the other age groups were 21-25 (n=34), 26-30 (n=42), 31-35 (n=16) and above 40 years (n=49). The respondents are a majority of undergraduates (n=185) and others with post-graduation (n=88). The sample's marital status consists of married (n=215) and unmarried (n=58). The majority of respondents belong to the group with 6-10 years of experience (n=131) in the industry, followed by candidates with 11-15 years of experience (n=56), then with 1-5 years of experience (n=55) and above 15 years (n=31). As the respondents belong to the Insurance industry, they are categorized into Life Insurance (n=158) and Non-Life Insurance (n=115).

**Table 2**

*Correlation of Performance Appraisal, Organizational Commitment, and Job Satisfaction*

	JS	OC	PA	AOC	NOC	COC
JS	1					
OC	.315**	1				
PA	.250**	.510**	1			
AOC	.246**	.588**	.439**	1		
NOC	.199**	.545**	.294**	.118	1	
COC	.205**	.815**	.326**	.229**	.130*	1

\* $p < 0.005$ , \*\* $p < 0.001$ ; PA: Performance Appraisal; OC: Organizational Commitment; JS: Job satisfaction; AOC: Affective organizational commitment; NOC: Normative organizational commitment; COC: continuance commitment

Table 2 presents the correlation of predictor variable Performance Appraisal for outcome variables Job Satisfaction and Organizational Commitment. Organizational commitment, affective commitment, normative commitment, and continuance commitment are characteristics that are correlated with performance appraisal. Table 2 shows a positive relationship between PA (Performance Appraisal) and JS (Job Satisfaction) of 0.250 (1% significance level). Similarly, the correlation between PA (Performance Appraisal) and OC (Organizational Commitment) is 0.510 (1% significance level). The three elements of organizational commitment were also favourably correlated to performance appraisals and job satisfaction. The independent variable performance appraisal is also positively correlated with items of organizational commitment: affective commitment, normative commitment, and continuance commitment. The predictor variable has been positively correlated with outcome variables significantly. The conclusions cannot be made only with the correlation as it is irrelevant to determine the influence of performance appraisal on job satisfaction and organizational commitment also, which is highly influenced by the independent variable. Moving forward, a regression analysis is to be conducted to determine the impact of a predictor variable on outcome variables.

**Table 3**

*Regression Coefficient of Performance Appraisal and Organizational Commitment*

Variable	B	$\beta$	t	SE
(Constant)	2.156			.166
PA1	-.030	-.090	-1.466	.020
PA2	.013	.045	.801	.016
PA3	.038*	.138	2.197	.017
PA4	.145**	.329	6.280	.023
PA5	.038	.096	1.574	.024
PA6	.000	-.001	.015	.021
PA7	.033	.089	1.361	.024
PA8	.045*	.125	2.302	.020
PA9	.078*	.214	3.274	.024
<b>R<sup>2</sup></b>	<b>.37</b>			

\* $p < 0.005$ , \*\* $p < 0.001$ ; PA: Performance Appraisal

The results of regression analysis between Performance Appraisal and Organizational Commitment are presented in Table 3. It shows the effect of performance evaluation on organizational commitment  $R^2$  is the value of 0.37, displays that the predictor variable, performance appraisal explained 37% of the variance in the outcome variable with  $F(9,263) = \beta = 17.246$ ,  $p < 0.001$ . This impact can be defined as a positive influence of Performance Appraisal on Organizational Commitment. Also, from findings, PA3 p-value (0.029) is less than 0.05, PA4 p-value (0.000) is less than 0.01, PA8 p-value (0.02) is less than 0.05 and at last PA9 p-value (0.001) is less than 0.05.

**Table 4**

*Regression Coefficient of Performance Appraisal and Job Satisfaction*

Variable	B	$\beta$	t	SE
(Constant)	2.354			.240
PA1	-.001	-.003	-.038	.029
PA2	.019	.055	.847	.023
PA3	.053*	.155	2.140	.025
PA4	.167**	.304	5.032	.033
PA5	.071*	.144	2.039	.035

<b>PA6</b>	-.016	-.038	-.539	.030
<b>PA7</b>	-.083	-.181	-2.387	.035
<b>PA8</b>	.033	.073	1.168	.028
<b>PA9</b>	-.011	-.023	-.310	.034
<b>R<sup>2</sup></b>	<b>.16</b>			

\*p<0.005, \*\*p<0.001; PA: Performance Appraisal

Table 4 shows the findings of the regression analysis between Performance Appraisal and Job Satisfaction. It shows the influence of performance appraisal on Job Satisfaction. The R<sup>2</sup> value of 0.16 displays that the predictor variable, performance appraisal, explained 16% of the variance in the outcome variable with F(9,263) = 5.658, p < 0.05. This involvement can be defined as a significant effect of Performance Appraisal on Job Satisfaction as well as findings, PA3 p-value (0.033) is less than 0.05, PA4 p-value (0.000) is less than 0.01, and PA5 p-value (0.042) is less than 0.005.

**Table 5**

*Regression Coefficient of Performance Appraisal and Affective organizational commitment*

Variable	B	β	t	SE
<b>(Constant)</b>	.201			.201
<b>PA1</b>	.025	.092	1.440	.025
<b>PA2</b>	.019*	.124	2.116	.019
<b>PA3</b>	.021	.069	1.053	.021
<b>PA4</b>	.028**	.337	6.158	.028
<b>PA5</b>	.029	.055	.863	.029
<b>PA6</b>	.025	-.133	-2.098	.025
<b>PA7</b>	.029	-.094	-1.376	.029
<b>PA8</b>	.024*	.172	3.041	.024
<b>PA9</b>	.029	.037	.537	.029
<b>R<sup>2</sup></b>	<b>.31</b>			

\*p<0.005, \*\*p<0.001, PA: Performance Appraisal

Table 5 shows the results of the regression analysis between Performance Appraisal and Affective Organizational Commitment. It demonstrates the effect of performance appraisal on Affective Organizational Commitment. The R<sup>2</sup> value of 0.31 displays that the predictor variable, performance appraisal, explained 31% of the variance in the outcome variable with F(9,263) = 13.237, p < 0.01. This impact can be defined as a positive influence of

Performance Appraisal on Affective Commitment, and also from findings, PA2 p-value (0.035) is less than 0.05, and PA4 p-value (0.000) is less than 0.01, and PA8 p-value (0.003) is less than 0.05.

**Table 6**

*Regression Coefficient of Performance Appraisal and Normative Organizational Commitment*

Variable	B	B	t	SE
<b>(Constant)</b>	2.159			.228
<b>PA1</b>	-.048	-.118	-1.733	.028
<b>PA2</b>	.004	.013	.209	.022
<b>PA3</b>	.043	.126	1.801	.024
<b>PA4</b>	.096*	.178	3.049	.032
<b>PA5</b>	.088*	.181	2.660	.033
<b>PA6</b>	.106**	.248	3.697	.029
<b>PA7</b>	.006	.013	.173	.033
<b>PA8</b>	-.072	-.162	-2.690	.027
<b>PA9</b>	.168**	.376	5.174	.033
<b>R<sup>2</sup></b>	<b>.22</b>			

\*p<0.005, \*\*p<0.001, PA: Performance Appraisal

Table 6 shows the results of the regression analysis between Performance Appraisal and Normative Organizational Commitment. It demonstrates the effect of performance appraisal on Normative Organizational Commitment. The R<sup>2</sup> value of 0.22 displays that the predictor variable, performance appraisal, explained 22% of the variance in the outcome variable with F(9,263) = 8.406, p < 0.001. This effect can be defined as a significant positive impact of Performance Appraisal on Normative Commitment as well as findings, PA4 p-value (0.003) is less than 0.05, PA5 p-value (0.008) is less than 0.05, PA6 p-value (0.000) is less than 0.05 and PA9 p-value (0.000) is less than 0.01.

**Table 7**

*Regression Coefficient of Performance Appraisal and Continuance of organizational commitment*

Variable	B	β	t	SE
<b>(Constant)</b>	2.145			.380
<b>PA1</b>	-.076	-.114	-1.641	.046
<b>PA2</b>	-.007	-.012	-.192	.036
<b>PA3</b>	.049	.088	1.243	.040
<b>PA4</b>	.166*	.187	3.156	.053
<b>PA5</b>	.001	.001	.010	.055

<b>PA6</b>	-.054	-.078	-1.133	.048
<b>PA7</b>	.133*	.179	2.408	.055
<b>PA8</b>	.136*	.186	3.030	.045
<b>PA9</b>	.049	.067	.903	.054
<b>R<sup>2</sup></b>	<b>.19</b>			

\*p<0.005, \*\*p<0.001, PA: Performance Appraisal

Table 6 shows the results of the regression analysis between the Performance Appraisal and the Continuance Organizational Commitment. It demonstrates the effect of performance appraisal on the Continuance Organizational Commitment. The R<sup>2</sup> value of 0.19 displays that the predictor variable, performance appraisal, explained 19% of the variance in the outcome variable with F(9,263) = 7.068, p < 0.001. This effect can be defined as a significant positive impact of Performance Appraisal on Continuance Commitment as well as findings, PA4 p-value (0.002) is less than 0.05, PA7 p-value (0.017) is less than 0.05, PA8 p-value (0.003) is less than 0.05.

### Discussion and Implications

This research helps to improve understanding of the influence of performance appraisal and its methods for measuring job satisfaction and organizational commitment among employees in the insurance industry. These two are seen as crucial factors in influencing an employee's duration in the organization. The hypothesis that these variables are influenced by performance appraisal and methods has been discussed and raised in the literature several times. This proves that it is not only a case of performance appraisal systems being the primary determinant, but other aspects in an organization may also influence job satisfaction and organizational commitment.

This research lends support to a number of other studies and a transparent study of the impact of performance appraisal systems on job satisfaction and organizational commitment employing an expert method and input from Insurance company employees. The resulting values can be termed into two aspects for performance appraisal: job satisfaction and organizational commitment. Affective commitment, normative commitment, and continuance commitment are the three types of organizational commitment. The analysis has

revealed that performance appraisal methods have influenced the two main factors.

The findings reveal that performance appraisal has a good relationship with employees' job satisfaction, which is consistent with expectations following H1. Studies have revealed that rater's bias during performance appraisal could be affecting employees' job satisfaction. These inaccuracies are raised from political motives which are intentional and not the inability of the rater. Organizations with a fostering healthy trust climate among the employees are less likely to be influenced by any political motive (Poon, 2004). Organizations that have integrated high-efficiency appraisal are more sufficient to convince their employees in various job roles and assist the HR department in determining whether these practices are worth the cost. (Mahdieh Darehzereshki, 2013). From Table 3 on the regression analysis between Performance Appraisal and Job Satisfaction, out of 9 variables used to determine the influence of performance appraisal, 3 variables, "I am satisfied with the ratings that I received from my supervisor (PA 3), The performance appraisal review accurately reflected how well I performed. (PA 4), and I felt the performance reviews were handed fairly at my company (PA 5)" have shown significant impact on the outcome variable, Job Satisfaction as a whole. The t values of the variables are PA 3 = 2.140, PA 4 = 5.032, and PA 5 = 2.039 is greater than the threshold value of 1.96. The coefficient results indicate a positive impact on Job Satisfaction. The reason behind the results may be an increase in job satisfaction by the employees due to the new age practices in performance appraisal adopted by their organizations.

Aharon Tziner and Kevin R. Murphy (1999) have argued that views of performance appraisal can influence the standard and uses of ratings. The organizational commitment was influenced by the honesty shown by the improvement done for ratings and is used fairly by organizations. As such, the raters shall also be rewarded for their fair ratings and for providing feedback to the employees. The given literature supports H2 of this study that performance appraisal influenced employees' organizational commitment. Table 3 shows the regression analysis of 9 factors between Performance Appraisal and Job Satisfaction used to determine the influence of

performance appraisal 4 variables, *“I am satisfied with the ratings that I received from my supervisor (PA 3). The performance appraisal review accurately reflected how well I performed. (PA 4), It provides in recognition of activities performed by me in the organization (PA 8), It helps me to know the areas in which I should improve, (PA 9)”* have shown significant impact on the outcome variable, Job Satisfaction as a whole. The t values of the variables are PA 3 = 2.197, PA 4 = 6.280, PA 8 = 2.302, PA 9 = 3.274 is greater than the threshold value of 1.96, the coefficient results indicate a positive impact on Organizational Commitment. Yet when divided further into subscales, affective, normative, and continuance commitments are less influenced by performance appraisal.

For Affective Commitment, from table 5, out of the 9 variables of performance appraisal 3 have shown significance. *“I understood the performance appraisal rating system (PA 2). The performance appraisal review accurately reflected how well I performed (PA 4). It provides in recognition of activities performed by me in the organization (PA 8)* the t values of these variables are PA 2 = 2.116, PA 4 = 6.158, PA 8 = 3.041 greater than 1.96, we accept that these variables show a positive impact on Affective Commitment.

Whereas for Normative Commitment from table 6 out of the 9 variables of performance appraisal 4 have shown significance. *“The performance appraisal review accurately reflected how well I performed. (PA 4), I felt the performance reviews were handed fairly at my company (PA 5), and I did not feel my performance review was free from bias (PA 6). It helps me to know the areas in which I should improve (PA 9)”* The t values of the variables are PA 4 = 3.049, PA 5 = 2.660, PA 6 = 3.697, PA 9 = 5.174 is greater than the threshold value of 1.96, the coefficient results indicate a positive impact on Normative Commitment.

Table 7, which shows regression analysis of performance appraisal and continuance commitment out of 8 variables of performance appraisal 3 has shown significance with the outcome variable. *“The performance appraisal review accurately reflected how well I performed. (PA 4), The appraisal system provides the opportunity for career planning (PA 7), It provides in recognition of activities performed*

*by me in the organization (PA 8)”* The t values of the variables are PA 4 = 3.156, PA 7 = 2.408, PA 8 = 3.030 is greater than the threshold value of 1.96, the coefficient results indicate a positive impact on Continuance Commitment.

The study looked at employee performance appraisal, organizational commitment, job satisfaction and Indian insurance companies. Supervisors or managers can use the observation to implement effective strategies or methods to redesign their performance appraisal resulting in increased job satisfaction and organizational commitment.

Much prior research has shown that performance appraisal does have a significant relationship with job satisfaction, so the organizations must place a greater emphasis on establishing fair and unbiased appraisals, increasing satisfaction levels of employees in performing their jobs. Increased job satisfaction, in turn, will increase the employees' willingness to work better.

The study also focuses on organizational commitment with further divided into subclasses which get influenced by performance appraisal. The company can aim to increase commitment towards the organization by maintaining the quality of performance appraisals and easy-to-understand methods. Following ethical practices will increase the morale of employees and might increase their level of commitment to the organization. This study provides management researchers to extend the scope of their research by the findings observed.

## Conclusion

The study was conducted to find the relationship between performance appraisal on job satisfaction and organizational commitment among employees in the insurance sector. Employees in insurance firms would like to know their performance status on a regular basis, as well as the criteria or methods used to assess it. Employees not aware of their performance appraisals will lead to dissatisfaction and a decrease in levels of commitment.

It is also recommended that the Human Resources department design performance appraisals with proper planning and methods. The variables which were influencing job satisfaction and organizational



commitment might show a negative influence on them, so those have to be addressed and resolved. Improving the appraisal system in the organizations or the process of a performance review is done to be updated. The elements that have a positive influence on job satisfaction and organizational commitment must be maintained and improved in order to satisfy future objectives.

Sommer and Kulkarni (2012) have recommended that the supervisors use the method of providing constructive feedback, which in turn increases the level of job satisfaction. Previous research also suggests that when employees' performance is considered proper for an appraisal, they, in turn, get motivated to work more. The entire performance appraisal system will assist both the organization and the employees in boosting their amount of performance in completing their work, hence increasing organizational commitment. When individuals are comfortable with their jobs, they are more likely to be engaged in their work.

The research aimed to ascertain the impact of performance appraisal on job satisfaction and organizational commitment. However, the findings revealed that only a subset of performance appraisal variables had a direct influence on the outcome variables. The future direction of the study could address these issues by adding more variables which could be the factors affecting employees' job satisfaction and commitment. Also, future research can aim to examine these subjects in different industries.

This paper has proved the positive influence of performance appraisal on criteria such as organizational commitment and job satisfaction. This study also suggests that organizations develop and design relevant strategies to address the issues and improve organizational commitment. In this research, one of the findings observed is companies involve higher age groups and communicate most of the performance appraisal system to them. If the communication was healthy for all the age groups, the results would have been more positive. Therefore, future research needs to examine and cover all the age groups aiming at their level of satisfaction and commitment to their organization.

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# The Impact of Transformational Leadership Model on the Psychological Empowerment of Work from Home Employees: A study from the IT sector of India

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## A b s t r a c t

*The current study looks at the impact of the transformational leadership style on the psychological empowerment of Indian IT workers who work from home. The moderating influence of gender was also investigated in a five-month study done with a sample of 601 Work from Home (WFH) participants using a self-reporting questionnaire. The results of the moderated multi-regression analysis showed that the transformational leadership style positively influences the employees' psychological empowerment. But gender does not moderate the relationship.*

**Keywords:** *Psychological empowerment, Transformational leadership, Gender, IT Sector, WFH.*

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## Introduction

Psychological empowerment has captivated the attention of many management practitioners during the last two decades. The level to which employees are intrinsically motivated is measured by psychological empowerment, which is analyzed as a motivational concept (Spreitzer 1995). Psychological empowerment is a mental state in people that is influenced by their surroundings rather than a personality feature (Dedahanov, 2019). Psychological empowerment as a notion may be traced back to a variety of leadership theories (Jabran Khan, 2020), including the "consideration" part of Ohio state leadership (Fleishman, 1953) and "supportive leadership" (Bowers & Seashore, 1966). Leadership has a huge impact on how employees are influenced.

## Transformational Leadership (TFL)

Transformational leadership leads through inspiration, inspiring employees to be more creative and innovative through four sorts of behaviours: "idealized influence," "inspirational motivation," "intellectual stimulation," and "individualized consideration". Transformational leaders recognize their followers, provide feedback, provide opportunities for learning, and enable them to realize and expand their internal strength via personal contemplation (Boehnke, 2003). Bass and Avolio (2000) are also of the opinion that change can be brought about through transformational leaders in the workplace.

The SARS-Covid 19 pandemic has prompted organizations all over the world to promote the Work From Home (WFH) concept. Telecommuting has now become unavoidable and mandatory in order to contain the spread of the COVID-19 pandemic while preserving economic activity. Managing an employee from afar has serious consequences for both employees and supervisors. Core leadership duties such as direct and informal meetings, face-to-face communication regarding day-to-day activities, facial expressions, and body language were found to be almost impossible in WFH, according to research. As a result, we proposed that the transformational leadership and psychological empowerment of WFH personnel be studied.

## Transformational leadership and psychological empowerment

The link between transformational leadership and psychological empowerment has been proven in the previous literature (Almaamari & Altahitah, 2017). Furthermore, research has shown that all four transformational leadership aspects strongly impact psychological empowerment (Xu et al., 2012). A wide range of research investigations has found a link between transformational leadership and employee psychological empowerment. Thus we hypothesize that:

*Hypothesis 1: Transformational leadership is positively related to psychological empowerment*

## The moderating role of gender differences

Gender inequalities, particularly in terms of leadership perception, have recently attracted attention in research. Gender and ethnicity, in particular, play a substantial effect on leadership preferences. While moderators are typically used to show changes in the relationship between a set of independent and dependent variables, we propose that moderators may also impact the relationships between independent variables. Hence, we propose the following hypotheses:

*Hypothesis 2: The relationship between transformational leadership and psychological empowerment is moderated by gender*

## Methodology

This research focused on the employees working in the IT sector. This sector was chosen as 90 % of employees worked from home, with 65% in metros and the rest 35 % in small towns (NASCOM, 2020). Thus, the sample we employed consisted of 601 employees who are highly relevant for our study settings which pertain to work-from-home employees and was distributed first through a Web-based tool. The survey measured the employees' psychological empowerment and the *transformational leadership* style of their immediate superior.

## Data Analysis

### Moderated multiple regression

The researchers propose a moderation hypothesis because they expected leadership style's impact

to differ for male and female personnel. Then there must be a relationship between leadership and gender. As a result, our research predicted WFH employees' psychological empowerment (Y) based on the transformational leadership (X), with gender acting as a moderator. To put it another way, the hypothesis was that gender impacted the link between transformational leadership (IV) and psychological empowerment (DV). The regression equation Moderation model

$$\text{Psychological empowerment} = b_0 + b_1 \text{ leadership style} * \text{Gender}$$

## Results and discussion

### Influence of transformational leadership style on psychological empowerment

A multiple regression model was used to analyze the relationship between Transformational styles and WFH employees' psychological empowerment is gender-dependent. The results for hypothesis 1 showed that the correlation between transformational leadership (X) and psychological empowerment (Y) of female employees ( $r = .553$ ,  $p = .000$ ) was strongly positive and significant (Table 1);. In contrast, that of the male employees ( $r = .366$ ,  $p = .000$ ) was moderately positive and significant (Table 2).

**Table 1**

Variables	1	2
Psychological Empowerment	1.000	
Transformational style	.539**	1.000

N (female) = 116; \*\* $p = 0.01$  level (2-tailed)

**Table 2**

Variables	1	2
Psychological Empowerment	1	
Transformational style	.366**	0

N (male) = 485; \*\* $p = 0.01$  level (2-tailed)

The regression results (Table 3) were found that together the variables accounted for 17.44% variance in the psychological empowerment and thus supported hypothesis 1 ( $R = .4177$ ,  $Rsq = .1744$ ,  $MSE = .2240$ ,  $F = 42.0491$ ,  $df1 = 3.0000$ ,  $df2 = 597.000$ ,  $p = .000$ ).

**Table 3**

Model Summary						
R	R-sq	MSE	F	df1	df2	p
.4177	.1744	.2240	42.0491	3.0000	597.0000	.0000

### The moderating role of gender in Transformational Leadership

However, the findings for the hypothesis (Table 4) indicated that the interaction between transformational leadership (X) and gender (W) was insignificant ( $b = .1822$ ,  $SE = .0992$ ,  $t = 1.97$ ,  $p = .066$ ). Thus, the Transformational leadership style of superiors and the gender of the employees (subordinates) does not contribute to psychological empowerment (Y).

**Table 4**

Model						
coeff	se	t	p	LLCI	ULCI	
constant	2.0687	.2965	6.9766	.0000	1.4864	2.6511
TL	.6180	.0849	7.2791	.0000	.4512	.7847
Gender	.6822	.3456	1.9741	.0488	.0035	1.3609
Int_1	-.1822	.0992	-1.8371	.0667	-.3769	.0126

The Table (5) shows the same test result (hypothesis 4) as that for the interaction effect. However, the value-added is that it contains an index of the R-square change due to the moderation effect (Hayes, 2018).

**Table 5**

Test(s) of highest order unconditional interaction(s):					
R2-chng	F	df1	df2	p	
X*W	.0047	3.3751	1.0000	597.0000	.0667

The effect of transformational leadership (X) and gender (W) on psychological empowerment (Y) was conditional on the other IV being 0. When referring to the effects of X (transformational style) and Y (gender), not as "main effects" or the "effects, these variables control the interaction" (Field, 2018). Since the slopes represent the effect of Transformational (or gender) on psychological well-being, conditional on the other variable being 0, then it is more appropriate to think of the conditional effect to examine the hypothesis further (using ANOVA terminology, or as a simple slope (using regression terminology). As such, we can interpret the results of hypothesis 2 (the effects

of gender and transformational leadership style as follows:

1) The model shows that Transformational leadership (X) is a significant predictor of psychological empowerment (Y);  $b=.6180, t=7.27, p=0.000$ . Thus, each increase of one (1) in transformational leadership contributes 0.61 to the psychological empowerment of the employees.

2) Moreover, the model shows gender is also a significant predictor of psychological empowerment;  $b=.68, t=1.97, p=.048$ . Thus, each increase of one (1) in gender contributes .68 to psychological empowerment.

Thus, it can be concluded that the effect of transformational style on psychological empowerment was positive and significant, conditional on gender = 0; the conditional effect of gender was positive and significant conditional on transformational leadership style = 0. Since we have centred the IVs, it can be interpreted that these coefficients as the relationship between each IV and the DV at the grand mean of the other IV. In other words, the effect of transformational leadership was .6180 for those individuals scoring at the grand mean on gender.

The effect of gender was .6822 for those individuals scoring at the grand mean on transformational leadership. Since the interaction term in our model was not statistically significant, the interaction has been probed to interpret better the nature of the moderated relationship between transformational leadership and gender. Tests of simple slopes test the relationship between Transformational leadership style (X) and psychological empowerment (Y) at two levels of the moderator (W) gender (Male and Female).

At -1 SD (i.e., at .000) on the centered gender variable (representing female), the relationship between transformational leadership and female (.000) was positive and significant ( $b=.6180, SE=.0849, p=.000$ ). Similarly, at 1.000 on the centered moderator variable (representing male), the relationship was positive and significant ( $b=.4358, SE=.0513, p=.0000$ ). But the transformation leadership was strongly related to the psychological empowerment of female employees than the male employees (Table 6).

**Table 6**

Conditional effects of the focal predictor at values of the moderator(s):						
V3_N	Effect	se	t	p	LLCI	ULCI
.0000	.6180	.0849	7.2791	.0000	.4512	.7847
1.0000	.4358	.0513	8.5028	.0000	.3351	.5364

Our findings of hypothesis 1 support the findings of earlier research demonstrating that there is a positive relationship between transformational leadership and psychological empowerment (Waldman and Yammarino, 1999; Allameh et al., 2012; Pradhan et al., 2017, Prabowo et al., 2018). The results showed transformational leadership was strongly positive and significantly correlated with the psychological empowerment of female employees. This pointed out that female employees led by a transformational leader tend to become more psychologically empowered. There was a significant but moderate relationship between transformational leadership and psychological empowerment for male employees. This showed that the psychological empowerment of male employees is positively related when they were supervised by a transformational leader but at the same moderately.

The multiple regression models produced were significantly positive and accounted for (17.44%) variance in the psychological empowerment than would be expected by chance. However, our results for hypothesis 4 indicated that gender was not a significant moderator of the effect of transformational leadership style and psychological empowerment of the employees. Thus, we did not get the evidence to support our hypothesis 4 that the transformational leadership style of superiors and the gender of the employees do contribute significantly to the psychological empowerment of the employees. As noted previously, the results of the conditional effect found that both transformational style (X) and gender (W) has a significant and positive effect on psychological empowerment (Y). Among the gender, transformation leadership was more strongly related to the psychological empowerment of female employees than the male employees, which corroborates the previous research (Wolfram and Gratton, 2014)



## Conclusion and future direction

Our findings have far-reaching implications for both theory and empirical testing. It adds to the existing body of knowledge in six ways. First, our findings add to the leadership literature by demonstrating that transformational leadership promotes employee psychological empowerment. Second, our research shows that the gender of subordinates has little bearing on transformational leadership. Transformation leadership was found to be more strongly linked to female employees' psychological empowerment than male employees, corroborating earlier studies.

As a result, this research has two goals, i.e., firstly, to investigate the impact of transformational leadership styles on employee psychological empowerment. Based on our findings, we propose that organizations foster a more transformational leadership style that increases employees' psychological empowerment. We see various advantages for firms with psychologically empowered personnel, including increased decision-making capability and assistance in resolving organizational issues by giving them autonomy and control. Furthermore, superiors' transformational leadership style and employees' (subordinates') gender have no effect on psychological empowerment. As a result of examining the connections, the study discovered a significant link between psychological empowerment and transformational leadership.

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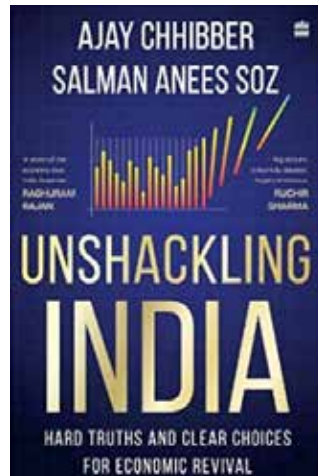
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# Unshackling India Hard Truths And Clear Choices For Economic Revival

AJAY CHHIBBER AND SALMAN ANEES SOZ

Prof. C. P. Ravindranathan\*



Published in 2000, Gurcharan Das' "India Unbound" was among the most acclaimed books on India's economic reforms at the cusp of their second decade. Now twenty-one years on, the present book, evoking a similar metaphor, reviews the state of the country's economy in the wake of Covid 19 and postulates what it would need to do to gird itself for the future through reforms and governmental action.

By all reckoning, Covid 19 has been an unmitigated disaster for India. The slough of despond that it represented was part of a downward slide of the economy commencing with the demonetisation of 2016 and several ambitious goals set by the government having woefully fallen short of realisation. The long-term implications of the Covid 19 crisis include the sobering prospect that India could find its way back to the path of normal growth only by 2029-30 when its vaunted "demographic dividend" is to bottom out. This is supposed to be the optimistic prospect; the pessimistic version is no doubt gloomier. Many might well be drawn to it as they observe the economic consequences of the war in Ukraine which have added to India's woes.

Briefly stated, the argument of the book is that the liberalisation of Indian economy following the 1991 crisis had made India a rising economic power with a sustainable growth of 6-7 per cent or even higher, that the momentum of the economy has since dissipated and that it would need to be restored, in the face of a variety of odds, for the country to move forward. The Covid 19 crisis for its part, so say the authors, is an opportunity to press ahead with the kind of structural reforms which alone would serve to remove the shackles that bind India.

The reforms that the authors espouse consist of a drastic change in the role of the state and in the working of public sector institutions, focused human capital development in terms of health, education, social protection and women's economic empowerment, reforms in the factor markets of labour, capital and land so as to harness them more effectively to strengthen the economy, revitalisation of key sectors of the economy, promotion of the instrumental role of foreign trade and measures to address systemically not just natural and public health disasters but also climate change to which India will be perilously exposed. Together, they add up to a wide-ranging prescription for the nation's

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economy and political system to attempt a time-bound transformation.

On the Indian state, Chhibber and Soz make the point that it has tended to be unduly interventionist in scale and scope, but without anywhere near enough the requisite capabilities. As contrasts, South Korea is less interventionist than India, but has higher capabilities, whereas China is both more interventionist and more capable. The latter had also carried out a major administrative reform to prepare the administrative system for the twenty-first century. Malaysia where it's Prime Minister Mahathir placed equal emphasis on administrative reforms is another example. But unfortunately India's liberalisation gave the go by to administrative reforms at the stage when these would have been desirable, under UPI-I and UPI- II. If India is to reset for the twenty-first century, the future of its people lies in reforming the government now for a rapid, sustained, long term growth and for a happier society. Arguing that without administrative reform the country would be ill equipped to take up the challenges involved, the authors point out that it would need to free the economic system from state controls. Through effective measures to scale up labour productivity in PSUs and privatisation of these enterprises, except for the Maharatnas, the present government's slogan that the business of government is not business must be made a reality. They, however, enter the caveat that the proceeds from the privatisation should not go into the budget, but be used for productive purposes like incorporation into infrastructure development funds and payment of worker compensation.

To deal with the issue of strengthening the capability of the state to deliver, the authors would favour a more focused, smarter and more accountable government with clearer roles and responsibilities through what should eventually be an India of fifty states to narrow the distance between the state and the citizen. Across the board, the country's share of local government spending and hiring needs to be increased and a review made of the roles and responsibilities of the central, state and local governments. Such a structural change alone would promote more governmental responsiveness to public demand for services and benefits and more accountability in providing them on the part of public servants. As regards corruption, the remedies

suggested are the common fare - less discretionary power for the government, more competition as in the telecoms services, greater transparency, a modern regulatory structure unlike the present bureaucracy- dominated system and the like. As with the usual treatment of this topic, the impression is hardly that corruption, especially the retail version that affects the common man, is likely to disappear anytime soon.

Chhibber and Soz have their heart in the right place in the belief that human capital is India's most precious asset. The critical need for the country is to focus on its development. With that as the point of departure, they consider issues of education, health, social protection and women's environment as central to India's future. On education, the authors find much merit in the broad and inclusive vision of the National Education Policy, but do not fail to mention that it appears to minimise the criticality of governance and management of the sector. "The institutional foundations of the reform effort must be central to this exercise, otherwise it will fail" - is their conclusion, which is all but an implicit acknowledgment that the outlook is uncertain at best. On public health, the view held by the authors is spot on - that a decentralised health system would likely be more effective to universalise healthcare in India. Community- based healthcare, improved child and maternal nutrition , expanded budget outlay that should be five times the per capita figure today, enhanced quality of public health personnel and increased adoption of digital healthcare are the aspects they highlight as part of a far better health system that India needs - all of which eminently to be desired.

The chapter on women in the workforce makes disturbing reading. Labour force participation rate (LFPR) for women, a critical metric in human capital development, was a low 22% in 2020 compared to 32% in 1990, even as there have been gains in other HDI indicators. There is also little sign of the declining ratio reversing in the foreseeable future. Underrepresentation of women also prevails in high growth and high productivity sectors, so also do regional variations, from Bihar's 4.3 per cent to Himachal Pradesh's 59.2 per cent. Economic reasons are one explanation, but the chief barrier to women seeking paid economic opportunities is seen by

the authors in gender norms. Other indicators of economic inequality affecting the female half of India's population are stagnation of public spending on women- specific schemes, financial exclusion of women in terms of banking and credit and persisting disparity in land ownership by women. The authors suggest several measures to be initiated by the government to counter this downward trend in the socio- economic conditions of Indian women.

Similar is the predicament of the vulnerable sections of the Indian population, nearly half of it, even as a majority are no longer poor. The Covid 19 pandemic has now caused an addition to their number, an estimated 260 million. On the other hand, the country also has safety net programmes such as the Public Distribution System of subsidised food grains and schemes for children, guaranteed rural employment and pensions for widows, elderly persons and eligible farmers. But faultiness abound in the system including inadequacy of resources to deal with serious shocks and deficiencies and lapses as in the midday lunch schemes for school children and in the implementation of the rural employment guarantee scheme. For improvement of the various safety nets for the vulnerable sections, the authors suggest several measures. But they also stress that investments in public goods like education, healthcare systems and security are the primary requirement. That is the major flaw in the Indian setup. Which extends to denial of access to subsidised food grains to nearly one hundred million needy persons owing to deficient data and letting the country fare much worse than the global averages of social protection systems, a painful fact highlighted by the sufferings of millions of migrant labourers in the wake of Covid 19.

The part of the book on the working and outlook of the country's factor markets is much the most instructive. It links the factor markets to the dynamics of the demographic dividend, already used upto one third, and argues that India would need to grow at a dauntingly high rate of 12 per cent per year by leveraging its factor markets in order to realise the dividend. The analysis of the labour market is extensive; it provides a whole series of insights including on the labour codes of 2020 on which it takes a tentative view. It's thrust is that India has created less employment for every unit of its GDP growth and what is worse, the CMIE data show

that from 2016 to 2020 the country's employment in manufacturing, the core factor in the economic growth of China, actually fell from 51 million to 40 million. There is no escaping the fact, however, that India must find much greater employment for its large mass of semi- skilled workforce the way China and many East Asian countries have done. The authors' analysis of the land market issues of misallocation and acquisition is bound up with industrial investment and infrastructure development, both being hobbled by the constraints of the land market. They suggest the option of lease instead of sale of land as a way out through reform. For the remainder of this part on the need for the second generation of reforms touching factor markets, the banking and financial sector comes in for detailed treatment. Terming the Indian financial system as a mess for which everyone involved including the government is to blame, Chhibber and Soz spell out seven key elements of overdue reform consisting of such bold measures as reprivatization of the banking system, removal of directed lending from commercial banks and elimination of SLR requirements. These add up to a drastic agenda hinging greatly on the political will. And in the domain of agriculture, the need for a second green revolution and a shift towards more employment in the non- farm sector is emphasised with audacious steps like replacement of Minimum Support Programmes with increased payments under PM Kisan and an expanded MGNREGA to address "the vulnerability and fragility" of India's farmers. For the blind alley where subsidies and farm support schemes have led Indian agriculture, these measures would be widely seen as a possible exit.

Contrasting the no mean feat of the twenty-fold expansion of India's economy with China's hundred-fold expansion since 1978, the authors point out that while China was able to shift hundreds of millions of low-skilled workers from agriculture to manufacturing, India made her transition differently, with the decline in the share of agriculture in the economic output being matched largely by an increase in the share of services. But for the requisite creation of 90 million non- farm jobs in the country by 2030, Chhibber and Soz assert the inescapable need to expand the country's manufacturing sector by raising labour and capital productivity in a variety of ways pursued simultaneously, the emergence of India as the fifth largest automobile manufacturer in

the world being an example of what can be achieved. These range from hard investment notably in human capital for upward movement of India's labour force in the value chain to enhancement of R& D capabilities to fit into the Fourth Industrial Revolution. Exports figure substantially in the economy in relation to both manufacturing and services sectors despite India's role as a small player in global trade. Analysing the patterns of the country's foreign trade with revealing details, like twenty country markets accounting for 72 per cent of the exports and India having a share of just 0.1 per cent in Latin America's imports of almost \$ 1 Trillion, the authors advocate a long list of measures to scale up competitiveness so as to reach \$ 1 Trillion exports by 2030.

The authors are conscious of the fact that India's plans for the future are to be envisioned in the foreshadows of climate change, the country likely being among the worst affected by it. They believe that India must prepare, at a minimum, for 2 centigrade warming, which could mean the living standards being worse by 1.5 percentage points by 2030 and 2.8 points by 2050. As nothing less than a transformation of the economy is required to face the economic prospects of the predicted climate change, a key element in it should include a far bigger push on renewable energy and pivoting to a rapid cut down on use of fossil fuels. Many sectors like industry, agriculture, transportation and construction are involved in the transformation. Another area that calls for systematic policy formulation and execution is disaster management, as was shown by the Covid crisis.

Harnessing the power of technology and dealing with its challenges over a wide front is the last theme the authors explore besides climate change and management of natural disasters and public health emergencies like Covid 19. The impact of technology on labour markets is the most worrisome prospect for India, exemplified by the government's own evaluation in 2017 that 69 % of jobs in India are susceptible to automation. Alongside are the beneficial effects of technology like digitalisation. The vast amounts of user data generated by India raise issues of their own like privacy and safety of individual digital identity. Chhibber and Soz emphasise that a modern and progressive governance is critical to

India's future in this and other areas of state- citizen interface.

Posing the question of what can motivate the country to rise after the Covid 19 crisis, the authors propose that the goal should be becoming a developed country by the centenary of independence in 2047. For that to happen, they believe India's institutions need to be promoted and strengthened so as to make the country not only a great economic power but also "a much happier country that all Indians deserve".

It is a realistic wish expressed in earnestness, a tone uniformly characterising the contents of the book. A well-argued case for what needs to be done to power India's economic growth in the years to come, not hesitating to sound an occasional critical note, even if briefly, on the political class or the government.

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Located in the heart of the Silicon Valley of India, Bangalore, with Tech giants such as GE, Infosys, TCS, HP, Tech Mahindra and Wipro as its neighbours, XIME possesses state-of-the-art facilities, a scenic campus and a multifaceted talent pool. The campus is fully residential, Wi-Fi enabled, with an excellent library, gym and games facilities. The institute is a crucible of diverse cultures and gives a glimpse of "mini India" with students from all regions, strata and backgrounds. Its average intake constitutes more than 50 percent of female students every year. In every sense, the XIME culture is one that embodies diversity, inclusion and the continuous pursuit of excellence. XIME occupies a special niche as an institution where merit is the sole criterion for admission to their courses. The institute is growing fast and has established a second unit, XIME Kochi in the year 2012 and inaugurated its third unit, XIME Chennai in 2016.

XIME has an excellent team of qualified faculty including a few with industry and civil service backgrounds. The curriculum is regularly reviewed and updated according to industry requirements. Some unique features of the curriculum include the Socially Useful and Productive Activity (SUPA), student development activities, and courses in Ethics and Contemporary Business Environment. Recognizing the importance of internationalization in business, XIME also emphasizes foreign language learning and Student/Faculty Exchange Programs with foreign universities. Personalised attention to student development is a tenet at XIME and the institute can boast of full and high quality placements in all years.

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