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Multi Disciplinary E Journal of Research

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# Research Genius E Journal ISSN 2456-1002

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# **Editor's Column**

The blast of knowledge at the universal hut due to scientific dynamics has without doubt redefined the very concept of new Era. The main set-up of education especially higher education-has become a subject of study and scrutiny for the scholars and practitioners who have a hunger desire to face change and challenges. It is because we, the creature beings, are brilliant with the faculty of option and a liberated will.

Unlike other type, we are not planned. We can make choices and use our free will to act and get our objectives. Inequities in learning opportunities, quality of educational military and level of learning success persist by gender, rural/town locality, ethnic backdrop, and socioeconomic status.

The quality of education and the aptitude to define and monitor this quality is absent in most upward countries. The means and span of education continue to be fine and curbed to past models of delivery, and the use of other channels continues to be informal and subsidiary. The increase in quantitative and qualitative demand for education is not in step by an raise in funds.

At this point in time, it is safe to situation that the split of views on the risk of change is marvelous. We, the publishers of Research Genius E Journal, are very much eager to view some aspect of these changes through academic article contributed by impressive scholar and social group. The nearby issue contains papers with decisive coming and scrutiny as well as orderly argument and reflection on various theme of language, prose, information technology, commerce and so on. We trust this will positively be helpful for the community who desire transform.

# **Chief-Editor**

Dr. Mohanlal K.Patel I/C Principal

Research Genius E Journal JUNE :- 2024, VOLUME-8, ISSUE-15

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# लोकतंत्र में रामकाव्यकी प्रासंगिकता डॉ.कल्पना आर.पटेल श्री कलजीभाई कटारा आर्ट्स कॉलेज, शामलाजी

भारत विश्वभरमें सबसे बडा लोकतंत्र देश है। भारत देश की ओर पूरा विश्व एकमहासत्ता के रूपमें देखताहै। विविधता में एकता' यह भारतकी विशेषताहै। बहुभाषी, बहुधर्मी, बहुजाती, बहुरुपी, बहुबीजी, बहुदर्शी, बहुकला, देशहै। प्राचीन कालसे हि भारतका अपना एक महत्वहै। लेकिन आज हम देखते है कि, भारत वर्ष के सभी क्षेत्रोमें, असंगति तनाव, टुटतापन, मिथ्याचार, दुराचारअनाचार, व्यभिचार, बनाव, ढोंग, जनसंख्या, कुपोषण, खुदखुशी आदि स्वाधिनता के बाद बढ़ते ही जा रहे हैं। इससे ऐसा लगताहै कि मानत अमानवीयकरण में लगा हुआहै, नैतिक तथा सत्यमूल्यों का हास होते हुए नजर आ रहा है पारिवारिक विघटन, समाज तथा भाईबंदो की जलन प्रवृत्ती लिखाई दे रहीहैं।

वर्तमान भारतीय परिवेशमें मध्यमुगीन भक्तिकाव्य की आवश्यकता जितनी आजहै उतनी इसके पूर्व कभी नहीं रहीं अतः उसका मुल्य तथा महत्व और बढ़ गया है। हमारा आज का भारत वर्ष अनेकानेक समस्याओंसे ग्रस्त है।

मानवीय अस्तित्वके लिए वर्तमान भारतीय परिवेश अत्यंत संकटग्रस्तहै यथार्थ के नाम पर बीभत्स, आदर्श के नाम पर अनादर्श तथा सत्य शिव एंव सुन्दर के नाम पर असत्य अशिव एवं असुन्दर के रुपको आज हम देख रहे हैं।

राष्ट्रीय एकता की दृष्टी से आज देश के सम्मुख विघटनकी ज्वलंत समस्याहै। विघटनके लिए प्रयुक्त आतंक की भी एक पृथक भीषण समस्या है: वर्तमान समाजमें देशके सामने अनेक समस्यायें है जिनका संबंध सरकार और राजनीती से है। वर्तमान समाजमें पारिवारिक, सामाजिक, शैक्षणिक, धार्मिक, आध्यात्मिक सभी क्षेत्रो निधडक, निसंकोच मिलावट, दिखाई दे रहा हैं। आज की राजनीती जन सेवा का माध्यम न रहकर शक्ति और अर्थसंचय का साधन बन गई है। सरकार और राजनीति को जनहित दी और मोडना जे ई आसान काम नहींहैं। इसके लिए सतत सामुहिक प्रयत्नकी आवश्यकता है।.

आजका युग वैज्ञानिक युग है, यंत्र युग है, विज्ञान के बढ़ते हुए चरणने हमारी पुरातन मान्यताओं को ध्वस्त कर दिया है, हमारे आलोक पर भितराघात किया है। भक्ति कालमें हिंद के सर्वश्रेष्ठ किव गोस्वामी तुलसीदास के रामभक्ती का अपना विशेष स्थान रहा है। तुलसीदास जनजीवन के जितने बिकट थे. उतना शायद ही कोई संत या भक्त किव रहा होगा। तुलसी समस्त काव्य समाजोन्मुख रहा है। आ. शुक्लजी ने इसी कारण गोस्वामी तुलसीदास को महात्मा बुद्ध के बाद का सबसे बड़ा लोकनायक बताया है। उनका समस्त कव्य समन्वय की विराट चेष्टा माना जाता है। समन्वय करना अर्थात दो या दोसे अधिक भिन्न तत्वों में निम्नत्वका उनमें एकरुपता स्थापीत करना सवर्ण दिलत जैसी विषमता तो प्राचीन थी, लेकिन स्वयका समझनेवाली जातियोंमें भी भयंकर मतभेद, शत्रुत्वकी सीमा तक पहुँच गये है। एसा स्थिता तुलसी का समन्वय वाद हमे मार्गदर्शन कर जीवन की सही दिशा दिखलाताहै। तुलसीदासजीने प्रभु रामको जो क्षत्रीय होते हुए भी किरात तथा केवटके मित्रकेरूपमें प्रस्तुतिकयाहै, विशिष्ट तथा विश्वामित्र जैसे ऋषियोंको किरातकी प्रशंसा करते गले मिलते चित्रित किया है।

आज के युगमें शासक वर्ग अपने सुख समाधानमें व्यस्त है, लेकिन सामान्य प्रजा अपना जीवन कष्टमय बिता रहीहै, सामान्य व्यक्ति न पुर्णतः सुरक्षित है औ रन आशादायी है। आज सामान्य मनुष्यका जीवन बिलकुल डोलायमानहै, गरीब मनुष्य गरीब होते हुए दिखाई देता है और अमीर-अमीर हुये दिखाई देता है। गोस्वामीजी रामराज्यमे प्रजा और राजामे अनन्य संबंध बतलाया है, जिस राजा के शासनमें प्रजा पीडित है, परेशान है, वह शासक नरक का अधिकारी है,

# जासु राज प्रिय प्रजा दुखारी

# नेसोनृपअवसिनरकअधिकारी।

तुलसीदासने राजनीतिक दृष्टिको न सामने रखकर रामराज्यकी कल्पनाकी है तथा प्रत्येक व्यक्तीको अपने कर्तव्य तथा अधिकार के प्रति सजग कराया है। लोकतंत्र तथा प्रजातंत्र किस प्रकार का होना चाहिए राजा प्रजामें समन्वय भाव रहना चाहिए। इसी आदर्श लोकतंत्रकी कल्पना तुलसीने दि है जो प्रजातंत्र आधुनिक प्रजातांत्रिक प्रणालीसे कही अधिक लोकमंगलहै। तुलसी जिसयुगमें जन्मेथे वह युग नैतिक, धार्मिक, सांस्कृतिक, आर्थिक सभी रुपोंसे कलिषत था। सामान्य जनता तथा समाजके सम्मुख कोई ऐसा उच्चादर्शन ही था जो समाज को सदमार्ग बता सके। समस्त समाज विलासित, अकर्मन्य तथा दिशाहीन हो गया था। यहि स्थित आज के आधुनिक समाज की भी है। तुलसी ने उस भृष्ट तथा पंगु समाजके बीच अवतीर्ण होकर शक्तीशील, सौंदर्यसे समन्वित साक्षात ईश्वरके साकार रुप रामकादेदीप्यमान जीवन चरित्र लोकजीवन के धरातल पर प्रतिष्ठित कर उच्चादर्शकी स्थापनाकी थी। राम, सिता, लक्ष्मण, भरत, हनुमान जैसे महान चरित्रोंकी अवतरणाकर तुलसीने समाजको समाजशास्त्र, लोकशास्त्र और चरित्र संबंधी नये आदर्श दिए है। आदर्शपत्र, आदर्शपति, आदर्शपत्नी, आदर्शभाईओ आदश सेवक के उज्वल चित्र देकर जीवनको उच्च बनानेकी स्फुर्तिदायक प्रेरणादी है।

# Adjustment Of School Students Specific reference to Gender and Habitat

# - Dr. M.A.Kathiyara

# Shri S K Shah & Shri Krishna O M Arts College, Modasa

# Abstract:

Adjustable behaviour require in new era. Boys and Girls behaviour should be adjustable. So I want to check the adjustment of boys and girls. I have taken 120 sample. I used purposive samplig methods. Gender and Habitat are independent variables in this research and used appropriate statistical methods for analysis.

Key words: Adjustment, Gender, Habitat

# INTRODUCTION:

In today's era, it is essential for students to have the ability to adjust because if they are unable to adjust to their surrounding environment, it will be difficult for them to develop. It is mandatory for the student to make adjustments in his family, school and job. If the student does not make adjustments in the social, economic, moral, sexual etc. areas of the world, then maladjustment will arise in him. This maladjustment. It will lead students to mental imbalance. Due to which the risk of mental illness in the student increases to a great extent in old age. The more a student develops, the more his country will also develop. Therefore, it is important for student to have good mental health. The maladjustment that arises from adjustment has a detrimental effect on the mental and physical health of the student. For this reason, psychological measurement of student's adjustment should be done. And based on the results obtained, those whose adjustment is not good should be advised and guided to improve their adjustment. From the adjustment exercises conducted by psychologists, it has been revealed that the adjustment of girls is better than that of boys.

#### Review of related literature:

According to Alam, M. (2017), there was a statistically significant difference in the emotional, social, and educational adjustment scores of adolescents from nuclear and combined families. adjustment. According to Peerzada (2013), scientific instructors exhibited fewer transition issues than social science teachers. The study conducted by Sekar, A. J. (2016) demonstrated a noteworthy correlation between the academic accomplishment of higher secondary school pupils and their emotional, social, and educational adjustment. According to Peerzada (2013), scientific instructors exhibited fewer transition issues than social science teachers. According to research by Sekar, A. J. (2016), there is a substantial correlation between academic achievement and higher secondary school students' emotional, social, and educational adjustment.

PURPOSE:

The purpose of the research is to know whether gender and habitat have an impact on student adjustment or not.

## **HYPOTHESES:**

The gender and habits of the students have no impact on their adjustment.

# VARIABLE:

- (1) Independent Variable: Gender, Habitat
- (2) DEPENDENT VARIABLE: Habitat

### **METHODS:**

SAMPLES: I have included a total of 120 students from the school in my research. The gender and habitat of all students is different. I have included 60 boys and 60 girls in my sample. This sample is taken from Aravalli district of Gujarat state. I have selected my research sample from the population using puposive sampling technique.

### TOOLS:

In his research, to measure the adjustment of students, Dr. A.K.P. Singh and R.P. The student adjustment list composed by Singh has been used. , The adjustment list consists of 60 items. And this psychological scale is reliable and accurate.

# **DESIGN:**

Analysis of Variance has been used to analyze the data obtained by this modification. PROCEDURE:

The adjustment of all samples in the adjustment has been measured individually. All samples were given instructions before measurement. The information obtained from the samples was transferred to the data through the Manual of Student Adjustment Inventory. and

# **RESULT AND DISCUSSION:**

then performed statistical analysis of that data.

In the study, it was found that the adjustment of boys is better than that of girls. Apart from this, it was also found that the adjustment of village students is better than urban students. This research revealed that gender and habitat have an impact on adjustment.

#### REFERENCE:

Lehnar And Cube : Individual Adjustment of Psychology, second edition (1994), Tata Macgraw hill .

J.C. Kolmen: Abnormal psychology: (1982) TMH publication

# Traditional Banking vs. E-Banking: A Comparative Study Mr. Prajapati Jitendra Prahladbhail, Dr. Seema Hariramani2

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# **Abstract**

This analysis explores how banking is changing. It compares the familiar world of bank branches with the rapidly growing world of online banking. We'll look at the pros and cons of each, considering factors like convenience, cost, speed, security, and how well they can be tailored to individual needs. With technology constantly improving and people wanting more control over their finances, online banking is becoming increasingly popular. This trend promises to bring greater convenience, lower costs, more personalized experiences, and even better security for customers. In short, this analysis takes a broad view of how banking is evolving. It predicts a future where traditional and digital banking work together seamlessly, giving people more power over their money.

# Introduction

Traditional banking and e-banking are two different ways to access and manage financial accounts. Traditional banking involves visiting a physical bank branch to deposit or withdraw money, transfer funds, and access other banking services. E-banking, on the other hand, allows customers to access and manage their accounts online or through mobile apps.Both traditional banking and e-banking have their own advantages and disadvantages. Traditional banking is often seen as more personal and secure, while e-banking is more convenient and accessible.Traditional Banking.In an era dominated by digital finance, traditional banking, characterized by imposing bank structures and amiable tellers stationed behind gleaming counters, may evoke images of a bygone time. Yet, contrary to expectations, its physical presence continues to be indispensable for numerous individuals. Let's delve into the realm of traditional banking, examining its lasting allure and the reasons behind its enduring significance.

#### 1. The Human Touch:

In a world increasingly mediated by screens, traditional banking offers a human connection. Personal interactions with tellers and bankers provide a sense of trust and familiarity. For senior citizens, those unfamiliar with technology, or those who simply prefer face-to-face interactions, traditional banking provides a reassuring human element.

# 2. Comprehensive Services:

From opening accounts and applying for loans to cashing checks and notarizing documents, traditional banks offer a one-stop shop for a wide range of financial needs. Complex transactions, requiring detailed explanations and personalized guidance, are often best handled in person.

# 3. Security Blanket:

Physical branches offer a tangible sense of security for some. Vaults, security guards, and the sheer physical presence of a building can provide comfort, especially for those concerned about online vulnerability. Additionally, having important documents stored in a secure physical location provides peace of mind for many.

# 4. Financial Literacy Booster:

Visiting a bank branch can be a learning experience. Observing transactions, interacting with bank staff, and asking questions can foster financial literacy, particularly for young adults or those new to managing their finances.

# 5. Community Pillar:

Traditional banks are often deeply woven into the fabric of local communities. They sponsor events, support businesses, and offer financial services tailored to the needs of the community. This local connection fosters a sense of trust and loyalty, and helps individuals feel like more than just a number.

# **Challenges & Evolution:**

While traditional banking holds its own, it isn't without challenges. Branch closures, limited hours, and higher fees compared to online options can be drawbacks. Recognizing these limitations, many traditional banks are embracing digital technologies. They're offering robust online and mobile banking platforms, implementing self-service kiosks, and even establishing partnerships with fintech companies. This hybrid approach aims to retain the advantages of human interaction while offering the convenience and efficiency of digital solutions. Ultimately, the choice between traditional and e-banking is a personal one. Both offer distinct advantages and cater to different needs. Perhaps the future lies in a seamless blend of both, where the warmth of human interaction seamlessly blends with the power of digital innovation. However, there are also some disadvantages to traditional banking. Some of the most common disadvantages include:

# **❖** The Ticking Clock: Limited Hours in the World of Traditional Banking

One of the undeniable drawbacks of traditional banking is its limited operating hours. Unlike the 24/7 accessibility of online banking and ATMs, physical branches often adhere to a rigid schedule, leaving customers feeling like they're constantly chasing the clock to manage their finances.

# Picture this:

- You are rushing home from work to deposit a cheque before the branch closes.
- You need to withdraw cash for an emergency but the nearest branch is closed on Saturdays and Sundays.
- Scheduling an appointment with a financial advisor requires juggling your busy worklife with the bank's limited availability.

These scenarios, all too familiar to many, highlight the limitations of limited banking hours. Let's delve deeper into the impact this has on customers:

# 1. Reduced Flexibility:

Traditional hours can clash with busy schedules, making it difficult for working professionals, students, or those with family commitments to access essential banking services. This can lead to stress, missed deadlines, and even financial penalties.

# 2. Limited Opportunities:

Certain transactions, like opening a new account or applying for a loan, often require in-person interactions. Restricted hours can hinder these opportunities, especially for those who work unconventional hours or live in areas with limited branch access.

# 3. Diminished Control:

Feeling rushed to complete tasks within a limited timeframe can lead to hurried decisions and overlooked details. The relaxed atmosphere and personalized guidance often found in traditional banking can be compromised by the pressure of the clock.

However, Few Banks are trying to reduce the limitations by taking following steps:

- Recognizing the need for flexibility, many banks are extending their hours, offering latenight openings or even weekend service in some locations.
- Online appointment scheduling allows customers to book time with financial advisors or branch personnel at their convenience.
- Self-service kiosks and mobile banking apps are increasingly filling the gap, offering 24/7 access to basic transactions like deposits, withdrawals, and transfers.

While the convenience of extended hours and digital alternatives cannot fully replace the human touch of traditional banking, they offer a welcome solution to the limitations of the clock. The future of banking likely lies in a hybrid approach, where physical branches and digital platforms seamlessly blend to offer customers the best of both worlds: personalized service when needed and 24/7 access to manage their finances on their own terms. By embracing flexible hours and digital solutions, traditional banks can ensure that their customers are no longer slaves to the clock, but empowered masters of their financial well-being.

# **Breaking Down the Costs: Navigating the Fees in Traditional Banking:**

The nostalgic appeal of traditional banking with its physical branches does have its downsides, quite literally at times. While these in-person locations provide undeniable benefits such as personalized service and enhanced security, there's a hidden drawback – fees. These financial charges can swiftly erode your earnings, underscoring the importance of comprehending their complexities and skillfully manoeuvring through potential cost challenges.

# 1. Out-of-Network ATM Fees:

Going to an ATM outside your bank's group can be expensive. Each time you take money out, you might have to pay extra, making it feel like you're in a place where you shouldn't be. These fees can add up fast, especially if you like using cash or if there aren't many bank branches around where you live.

# 2. Navigating the Challenges of Wire Transfers :

Moving money quickly, whether it's to another country or within your own, comes at a cost. Wire transfers, the fast track of bank transactions, usually have high fees. These fees can change depending on how much money you're sending, where it's going, and how fast you need it to get there. When you need to send money in a hurry, the convenience might seem like an expensive necessity. On the other hand, the slower and cheaper choices may not always match your timeframe.

# 3. Unveiling Concealed Fees: A Closer Look at the Fine Print :

Traditional banks are experts at sneaky fees. Monthly charges for maintaining your account, demands for a minimum balance, and fees for overdrawing can silently deplete your funds. Even seemingly harmless actions, such as going over transaction limits or getting replacement checks, can result in unexpected costs.

# 4. Navigating Hidden Charges in Traditional Banking for International Transactions:

Taking your traditional bank account across international borders can become a financial challenge. Fees for foreign transactions, markups on currency exchange, and additional charges at ATMs can substantially increase your expenses when you're abroad. Travelers and individuals with international ties often encounter a maze of fees, turning budgeting into a delicate balancing act.

Navigating the fee maze of traditional banking requires awareness and vigilance. By understanding the charges, seeking alternatives, and adopting smart financial habits, you can ensure that your hard-earned money stays where it belongs: in your pocket.

# **❖** Dealing with Time and Space Hassles: Challenges of Traditional Banking

The traditional banking setting, featuring grand marble buildings and welcoming tellers, may give off feelings of stability and safety. Yet, for a lot of people, it also brings to mind scenes of waiting in long lines, dealing with traffic, and facing the discouraging "we're closed" sign. Inconvenience, the unpleasant downside of in-person banking, can transform a straightforward task into a time-consuming challenge.

# 1. Navigating the Geographical Challenges of Banking:

This is the situation for many individuals residing in rural areas or far from bank branches. The challenges of traveling can pose a significant obstacle to financial inclusion, leaving people without convenient access to essential banking services. Even in urban areas, the distribution of branches can be uneven, compelling residents to navigate through traffic jams and crowded commutes just to complete simple tasks like depositing a check or paying a bill.

# 2. Challenges in Time Management:

The operating hours of traditional banks frequently conflict with hectic routines. Working professionals, students, and individuals with family responsibilities may feel pressed for time, juggling work, errands, and the narrow window available to visit the bank. This time constraint can result in stress, missed deadlines, and potentially financial penalties. For those dealing with unpredictable schedules or unforeseen emergencies, the inflexible hours of traditional banking can seem like a challenging obstacle course.

# 3. Challenges in Overcoming the Digital Divide in Banking

Not everyone is adept at using technology or feels at ease with online banking. For the elderly, people with disabilities, or those unfamiliar with technology, the move towards digital banking can introduce an additional level of inconvenience. This digital gap can make many individuals

feel left out and reliant on physical branches, intensifying the difficulties related to travel and time constraints.

# 4. The Rise of the Digital Branch:

Several traditional banks are adopting technology by providing mobile banking apps, online platforms, and even self-service kiosks. Through these digital tools, customers can remotely manage their finances at their convenience, from any location.\

# **5.Branch Optimization:**

Banks are reconsidering their physical presence, establishing smaller branches in more convenient locations and extending operating hours in certain areas. This emphasis on accessibility seeks to narrow the divide between traditional and digital banking.

# **6.Partnerships and Collaboration:**

Traditional banks are partnering with fintech companies and other financial institutions to offer a wider range of services and expand their reach. This collaboration can provide customers with more convenient options and greater choice.

# 7. The Future of Convenience:

While the physical infrastructure of traditional banking presents its challenges, the future holds promise for a more accessible and convenient experience. The blend of digital tools, optimized branches, and innovative partnerships can pave the way for a banking landscape that caters to the diverse needs of all customers, regardless of their location, schedule, or technological comfort level.

Remember, your time and money are valuable. In the evolving world of banking, it's no longer about just finding a bank, but finding a banking experience that fits your life. By embracing new technologies, utilizing alternative options, and demanding convenient services, you can break free from the tyranny of inconvenience and take control of your financial journey.

# **❖** E-Banking – Advantages and Disadvantages

E-banking has witnessed a surge in popularity in recent years, owing to its numerous advantages over traditional banking. It liberates individuals from the constraints of time and space, breaking away from conventional norms. E-banking opens up a realm of financial freedom, providing round-the-clock accessibility to your bank, whether you're lounging on your couch or atop a mountain. This digital transformation in banking has not just redefined convenience but

bestowed customers with the ability to effortlessly manage their finances at any moment and from any location.

Following are the benefits of E-Banking.

# 1. The Rise of the Always-Accessible Bank:

In the digital realm, physical constraints vanish. E-banking platforms operate 24/7, every day of the year. There's no need to hurry before closing times or organize tasks around the bank's operating hours. Your financial matters are within easy reach, just a tap or click away, anytime and from any location.

# 2. The Worldwide Financial Navigator:

Geographical barriers lose significance. Through e-banking, handling your accounts and executing transactions globally becomes as straightforward as sending an email. Whether you're backpacking in Thailand or working remotely in Iceland, your bank accompanies you wherever you go.

# 3. Swiftness Is Crucial:

No more queuing to deposit a check or settle a bill – those days are gone. E-banking transactions occur at lightning speed, preserving valuable time and minimizing frustration. Urgently need to send money? A couple of clicks, and voila, it's completed.

# 4. The Empowerment of Self-Service:

In the realm of e-banking, you wield the power to be the architect of your financial domain. Monitor your expenses, download statements, establish automatic payments, and even submit loan applications – all within the grasp of your hand. You take charge, and the bank transforms into a tool rather than a barrier.

# 5. Cloud Security Assurance:

Apprehensions about online security are valid. Nevertheless, well-established e-banking platforms utilize advanced encryption and multi-factor authentication protocols to safeguard your financial information. Rest assured, your money is shielded by state-of-the-art technology, providing peace of mind.

# **Disadvantages of E-Banking:**

# 1. **Reliance on Technology:** E-banking is dependent on technology, and sporadic

- 2. malfunctions or service interruptions can impede access. It's wise to have contingency measures, such as a phone call option, readily available.
- **3. Digital Disparity:** Reliable internet access and devices are not universally accessible, leading to a digital gap that requires attention and resolution.
- **4. Cybersecurity Awareness:** Despite robust security measures, maintaining vigilance against phishing scams and malware is imperative.

# **E-Banking as the Future of Convenience:**

E-banking continues to undergo evolution, with exciting innovations on the horizon. The potential integration of artificial intelligence-driven financial assistants, voice-activated transactions, and blockchain technology holds promise for further elevating both convenience and security. In essence, e-banking provides a liberating experience by dismantling the constraints of traditional banking, placing the control of managing finances directly in the hands of the individual. Embrace the benefits of 24/7 accessibility, global reach, and swift transactions. E-banking goes beyond mere convenience; it is genuinely empowering.

It's crucial to recognize that in the world of e-banking, your time and money are under your command. Choose a management approach that aligns with your lifestyle, unlocking a realm of financial freedom. In this domain, convenience reigns supreme, and you are the sovereign.

# **E-banking Transactions Surpass the Lethargy of Traditional Banking**

Bid farewell to the sluggish pace of traditional banking, where transactions inch along like slow-motion scenes and deadlines hang overhead like ominous storm clouds. E-banking, akin to the Usain Bolt of the financial domain, injects a turbocharged Vigor into your financial dealings, leaving you amazed by its swiftness and effectiveness.

# Envision this:

- •Settling a bill the moment it arrives, without the need to stand in a bank line or fret over late fees.
- Dispatching funds to a loved one across the globe in mere seconds, eliminating the painful wait associated with international transfers.
- Monitoring your account balance in real-time, sidestepping the delayed arrival of a paper statement weeks later.

E-banking doesn't merely hasten your financial activities; it metamorphoses them into a

whirlwind of rapid transactions, eclipsing traditional banking in its trail of dust. Let's explore further into this realm of supersonic speed:

### 1. Instant Satisfaction:

E-banking transactions unfold in the blink of an eye. Whether it's transfers, payments, or deposits, everything takes place in real-time, addressing your desire for immediate action and eradicating the prolonged waiting periods synonymous with traditional banking.

# 2. Swift Global Financial Journeys:

Gone are the days of waiting for international transfers to navigate a complex network of banks and currencies. E-banking platforms propel money across borders at lightning speed, guaranteeing your loved ones receive their funds in record time.

# 3. Avoiding Deadlines:

Bid farewell to late payments and the accompanying fees. E-banking enables you to set up automatic payments, guaranteeing timely bill settlements. Your financial affairs transform into a seamlessly operated system, functioning automatically, allowing you to concentrate on your top priorities.

# 4. Real-Time Empowerment through Data:

In the realm of e-banking, the enigma of your account balance hidden within paper statements dissipates. Instant access to your financial data empowers you to monitor spending, analyze trends, and make well-informed decisions on the go.

# 5. The Streamlined Era of Efficiency:

E-banking slices through the bureaucracy inherent in traditional banking. No more form-filling, queuing, or navigating paperwork. Everything is streamlined, digitized, and at your fingertips, preserving valuable time and energy.

# **E-Banking and the Future of Speed:**

The velocity of E-banking is poised for further acceleration. With advancements like blockchain technology, artificial intelligence, and other innovations, the future holds the promise of even swifter, more secure, and more efficient transactions. In essence, E-banking is a transformative force. It transcends mere convenience; it empowers you to seize command of your financial journey with the rapidity and nimbleness of a digital cheetah. Bid farewell to the sluggish pace of traditional methods and embrace the expeditious realm of E-banking – your finances will express their gratitude. Bear in mind, time holds immense value, and E-banking serves as a tool to

optimize both time and money. Opt for a banking experience that aligns with the pace of your life, avoiding the lag associated with outdated methods. In the kingdom of E-banking, speed takes precedence, and you are the navigator.

# **❖** The Budget-Conscious Oasis: Revealing the Affordability of E-banking

In the realm of financial scrutiny, where every cent holds significance, traditional banking may seem like a territory riddled with concealed fees and excessive charges. But fret not, frugal champions! E-banking rises as a stalwart advocate of cost-effectiveness, utilizing digital tools to cut down expenses and fortify the walls of your financial stronghold. Sharpen those pencils and channel your inner bargain hunter, as it's time to delve into the wealth of affordability offered by e-banking.

## 1. The End of Fee Overload:

Wave goodbye to the avalanche of fees for ATM withdrawals, wire transfers, and account maintenance in the paper-centric realm. E-banking frequently adopts a model with reduced fees, presenting free or notably more affordable alternatives compared to traditional services. Transactions become sleek, digital, and free from the financial toll booths that afflict physical banking.

## 2. The Branch Breeze:

Ditch the fuel-consuming journeys to far-flung bank branches. E-banking eradicates the necessity for physical infrastructure, resulting in diminished overhead costs and, ultimately, savings extended to you. Account access, bill payments, and transaction management occur effortlessly from the comfort of your couch, preserving both your time and money.

# 3. The Era of Paperless Bliss:

Farewell to paper statements, checkbooks, and envelopes – they are now relics of the past! E-banking wholeheartedly embraces the digital realm, cutting down on paper consumption and eradicating the associated expenses of printing, mailing, and processing. This not only benefits your wallet but also stands as a triumph for the environment.

# 4. The Interest Rate Haven:

Frequently, e-banking platforms provide elevated interest rates on savings accounts when contrasted with traditional banks. This translates to accelerated growth of your money, amassing wealth without requiring significant effort on your part. Every saved penny and every earned cent contributes to enhancing your financial terrain.

# 5. Financial Command Center:

E-banking equips you with robust financial tools. Monitor your expenses, scrutinize trends, and establish saving objectives – all within reach. This heightened transparency and control empower you to make well-informed decisions, fine-tune your budget, and extract maximum value from your diligently earned money.

# **E-Banking and the Future of Cost-Effectiveness:**

E-banking is constantly evolving, with innovations like mobile payment platforms and peer-to-peer transactions further reducing costs and offering even more ways to save. The future promises a financial landscape where e-banking is the undisputed champion of cost-effectiveness, empowering you to stretch your budget further than ever before. Ultimately, e-banking offers a compelling proposition: it's not just about convenience or speed, it's about making your money work smarter. So, ditch the hefty fees and embrace the cost-effective haven of e-banking. Your wallet will sing with joy, and your financial future will shine brighter than ever. Remember, every penny saved is a victory won. In the realm of e-banking, cost-effectiveness is your noble steed, riding you towards financial freedom. Choose a banking experience that respects your money, empowers your choices, and helps you build a richer tomorrow.

# **\*** The Future of Services:

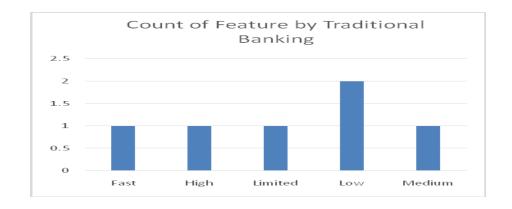
The future trajectory of e-banking points towards expansion and diversification. The boundaries between traditional and digital banking may become less distinct, as e-banks evolve to provide increasingly sophisticated services, while traditional banks embrace digital innovations. Collaborations, technological advancements, and regulatory shifts will all contribute to shaping a landscape where e-banking caters to a wider array of financial needs. Ultimately, the selection between a traditional or e-bank hinges on your specific financial requirements. It's essential to be pragmatic about your needs and evaluate the service offerings of different institutions. If a comprehensive range of services is paramount, opt for a bank that delivers the necessary breadth and depth. Remember, convenience shouldn't compromise essential financial options. Choose a bank that furnishes you with the tools and services required to navigate your financial journey, whether it leads you through the pathways of a smaller e-bank or the expansive avenues of a traditional institution. In the ever-evolving realm of banking, finding the right fit is paramount. Refrain from accepting limitations that hinder your financial aspirations. Explore, compare, and

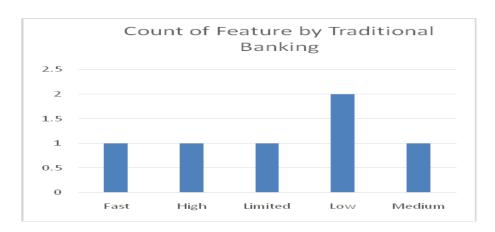
select a bank that provides the services, security, and personalized approach that empower you to realize your financial dreams.

# **❖** Comparison of Traditional Banking and E-Banking

The following table provides a comparison of traditional banking and e-banking:

| Feature           | Traditional<br>Banking | E-Banking |
|-------------------|------------------------|-----------|
| Convenience       | Limited                | High      |
| Speed             | Slow                   | Fast      |
| Cost              | High                   | Low       |
| Security          | High                   | Medium    |
| Personal service  | High                   | Low       |
| Range of services | Wide                   | Limited   |





# **\*** Future of Banking

The forthcoming landscape of banking is anticipated to blend elements of both traditional and e-banking. Physical branches will persist for customers seeking in-person services, while substantial investments in e-banking platforms will cater to those who prioritize convenience and rapid transactions. Moreover, the banking sector is poised to incorporate emerging technologies like artificial intelligence and machine learning to enhance customer experiences. Examples include utilizing AI to personalize banking interactions and employing machine learning to detect and prevent fraudulent activities.

Impact on CustomersThe shift towards e-banking is likely to have a number of impacts on customers. Some of the most likely impacts include:

- •Enhanced Convenience: Customers will have the flexibility to access and oversee their accounts globally, 24/7.
- •Cost Savings: E-banking services are expected to incur lower fees for customers compared to traditional banking services.
- •Personalized Banking: AI will empower banks to personalize the banking experience uniquely for each customer.
- •Heightened Security: AI and machine learning will enable banks to proactively detect and prevent fraud, bolstering overall security.

# **Conclusion**

The banking industry is undergoing a transformation with a pronounced move towards e-banking. Considerable investments by banks into their e-banking platforms are driven by the growing demand for convenience and speed among customers. This shift is expected to bring forth several positive outcomes for customers, including heightened convenience, lowered costs, personalized services, and enhanced security.

# Leadership contribution to the business

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#### **Abstract**

There are few things more important to human activity than leadership. Most people, regardless of their occupation, education, political or religious beliefs, or cultural orientation, recognize that leadership is a real and vastly consequential phenomenon. Political candidates proclaim it, pundits discuss it, companies value it, and military organizations depend on it. Leadership is a process by which an executive can direct, guide and influence the behavior and work of others towards accomplishment of specific goals in a given situation. Leadership is the ability of a manager to induce the subordinates to work with confidence and zeal. Leadership is the potential to influence behavior of others. It is also defined as the capacity to influence a group towards the realization of a goal. Leaders are required to develop future visions, and to motivate the organizational members to want to achieve the visions.

Key words: leadership, business

#### Introduction

Leadership in business is the capacity of a company's management to set and achieve challenging goals, take fast and decisive action when needed, outperform the competition, and inspire others to perform at the highest level they can. It can be difficult to place a value on leadership or other qualitative aspects of a company, versus quantitative metrics that are commonly tracked and much easier to compare between companies. Leadership can also speak to a more holistic approach, as in the tone a company's management sets or the culture of the company that management establishes.

Effective leadership includes exhibiting a strong character. Leaders exhibit honesty, integrity, trustworthiness, and ethics. Leaders act in line with how they speak and earn the right to be responsible for others' success in the company. Strong leadership involves clear communication skills. Leaders speak with and listen to staff members, respond to questions and concerns, and are empathetic. Leaders use effective communication skills for moving the company forward and achieving new levels of success. True leadership sees where the company is headed and plans the steps needed to get there. Visualizing what is possible, following trends in the industry, and taking risks to grow the business are all required of leaders.

# **Qualities of a Leader**

A leader has got multidimensional traits in him which makes him appealing and effective in behavior. The following are the requisites to be present in a good leader:

**1. Physical appearance**- A leader must have a pleasing appearance. Physique and health are very important for a good leader.

- **2. Vision and foresight-** A leader cannot maintain influence unless he exhibits that he is forward looking. He has to visualize situations and thereby has to frame logical programmes.
- **3. Intelligence** A leader should be intelligent enough to examine problems and difficult situations. He should be analytical who weighs pros and cons and then summarizes the situation. Therefore, a positive bent of mind and mature outlook is very important.
- **3.** Communicative skills- A leader must be able to communicate the policies and procedures clearly, precisely and effectively. This can be helpful in persuasion and stimulation.
- **4. Objective-** A leader has to be having a fair outlook which is free from bias and which does not reflects his willingness towards a particular individual. He should develop his own opinion and should base his judgment on facts and logic.
- **5. Knowledge of work** A leader should be very precisely knowing the nature of work of his subordinates because it is then he can win the trust and confidence of his subordinates.
- **6. Sense of responsibility-** Responsibility and accountability towards an individual's work is very important to bring a sense of influence. A leader must have a sense of responsibility towards organizational goals because only then he can get maximum of capabilities exploited in a real sense. For this, he has to motivate himself and arouse and urge to give best of his abilities. Only then he can motivate the subordinates to the best.
- **7. Self-confidence and will-power** Confidence in himself is important to earn the confidence of the subordinates. He should be trustworthy and should handle the situations with full will power. (You can read more about Self-Confidence at : Self Confidence Tips to be Confident and Eliminate Your Apprehensions).
- **8. Humanist**-This trait to be present in a leader is essential because he deals with human beings and is in personal contact with them. He has to handle the personal problems of his subordinates with great care and attention. Therefore, treating the human beings on humanitarian grounds is essential for building a congenial environment.
- **9. Empathy-** It is an old adage "Stepping into the shoes of others". This is very important because fair judgment and objectivity comes only then. A leader should understand the problems and complaints of employees and should also have a complete view of the needs and aspirations of the employees. This helps in improving human relations and personal contacts with the employees.

# Importance of Leadership

Leadership is an important function of management which helps to maximize efficiency and to achieve

organizational goals. The following points justify the importance of leadership in a concern.

**1. Initiates action-** Leader is a person who starts the work by communicating the policies and plans to the subordinates from where the work actually starts.

- **2. Motivation** A leader proves to be playing an incentive role in the concern's working. He motivates the employees with economic and non-economic rewards and thereby gets the work from the subordinates.
- **3. Providing guidance** A leader has to not only supervise but also play a guiding role for the subordinates. Guidance here means instructing the subordinates the way they have to perform their work effectively and efficiently.
- **4. Creating confidence-** Confidence is an important factor which can be achieved through expressing the work efforts to the subordinates, explaining them clearly their role and giving them guidelines to achieve the goals effectively. It is also important to hear the employees with regards to their complaints and problems.
- **5. Building morale** Morale denotes willing co-operation of the employees towards their work and getting them into confidence and winning their trust. A leader can be a morale booster by achieving full co-operation so that they perform with best of their abilities as they work to achieve goals.
- **6. Builds work environment** Management is getting things done from people. An efficient work environment helps in sound and stable growth. Therefore, human relations should be kept into mind by a leader. He should have personal contacts with employees and should listen to their problems and solve them. He should treat employees on humanitarian terms.
- **7.Co-ordination** Co-ordination can be achieved through reconciling personal interests with organizational goals. This synchronization can be achieved through proper and effective co-ordination which should be primary motive of a leader.

### Role of a Leader

Following are the main roles of a leader in an organization:

- **1.Required at all levels-** Leadership is a function which is important at all levels of management. In the top level, it is important for getting co-operation in formulation of plans and policies. In the middle and lower level, it is required for interpretation and execution of plans and programmes framed by the top management. Leadership can be exercised through guidance and counseling of the subordinates at the time of execution of plans.
- **2.Representative of the organization** A leader, i.e., a manager is said to be the representative of the enterprise. He has to represent the concern at seminars, conferences, general meetings, etc. His role is to communicate the rationale of the enterprise to outside public. He is also representative of the own department which he leads.

Integrates and reconciles the personal goals with organizational goals. A leader through leadership traits helps in reconciling/ integrating the personal goals of the employees with the organizational goals. He is trying to co-ordinate the efforts of people towards a common purpose and thereby achieves objectives. This can be done only if he can influence and get willing co-operation and urge to accomplish the objectives.

- **3.He solicits support** A leader is a manager and besides that he is a person who entertains and invites support and co-operation of subordinates. This he can do by his personality, intelligence, maturity and experience which can provide him positive result. In this regard, a leader has to invite suggestions and if possible implement them into plans and programmes of enterprise. This way, he can solicit full support of employees which results in willingness to work and thereby effectiveness in running of a concern.
- **4.As a friend, philosopher and guide-** A leader must possess the three dimensional traits in him. He can be a friend by sharing the feelings, opinions and desires with the employees. He can be a philosopher by utilizing his intelligence and experience and thereby guiding the employees as and when time requires. He can be a guide by supervising and communicating the employees the plans and policies of top management and secure their co-operation to achieve the goals of a concern. At times he can also play the role of a counselor by counseling and a problem-solving approach. He can listen to the problems of the employees and try to solve them.

#### Conclusion

Finally, leadership development entails commitment, patience, and skill and, unless the potential leaders are committed to staying with the organization for an extended period, there is no point in grooming them. Although many organizations have moved away from making employees sign bonds, they are still groom only those employees who have been with them for a while and who, in their estimation, are going to stick with the company for a longer term.

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# **Oedipus: Destiny Triumphs over Character**

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A well-known Greek dramatist Sophocles was an innovator in tragedy. He introduced the third actor; he introduced or at least greatly developed stage scenery; he increased the number of chorus from twelve to fifteen and he abandoned the practice of connected tetralogies, making each play an artistic whole in itself. His successors owe much to him as far as the dramatic field is concerned.

Out of more than 120 plays of Sophocles known to antiquity, only seven tragedies have survived intact into modern times. Among all his tragedies 'Oedipus Rex' or 'Oedipus Tyrrannus' is his masterpiece and even Aristotle regarded it as a perfect tragedy in his 'The Poetics'. It is the story of the impact of a totally undeserved misfortune upon a man of no exceptional faults or virtues. Praising this play one modern critic says,

"Oedipus Tyrannus of Sophocles combines two apparently irreconcilable themes, the greatness of the gods and the greatness of man, and the combination of these themes is inevitably tragic."

Oedipus Rex is, to a large extent, a tragedy of fate. The crucial events in the play have been pre-determined by fate or the gods. Human beings seem rather helpless in the face of the circumstances that mould their destiny. King Laius was told that his own son by Jocasta would kill him and would marry his own mother. Laius did everything to avert such a disaster. As soon as Jocasta gave birth to a son, Laius ordered his trustworthy servant to leave the child on the Mt.Cithaeron as aprey to wild animals. Even in such a condition the child survived.

On the other hand, in Corinth, Oedipus learnt from the oracle that he would kill his own father and would marry his own mother. In order to avoid such a great sin, he left Corinth never to come back again. But his fate drove him towards his destiny. At three-cross road, he killed his own father Laius unknowingly and entered Thebes. After overthrowing the monster Spinx, as per the condition, he married Jocasta. Thus in complete ignorance of the identity of his parents, he killed his father and married his mother. Thus he became responsible for the plague in the city. So chorus sings,

"Who more wretched, more afflicted now,

With cruel misery, with fell disaster

Your life in dust and ashes?

O noble Oedipus!

How could it be? To come again

A bridegroom of her who gave you birth"

In the play, the occurrences which bring about the tragedy in the life of Laius, Oedipus and Jocasta were only due to their fate or destiny. These human beings were informed in advance about such happenings. They tried their best to avert such happenings, even then things turned out exactly as they had been foretold by the oracles. Oedipus, the greatest sufferer in the play has done nothing to deserve the fate which overtakes him. Nor do Laius and Jocasta deserve the fate they meet.

Aristotle expressed the view that the tragic hero is a man highly esteemed and prosperous who falls into misfortune because of some serious hamartia or defect. There can be no doubt at all about the essential goodness of Oedipus. He is an able ruler, a father of his people, an honest and great administrator, and an outstanding intellect. His chief care is not for himself but for the people of the state. In the prologue, we get the feeling that Oedipus is an ideal king.

He has also some serious defects. He is hot-tempered, rash, hast in forming judgement, easily provoked and even somewhat arbitrary. His anger on Teiresias and Creon shows his short-tempered nature. His sentencing Creon to death and withdrawing the same shows his rashness and arbitrariness. His position and authority seem to be leading him to become tyrant. His pride in his wisdom is one of his glaring faults. Pride and self-confidence induce him to feel almost superior to the gods. So the chorus sings,

"Pride makes the tyrant – pride of wealth

And power, too great for wisdom and restraint

For pride will climb the topmost height

Then is the man cast down

To uttermost destruction"

But the question that arises is what is the connection between these defects of Oedipus and the fate that he meets. It may be said that if he had not been hot-tempered, he might have avoided the fight and murder of his father. If he had been a little more cautious, he might have hesitated to marry a woman old enough to be his mother. Even if Oedipus had taken up the precautions above hinted at, the prophecy was to be fulfilled. What the oracle said was bound to happen.

Throughout the play Sophocles has intermingled the dominance of destiny and human freedom. Oedipus does not seem to be merely a puppet. He is very firm as a king. His interactions with Teirsias and Creon are his own-willed actions. He is determined to solve the

problem of his parentage. His self-blinding and self-banishment are also the actions of his own choice. But after all, like other human beings, he is helpless in the face of his own destiny. So in the last scene, he cries,

"But the hand that struck, Alas! Was my own

And not another's

For why should I have sight

When sight of nothing could give me pleasure?"

In spite of the evidence to prove Oedipus a free agent in most of his actions, the role of destiny can not be ignored as all these events were predetermined. But the discovery of the truth by Oedipus is largely responsible for the tragedy. In the otherwise case, he would have led a comfortable life in complete ignorance. Though Oedipus tried his best to escape the prophecy, he met with the same destiny. Here destiny triumphs over the character.

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# Effect of Socio economic status on children's influence in the family decision-making process

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#### Abstract:

Children are playing active role in modern consumption. Their role is not limited to that of a consumer only rather influence and pester power in determining what the family purchasing is increasing significantaly. This paper explore the scope of pester power and role of media and parents in increasing the pester power. It is an attenmpt has been made to explore reseason behind pester power and relation between parents profile and prevalence of pester power. The result of the survey show that children are more brand aware today then past generation, This brand awareness can be mainly attributed to their exposure to TV parents income and education level affect pester power significantly. The study provide implication for both parents and marketers.

#### Introduction

Influence of children varies by product, product sub-decision, stage of the decision–making process, nature of socializating of children, families' gender role orientation, demographic features such as age and gender, and also by respondent selected for investigation of relative influence (Belch et al., 1985).

Szybillo and Sosanie (1977), while examining family decision making processes, observed that all members of the family (husband, wife, and children) were greatly involved in all three decision stages (problem recognition, search for information and final selection), when considering a fast food restaurant and a family trip (that is, for products that affect the entire family). The wife/child dyad was very important in initiating a purchase and providing information. Other researchers have also observed that children exert considerable influence during the problem recognition and search stages and the least influence in the final decision stage (Belch et al, 1985; Filiatrault and Ritchie, 1980; Hempel, 1974) for family activities such as choice of vacations and restaurants and consumer durables. However, Holdert and Antonides (1997) reported that children's influence was higher in the later stages of the decision making process; that is, at the time of alternative evaluation, choice, and purchase

for four purchases (holidays, adult and child clothing, and sandwich filling). Recently, Belch et al. (2005) proposed that since teenagers are high users of the Internet, they have greater access to market information which could impact their influence in family decision making. They found that teens who perceive themselves to be 'Internet mavens' (individuals who are relied upon more for providing information from the virtual marketplace), as well as their parents, believed that teens were more influential in all stages—initiation and information search, and alternative evaluation and final decision stages. However, their influence was higher in the initiation and information search stages as compared to alternative evaluation and final decision stages.

# Litereature Review

While studying Indian families, Singh (1992) noted that families differed with respect to their roles in making purchase sub decisions. The "when to purchase" decision was generally syncratic (decided by the husband and wife jointly) and also influenced by children. Hundal (2001) noted that brand selection decisions were also made jointly by the couple but were importantly influenced by children in the family. The store where the durables were purchased as well as the making of the actual purchase decision was also decided jointly or by the husband individually (for three durables, but not for air coolers). However, children also "went to buy," that is accompanied their parents at the time of buying televisions, washing machines, and refrigerators. Kapoor (2001) collected information from families in Delhi in regard to their roles across stages of purchase decision-making for six durables—televisions, refrigerators, washing machines, personal computers, audio systems, and cars. She found that individual members were associated with multiple roles. The initiator for purchase in a family was typically a young female member, who was likely to be the wife or one of the children. She illustrated that the need for an audio system, personal computer, and television was likely to be first expressed by the children in the family. As influencers, younger members, especially children, were found to affect purchase of a personal computer, audio system, and television. The final purchases were found to be decided upon after consultation with other family members, mainly the husband. Children have not been observed to have a large impact on instrumental decisions such as how much to spend (Kaur, 2003; Singh and Kaur, 2004; Verma, 1982), but rather play a role while making expressive decisions such as color, model, brand, shape, and time of purchase (Sen Gupta and Verma, 2000; Singh, 1992; Singh and Kaur, 2003; Synovate, 2004) as validated in the West as well. Kaur and Singh (2004) observed that children are individually active in initiating the idea to purchase a durable. In other stages of the decision making process, they exhibit joint influence along with other members of the family. This implies that they provide support to the member exerting influence to increase pressure but do not wield much influence individually. Chadha (1995) concluded that in the older age group household's sons and daughters emerge as key persons to introduce new products in the house.

Research bjectives

- a. To find out wheather a relation exist between parents educational level and pester power
- b. To find out wheather a relation exist between parents Income and pester power
- c. To explore role of TV advertisement in pester power

# Research Methodology, Research Approach and Nature of Data

For gathering primary data, survey approach was used

# **Research Instrument**

For this research questionnaire was used

# Sample survey

Samlpe unit: Rural respondents

Sample size: Respondents comprises of 150 families

Sample Procedure: Non Probability convenience sampling

# **Primary Data Analysis and Interpretation**

Table 1: "Children from high-income families have more influence on their families" decision making."

| Income  | Family decision making process Children's Perception | P Value | P < 0.05      | Results  |
|---|--|---------|---------------|--|
| Children from High income families have more influence on their families' decision making | Planning of purchase                                 | 0.005   | Significant   | H <sub>1</sub> : Children from high income families have more influence on planning of purchase for family |
|   | Product purchase decision maker                      | 0.427   | Insignificant | H <sub>2</sub> : There is no influence difference between children from all income levels                  |
|   | Responsible for buying products                      | 0.10    | Insignificant | H <sub>3</sub> : There is no responsible difference between difference from all income levels              |

The statistic results show that income plays a role in the family decision-making process. In the stage of initiation or awareness of need, children from high-income families have more influence on planning the food for the family than children from low or middle-income families.

The results indicate that even if income plays a role in the family's decision-making process, the correlation between income levels and the degree of influence or responsibility from the children is considered relatively modest. One possible reason is that the income level of the participants' parents is not equally distributed, where low-income parents comprise more than half the number of participants, and therefore the results of this study are affected. Another possible reason is that the influence or responsibility of the children in the family might not be decided by how much the family earns.

During the observation of the families, it could be observed that the high-income families have several household helpers who buy, prepare, and cook the meal for the family, so children do not have to participate in the buying and consumption processes. Based on the information from higher income parents, they tend to be more selective in choosing food for their children in terms of food content and ingredients, which is why their children have less influence in deciding what food to buy and eat. On the other hand, low income families do not involve their children in the buying process because their budget is limited; therefore the mothers select the food based on how much money they have. They think that when their children are involved then the shopping budget will exceed their means. Even low-income families who do not have household helpers tend not to involve their children in the consumption process, because for them children can only disturb and not help the mothers.

Table 2: "Children from highly educated parents have more influence on their families" decision-making."

| Education  | Family decision making process Children's Perception | P Value | P < 0.05      | Results  |
|--|--|---------|---------------|--|
| Children from highly<br>educated parents<br>have more influence<br>on their families'<br>decision making | Planning of purchase                                 | 0.872   | Insignificant | H <sub>7</sub> : There is no influence between children from all education levels of the parents                   |
|  | Product purchase decision maker                      | 0.881   | Insignificant | H <sub>8</sub> : There is<br>no influence<br>between<br>children from<br>all education<br>levels of the<br>parents |
|  | Responsible for buying products                      | 0.216   | Insignificant | H <sub>9</sub> : There is<br>no influence<br>between<br>children from<br>all education<br>levels of the<br>parents |

The test statistic results showed that **children from highly educated parents have more responsibility for decision making.** Overall the statistics showed a weak result supporting the hypothesis that children from highly educated parents have more influence on their families" decision-making process. **Children from parents with a low or high education have an equal influence and responsibility in the family decision-making process.** Parents from high and low degrees of education are still the ones who plan, decide, and buy food for the families

Table 3: Informativeness through a TV advertisement is related to the Pester Power of Children.

|          | R <sup>2</sup> | Unstandardized B | SE    | T - Value | P – Value |
|----------|----------------|------------------|-------|-----------|-----------|
| Constant | 0.73           | 0.789            | 0.527 |           |           |
|          |                | 1.322            | 0.111 | 1.454     | 0.00      |

The results show that the relationship between Information gathered through TV advertisements and Pester power is very good (R=0.73), only 73% variance (Adjusted R2). 73% of pester power variability is explained by TV advertisements information. This means that 26% of the variation cannot be explained by informativeness through TV advertisements alone. T test shows the positive contribution of pester power of children.

Table 4: Entertainment through a TV advertisement is related to the Pester Power of Children.

|          | R <sup>2</sup> |   | Unstandardized B | SE    | T - Value | P – Value |
|----------|----------------|---|------------------|-------|-----------|-----------|
| Constant | 0.8            |   | 0.669            | 0.448 |           |           |
|          |                | _ | 1.234            | 0.787 | 1.251     | 0.02      |

The results show that the relationship between entertainment through a TV advertisements and Pester power is very good (R=0.799), 81% variance (Adjusted R2). 80% of pester power variability is explained by TV advertisements information. This means that 20% of the variation cannot be explained by entertainment through a TV advertisement. T test shows the positive contribution towards pester power of children.

Table 5 :Credibility of a TV advertisement is related to the Pester Power of Children.

|          | R <sup>2</sup> | Unstandardized B | SE    | T - Value | P – Value |
|----------|----------------|------------------|-------|-----------|-----------|
| Constant | 0.70           | 0.86             | 0.548 |           |           |
|          |                | 1.225            | 0.547 | 1.235     | 0         |

The results show that the relationship between Credibility of TV advertisements and Pester power is very good (R=0.70), only 70% variance (Adjusted R2). 70% of pester power variability is explained by credibility of TV advertisements information. This means that 30% of the variation cannot be explained by credibility of TV advertisements alone. T test shows the positive contribution of pester power of children.

Table 6: Likability of a TV advertisement is related to the Pester Power of Children.

|          | $R^2$ | Unstandardized B | SE    | T - Value | P – Value |
|----------|-------|------------------|-------|-----------|-----------|
| Constant | 0.71  | 0.512            | 0.515 |           |           |
|          |       | 1.112            | 0.451 | 1.888     | 0         |

The results show that the relationship between likability of TV advertisements and Pester power is very good (R=0.719), only 71% variance (Adjusted R2). 71% of pester power variability is explained by likability of TV advertisements information. This means that 29% of the variation cannot be explained by likability of TV advertisements alone. T test shows the positive contribution of pester power of children

Table 7: Children's attitude towards Television advertisements is related to the Pester Power of Children.

|          | R <sup>2</sup> | Unstandardized B | SE    | T - Value | P – Value |
|----------|----------------|------------------|-------|-----------|-----------|
| Constant | 0.87           | 0.776            | 0.448 |           |           |
|          |                | 1.211            | 0.576 | 1.998     | 0.0001    |

The results show that the relationship between children's attitude towards TV advertisements and Pester power is very good (R=0.879), only 87% variance (Adjusted R2). 87% of pester power variability is explained by children's attitude towards TV advertisements. This means that 23% of the variation cannot be explained by credibility of TV advertisements alone. T test shows the positive contribution of pester power of children.

#### **Conclusion**

Buying behavior of parents is based on many factors such as Entertainment, Informativeness, Credibility, Liking, Children's attitude towards TV ads and Children's pester power. This research has specific theoretical contributions from the past literature regarding children's and parents buying behavior. The study identifies how children develop an attitude towards TV advertisements and how today's children have become decision makers as well as their relationship with their parents, thus representing a significant step forward in the explanations of impact on the buying behavior of parents. The empirical results of this study provide reliable evidence that Entertainment, Informativeness, Credibility, Liking are four important factors influencing Children's attitude which further influences the buying behavior of parents. First, the path coefficient between most of the constructs was significant indicating that these factors have a strong relationship with buying behavior of parents.

Household income has a modest effect on children's influence in the family decision-making process. Children from high-income families have more influence on *planning the product* or the family than children from low or middle-income families. Children from high-income families show more responsibility in *helping the parents in terms of buying* for the family than children from low or middle-income families. The statistics show a weak result to support the hypothesis that children from high education parents have more influence on their families" decision making process. Children from low or high education parents have the same influence and responsibility in the family decision-making process. Parents from high and low degrees of education are still the people who plan, decide, and buy the product for the families.

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# Ultrasonic study of molecular interactions in non electrolytic solutions of acrylamide with primary alkanols

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In the current paper the Ultrasonic study of molecular interactions in non electrolytic solutions of acrylamide with primary alkanols was performed by authors. In the current manuscript The molecular interactions are studied in the light of variation of ultrasonic velocity (u), density( $\rho$ ), viscosity (n), isentropic compressibility ( $k_s$ ), intermolecular free length ( $L_f$ ), acoustic impedance (Z), molar volume ( $V_m$ ), internal pressure ( $\pi_i$ ), free volume ( $V_f$ ), enthalpy (H), viscous relaxation time ( $\tau$ ) and relative association ( $R_A$ ) presented their experimental results.

### **Key Word**

Ultrasonic, molecular interactions, non electrolytic solutions, acrylamide with primary alkanols

#### Introduction

Ultrasonic studies of electrolytic and non electrolytic solution have been attracting scientific community from long back due to the importance in living organism, industrial applications and wide spread presence in the nature as sea water. This chapter describes ultrasonic study of molecular interactions in the solutions of acrylamide with primary/secondary alkanols. Research survey reveals that very little quantity of work has been reported in the solutions of acrylamide. The properties of liquid mixtures and solutions can be altered continuously within a reasonable range by varying the concentration till an optimum value of some desired parameter is attained. Mixed solvents find more practical applications in chemical, industrial and biological processes, because they provide a wide range of desired properties compared to their pure solvents. The measurement of speed of sound in liquids enables the determination of some useful acoustic and thermodynamic parameters that are found to be very sensitive to molecular interactions. Hence such measurements are useful to study the nature and strength of molecular interactions in solute - solvent solutions.

The molecular interactions are studied in the light of variation of ultrasonic velocity (u),

density (p), viscosity (n), isentropic compressibility ( $k_s$ ), intermolecular free length ( $L_f$ ), acoustic impedance (Z), molar volume ( $V_m$ ), internal pressure ( $\pi_i$ ), free volume ( $V_f$ ), enthalpy (H), viscous relaxation time ( $\tau$ ) and relative association ( $R_A$ ) as these parameters are generally studied in the solutions of organic solids.

In section molecular interactions in the solutions of acrylamide with ethanol/1- propanol/1-butanol are presented at 308.15K. Section B deals with the similar study in the solutions of acrylamide with equimolar mixture of ethanol and isopropyl alcohol (EIP)/isobutyl alcohol (EIB)/isoamyl alcohol (EIA) at the same temperature.

#### **Experimental**

The chemicals used in the present study are ethanol (99.9% purity) (Changshu Yangyuan Chemicals-China make), acrylamide (99%), 1-propanol (99.5%) and 1-butanol (99.5%) (G.R Grade, obtained from LOBA Chemicals, Mumbai, INDIA).

Solutions of acrylamide (solute) with ethanol/1-propanol/1-butanol as solvent are prepared with molalities (mol/kg) ranging from 0-1 m prepared in the specially designed glass bottles with air tight stoppers and adequate precautions have been taken to minimize evaporation losses. Ultrasonic velocity (u), density (p) and viscosity (n) are experimentally determined at a temp of 308.15 K. Using the experimental results various acoustic and thermodynamic parameters such as isentropic compressibility ( $k_s$ ), intermolecular free length ( $L_f$ ), acoustic impedance (Z), molar volume ( $V_m$ ), internal pressure ( $\pi_i$ ), free volume ( $V_f$ ), enthalpy (H) and viscous relaxation time ( $\tau$ ) are calculated.

#### **Results and Discussion**

The purity of the chemicals used in the present work is compared with the literature values 24-33 as shown in table 7.A.1. The variation of ultrasonic velocity (u), density (p) and viscosity (n) with concentration of acrylamide are presented in table 7.A.2. The variation of isentropic compressibility ( $k_s$ ), intermolecular free length ( $L_f$ ), acoustic impedance (Z), molar volume ( $V_m$ ), internal pressure ( $\pi_i$ ), free volume ( $V_f$ ), enthalpy (H) and viscous relaxation time (T) with concentration of acrylamide are shown in tables 7.A.3. 7. A.6.

The variation of ultrasonic velocity, density and viscosity with concentration of acrylamide in solvents is shown in figures 7.A.1. 7.A.3 respectively. It has been observed that ultrasonic

velocity, density and viscosity increases non-linearly and monotonically. Such variation in ultrasonic velocity, density and viscosity with concentration of acrylamide is an indication of the molecular interactions existing between the molecules of solute and solvent.

The variation of isentropic compressibility with concentration of solute is shown in figure 7.A.4. The nature of variation of isentropic compressibility indicates the possible interactions among molecules of the solution. As the concentration of the solute increases the isentropic compressibility of the solution decreases in all the systems investigated which indicates the existence of strong

Table 7.A.1 Comparison of experimental ultrasonic velocities (u), densities (ρ) and viscosities (n) of pure liquids with the literature values at 308.15 K

| Liquid     | u<br>m.s <sup>-1</sup> |         | $\frac{\rho}{\text{kg}}$ | m <sup>-3</sup> | n<br>10 <sup>-3</sup> N.s.m <sup>-2</sup> |        |  |
|------------|------------------------|---------|--------------------------|-----------------|---|--------|--|
|            | Expt.                  | Lit.    | Expt. Lit.               |                 | Expt.                                     | Lit.   |  |
| Ethanol    | 1115.10                | 1111.00 | 776.49 776.41            |                 | 0.8840                                    | 0.8930 |  |
|            |                        |         | 773                      | 3.37            | 0.8970                                    |        |  |
| 1-propanol | 1175.60                | 1172.60 | 791.41                   | 795.30          | 1.4152                                    | 1.4172 |  |
|            | 1175.10                |         | 791                      | .40             | 1.5340                                    |        |  |
| 1-butanol  | 1207.68                | 1208.80 | 795.08                   | 798.12          | 1.8243                                    | 1.8643 |  |
|            | 120                    | 7.60    |                          |                 |   |        |  |

Table 7.A.2 Variation of ultrasonic velocities (u), densities (p) and viscosities (n) with concentration of acrylamide in the binary mixtures of acrylamide with alkanols at 308.15 K

| ethanol+                           | 1 – propanol + acrylamide |                      |  |                        | 1 – butanol + acrylamide |                       |               |                          |                         |                      |                  |
|------------------------------------|---------------------------|----------------------|--|------------------------|--------------------------|-----------------------|---------------|--------------------------|-------------------------|----------------------|------------------|
|                                    |                           |                      |  |                        |                          |                       |               |                          |                         |                      |                  |
| Concentration mol.kg <sup>-1</sup> | m, s-1                    | ρ/kg.m <sup>=2</sup> | n<br>10 <sup>-2</sup> N · s. m <sup>-3</sup> | Concentration mol.kg-1 | u<br>m. s - 1            | ρ/kg ·m <sup>=3</sup> | n<br>10=3N' 2 | Concent                  | u<br>m. s <sup>-1</sup> | ρ⁄kg.m <sup>=3</sup> | n<br>10=3N . S.: |
|                                    |                           |                      |  |                        |                          |                       |               | mol.<br>kg <sup>=1</sup> |                         |                      |                  |
| 0.0000                             | 1115.10                   | 776.49               | 0.8840                                       | 0.0000                 | 1175.60                  | 791.41                | 1.4152        | 0.0000                   | 1207.68                 | 795.08               | 1.8243           |
| 0.1050                             | 1119.16                   | 778.22               | 0.8928                                       | 0.1011                 | 1177.97                  | 792.56                | 1.4562        | 0.1045                   | 1208.50                 | 796.70               | 1.8569           |
| 0.1907                             | 1120.74                   | 779.62               | 0.8987                                       | 0.1969                 | 1179.14                  | 793.64                | 1.4681        | 0.2037                   | 1209.60                 | 798.23               | 1.8721           |
| 0.3050                             | 1123.74                   | 781.72               | 0.9114                                       | 0.3013                 | 1180.90                  | 794.92                | 1.4841        | 0.3020                   | 1211.83                 | 800.50               | 1.8885           |
| 0.3994                             | 1124.22                   | 783.10               | 0.9245                                       | 0.4002                 | 1182.75                  | 796.34                | 1.4935        | 0.4012                   | 1212.68                 | 802.06               | 1.8992           |

| 0.5199 | 1126.64 | 784.99 | 0.9342 | 0.5010 | 1183.40 | 797.57 | 1.5078 | 0.5040 | 1214.30 | 802.91 | 1.9170 |
|--------|---------|--------|--------|--------|---------|--------|--------|--------|---------|--------|--------|
| 0.5993 | 1129.42 | 786.38 | 0.9418 | 0.6343 | 1186.10 | 799.35 | 1.5164 | 0.6021 | 1215.25 | 804.25 | 1.9283 |
| 0.7137 | 1131.60 | 787.98 | 0.9536 | 0.6891 | 1186.75 | 800.23 | 1.5255 | 0.7014 | 1216.75 | 806.90 | 1.9402 |
| 0.8184 | 1134.80 | 789.35 | 0.9631 | 0.8021 | 1188.63 | 802.61 | 1.5527 | 0.8032 | 1217.85 | 808.72 | 1.9502 |
| 0.8945 | 1135.79 | 791.11 | 0.9721 | 0.9052 | 1190.58 | 803.35 | 1.5642 | 0.9047 | 1219.13 | 809.01 | 1.9619 |
| 1.0170 | 1136.90 | 792.15 | 0.9816 | 1.0004 | 1192.00 | 804.07 | 1.5796 | 1.0135 | 1221.22 | 810.08 | 1.9761 |

Table 7.A.3 Variation of isentropic compressibility  $(k_s)$ , intermolecular free length  $(L_f)$  with concentration of acrylamide the binary mixtures of acrylamide with alkanols at 308.15 K

| ethanol+acr                        | ylamide  |                            | 1-propanol+a                       | crylamide  |                           | 1-butanol+acrylamide               |  |                                   |  |
|------------------------------------|--|----------------------------|------------------------------------|--|---------------------------|------------------------------------|--|-----------------------------------|--|
| Concentration mol.kg <sup>-1</sup> | k <sub>s</sub><br>10 <sup>-10</sup> Pa <sup>-1</sup> | $\frac{L_{f}}{10^{-10}}$ m | Concentration mol.kg <sup>-1</sup> | k <sub>s</sub><br>10 <sup>-10</sup> Pa <sup>-1</sup> | $\frac{L_{f}}{10^{-10}}m$ | Concentration mol.kg <sup>-1</sup> | k <sub>s</sub><br>10 <sup>-10</sup> Pa <sup>-1</sup> | $\frac{L_{\rm f}}{10^{-10}}\rm m$ |  |
| 0.0000                             | 10.3589  | 0.6741                     | 0.0000                             | 9.1428   | 0.6333                    | 0.0000                             | 8.6235   | 0.6150                            |  |
| 0.1050                             | 10.2592  | 0.6708                     | 0.1011                             | 9.0929   | 0.6315                    | 0.1045                             | 8.5943   | 0.6140                            |  |
| 0.1907                             | 10.2120  | 0.6693                     | 0.1969                             | 9.0624   | 0.6305                    | 0.2037                             | 8.5623   | 0.6128                            |  |
| 0.3050                             | 10.1302  | 0.6666                     | 0.3013                             | 9.0209   | 0.6290                    | 0.3020                             | 8.5066   | 0.6108                            |  |
| 0.3994                             | 10.1037  | 0.6657                     | 0.4002                             | 8.9766   | 0.6275                    | 0.4012                             | 8.4781   | 0.6098                            |  |
| 0.5199                             | 10.0361  | 0.6635                     | 0.5010                             | 8.9530   | 0.6267                    | 0.5040                             | 8.4466   | 0.6087                            |  |
| 0.5993                             | 9.9692   | 0.6613                     | 0.6343                             | 8.8924   | 0.6245                    | 0.6021                             | 8.4193   | 0.6077                            |  |
| 0.7137                             | 9.9105   | 0.6593                     | 0.6891                             | 8.8729   | 0.6238                    | 0.7014                             | 8.3710   | 0.6059                            |  |
| 0.8184                             | 9.8377   | 0.6569                     | 0.8021                             | 8.8186   | 0.6219                    | 0.8032                             | 8.3371   | 0.6047                            |  |
| 0.8945                             | 9.7986   | 0.6556                     | 0.9052                             | 8.7816   | 0.6206                    | 0.9047                             | 8.3166   | 0.6040                            |  |
| 1.0170                             | 9.7667   | 0.6545                     | 1.0004                             | 8.7529   | 0.6196                    | 1.0135                             | 8.2772   | 0.6025                            |  |

Table 7.A.4 Variation of acoustic impedance (Z), molar volume ( $V_m$ ) with concentration of acrylamide in the binary mixtures of acrylamide with alkanols at 308.15 K

| ethanol+a                            | crylamide                                     |   |  | ol+acrylamide                                 |              | 1-butanol+acrylamide     |   |                                 |  |
|--------------------------------------|---|---|--|---|--------------|--------------------------|---|---------------------------------|--|
| Concentration n mol.kg <sup>-1</sup> | $\frac{2}{10^6 kg} \cdot m^{-2} \cdot s^{-1}$ | $\frac{V_m}{10^{-5}m^3} \cdot mol^{-1}$ | Concentratio<br>n mol.kg <sup>-1</sup> | $\frac{2}{10^6 kg} \cdot m^{-2} \cdot s^{-1}$ | 10=5m3 . 2nd | Concentration n mol.kg-1 | $\frac{2}{10^6 kg} \cdot m^{-2} \cdot s^{-1}$ | $\frac{V_m}{10^{-5}m^3}$ , $mc$ |  |
| 0.0000                               | 0.8658  | 5.9344                                  | 0.0000                                 | 0.9304  | 7.5940       | 0.0000                   | 0.9602  | 9.3223                          |  |
| 0.1050                               | 0.8710  | 5.9366                                  | 0.1011                                 | 0.9336  | 7.5919       | 0.1045                   | 0.9628  | 9.2996                          |  |
| 0.1907                               | 0.8737  | 5.9388                                  | 0.1969                                 | 0.9358  | 7.5891       | 0.2037                   | 0.9655  | 9.2793                          |  |
| 0.3050                               | 0.8784  | 5.9408                                  | 0.3013                                 | 0.9387  | 7.5857       | 0.3020                   | 0.9701  | 9.2505                          |  |
| 0.3994                               | 0.8804  | 5.9431                                  | 0.4002                                 | 0.9419  | 7.5809       | 0.4012                   | 0.9726  | 9.2287                          |  |
| 0.5199                               | 0.8844  | 5.9453                                  | 0.5010                                 | 0.9438  | 7.5755       | 0.5040                   | 0.9750  | 9.2177                          |  |
| 0.5993                               | 0.8882  | 5.9475                                  | 0.6343                                 | 0.9481  | 7.5585       | 0.6021                   | 0.9774  | 9.1986                          |  |

| 0.7137 | 0.8917 | 5.9494 | 0.6891 | 0.9497 | 7.5653 | 0.7014 | 0.9818 | 9.1659 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.8184 | 0.8958 | 5.9517 | 0.8021 | 0.9540 | 7.5603 | 0.8032 | 0.9849 | 9.1441 |
| 0.8945 | 0.8985 | 5.9536 | 0.9052 | 0.9565 | 7.5558 | 0.9047 | 0.9863 | 9.1383 |
| 1.0170 | 0.9006 | 5.9585 | 1.0004 | 0.9585 | 7.5528 | 1.0135 | 0.9893 | 9.1238 |

Table 7.A.5 Variation of internal pressure  $(\pi_i)$ , free volume  $(V_f)$  with concentration of acrylamide in the binary mixtures of acrylamide with alkanols at 308.15 K

| ethanol+a                          | crylamide                 | !                                 | 1-propand               | ol+acrylami            | de                                 | 1-butanol+acrylamide                   |                        |                                   |  |
|------------------------------------|---------------------------|-----------------------------------|-------------------------|------------------------|------------------------------------|--|------------------------|-----------------------------------|--|
| Concentration mol.kg <sup>-1</sup> | $\frac{\pi_i}{10^6}$ $Pa$ | $\frac{V_f}{10^{-7}}m^3.mol^{-1}$ | Concentration mol. kg 1 | $\frac{\pi_i}{10^6}Pa$ | $\frac{V_f}{10^{-7}m^3 \cdot mol}$ | Concentratio<br>n mol.kg <sup>-1</sup> | $\frac{\pi_i}{10^6}Pa$ | $\frac{V_f}{10^{-7}}m^3.mol^{-1}$ |  |
| 0.0000                             | 913.91                    | 0.5004                            | 0.0000                  | 836.60                 | 0.3984                             | 0.0000                                 | 736.06                 | 0.3882                            |  |
| 0.1050                             | 915.32                    | 0.4977                            | 0.1011                  | 847.44                 | 0.3835                             | 0.1045                                 | 743.71                 | 0.3781                            |  |
| 0.1907                             | 916.48                    | 0.4955                            | 0.1969                  | 850.26                 | 0.3800                             | 0.2037                                 | 747.60                 | 0.3739                            |  |
| 0.3050                             | 920.10                    | 0.4893                            | 0.3013                  | 854.00                 | 0.3753                             | 0.3020                                 | 751.84                 | 0.3699                            |  |
| 0.3994                             | 925.26                    | 0.4808                            | 0.4002                  | 855.90                 | 0.3733                             | 0.4012                                 | 755.03                 | 0.3670                            |  |
| 0.5199                             | 927.58                    | 0.4769                            | 0.5010                  | 859.80                 | 0.3688                             | 0.5040                                 | 758.71                 | 0.3625                            |  |
| 0.5993                             | 928.97                    | 0.4743                            | 0.6343                  | 861.22                 | 0.3676                             | 0.6021                                 | 761.86                 | 0.3595                            |  |
| 0.7137                             | 932.58                    | 0.4686                            | 0.6891                  | 863.53                 | 0.3650                             | 0.7014                                 | 765.64                 | 0.3567                            |  |
| 0.8184                             | 934.65                    | 0.4651                            | 0.8021                  | 869.89                 | 0.3576                             | 0.8032                                 | 768.55                 | 0.3544                            |  |
| 0.8945                             | 937.20                    | 0.4610                            | 0.9052                  | 872.59                 | 0.3547                             | 0.9047                                 | 770.87                 | 0.3517                            |  |
| 1.0170                             | 939.80                    | 0.4565                            | 1.0004                  | 876.36                 | 0.3504                             | 1.0135                                 | 773.92                 | 0.3486                            |  |

Table 7.A.6 Variation of enthalpy (H), relaxation time ( $\tau$ ) with concentration of acrylamide in the binary mixtures of acrylamide with alkanols at 308.15 K

| ethanol+a                              | crylamide                  |                     | 1-propand                  | ol+acrylamid                     | e      | 1-butanol+acrylamide   |                                 |                     |
|--|----------------------------|---------------------|----------------------------|----------------------------------|--------|------------------------|---------------------------------|---------------------|
| Concentratio<br>n mol.kg <sup>-1</sup> | $\frac{H}{J}$ .mol $^{-1}$ | 10 <sup>-12</sup> s | Concentration n mol. kg =1 | $\frac{H}{J}$ .mol <sup>-1</sup> | 10=12s | Concentration n mol.kg | $\frac{H}{J}$ mol <sup>-1</sup> | 10 <sup>-12</sup> s |
| 0.0000                                 | 54235.2                    | 1.2210              | 0.0000                     | 63531.7                          | 1.7252 | 0.0000                 | 68617.8                         | 2.0976              |
| 0.1050                                 | 54339.3                    | 1.2213              | 0.1011                     | 64337.0                          | 1.7655 | 0.1045                 | 69162.4                         | 2.1278              |
| 0.1907                                 | 54428.0                    | 1.2237              | 0.1969                     | 64527.1                          | 1.7739 | 0.2037                 | 69372.0                         | 2.1373              |
| 0.3050                                 | 54661.4                    | 1.2311              | 0.3013                     | 64782.1                          | 1.7851 | 0.3020                 | 69548.4                         | 2.1420              |
| 0.3994                                 | 54988.9                    | 1.2455              | 0.4002                     | 64884.8                          | 1.7875 | 0.4012                 | 69680.2                         | 2.1469              |
| 0.5199                                 | 55147.2                    | 1.2501              | 0.5010                     | 65134.4                          | 1.7990 | 0.5040                 | 69936.1                         | 2.1589              |
| 0.5993                                 | 55250.7                    | 1.2519              | 0.6343                     | 65182.5                          | 1.7979 | 0.6021                 | 70080.3                         | 2.1647              |
| 0.7137                                 | 55482.6                    | 1.2601              | 0.6891                     | 65328.9                          | 1.8048 | 0.7014                 | 70179.0                         | 2.1655              |
| 0.8184                                 | 55562.7                    | 1.2633              | 0.8021                     | 65766.0                          | 1.8257 | 0.8032                 | 70276.6                         | 2.1679              |
| 0.8945                                 | 55797.3                    | 1.2700              | 0.9052                     | 65931.1                          | 1.8315 | 0.9047                 | 70444.9                         | 2.1755              |
| 1.0170                                 | 55997.8                    | 1.2783              | 1.0004                     | 66190.3                          | 1.8435 | 1.0135                 | 70610.9                         | 2.1800              |

Fig. 7.A.1 Variation of velocity with concentration of acrylamide in ethanol, 1-propanol,1-butanol

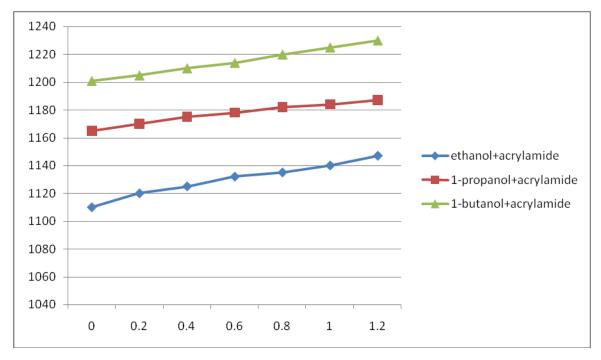


Fig. 7.A.2 Variation of density with concentration of acrylamide in ethanol, 1-propanol,1-butanol

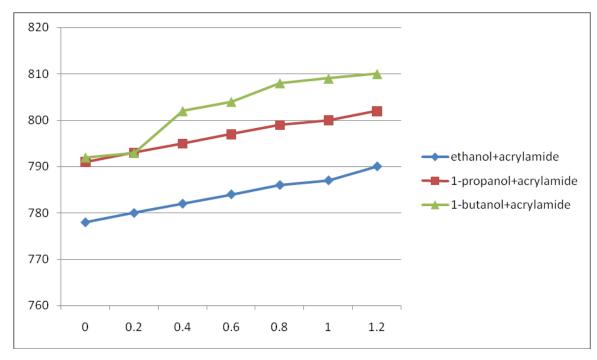


Fig. 7.A.3 Variation of viscosity with concentration of acrylamide in ethanol, 1-propanol,1-butanol

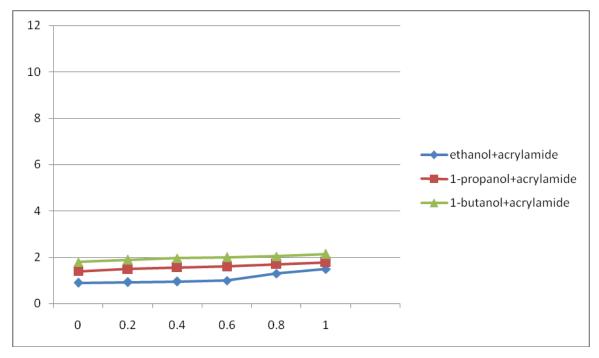
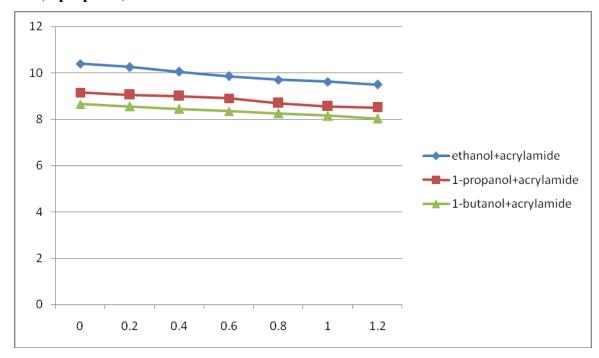


Fig. 7.A.4 Variation of isentropic compressibility with concentration of acrylamide in ethanol,1-propanol,1-butanol



interactions such as dipole .dipole, hydrogen bonding between the solute and solvent molecules. Alcohol molecules are polar in nature. The oxygen atom of the carbonyl (-C = 0)

group and nitrogen atom of the amide  $(-CO - NH_2)$  group of acrylamide molecule interact with the hydrogen atom of the hydroxyl (-OH) group of alcohol molecules through hydrogen bonding.

The molecules of solute and solvent are polar (Dipole moments: acrylamide - 3.44 D; ethanol. 1.69 D, 1- propanol. 1.68 D, 1-butanol. 1.52 D) hence dipole-dipole interactions are also possible between the solute and solvent molecules. The increase in the concentration of the solute leads to a more tightly bound configuration of the molecules in the solution compared to the configuration of the molecules in the solvent. The isentropic compressibility is the ease with which the system can be compressed. Hence, the increase in the concentration of the solute is resulting the decrease of the isentropic compressibility in all the systems studied.

Intermolecular free length is an important property employed to study the interactions between the solute and solvent molecules. Free length is a predominant factor in determining the variation of ultrasonic velocity in a system. The interdependence of free length and velocity has been evolved from a model for sound propagation. Figure 7.A.5 shows the variation of intermolecular free length with concentration of solute. It is observed that the variation of intermolecular free length is in good agreement with that of isentropic compressibility. The variation of acoustic impedance with the concentration of solute is shown in figure 7.A.6. In general, the increase of acoustic impedance indicates the existence of strong interactions where as decrease of acoustic impedance indicates that dispersive forces are operating between the molecules in the solutions. It is observed in the present study, that acoustic impedance increase with the molality of the solute in all the systems studied. Such observation indicates the existence of strong interactions and is in good agreement with the conclusions drawn from the variation of isentropic compressibility and intermolecular free length.

Fig. 7.A.5 Variation of intermolecular free length with concentration of acrylamide in ethanol,1-propanol,1-butanol

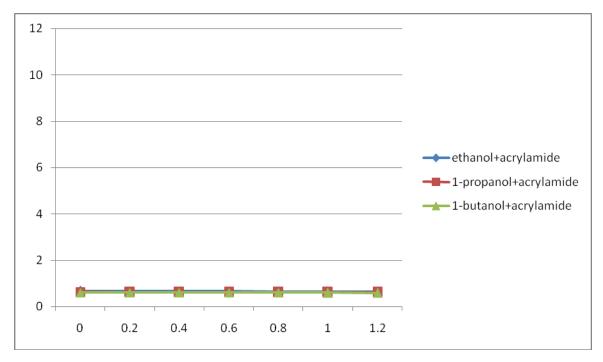
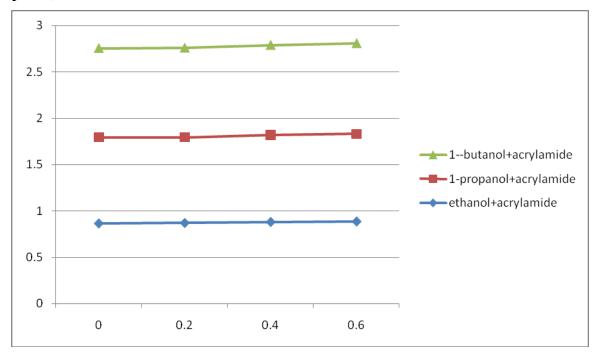


Fig. 7.A.6 Variation of acoustic impedance with concentration of acrylamide in ethanol,1-propanol,1-butanol



The variations of molar volume, internal pressure, free volume, enthalpy and viscous relaxation time with concentration of solute are shown in figures 7.A.7. 7.A.11. From these figures, the molar volume, free volume are found to decrease where as internal pressure, enthalpy and

relaxation time are observed to increase with the increase of the molality of the solute in all the systems studied.

The variation of these properties also supports the conclusions drawn from above. From all the figures 7.A.1. 7.A.11 and the tables 7.A.2. 7.A.6 it is observed that the steepness of variation in case of the solutions with ethanol served as solvent is highest and least in the solutions with 1-butanol as solvent.

This indicates that the solute-solvent interactions are stronger in the system acrylamide+ethanol and weaker in the system acrylamide+1-butanol among the three systems studied. As the carbon chain length increases in the solvent the steric hindrance increases between the solute and solvent molecules. In the case of acrylamide+1-butanol system the effect of steric hindrance is maximum. Hence, the strength of specific interactions is weaker in case of acrylamide+1-butanol system and stronger in acrylamide+ethanol system.

Fig. 7.A.7 Variation of molar volume with concentration of acrylamide in ethanol, 1-propanol, 1-butanol

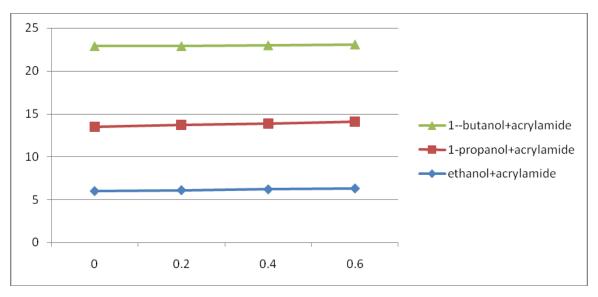


Fig. 7.A.8 Variation of internal pressure with concentration of acrylamide in ethanol, 1-propanol,1-butanol

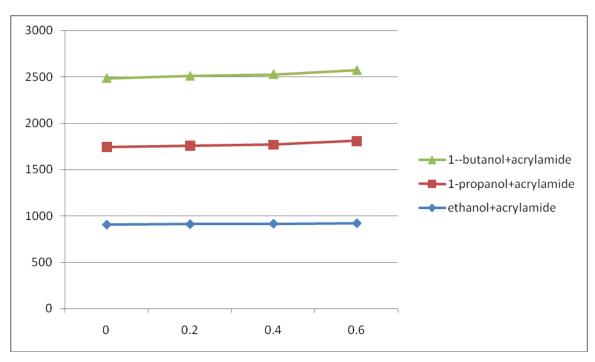


Fig. 7.A.9 Variation of free volume with concentration of acrylamide in ethanol, 1-propanol,1-butanol

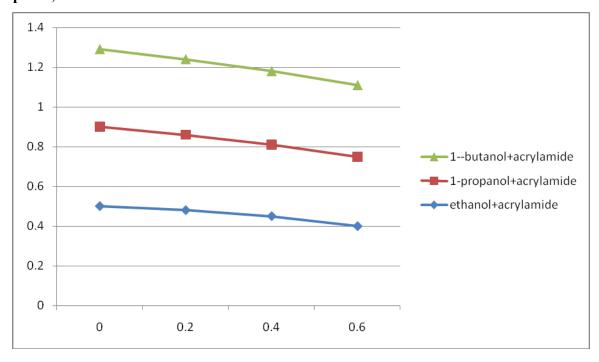


Fig. 7.A.10 Variation of enthalpy with concentration of acrylamide in ethanol, 1-propanol,1-butanol

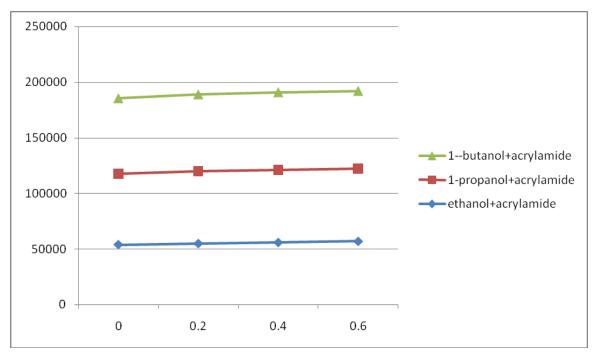
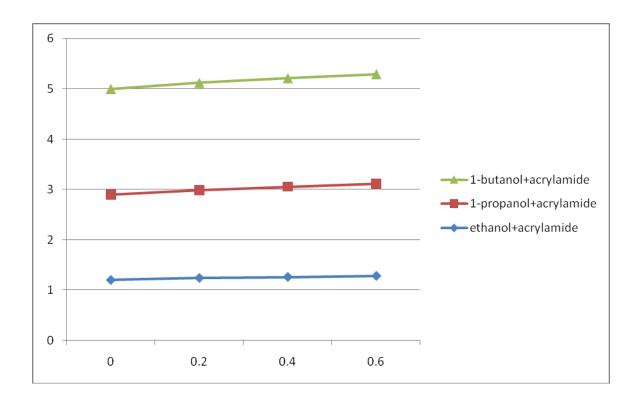


Fig. A.7.11 Variation of relaxation time with concentration of acrylamide in ethanol, 1-propanol,1-butanol



# **CONCLUSIONS**

- 1. The ultrasonic velocities, densities and viscosities of binary solutions of acrylamide with ethanol/1-propanol/1-butanol are measured over the entire composition range at  $T = 308.15 \, K$ .
- 2. The molecular interactions are studied in the light of variation of ultrasonic velocity (u), density  $(\rho)$ , viscosity (n), isentropic compressibility  $(k_s)$ , intermolecular free length  $(L_f)$ , acoustic impedance (Z), molar volume  $(V_m)$ , internal pressure  $(\pi_t)$ , free volume  $(V_f)$ , enthalpy (H), viscous relaxation time  $(\tau)$  and relative association  $(R_A)$ .
- 3. The variation of measured and computed physical properties indicates the presence of specific interactions between solute and solvent molecules.
- 4. The steepness in the variation of measured and computed physical properties indicate that steric hindrance is larger in the case of interactions in the system acrylamide+1-butanol and smaller in case of acrylamide+ethanol.
- 5. From this observation it may be suggested that the interactions between the solute and solvent molecules are stronger in acrylamide+ethanol system and weaker in acrylamide+1-butanol system among the systems studied.

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