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In The Issue

FACULTY CONNECT

FLAME has it all to lead India's Education of Space 2.0 Era

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August of 2023 was a momentous month for the world. India landed on the moon for the first time. India became the first country to land near the moon's south pole. India is tantalisingly a few experiments away from making startling scientific discoveries that will consolidate evidence for ensuring humanity's long-term presence on the Moon. I, with years of experience behind me working on space exploration missions, say the following facts with utmost responsibility and pride. We must take pride in India achieving the Chandrayaan-3 landing stupendously despite numerous technical challenges. We must take more pride that India now has robust stakes in humanity's long-term aspirations for the Moon. We must take even more pride that India is now confident in pursuing science from our cultural and civilisational vantage point, no more clinging to colonial intellectual servitude. But then, being at India's pioneering liberal education university, we at the FLAME University can't merely take pride. We have to participate and lead lunar exploration from the front. This article explains how we could participate.

Liberal education gives us the latitude to think across disciplines, which is the essence of the new space era, Space 2.0. Gone are the days of the misconception that the space sector is a congregation restricted to scientists and engineers. However, Space 2.0 is also an era where students of technology and science policy, public policy, foreign policy, business management, psychology, fine and performing arts, economics and finance will have a significant role to play. Those with business management education are needed to scale up space innovations and make space businesses lucrative. Those from policy education must assess the international relations landscape to make international partnerships necessary for the business sustenance of private enterprises. Those in public policy must identify space technologies that enhance our society's social, economic, human development and happiness indicators. Those with fine and performing arts must conjure newer literature, cinema-making, theatre, and music forms. I must mention for our movie buffs that the first feature film, the 2023 Russian movie The Challenge, saw its director Klim Shipenko and actor Yulia Peresild, have already shot in outer space and earned great reviews and revenue. There's a buzz that even famous Hollywood actor Tom Cruise is preparing to shoot the first American production in outer space. Those with backgrounds in finance and economics will play a major role in monitoring the micro- and macro- of money management and executing space missions and space programs.

No one can hereafter dispute that the rapidly evolving global and Indian space sectors are open to diverse professionals from humanities, commerce, and other transdisciplinary fields. This has been made possible in India because of the renaissance the Indian government initiated in 2020 when the space sector was opened up for private enterprises. This 'liberalisation of the space sector' will help the Indian economy enormously.

The recent Chandrayaan-1 and Aditya-L1 missions are among the first of their kind. India has never landed on the Moon or built a solar observatory. But when such missions become a regular affair, when the technologies built in these early phases by ISRO acquire a 'space-proven' tag, ISRO would commercialise these technologies. ISRO will also partner with established and reputed space startups, MSMEs (medium and small-scale enterprises) and large companies to build cutting-edge technologies in specific scenarios. Once the R&D output of ISRO crosses the initial Rubicon, the follow-up missions to the Moon, Mars or the outer Solar System, or even 'space-proven' remote sensing and satellite communication technologies, will be run with economic goals in sight and by private companies.

ISRO's renewed task after the reforms is to accomplish avant-garde missions and then pass the know-how and technology to the space economic sector of our country. ISRO may work with the same reputed 'business model' that it is comfortable with, being a government-run agency. But for the private space sector, the set of challenges is much different, and it will need a large talent force to sustain it. India's engineering colleges and technical universities may supply them with the talent necessary to build technologies. But the next generation of venture capitalists, economists, artists, managers, policy analysts, policymakers, and strategists will come from the liberal education that FLAME shines with. I am confident that the faculty and students at FLAME will contribute to Space 2.0.

Space 2.0 is an era where 'space science' and 'space technology' converge with 'space economy.' These three are intertwined. ISRO and other government-run R&D laboratories can accomplish the first two. However, India does not have institutions specialising in the 'space economy.' FLAME has everything to attain 'space economy' thought leadership. FLAME can offer space economic foresight and the ability to bridge gaps in the space sector that are only possible in a liberal education setting.

THEMED ARTICLES

The Operations Function and Its Relationship with the Other Functions

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When we look at the working of any organization, we see the operations function being responsible for producing products and/or delivering services. Operations management is the management of systems and processes that create goods and deliver services. Operations management involves activities such as work organization, job design, process selection, facilities location and layout planning, quality control, production planning & detailed scheduling, quality control, inventory management, etc. We look at operations management as an opportunity to improve a firm's efficiency and reduce costs. We also see operations as an avenue to increase sales, gain market share, and eliminate competition!

The activities required to produce and deliver goods and/or services extend beyond a single organization and encompass multiple organizations in a supply chain. To take care of this, the field of operations management was extended across organizations, and we now know it as supply chain management.

If we look at any organization in the supply chain, we find that operations function looks after the following three main subfunctions

*   *Sourcing (Procurement):* Outside the organization, operations interacts with suppliers to order all the purchased entities such as raw materials, components, MROs (maintenance, repairs, and operating supplies), and services. As a purchase manager I would communicate production and delivery requirements to the suppliers, certify quality, negotiate contracts, and finalize design specifications. Supplier selection, contract negotiations, and actual disbursement and follow-up of the purchase authorizations would be the major activities performed by me as a purchase manager.

*   *Manufacturing/Service Delivery:* This is the function responsible for producing the products and/or services efficiently and effectively. It includes a number of subareas such as operations strategy, transformation system design, inventory management, and scheduling. The operations function is commonly responsible for 80 percent of all the physical assets of the organization as well as 60 to 80 percent of all the human resources.

*   *Logistics:* Logistics function is concerned with the time- and space-related placement of goods to serve customers better. It is concerned with getting products and services at the right place, at the right time, and at the right cost. It involves integration of information, transportation, inventory, warehousing, material handling, and packaging. It is through the logistical process that (a) materials flow into the vast manufacturing capacity of an industrial nation (inbound logistics), and then (b) finished products are distributed through marketing channels to consumers (outbound logistics). In many companies, logistics is part of the operations function. Some companies prefer to outsource the whole or part of the logistics activities to a third party.

When we look at the way different functions work in an organization, we see that operations has critical cross-functional linkages with the other functions of the organization.

Engineering and operations are the up-front functions for delivering value to the customer. As they work together on the design and production of products and services, the problems of producing what has been designed are minimized and the customers receive better quality, performance, price, and value.

Engineering performs two major functions for a manufacturing organization, and, in many firms, these might be two separate departments:

*   *Product or Design Engineering (Design and Development):* It designs and develops the products/services and prepares detailed product/service specifications for manufacturing and service delivery. Operations works with product engineering to ensure that the services or products being designed are easy to deliver or manufacture. The operations function contributes to the product and process design process right at the concept formation stage through Quality Function Deployment (QFD), Design for Manufacturing and Assembly (DFMA), Design for Logistics (DFL), Failure Modes, Effects and Criticality Analysis (FMECA), Design for Serviceability, Design for Vandalism Prevention, etc

*   *Manufacturing Engineering (Industrial Engineering):* It designs the processes and the production system (machines, tooling—cutting tools, jigs, and fixtures, and measuring gauges, etc.), and also performs industrial engineering functions such as methods improvement. Operations works with manufacturing engineering to devise the best way to produce the service or product in the minimum time, to specifications, and at the lowest possible cost.

Finance and Accounting.

If I were managing finance and accounting for my organization, I would expect operations to provide production and inventory data, capital budgeting requests and capacity expansion and technology plans. This will enable me to arrange funds for payment to workers and suppliers, do cost analyses, and approve budgets for capital investments. It would be my responsibility as a finance manager to inform operations about any limitations and restrictions on its use of funds. This information would then be used by operations personnel while formulating their strategy.

Critical Link between Operations and Marketing.

Some of the most critical marketing issues, namely cost, quality, product volume and availability (through its relationship with process type and plant capacity), and delivery capabilities are all within the realm of operations management. Hence, constant dialogue needs to take place between operations and marketing. Cohesion between sales and operations needs to be in place in terms of:
*   forecasts and volume versus capacity constraints, and
*   delivery promises versus scheduling commitments

Marketing

provides operations with sales forecasts, customer orders, customer feedback, and information on promotions and product development. Operations, in turn, provides marketing with information on product or service availability, lead-time/cost estimates, order status, and delivery schedules. Salespeople need to know information about product/capacity availability from operations so that they can make realistic delivery promises to customers. Most of the conflicts arising between sales and operations might be related to the promising and fulfilling of delivery dates.

Human Resources.

As an operations manager I would expect human resources function to arrange to recruit, train, evaluate, and determine compensation for workers; and to assist with legal issues, job design, and union activities. I would expect operations and HR to closely coordinate plans for hiring, attrition, and retirement, as well as training, education, and development programs.

Emerging Technologies in Supply Chain

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"Just as electricity transformed almost everything 100 years ago, today I actually have a hard time thinking of an industry that I don't think AI (artificial intelligence) will transform in the next several years." said Andrew Ng, a global leader in the field of AI. Industries have seen some major revolutions: The first, Industry 1.0 began in the 18th century due to the use of steam power and mechanization. Second, Industry 2.0 began in the 19th century due to the discovery and use of electricity. Third, Industry 3.0 began in the 20th century due to the use of computers and digitization. And what we are currently seeing, is the fourth industrial revolution, Industry 4.0 which is mainly due to 'smart' objects or applications of information and communication technologies.

Kevin Ashton, a British technology pioneer, used the term Internet-Of-Things (IoT) first in 1999 in an article to describe interconnection of everyday objects with the internet via computing devices such as sensors and Radio Frequency Identification (RFID) Tags. Since then, there has been a boom in emerging technologies such as Industry 4.0, Blockchain Technology, Internet of Things, Big Data, Machine Learning, and Artificial Intelligence. Implementation of Industry 4.0 is almost like a sequence of new age technologies. Internet of Things (IoT) is the use of sensors and RFID tags in the products that capture and store product's life cycle data, cloud computing provides a platform where the captured information can be shared within the supply chain in real time, Big data ,Data analytics and machine learning help analyze the large amounts of data collected by sensors and RFID tags, Blockchain provides a highly secure database management system and AI reduces the human errors in some crucial tasks.

The 2020 pandemic that disrupted almost every supply chain was the toughest test for these technologies so far. Almost every country suffered through the shortages of PPE, sanitizers, and a lot of other essential items. McKinsey conducted a survey of over 400 companies worldwide to understand their perspective about Industry 4.0. The results showed that 94 percent of respondents said that Industry 4.0 had helped them to keep their operations running during the crisis, and 56 percent said these technologies had been critical to their crisis responses. The companies who have implemented Industry 4.0 have reported improved transparency across the supply chain, higher resilience, increased agility and overall, a better integrated supply chain. For others who had not implemented Industry 4.0, the pandemic 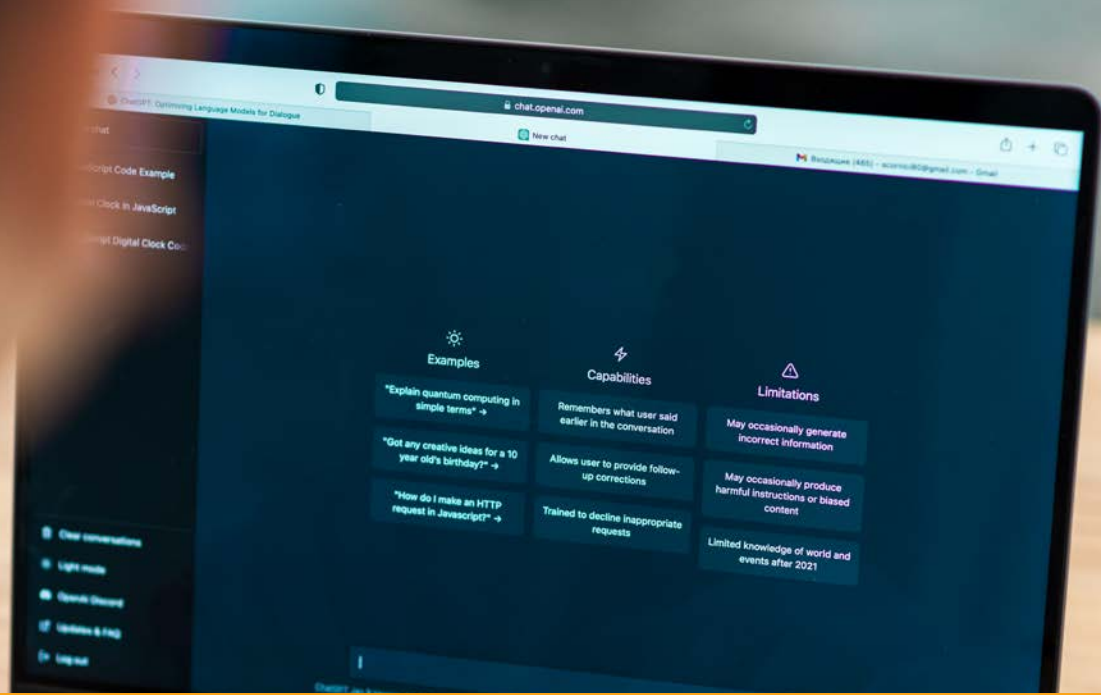crisis was a wake-up call. Prior to the pandemic, the well-established companies were implementing Industry 4.0 to make them well running businesses better. But pandemic entirely changed that perspective and now companies are looking at these technologies as a mode of survival in the market and revival from the pandemic damages.

Just as every coin has two sides, along with the benefits of Industry 4.0, there are also disadvantages that can significantly impact its effectiveness and implementation. One of the major drawbacks is a high cost. And it is not just limited to the high costs of these technologies, but also the cost of hiring expertise to help implement and manage the technologies. Supply Chains, operations, manufacturing are some fields that still heavily rely on human resources. These technologies being relatively new, will require highly skilled labor. The companies will also eventually have to invest in training programs to educate all their human resources. Another downside is Cybersecurity. All the information is shared across the supply chains through cloud computing platforms which provides easy access but also invites issues like hacking, security breaches, sharing of confidential information etc. Most Industry 4.0 techniques are cross functional which also adds complexity in terms of differences in goals and conflicts in general.

But, despite of the disadvantages, applications of Industry 4.0 i.e., smart objects are ever increasing; And now there's no turning back. To overcome its disadvantages, researchers have already started discussing Industry 5.0 which is a connection between these smart objects and people. It focuses on involving both humans and machines as opposed to the previous revolutions which were automation centric. Industry 5.0 leverages the strengths of humans and machines and aims to create sustainable, resilient, and human centric products and services. Industry 5.0 also aims to focus on the well-being of human resources and highlight societal value. This seems to be a promising development as humans are an integral part of some core fields such as supply chains and manufacturing. Integrating humans and machines can bring in a very different perspective and this can be a big leap in betterment of supply chains and industrial growth.

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Generative AI: The Road Ahead with GPT and LLM

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One of the most talked about events in the history of advancement in Artificial Intelligence (AI), is the recent release of ChatGPT for public use by the OpenAI (https://www.openai.com) foundation. GPT stands for "Generative Pre-trained Transformer," which is a general-purpose AI model from OpenAI, based on the "Transformer" architecture invented at Google Brain (https://research.google.com) that can be used for sequential machine learning tasks using the concept of "(self-) Attention." This GPT family of deep learning architecture (e.g., GPT2, GPT3) is made up of an encoder-decoder stack working on "embeddings" representations, and has more powerful sequence prediction techniques with faster training time due to parallelization of training process. GPT models, as the name suggests, are essentially pre-trained generic "base" models which can be used for various text, audio, image generation and recognition with minimum amount of domain-specific training or even in "few shots" or "zero shot" scenarios.

GPT -based AI development platform is a revolution in Machine Learning (ML) model creation, which traditionally requires deeper technical knowledge about the models. In GPT based applications (like ChatGPT), the application developers are focused only on the "prompt design" i.e., the input/output design for the application and the minimum amount of domain specific training data to tune the "base" GPT models also known as "Large Language Model (LLM)" or "Generative AI." Hence, from the perspective of business organizations, it is a paradigm shift, and opens door for quicker adoption of AI technology for their business processes as well as product design. The reasons are easy to comprehend. Firstly, the GPT models reduce the overwhelming burden of finding and preparing (big) "data" for training effective models, because the models are pre-trained with billions of parameters (~20 billion - 100 billion) and can even be deployed with "zero shot" meaning no tuning with domain data. Secondly, LLMs can also be used as "Generative AI" for creating text, image etc., which is extremely effective in many scenarios. As a result, we are again at the cross-roads of AI summer with VCs diverting their funds to LLMs, GPTs from crypto. There is no doubt, a world of limitless possibilities which can be opened with prudent use of such "Generative AI" technology in business.

But the flip side of this rosy picture of the GPT era is whether the businesses are prepared to take up this new challenge. If we dissect little deeper into this fundamental dilemma, it is obvious that the answer lies in gaining insight into the use-model of the LLMs and then try to figure out how to harness the tremendous power of this toolkit for business transformations. The LLMs/GPT were originally designed to handle the problem of natural language processing, language translation, text classification, question and answering system and language generation. But recently, we are finding more and more research and applications of LLMs in image processing, audio/video analysis etc., which are till now handled by deep learning architectures such as Convolutional Neural Network (CNN) and Recurrent Neural Network (RNN). Hence the GPT technology has the power to create a unified and homogeneous AI platform for the organizations for "all" kinds of applications, which itself is a strong driver for adoption.

As an example, if we try to think about a GPT based architecture of a hospital management system, it is certainly possible to harness its capability to build a seamless and efficient environment for patient handling. To start with, the pre-trained "base" model can be tuned using the electronic health records (EHR) repository to predict medicines for specific ailments based on symptoms that can be gathered using question answering mechanism, which again is a tuned model from the original "base" model. Similar instances of LLM based AI agent can interact in parallel with a human expert for handling challenging cases. In situations where patient communication is difficult due to language barrier, the LLMs can be a saviour as it is highly effective for natural language translations. The NLP based online/audio customer support, currently deployed at most ecommerce websites, can be further refined, and made more human-like with the help of this technology. In the area of creative writing, reporting, advertisement designs, image creation, text to speech, text to image generation, LLMs can be highly effective. This is overwhelming not just in terms of number of applications, but also from the time-period perspective in which these applications can be implemented. The reason is that GPT "base" models are supposed to be "generic" and pre-trained and removes the requirement of gathering "big" training data for the application developers. But the bigger question is how to manage and absorb the shock of such a "big bang" impact of this proliferation of AI bots across all aspects of human life. Because, if we hand-over the task of writing reports, creating stories, creation of images, interaction with customers and other such things which are supposed to be the core of "Human Intelligence" helping them to gain supremacy in evolutionary cycle, to the LLM models, we will not only destroy the creativity and intelligence of human race, but also drive the AI agents to fall prey to an infinite self-loop, where they keep consuming their own content for future training and decay to mediocrity. So, most certainly, we need a balance, whether we head to a "brave new world" or "AI apocalypse," the choice is ours.

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RESEARCH FOCUS

RESEARCH FOCUS

Advertising and Impulse Buying: Mirth for Vices and Dearth for Virtues

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Imagine a hot sunny afternoon in summer. You have purchased some goods in a grocery shopping mall and standing in a long check-out queue to pay your bill. Suddenly you look at an ice-cream on a shelf just next to the check-out counter. You don't have any initial plans to buy the ice-cream. However, you just go and grab it out of the urge you felt. This is Impulse Buying.

Impulse Buying is an important mechanism that leads the customer to a sudden and immediate purchase. It accounts for a substantial proportion of goods and services sold every year across a broad range of product categories. For example, according to the survey conducted by Saleh (2019) in the USA, 84% of all shoppers make impulse purchases, and more than 54% of the shoppers have admitted to spending $ 100 or more on impulse purchase. The average USA customer spends $5,400 annually on impulse purchases, which mainly involves taking advantage of an advertised deal or discount. For many retailers, impulse buying is one of the cornerstones for profitability and hence retailers and managers are keen to formulate specific strategies to enhance impulse buying. In line with this need of retailers and marketers, marketing researchers and academicians are in continuous efforts to investigate what enhances impulse buying.

In this regard, researchers have already identified several antecedents of impulse buying, such as price, store environment, promotion, and situational factors. Past research has also shown that one way of increasing impulse buying is through advertising. However, there is limited empirical evidence evincing the influence of advertising appeals on impulse buying. Advertising expenditures often are huge, and impulse buying accounts for large sales volumes. However, it is surprising that there is little work relating the two constructs.

Specifically, past research has not focused much on proposing which advertising appeal is most suitable for impulse buying. Our research tried to fill this gap.

Most recent research in advertising has reported various kinds of appeals such as humor, scarcity, sex, fear, disgust, nostalgia, and celebrity. The variation in advertising appeals stems from the fact that different advertising appeals can have significant influences on customers' preferences. Many firms change their advertising appeals to trigger specific behaviors among customers. Based on this requirement of marketers and advertisers, we started our investigation to understand which advertising appeals are best suited to enhance impulse buying and what is the underlying working principle of those appeals to be effective to enhance impulse buying.

While investigating various advertising appeals through a systematic literature review, we came across incongruity-resolution theory of humour which states that humor leads to anticipation of enjoyment. Further, impulse buying literature has suggested that anticipation of enjoyment from a particular product may lead to impulse buying. Based on these evidences, we hypothesized that humor appeal enhances impulse buying and anticipation of enjoyment mediates the positive relationship between humour appeal and impulse buying. We chose food as a product category to empirically test these hypotheses. The motivation to choose food product category for our research was based on the fact that impulse buying is most common in food product category and therefore it is a necessity for marketers to understand which advertising appeal is best suited for them to enhance impulse buying of food products.

To test our hypotheses, we conducted a laboratory experiment in which we chose chips and lassi as products to test our hypotheses. We chose two real television advertisements (high versus low humor) for each of the two products (Snapshots of Bingo chips advertisements are presented as examples here in figure 1 and figure 2). The participants were randomly assigned to one of the four groups (chips – low humor, chips – high humor, lassi – low humor, lassi – high humor) and respective advertisements were shown to them and then, they were instructed to fill up the questionnaire capturing their impulse buying and anticipation of enjoyment based on the pre-established scales in the literature. The results revealed that humour appeal enhanced impulse buying for chips, however, not for lassi. We then tried to assess these results based on few evidences from past literature which has suggested two broad food product categories: Vice and Virtue.

Vice products provide immediate gratification and tend to be less healthy while virtue products are healthy and offer long-term benefits, even if they may not offer immediate gratification. Results of our first experiment showed that humor appeal enhanced impulse buying in vice products through anticipation of enjoyment. When consumers see a humorous advertisement, they anticipate enjoyment from the products or services being advertised. This feeling of positive affect makes the consumers look at a bigger picture and lower their attention on specific goals. Therefore, possibly because of the inherent tempting nature of vice products, the anticipation of enjoyment created by humor appeals is sufficient enough to enhance impulse buying. However, in case of virtue products (as these products are associated with more deliberate thought process), the anticipation of enjoyment created by humor is possibly not sufficient enough to undermine the impact of deliberate thought process. Therefore, enhancing impulse buying in virtue products requires an advertising appeal that could possibly suppress the deliberative thought process associated with virtue products.

Customers are becoming more health cautious and preferring healthier (virtue) products. Share of healthy food products in shopping basket is increasing day by day. Therefore, it becomes crucially important for marketers to know about advertising strategies which can enhance impulse buying for virtue products. Therefore, based on this need, our research further investigated which advertising appeals would work better to enhance impulse buying for virtue products.

Our thorough literature review of scarcity appeals suggested a positive relationship between scarcity appeal and impulse buying in case of virtue products. Reactance theory of scarcity suggests that if an individual's freedom is threatened, he/she experiences psychological reactance which is a motivational state directed toward safeguarding a person's behavioural freedom. This motivation, in turn, leads to an intensified desire to engage into the restricted behaviour. Based on this theory, our research proposed that when a person sees scarcity advertisement, it leads to perception of uniqueness. Perception of uniqueness or sense of exclusivity leads to impulse buying. As virtue products are not inherently tempting, a person wants to depict himself/herself as fitness conscious in the society. This leads the person to feel unique. Therefore, in case of virtue food products, the perception of uniqueness caused by scarcity appeals should be more as compared to vice products that ultimately leads to higher impulse buying. Therefore, we predicted that scarcity appeals would enhance impulse buying of virtue products, however not of vice products. We again conducted a similar laboratory experiment by designing two sets of advertisements (scarcity: high vs low) for cream biscuits (vice) and oats cookies (virtue) as products. The results of this experiment showed a positive relationship between scarcity appeal and impulse buying for virtue product (oats cookies), however not for vice product (cream biscuit). Perception of uniqueness also played a significant mediating role in the relationship.

In a nutshell, our research suggested that brand managers of vice food products such as ice-cream, chips, chocolates should consider using humor appeals and those of virtue food products such as buttermilk, oats cookies, healthy aata noodles should consider scarcity appeals for advertisement. **Mirth for Vices and Dearth for Virtues!**

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Figure 1: High Humor Video Advertisement for Bingo Chips Screenshot

Figure 2: Low Humor Video Advertisement for Bingo Chips Screenshot

**DISCOVER INDIA
PROGRAM**

Tourism in Daman: Two Sides of the Same Coin

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Daman, the capital city of the union territory of Dadra and Nagar Haveli and Daman and Diu (DNHDD), has a rich culture and heritage. For long a small sleepy fishing village, it became a melting pot of diversity over 400 years of Portuguese rule. This multicultural nature of the city made it an attractive subject for us for our Discover India Project. In addition, our preliminary research had made us aware that the local Damani government had been trying to develop the tourism sector in Daman for over two decades, and this, we knew, would have had multifaceted effects on life in Daman. Because of this, we chose our theme to be the impact of recent tourism development on Daman.

The most attractive parts of Daman for tourists are its historically Portuguese-influenced culture, the low cost of liquor and other products sold there compared to its neighbours such as Gujarat and Maharashtra, and its long coastline, which provides great potential for water sport activities, beachside shacks and hotels. Our initial research indicated that the last few decades have seen Portuguese culture dwindle in Daman. This has led to a lack of preservation of many monuments, which has had a detrimental effect on tourism, causing a further lowering of the economic status of the residents. The unfortunate result has been a further erosion of Daman's unique culture, thus forming a self-perpetuating, vicious cycle. We knew, therefore, that the economy and the culture of Daman were inextricably intertwined, and were both impacted by the recent decades' focus on tourism development. In addition, we realised that recent development would also have had a significant effect on Daman's standout environment – its beaches, water, soil, coastline and vegetation. Therefore, we divided our project into three sub-themes: the impact of tourism development on the **Economy**, the **Culture**, and the **Environment** of Daman. We divided ourselves into three subgroups to handle these sub-themes respectively.

We wished to take the perspectives of both the citizens and the government into account, using both quantitative and qualitative methods. Through the use of a Likert Scale and questionnaires, we surveyed shopkeepers and vendors across the two subdivisions of Daman – Nani ('Small') Daman and Moti ('Big') Daman – to take their opinions about the growth or decline of the **economy** into account. Our results indicated a net positive opinion of Daman residents on the effect of tourism on the economy. The method of t-testing showed there to be no significant difference between the economic development in Nani Daman and Moti Daman. We were also interested in whether the renewed focus on tourism in the last two decades has affected the citizen welfare schemes of the local government. To determine this, we analysed the budgetary allocations for Education, Healthcare, and Tourism for DNHDD (from 2019-2022) and for Daman and Diu (from 2010-2019), as provided in the annual "Demands for Grants" published by the Ministry of Finance of India. We compared these budgetary allocations with the corresponding figures for Lakshadweep, another union territory. A detailed analysis revealed that DNHDD prioritises Education, Healthcare, and Tourism in that order. In all these three sectors, the percentage allocation for DNHDD (or Daman and Diu) had grown over time, and the focus on tourism had not negatively affected the budgets for Education and Healthcare. However, for each sector the percentage of the budget allocated was less than the corresponding figures for Lakshadweep.

Significantly, the residents of Daman expressed little dissatisfaction about the relatively low spending (vis-à-vis that for a comparable union territory like Lakshadweep) on Healthcare and Education. In contrast, they seemed highly satisfied with the development of the union territory, particularly with regard to educational facilities, and detailed interviews with government officials, such as Mr. Arun Gupta (Tourism Director and Chief Officer of the Daman Municipal Council) and Mr. Mohit Mishra (Deputy Collector of Daman) reinforced the idea that tourism development would continue in full force, with full support of the local population.

A place's **culture**, in contrast to its economy, is an elusive aspect to precisely characterise. Our study of this facet of Daman was rooted in qualitative questionnaires and interviews. Detailed thematic analysis and other testing methods that we used revealed that hotel owners and shopkeepers in Daman have started prioritising tourists more over the last few decades. They have started accommodating the various palates that walk through their doors, and their interactions with tourists have also become easier over time. However, the focus on tourism has had the unfortunate – if unsurprising – effect of disrupting the laidback nature of the place. We heard from multiple residents how the city's culture had been "destroyed", and how life had become a "rat race".

Another big point of concern and regret among the local populace was the mass emigration of many Daman residents to the United Kingdom. This was common among erstwhile Daman residents who were born before 1961 as they were eligible for European passports, and the shifting economic fortunes of Daman in the last few decades motivated many to emigrate to Europe. The decline of Daman's Portuguese culture may have occurred anyway, but this emigration over the last few decades has served to expedite this unfortunate phenomenon. The decline of Portuguese culture in Daman has also led to some conflicts with regard to the observance of religious holidays, such as the recent ban by the government on the Good Friday holiday celebration. This was opposed vociferously by the Christian residents, resulting in the government having to reinstate the holiday. This is an aspect that has potential for future discord and bears watching.

The **environment** of Daman has been affected by its slow transformation, since freedom from Portuguese administration in 1961, into an industrial hub. To study the present state of Daman's environment and the changes in it over time, particularly under the push for tourism in the past decade, we relied on several methods. These included published water-testing reports, interviews with residents, government officials and tourists, and analysis of satellite images of Daman employing the Land Use Land Cover (LULC) classification, which comprised primary research for us.

We found that while the industrial run-off into the Daman Ganga river and off the coast of Daman led to adverse effects for the aquatic ecosystem of the region, in recent years the government has cracked down upon such pollution, since the sight of factories across a dark, murky coastline is a hard sell for visitors. Environmental protection policies have been implemented and organic agricultural practices have been encouraged by handing out subsidies and low interest loans to local farmers. Stricter enforcement of policies across factories has been supplemented by mangrove plantation along the Daman Ganga river, lining both halves of the city with a dark green border on one side. These plantations are the most apparent from satellite images taken between 2014 and 2022. LULC analysis of these images also makes the rapid urbanisation of the city evident.

Daman is a beautiful, multifaceted city that has for some time now been working towards bettering itself. Our interactions with the stakeholders involved – residents, tourists, and government officials – and our analysis of the historical record in various forms indicated to us that there is, on the whole, a level of trust between the government and the citizens. This portends a hopeful future for the place, and suggests that the promotion of tourism in the city, if handled wisely, may continue to improve its economy while revitalising its culture and environment.

On the personal front, this research project into Daman's development was a highly enriching experience for us. It taught us about the manifold aspects of conducting research and also enabled various social and cultural interactions that provided valuable lessons for our personal growth.

Interview with the Deputy Collector of Daman, Mr. Mohit Mishra. Office of the Collector and District Magistrate


LULC classification of Daman in 2014 (left) and 2022 (right). Blue, red and green pixels denote water, built-up areas and vegetation, respectively. The pictures indicate a significant growth in mangrove forests along the Daman Ganga river between 2014 and 2022, as well as increased urbanisation in Moti Daman.

The neglect of Daman's tourism efforts. Moti Daman

Daman's infrastructure development. Devka Beach
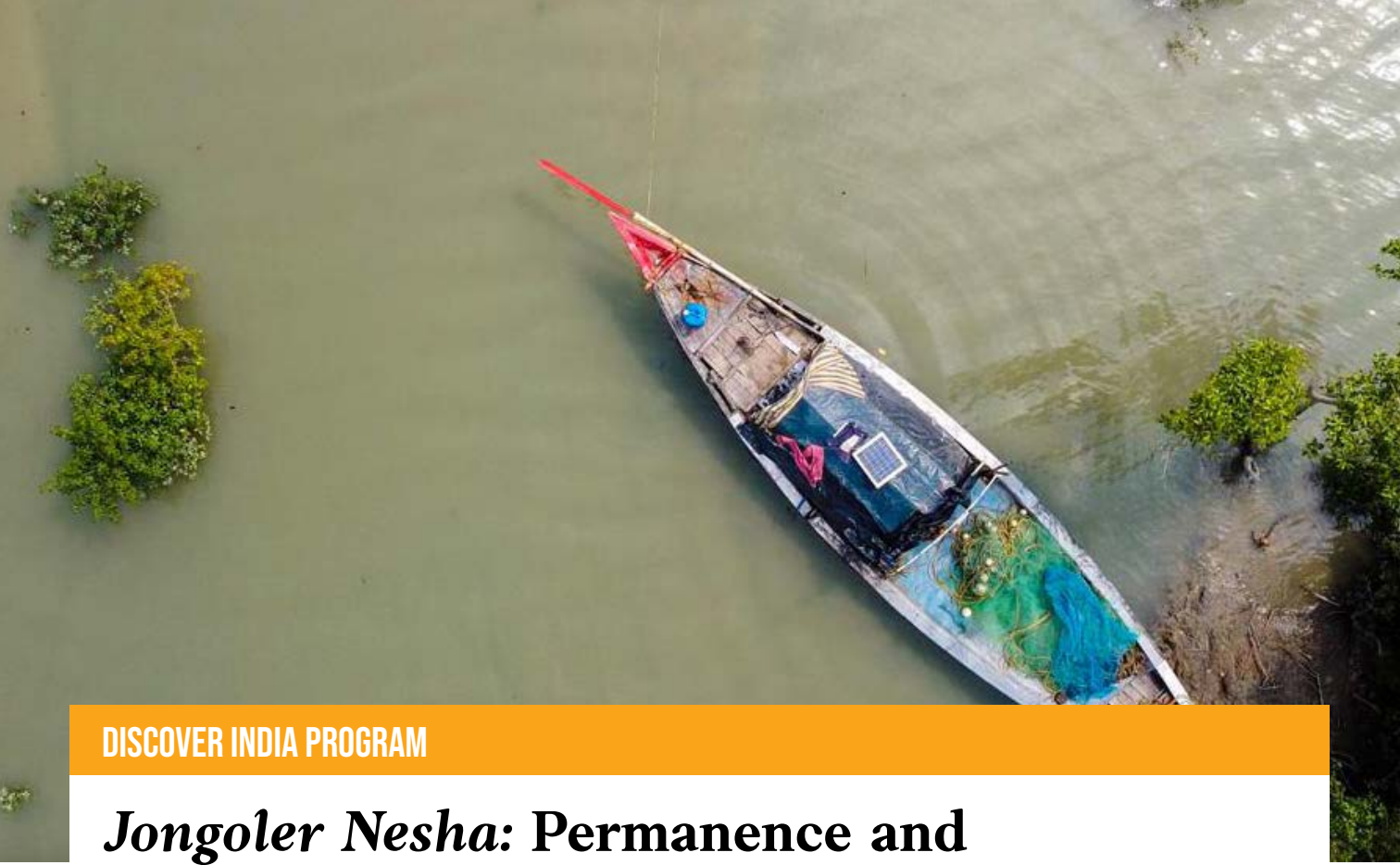
Jongoler Nesha: Permanence and Transformation in the Sundarbans, West Bengal

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Our project titled 'Jongoler Nesha: Permanence and Transformation in the Sundarbans, West Bengal' explores questions of gender, ecology, religion, cultural identity, and community life in the Sundarbans. Our broad goal was to understand what drives this community to venture into the jungle, as a means of livelihood, and how factors such as gender, faith and the State play a role in the act of 'doing the jungle', to use anthropologist Megnaa Mehta's coinage, amidst the changing climatic conditions in the Sundarbans. Given the nature of our research questions, we chose to rely on an ethnographic mode of inquiry for this project.

Over the course of our six-day ethnographic journey in Jharkhali – our research site in the Sundarbans – involving interviews of men and women who 'do' the jungle, state officials in charge of enforcing government policies, hotel employees, tour guides, and farmers, we were able to appreciate the intricate ways in which the lives of the people were both sustained and threatened by the jungle. Most men and women in this region are either fisher folk, crab collectors or honey collectors – activities that are all heavily reliant on the mangrove forest. The mangroves of the Sundarbans are also home to the Royal Bengal Tigers, in addition to supporting a diverse ecosystem.

We were able to explore the phenomenon of *jongoler nesha* or an 'intoxication of the jungle' that the men of this region experience – our most novel finding in the field. This affinity for the jungle defined the lives of the men, who went there looking to provide for their families. While they braved the dangers of the jungle, in the form of tiger and crocodile attacks, they also found tranquillity in the jungle – a kind of peace that made them want to keep going back there. Their pull towards the jungle, of course, stemmed from a need to provide and survive the hardships of living near the mangroves, yet there was something

more to it than simply that! *Jongoler nesha* was a pivotal discovery in our research process and it would not have been possible for us to arrive at it without our chosen methodology. It allowed for this project to be unrestricted and let the field speak to us – we were able to use emic categories to make sense of the lived experiences of the people who had opened up their worlds to us.

It is through this project that we were also able to appreciate the process of fieldwork and the hierarchies that are at play. The nature of these communities' lived realities is often exoticized in our eyes, their life events appear to be 'out of the ordinary'. While understanding this hierarchy of 'who gets to research whom', this study allowed us to unpack the role of caste and its festering presence in our society. Although we do not explicitly explore the caste question in our research, we were able to critically link it to the complex history of this region, the activities members of this community pursued, and their relationship with those in power. We understood that this hierarchy of caste dictates who gets to own land, have access to funds (both familial wealth and government funding), and 'permanent' jobs. Even in the short duration of six days, we could clearly see the role played by caste in shaping the region's social history and its structures of social organization, and how, in turn, both of these have cemented a lopsided relationship that Sundarbans and its people have with the State as well as with the mainland.

This project has allowed us to be critical of the things we see in our own lives and use filters of gender, class, caste, and religion to understand our own society. We understand the phenomenon of *jongoler nesha* as an adaptation by the community in the Sundarbans. The Bengali word, *nesha*, literally translates to 'addiction'. However, an 'addiction' to the jungle does not function in the way that an addiction to substances does; this 'addiction' stems from necessity and adversity to secure one's and one's family's survival. It is the adaptation of society to the unchangeable obstacles they face in their lives, and in the case of the Sundarbans, *jongoler nesha* is a way of adapting to 'doing' the jungle and fighting off tigers and crocodiles for a living. *Jongoler nesha* showed us how this community's everyday life is dictated by unsaid ways of being. At the end of our project, we had more questions than answers and these questions go beyond the communities of the Sundarbans. It makes us question our own lives in this urban atmosphere: what pulls us to do what we do for a living? What are the unsaid ways of being in our lives that we willingly follow? What are our 'addictions' that keep us from falling apart?

We would have never imagined engaging in this form of inquiry if not for this Discover India Program (DIP) project. Classroom learnings only take you to an imaginative reality, while fieldwork reveals a complex reality filled with hierarchies and buried truths. Understanding these complexities takes more than six days on the field! However, our ethnographic research allowed us to be open to unanticipated complexities throughout our research. Through this journey of DIP, I have realised that it is more important to ask the right questions than find answers, as these questions open the possibility of a new perspective to look at the world around us.

CENTRES AT FLAME UNIVERSITY

CEPP - Bridging Economics and Public Policy

PROF. CHAITANYA RAVI
Assistant Professor, Public Policy

PROF. RESHMI SENGUPTA
Associate Professor, Economics

India's ambitions of becoming a developed country and a major power in the world will require it to overcome several challenges at the intersection of economics and public policy. These problems include jobless growth, corruption, climate change, risk of war with hostile neighbors, high disease load, persisting poverty, malnutrition, domestic violence and disruption caused by emerging technologies etc. To combat such challenges, the Indian government will need to pursue nuanced policies in the environmental, defense, social welfare, taxation and technology domains that are underpinned by rational cost-benefit analyses. Additionally, such policies will also need to display a sophisticated understanding of various stakeholders, the political milieu, institutional structures, available resource base, implementation modalities and evaluation mechanisms.

Given the complexity of the aforementioned challenges and the government's mandate to focus on day-to-day governance, the analyses that underpin nuanced solutions to such problems will have to come from India's vibrant ecosystem of universities, think-tanks and NGO's. The Centre for Economics and Public Policy (CEPP) at FLAME University endeavors to be a major node of expertise in the Indian policy ecosystem on issues at the nexus of economics and public policy.

The Centre's primary aim is to build up the knowledge base on issues at the intersection of economics and public policy through faculty seminars, collaborative grants, white papers, student-led research, invited lectures, workshops, documentary screenings, conferences, and invited expert-authored articles. The Centre's mission also requires it to become a forum of choice for interactions between students, faculty, state policymakers, researchers, and NGOs to provide rigorous and policy-relevant analysis of contemporary problems.

The Centre successfully executed a wide range of outputs in academic year 2022-23 consisting of op-eds in agenda-setting newspapers, 2 published research papers, 1 industry whitepaper, 3 workshops, 5 invited talks, 1 flagship conference, 1 book launch, 2 documentary screenings and 2 research proposals for Corporate Social Responsibility (CSR) funding. The issues focused on by the aforementioned outputs included unequal development, global health, caste-based school segregation, anemia eradication campaign (Anemia Mukt Bharat), improving MSME competitiveness, human rights, migration, ageing and alcohol policy.

The Centre has also managed to finalize and implement constructive partnerships with organizations such as the Indo-American Chamber of Commerce, the Centre for Land Governance (CLG) and the Indian Health Economics and Policy Association (IHEPA) resulting in an elevation in its visibility in the media and academic realms. The Centre is currently pursuing projects on diverse issues including health insurance reform in India and Small Modular Reactors (SMR's) and the insights from such projects are aimed at contributing significantly to the public policy discourse in India.

The Centre has also chalked out an expansive agenda for the current academic year which increasingly focuses on dashboard construction for key policies, dataset visualization, sophisticated policy evaluation using policy trackers and establishment of a health policy lab. Planned deliverables also include a flagship annual health policy conference, a pre-conference workshop on health policy, training programs for government bureaucrats, establishment of a journal with a distinct ISBN, summer school opportunities for students, creation of vacancies for research associates and cultivation of relationships with renowned corporates.

Interested faculty from the FLAME community can contribute to the Centre's aforementioned agenda in several enriching ways. They can apply for Centre funding for projects at the confluence of economics and public policy. They can also propose invited talks, workshops, seminars, book launch events and conferences for incorporation into the Centre's agenda and request for the Centre's assistance with logistics. The Centre is particularly interested in expertise pertaining to the technical and design aspects for the construction of visually appealing and easily comprehensible dashboards that can help visualize the scale, scope and progress on key policies for policymakers. Interested faculty can also point the Centre to existing grants and grant-making organizations and collaboratively apply for the same with the Centre's research assistant helping in an important secondary capacity to write and submit the grant proposals.

The CEPP is also a strong supporter of pragmatic and constructive collaboration with other Centres at FLAME University based on convergence of thrust areas and views such cooperation as a force-multiplier for its aim of becoming an influential repository of expertise on matters at the intersection of economics and public policy.

The Centre also seeks to involve more students from the undergraduate and postgraduate programs at FLAME in its activities to provide them exposure to cutting-edge research outside the classroom. Envisioned roles include helping out as project assistants to enable completion of key projects, playing a leading role in organizing events and consenting to the publication of their assignments and research articles on the Centre's website. The display of op-eds, research papers and policy briefs authored by students on the Centre's website is an emerging priority of the Centre with the aim being to provide much-needed visibility for student activities in a manner which would help their careers and attract a new generation of bright students.

"Demystifying Democracy" FLAME Centre for Legislative Education and Research

PROF. MAYA DODD
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PROF. SHIVAKUMAR JOLAD
Associate Professor, Public Policy

MS. SAUMYA GUPTA
Fellow at Centre for Legislative Education and Research

In Collaboration with PRS (Parliamentary Research Service) Delhi, FLAME University has founded the Centre for Legislative Education and Research in October 2021, with an aim to promote knowledge of the Indian democratic process and on how laws are debated and enacted. The FLAME Centre for Legislative Education and Research promotes and hosts various events and activities throughout the year to encourage legislative education and provide a platform for future innovations. Built around the principle of free and open sharing of data and information, the FLAME Centre for Legislative Education and Research strives to provide access to open-source information about the Indian legislative process to all who seek it and to build capacity for citizen engagement.

Guest Speakers

As we emerged from the pandemic, in the year 2022-2023 we hosted a guest course on legislative issues with ex-Rajya Sabha MP, Vinay Sahasrabuddhe Guest in-person sessions were held with scholar Aakash Solanki on how the Niti Aayog gets its data, and with Prof. Kalaiyarasan on his book The Dravidian Model. Despite having held a zoom course on "Legislative Basics" taken by 80 students in 2022, the spirit we saw during the in-person Mock Parliament for Pune city was much more exciting, with over 100 participants coming to campus from all over Pune city.

Mock Parliaments

To embody the process of law-making through performance, the FLAME Centre for Legislative Education and Research conducts multiple rounds of Mock Parliaments to promote awareness and interest regarding Indian Politics and policy-making procedures. Students are given an opportunity to experience the policy-making process and the underlying theoretical and practical aspects with a key focus on the Indian context. In March 2023, a mock parliament was held as a collaboration between the Centre and PRS and the event drew over 100 students, divided into 25+ teams across 10 fields of study, including law, commerce, engineering, and liberal arts, and from different institutes and colleges in Pune. Through the mock parliament, the students demonstrated their understanding of the legislative process. Conducted in English, Hindi, and Marathi, the event gave young ambitious minds an opportunity to take on the roles of legislators, ministers, and the Speaker, showcasing their skills and knowledge to better comprehend the workings of the Indian parliament. After breaking the ice, the Fields of View game, "Solemnly Resolve", gave students an opportunity to understand the constitution's various provisions, and the PRS-led Parliament Bootcamp provided them with the information and skills necessary to engage effectively in the mock parliament. The second half of the day witnessed racy debates, starting with question hour, followed by resolution discussion and voting on universal basic income. The event culminated in bill discussion and voting on the Data Protection Bill. We hope to repeat these events all across India in the months to come. Since 2024 is an election year where several students shall be first time voters, we deem such awareness as vital.

Innovation Showcases

"Accessing Democracy" is FLAME Centre for Legislative Education and Research's inaugural conference. Through this, we aimed to give a platform to people who were key to the legislative sector in India. The Conference aimed to bring together specialists from the fields of law, governance, technology, and policy to provide a unique perspective that draws on the urgency of public engagement with legislative issues, especially from younger audiences. An aspect of key importance to the Centre was to uncover and help propagate the truly innovative advancements happening in civic technology. Towards this, the conference aimed to showcase innovations in public accountability and engagement and bring awareness about significant advances in this field. As an initiative to bring together scholars and students, the event broadcasted the substantial efforts in India to further public engagement with the workings of government and build an understanding of the processes of research and data creation that are taking place in a digital public context. The hybrid Conference brought the conference to engage directly with younger publics and showcased innovations in the space of civic technology by inviting participation from organisations such as HaqDarshak, Digital Empowerment Foundation India, Aapti, Janastu, Indian School of Democracy, Swaniti, Civic Data Lab, Netri and more.

In a time of a digital public sphere, the conference emphasizes inclusivity and open access in India by throwing a light on:

- Adapting digital tools to address specific challenges in accessing data
- Digital and archival practices for the preservation of legislative history
- Bringing legislative education to the Indian classroom
- Developing civic pedagogy for India

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FLAME University organises Mock Parliament

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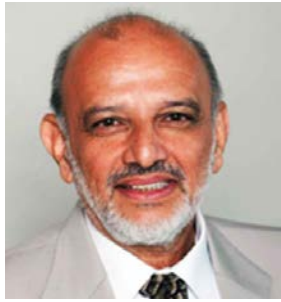Assistant Professor - Psychology at FLAME University

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