

**மொழிக்கல்வியில் அன்றைய பயிற்றுமுறையும்  
இன்றைய புதிய அணுகுமுறைகளும்  
முனைவர். ச. பர்வத கிருஷ்ணம்மாள்,  
தமிழ்த்துறை, ஸ்ரீ சாரதா மகளிர் கல்லூரி, திருநெல்வேலி - 11.**

**ஆய்வுச் சுருக்கம்**

மொழி என்பது ஒரு மனிதனின் அறிவுவளர்ச்சிக்கு மிகவும் இன்றியமையாததாகும். ஒரு சமுதாயத்தின் பேச்சுமொழி, உயிர்ப்புள்ள மொழியாக நீண்ட காலம் வாழவேண்டுமானால், அம்மொழியானது, வழக்கில் ஏற்றுக் கொள்ளப்பட்ட மொழியாகவும், இலக்கிய மொழியாகவும் உருப் பெற்றிருக்க வேண்டும். அத்தகைய இலக்கிய மொழியே கற்பதற்கு ஏற்ற மொழி ஆகும். மொழிக்கல்வியே ஒரு சமுதாயத்தை உயர்நிலை அடையச் செய்யும். சங்க இலக்கியங்களில் கல்வி கற்கும் முறையும், கற்பிக்கும் முறையும் எங்ஙனம் இருந்தது என்பதை இக்கட்டுரை ஆராய்கின்றது.

**குறிப்புச் சொற்கள் :** மொழி - தாய்மொழிக் கல்வி - குருகுலக் கல்வி - சங்க காலக் கற்றல், கற்பித்தல் முறைகள் - திறன் வளர்க்கும் கல்வி மொழிக்கல்வி பயிற்றுமுறை.

**முன்னுரை**

மொழி என்பது ஒரு மனிதனின் அறிவுவளர்ச்சிக்கு மிகவும் இன்றியமையாததாகும்.

“மாவும் புள்ளும் ஐயறி வினவே.”

“மக்கள் தாமே ஆற்றி வுயிரே”

என்னும் நூற்பாக்களில், விலங்கினின்றும் மக்களைப் பகுத்துப் பார்க்கும் உரைகல் கல்வியே என்பதனைத் தொல்காப்பியர் குறிப்பிடுகின்றார்.

ஆதிமனிதன் தன்கருத்தை வெளிப்படுத்த சைகை மொழியைப் பயன்படுத்தினான்.காலம் செல்லச் செல்லச் சமூகத்தோடு இயைந்து வாழ்வதற்காகப் பேச்சு மொழியைக் கண்டறிந்தான். ஒரு சமுதாயத்தின் பேச்சுமொழி, உயிர்ப்புள்ள மொழியாக நீண்ட காலம் வாழவேண்டுமானால், அம்மொழியானது, வழக்கில் ஏற்றுக் கொள்ளப்பட்ட மொழியாகவும், இலக்கிய மொழியாகவும் உருப் பெற்றிருக்க வேண்டும். அத்தகைய இலக்கிய மொழியே கற்பதற்கு ஏற்ற மொழி ஆகும்.

“மனிதன் ஆயுள் முழுதும் கற்றுக்கொண்டே இருக்க வேண்டும்.  
கற்க மறுப்பவன் வாழ்மறுப்பவன் ஆகின்றான்”

என்கின்றார் ஸ்ரீ இராமகிருஷ்ணர். அக்கல்வி அவரவர்தம் மொழியில் அமையும்போதே சிறப்புப் பெறும். மொழிக்கல்வியே ஒரு சமுதாயத்தை உயர்நிலை அடையச் செய்யும். அத்தகு உயர்மொழியாகக் காலம் கடந்து இன்றும் நின்று நிலைபெற்று விளங்கும் மொழி நம் தாய்மொழியாம் தமிழ்மொழி ஆகும். நம் தமிழ்மொழியில் கல்வி கற்கும் முறையும், கற்பிக்கும் முறையும் எங்ஙனம் இருந்தது என்பதை ஆராயும் ஒரு முயற்சியாகவே, இக்கட்டுரை அமைகின்றது.

### கல்வி

“மனிதனிடம் ஏற்கெனவே உள்ள நிறை நிலையை வெளிப்படுத்துவதே கல்வி” என்றார்

சுவாமி விவேகானந்தர். டாக்டர்.மு.வ. அவர்களும், “கண் உள்ளவரையில் நூல்களைக் கற்று, செவியுள்ள வரையில் நூற்பொருளைக் கேட்டு வளர்வது தான் உண்மைக் கல்வியாகும்” என்பார். எனவே, மனிதரை மனிதராக்கும் முயற்சியே கல்வியின் பண்பும், பயனும் ஆகின்றது. “கல்வியானது பண்டைய மரபுகளைக் காத்தலோடு அதனுடன் புதியனவற்றையும் இணைப்பதாக அமைதல் வேண்டும். இத்தகைய கல்வியே தனிமனிதன், சமூகம் ஆகியவற்றின் வளர்ச்சிக்கும், மகிழ்ச்சிக்கும் உதவுவதாகும்” என்பார் கல்வியாளர் எஸ்.சந்தானம் அவர்கள். மேலும் அவர், “கல்வியானது மாணவர்களிடையே குழு உணர்ச்சியைத் தூண்டி, சமூகப்பண்புகளைத் தோற்றுவித்து, அவர்களது வளர்ச்சியில் சமுதாயத்திற்கும் பெரும்பங்குண்டு என்னும் உண்மையை அவர்கள் அறியச் செய்ய வேண்டும்” என்கிறார்.

### மொழிக்கல்வி - தாய்மொழிக்கல்வி

‘கல்’ என்னும் அடிச்சொல்லில் இருந்தே கல்வி, கற்றல் ஆகிய சொற்கள் தோன்றியுள்ளன. “கல்லுதல் என்பதன் பொருள் தோண்டுதல். கல்வி கல்லுதல் என்பது மனதைக் கிளறித் திருத்திப் பண்படுத்துவதாம்”<sup>5</sup> என்பார் ஸ்ரீமத் சுவாமி சித்பவானந்தர் அவர்கள்.

அச்செயல் நாம் அறிந்த நம் தாய்மொழி வழியே வெளிப்படும்போதே சிறப்புறும். ஐம்புலன்களையும் ஒருமைப்படுத்திக் கல்வி கற்கத் தூண்டுவது தாய்மொழிக் கல்வியே ஆகும்.

நம் எண்ணங்களை வெளிப்படுத்த உதவும் தாய்மொழியிலேயே கல்வி கற்கும்போது சிந்தனை இயல்பாகவே விரிவடைகின்றது. தாய்மொழியின் துணையின்றிப் பிறமொழிகளில்

புலமை பெறுதல் என்பது தாயின்றிச் சுயமாகப் பிறப்பெடுத்தற்குச் சமமாகும்.

மக்களுக்குப் பெருமிதம் கிட்டும் இடங்களைக் கூற வந்த தொல்காப்பியர் ,

“கல்வி தறுகண் புகழ்மை கொடைஎனச்  
சொல்லப்பட்ட பெருமிதம் நான்கே.”

என்னும் நூற்பாவில் கல்வியினால் பெருமை கிட்டும் என்கின்றார். அத்தகு பெருமை வாய்ந்த கல்வி தாய்மொழிவழியே அமையும்போதே முழுமை அடையும். அவ்வக் காலச் சூழலுக்கேற்பத் தாய்மொழி வழிக் கல்வியைக் கற்கும்முறையும், கற்பிக்கும்முறையும் காலந்தோறும்வேறுபட்டுக் கொண்டே வந்துள்ளது. சங்ககாலத்தில் கல்வி கற்றலும், கற்பித்தலும் எங்ஙனம் அமைந்திருந்தது என்பது குறித்தே இக்கட்டுரை ஆராய்கின்றது.

### **சங்க காலத்துக் கல்வியும், பயிற்று முறையும்**

சங்க காலத்தில் கல்வியானது சிறப்பான இடத்தைப் பெற்றிருந்தது. அக்காலத்தில் ஆண்களும், பெண்களும் கல்வி பெற்றிருந்தனர். எழுத்து வடிவம் செம்மை அடையாத நிலையில் வாய்மொழி வாயிலாகவே மக்கள் கல்வி கற்றனர். கல்வி கற்பிக்கும் இடங்களாக, ஆசிரியரின் இல்லமும், பொதுமக்கள் கூடும் ஆலமரமும் அமைந்திருந்தன. அதனால் சங்ககாலக் கல்வி முறையானது குருகுலக் கல்வி முறையாகவே இருந்தது எனலாம். மேலும் அச்சு இயந்திரம் தோன்றாத அக்காலத்தில் பனைஓலைச் சுவடிகளைப் பதப்படுத்தி, எழுத்தாணி கொண்டு எழுதிக் கற்றனர். அது கடினமான செயலாக இருந்தமையால்,

“சித்திரப் பாவையின் அத்தக வடங்கிச்  
செவிவாயாக நெஞ்சு களனாகக் கேட்டவை  
கேட்டவை விடாது உளத்தமைத்து”

பயின்றனர் என்று நன்னூல் ஆசிரியர் பவணந்தி முனிவர் கூறுவதாலும்,

“ஏடாயிரங்கோடி எழுதாது தன் மனத்தே  
எழுதிப் படித்த விரகன்”

என்று அதிவீரராமபாண்டியனைப் பற்றிக் கூறும் செய்யுள் அடியாலும், ஓலைச்சுவடியில் எழுதப் பட்டதை ஆசிரியரின் வாய்மொழி வாயிலாகவே, மாணவர்கள் கேட்டுப் படித்தனர்; மனப்பாடம் செய்யும்முறையே அக்காலக் கல்வியாக இருந்துள்ளது என அறியலாம். கணக்காயர், பேராசிரியர் ஆகிய சங்க இலக்கியச் சொற்கள் ஆசிரியரையே குறிப்பவை எனலாம்.

### திறன் வளர்க்கும் கல்வி

சங்ககாலத்துக் கல்வியானது வாழ்க்கையின் பல்வேறு திறன்களையும் வளர்ப்பதாக அமைந்தது. சங்க காலத்தில் ஊர்தோறும் திண்ணைப் பள்ளிக்கூடங்கள் இருந்தன. அங்கு இளம் பருவ மாணவர்களுக்குப் பயிற்றும் ஆசிரியர்கள் “இளம்பாலாசிரியர்” (தொடக்கப்பள்ளி ஆசிரியர்) என அழைக்கப் பெற்றனர். மதுரை இளம்பாலாசிரியன் சேந்தன் கூத்தனார் என்னும் புலவர் பெயரே இதற்குச் சான்றாகும். நெடுங்கணக்கு முதலிய அடிப்படைகளைப் பயிற்றும் ஆசிரியர்கள் “கணக்காயர்” என்ற பெயரால் அறியப்பட்டனர். உயர்கல்வியைக் கற்றுக் கொடுப்போரே “ஆசிரியர்” என்று அழைக்கப்பட்டனர். அத்தகு உயர் கல்வியினைப் பெற விரும்புவர்கள்,

“உற்றுழி உதவியும், உறுபொருள் கொடுத்தும்  
பிறறை நிலை முனியாது”

கற்றனராம். அதாவது, ‘ஆசிரியருக்குத் தம்மால் இயன்ற பொருள் கொடுத்து உதவியும், ஆசிரியர்க்கு வேண்டும் உதவிகளைச் செய்தும், அவரிடத்து அன்பும், பணிவும் உடையராய் நற்கருத்துகளை ஓதி உணர்ந்தனர்’ என்று சங்க இலக்கிய வரலாற்றுக் களஞ்சியமான புறநானூற்றில், பாண்டியன் ஆரியப்படை கடந்த நெடுஞ்செழியன் கூறுகின்றான். திருமணத்திற்குப் பின்னரும் கூட ஆடவர்கள் கல்வியின் பொருட்டுப் பிரிந்து செல்வதை “ஓதற்பிரிவு” என்று தொல்காப்பியமும், சங்க நூல்களும் எடுத்துரைக்கின்றன.

இங்ஙனம் குருகுலக் கல்விமுறையில், கல்வியைப் பயில விரும்பும் மாணவருக்கு உண்மையில் கற்பதற்கு ஆர்வம் இருக்கின்றதா? அக்கல்வியைப் பெறுவதற்கு அவனுக்குத் தகுதி உள்ளதா என்பன போன்றவற்றை அறிவதற்கு ஆசிரியர் சில சோதனைகளை வைப்பார். அதில் அவன் தேர்வு பெற்றுவிட்டால் அவனைத் தனது குருகுலத்தில் சேர்த்துக் கொள்வார். அவனும் குருவுடனேயே தங்கியிருந்து கல்வியைப் பெறுவான். அத்தகைய நிலையில், கல்வியோடு கடமை-கண்ணியம்-கட்டுப்பாடு போன்ற ஒழுங்கு முறைகளையும் மாணவன் இயல்பாகவே பெற்றான். காலை எழுந்து தனது சுய வேலைகளை முடிப்பதோடு, குருவுக்குத் தேவையான தொண்டுகள் முதற்கொண்டு அவனுக்கு வழங்கப்பட்ட கடமைகளை

நிறைவேற்றுதல் மூலம் அங்கே 'கடமை' என்றால் என்ன என்பது மாணவருக்குக் கற்பிக்கப்பட்டது.

பெரியோர்களை மதித்து நடத்தல்; மனதில் பொறாமையின்றி சக மாணவர்களோடு போட்டிகளில் ஈடுபடல்; பணிவு நிறைந்த பேச்சு, ஆசிரியர் சொல்லைக் கேட்டு நடத்தல் போன்றவற்றின் மூலம் சமுதாயத்தில் மக்களோடு பழகும் முறையை மாணவர்கள் கற்றுக் கொண்டனர். இத்தகு இயல்பான வாழ்க்கைக் கல்வியை இயல்பாகவே மாணவர்கள் பெற்றனர்.

“பிள்ளைகளுக்குச் சரீரபலம் ஏற்படுத்தாமல் வெறுமே படிப்பு மாத்திரம் கொடுப்பதால் அவர்களுக்கு நாளுக்கு நாள் ஆரோக்கியம் குறைந்து அவர்கள் படித்த படிப்பெல்லாம் விழலாகி அவர்கள் தீராத துக்கத்துக்கும், அற்பாயுசுக்கும் இரையாகும்படி நேரிடும்” என்கின்றார் பாரதியார்.

சரீர பலம் என்பது உடல் உறுப்புகளைப் பலமாக வைத்துக் கொள்ளுதலாம். இன்றைய கல்விக்கூடங்களில் உடல்உறுப்புகளைப் பேணுவதற்காகவே உடற்பயிற்சிவகுப்புகள் உள்ளன. ஆயினும் அவை ஒழுங்காக நடைபெறுவதில்லை. அன்றைய குருகுலத்தில் இதற்கெனத் தனி வகுப்புகள் இல்லை. ஆயினும் மாணவர்கள் தத்தம் துணிகளைத் துவைத்தல், தமக்கும், குருவுக்கும் குளிப்பதற்குக் கிணறுகளில் நீர் இறைத்தல், தோட்டத்தொழில்கள் செய்தல் என மாணவர்கள் தமது தொழிலைத் தாமே செய்யப் பயிற்றுவிக்கப்பட்டனர்.

### **இன்றைய மொழிக்கல்வியில் புதிய அணுகுமுறைகள்**

ஆனால், இன்று காலச் சூழலுக்கேற்ப, கல்வி கற்பிப்பதற்காகப் பள்ளிக் கூடங்கள் அமைக்கப்பட்டு, மாணவர்களோடு, ஆசிரியர்களும் ஆங்கு வந்து கல்வியைக் கற்பித்தலும் கற்றலும் நிகழ்கின்றன. இன்றைய மொழியாசிரியர்களின் முதன்மைப் பணி மொழி கற்பித்தலே. மொழி கற்பித்தல் என்பது அடிப்படையில் பேசுதல், கேட்டல், எழுதுதல், படித்தல் என்ற தொடர்பாடல் திறன்களைப் பயிற்றுவிப்பதே ஆகும். மொழியை ஒரு கருத்துப் பரிமாற்றச் சாதனமாகப் பயன்பாட்டுச் சூழலில் கற்பிப்பதே இன்றைய தேவையாக உள்ளது.

ஆயின் சங்க காலத்தைப் போன்றே மனனம் செய்யும் முறையும், இன்றளவும் உள்ளது. இந்த 21ஆம் நூற்றாண்டு கணினி யுகமாக - மின் யுகமாக - மாறிக் கொண்டு வருகின்றது. அதற்கேற்றவாறு நம் கல்வி முறையில் மாற்றங்கள் ஏற்பட வேண்டும்.

“பழையன கழிதலும் புதியன புகுதலும்  
வழுவல கால வகையினானே”

என்ற நன்னூலாரின் கூற்றுக்கேற்ப, கற்றலிலும் கற்பித்தலிலும் புதிய முறைகளை நாம் ஏற்றுக்கொள்ள வேண்டும்.

மொழிக்கல்வியை மேம்படுத்த மொழிக்கல்வியில் புதிய அணுகுமுறைகளோடு புத்துணர்ச்சி ஊட்டும் வகுப்பறைச் சூழல்களை உருவாக்குதல் வேண்டும். ஆகவே தான் இன்று மொழிக்கல்வி கற்பித்தல் என்பது வெறும் கரும்பலகை - சாக்குக்கட்டியோடு நின்று விடுவதில்லை. அச்ச இயந்திரங்களின் உதவியோடு பல இலக்கியங்கள் அழியா இலக்கியங்களாய் நிலைபெற்று வாழ்கின்றன. வானொலியும், தொலைக்காட்சியும் நம்மைக் காணாமலே நமக்குக் கற்பிக்கின்றன.

இங்ஙனம் மொழிக்கல்வி கற்பித்தல் என்பது இலக்கணமும், இலக்கியமும் கற்பிப்பதே; அவற்றை மனனம் செய்வதே சிறப்பான கற்கும் முறை என்றிருந்த மொழிக்கல்வி வரலாற்றில் இணையமும், பல்லாடகமும் பல புதிய வாயில்களைத் திறந்து வைத்துள்ளன. இன்று பயிற்றுக் கருவிகள் பல்கிப் பெருகி வகுப்பறைகளை ஆக்கிரமித்துள்ளன. இன்றைய வகுப்பறைப் பயிற்றுக்கருவிகளை அச்சுக்கருவிகள், ஒளி ஊடுருவும் கருவிகள், ஒளி ஊடுருவாக் கருவிகள், செவிப்புலக் கருவி, ஒளி-ஒலிக் கருவிகள் என வகைப்படுத்தலாம். உலகத்தையே வகுப்பறையாக மாற்றிய பெருமை இணையத்திற்கே உண்டு. செவி வாயாக, நெஞ்சு களனாகக் கற்ற காலம் போய் இன்று ஐம்புலன்களாலும் கற்றுக் கொண்டிருக்கின்றோம்.

கணினியும் கணினி சார்ந்த பல்லாடகமும் இணையமும் கற்றல், கற்பித்தலில் பயிற்றுக் கருவிகளாக இடம்பெறத் தொடங்கிய பிறகு வகுப்பறை என்பதற்கான பருப்பொருள் தன்மையே மாற்றம் பெறலாயிற்று. இன்றைக்குப் பல்லாடகமும் இணையமும் பயிற்றுக் கருவியாக மட்டுமல்லாமல் பயிற்றுநராகவும் செயல்படத் தொடங்கியுள்ளன. இணையம் வழிக் கற்பித்தலில் மின்னஞ்சல், இணைய உரையாடல், காட்சிவழிக் கலந்துரையாடல், செய்திக் குழுக்கள், கோப்புப் பரிமாற்று நெறிமுறை, சமூக வலைத்தளங்கள் முதலான இணைய

வாய்ப்புகள் மிகவும் உறுதுணையாக உள்ளன. கற்பித்தலுக்கு உதவக்கூடிய கட்டுரைகள், கதைகள், கவிதைகள் முதலான தரவுகளை, பல்லாயிரக் கணக்கான தமிழ் வலைத்தளங்களும் வலைப் பதிவுகளும் வழங்கி வருகின்றன. மின் இதழ்கள், மின் நூலகங்கள், இணையத் தமிழ் அகராதிகள், கலைக் களஞ்சியங்கள்

எனப் பல்வேறு வகையான கற்றல், கற்பித்தல் மூலங்களையும் அவை வழங்குகின்றன.

எவ்வளவுதான் கருத்துகளை அவை அள்ளி வழங்கினாலும், கற்பித்தலில் ஓர் ஆசிரியரின் இடத்தை அவற்றால் ஒருபோதும் நிரப்ப இயலாது. வகுப்பறை என்பது தொழிற்கூடமன்று. புலன்களால் கற்பது மட்டுமே கல்வி அல்ல. அது மனத்தால் கற்பது.

"சித்திரமும் கைப்பழக்கம் செந்தமிழும் நாப்பழக்கம்  
வைத்ததொரு கல்வி மனப்பழக்கம்"

என்பார் ஓளவையார். மனப் பழக்கத்தால் பயிலுவதே கல்வி. கற்றலுக்குப் பயன்படும் கருவிகள் மாணவர்களின் புலன்களுக்கு விருந்தளிக்கும். ஆனால் ஆசிரியரே மாணவர்களின் மனத்தைப் பழக்கவல்லவர். வகுப்பறைச் சூழலையும், மாணவர்களின் மனநிலையையும் கருத்தில் கொண்டு பல்வேறு வகையான உத்திகளோடு வகுப்பறையை உயிரோட்டம் உள்ளதாக மாற்றும் சக்தி ஆசிரியர்களுக்கே உண்டு. மொழிக்கல்வியின் முதன்மை நோக்கமே கருத்துப் பரிமாற்றத் திறன்களை வளர்ப்பதுதான். ஆதலால் குழு விவாதங்கள், கட்டுரை, கவிதை, நாடகம் முதலான படைப்பாக்கங்களை உருவாக்க வழிகாட்டுதல், சொற்போர் நிகழ்த்துதல் முதலான திறன்களை மாணவர்கள் பெறச் செய்யலாம். அதற்காகப் புதிய தொழில் நுட்பங்களைப் புறக்கணிக்கச் சொல்லவில்லை. எத்தகைய அறிவியல், தொழில் நுட்ப வசதிகள் பெருகினாலும் அவற்றையும் பயன்படுத்திக் கொண்டு, நம்மை உயர்த்திக் கொள்ள வேண்டும். என்றாலும் துணைக் கருவிகள் துணைக்குத்தான் என்ற தெளிவும் நமக்கு வேண்டும்.

ஆசிரியர் என்பவர் ஒரு கலைஞர். வகுப்பறை என்பது கலைக் கூடம். கற்பித்தல் என்பது கலையின் வெளிப்பாடு. ஆசிரியரின் வெற்றி என்பது அவரது தனிப்பட்ட கற்பித்தல் நேர்த்தியிலும், தகுதியான மாணவர்களை உருவாக்கும் படைப்பாற்றலிலும் தான் முடிமை பெறுகிறது. கற்பித்தல் நேர்த்தி என்பது ஆசிரியரின் ஈடுபாட்டோடு தொடர்புடையது. ஆசிரியர்கள் ஒவ்வொரு நாளும் கற்பிக்க வகுப்பறைக்குச் செல்வதற்கு முன், முன்தயாரிப்பில் ஈடுபட வேண்டும். மாணவர்களுக்குக் கற்பிக்கும்முன் தன்னை ஆயத்தப் படுத்திக் கொள்ள வேண்டும். இத்தகைய ஈடுபாடே ஆசிரியர்களின் வெற்றிக்கு முதல்படி.

## முடிவுரை

இங்ஙனம் சங்க காலத்தில் கல்வியானது, குருகுலக் கல்வியாகவே அமைந்திருந்தது. மாணவர்கள் ஆர்வத்தினாலும், ஈடுபாட்டினாலும் கற்பதாகவும், ஆசிரியர் சொல்லித் தருவதை அதீத கவனத்தோடு கற்று, நாவடக்கத்தோடு, கற்றதை

மறவாமல் மனதிலேயே இருத்தித், தான் கற்ற கலைக்கல்வி தவிரவும், வாழ்க்கைக்கு உதவும் கல்வியையும் பெற்றனர் என்றால் மிகையாகாது.

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## A Leap Back into Nature: an Ecofeministic Glance on Margaret Atwood's *Surfacing*

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### **Abstract**

*From the past of human history, nature deemed as feminine and the reproductive nature of women connects them to nature. The ecofeminists track deep connections between women and nature, with an illustration of repression and exploitation in terms of environment. 'Speciesism' states the notion that human animals are superior to other animals. Since man declared as social animal having certain animalistic qualities which resulted in dominated patriarchal society. Feminism rebels against, whereas ecofeminism exploits the subjugations of nature and women. Ecofeminist believe in the interconnectedness of women and nature and they also raise their voice against the unjust dominion over nature and women. Margaret Atwood is one of such writers who portrays the exploitation and subjugation of women and nature in her works. Her works present a variety of women characters who struggle to attain 'power' and 'self-identity' in the patriarchal society. In Atwood's *Surfacing* the quest for the female self that escapes the patriarchal culture and the relation between women and nature is portrayed. This paper proves the qualities of a true ecologist and serves as an eye opener which stresses the importance of returning back to nature.*

**Keywords:** *Ecofeminism, Speciesism, Myths and fairy Tales, Oryx and Crake, protagonist*

Since the past, nature has always been deemed as feminine. The reproductive nature of women connects them to nature. The ecofeminists track deep connections between women and nature. 'Speciesism' states the notion that human animals are superior to other animals. Because man is declared as social animal have certain animalistic qualities which resulted in dominated patriarchal society. Feminism rebels against, whereas ecofeminism exploits the subjugations of nature and women. Ecofeminists believe in the interconnectedness of women and nature and they also raise their voice against the unjust dominion over nature and women. Margaret Atwood, Jean Auel, Marion Zimmer Bradley, Octavia Butler, Annie Dillard, Charlotte Perkins Gilman, Sue Monk Kidd, Ursula K. Le Guin, Barbara Kingsolver, Toni Morrison, Mary Oliver, Alice Walker and Nandini Sahu are the famous ecologists in the field of literature. Margaret Atwood is one of such writers who portray the exploitation and subjugation of women and nature in her works. Her works present a variety of women characters who struggle to attain 'power' and 'self-identity' in the patriarchal society.

Margaret Eleanor Atwood, (born November 18, 1939) is a Canadian poet, novelist, literary critic, essayist, inventor, and environmental activist. She is a winner of the Arthur C. Clarke Award and Prince of Asturias Award for Literature. She has been shortlisted for the Booker Prize five times, winning once, and has been a finalist for the Governor General's Award several times, winning twice. In 2001, she was inducted

into Canada's Walk of Fame.<sup>[2]</sup> She is also a founder of the Writers' Trust of Canada, a non-profit literary organization that seeks to encourage Canada's writing community. Among innumerable contributions to Canadian literature, she was a founding trustee of the Griffin Poetry Prize.

Atwood is also the inventor, and developer, of the Long Pen and associated technologies that facilitate the remote robotic writing of documents. She is the Co-Founder and a Director of Syngrafii Inc. (formerly Unotchit Inc.), a company that she started in 2004 to develop, produce and distribute the LongPen technology. She holds various patents related to the LongPen technologies. While she is best known for her work as a novelist, she has also published fifteen books of poetry. Many of her poems have been inspired by myths and fairy tales, which have been interests of hers from an early age. Atwood has published short stories in *Tamarack Review*, *Alphabet*, *Harper's*, *CBC Anthology*, *Ms.*, *Saturday Night*, and many other magazines. She has also published four collections of stories and three collections of unclassifiable short prose works. Atwood's novels are *The Edible Woman*, *Surfacing*, *Lady Oracle*, *Dancing Girls*, *Life Before Man*, *Bodily Harm*, *Murder in the Dark*, *Bluebeard's Egg*, *The Handmaid's Tale*, *Cat's Eye*, *Widerness Tips*, *Good Bones*, *The Robber Bride*, *Bones and Murder*, *Alice Grace*, *Oryx and Crake*, *The Penelopiad*, *The Tent*, *Moral Disorder*, *The Year of the Flood*, *MaddAddam*, *Stone Mattress*, *The Heart Goes Last* and *Hag-Seed*.

Atwood, who was surrounded by the intellectual dialogue of the female faculty members at Victoria College, often portrays female characters dominated by patriarchy in her novels. She also sheds light on women's social oppression as a result from patriarchal ideology. Still, Atwood denies that *The Edible Woman*, published in 1969 and coinciding with the early second wave of the feminist movement, for example, is feminist, and claims that she wrote it four years before the movement. Atwood believes that the feminist label can only be applied to writers who consciously work within the framework of the feminist movement. Atwood has resisted the suggestion that *The Handmaid's Tale* and *Oryx and Crake* are science fiction, suggesting to *The Guardian* in 2003 that they are speculative fiction instead: "Science fiction has monsters and spaceships; speculative fiction could really happen." (Wikipedia). She told the Book of the Month Club: "*Oryx and Crake* is a speculative fiction, not a science fiction proper. It contains no intergalactic space travel, no teleportation, no Martians" (Wikipedia). In 2005, Atwood said that she does at times write social science fiction and that *The Handmaid's Tale* and *Oryx and Crake* can be designated as such. She clarified her meaning on the difference between speculative and science fiction, admitting that others use the terms interchangeably: "For me, the science fiction label belongs to books with things in them that we can't yet do... speculative fiction means a work that employs the means already to hand and that takes place on Planet Earth" (Wikipedia). She said that science fiction narratives give a writer the ability to explore themes in ways that realistic fiction cannot. *Surfacing* (1972) was her second novel, published two years before Francoise d' Eaubonne coined the term 'Ecofeminism'. The novel portrays a sacred bond between women and nature.

The most important problem that man faces today is the degradation of land and environment and its consequences on human existence. In this context the term Ecofeminism becomes highly relevant. The term Ecofeminism was mentioned by Francoise d'Eaubonne, in *Le Feminism ou la Mort* (1974). In the work, the term was defined as the female ability to develop and a new relational structure of gender equality, as well as, between the environment and humanity. Despite several debates against the patriarchal thinking, the female identity is still considered, for some, homogeneous. Plant says that ecofeminism seeks to answer the following questions:

Why does patriarchal society want to forget its biological connections with nature? And why does it seek to gain control over life in the form of women, other peoples, and nature? And what can we do about dismantling the process of domination? What kind of society could live in harmony with its environment? (Alencar)

It means that ecofeminism embraces the idea that women's oppression and the oppression or destruction of environment is closely linked. Buckner claims, "Ecofeminist theory interrogates how patriarchy simultaneously institutionalizes the exploitation of the body of the Earth and the female body" (Alencar). Thus it appears to end the patriarchal culture in which women are submissive to men and government, and looking for a partnership to improve the conditions of life and equality, as it seeks to the recovery of all beings and life, as good to which everyone is entitled. Notwithstanding the desire to break the patriarchal culture, in the 18<sup>th</sup> century, with the Enlightenment era, the binary divisions for male/female started to proliferate. In this way the women was associated with the idea of being fragile, emotional and submissive to the male, who was considered rational and strong. Those divisions prepared the basis for the stereotyping of man and woman in society, which placed the former in the public sphere and the later in the private sphere. This identification turned out to be problematic for women. Bieh says, "the patriarchal stereotypes of what men expect to be. These Stereotypes of what men expect to be. These stereotypes freeze women as merely caring and nurturing beings, instead of expanding the all range of women's human potentialities and abilities" (Alencar). In this manner women are excluded from full integration into the public realm. For this reason, the social ecologists discards such association and stereotypes, as an emotion, caring cannot be universalized as the basis for social organization outside one's own small group, whether kind ship-based or not. Nor can the kind of caring that the mother or father feels for a child be universalised. In Atwood's *Surfacing* the quest for the female self that escapes the patriarchal culture and the relation between women and nature is portrayed.

The nameless protagonist in the novel *Surfacing* is an ecofeminist who returns to the undeveloped island, Northern Quebec, where she grew up, to search for her missing father. The protagonist realizes the gap between her natural self and her artificial construct only when she encounters nature. The ecofeminist impact is seen implicit in the novel by the protagonist's return to the natural world. Her association with nature raises her consciousness of victimization of women. Like a true ecologist, she makes the earth

her literal home for she knows that in the natural world all life is interrelated, teeming with diversity and complexity. Since the novel introduces issue pertaining to feminism and environmentalism, the novel constitutes a representative literary example of ecological feminism. Even the language, events and characters in this novel reflect a world that oppresses and dominates both femininity and nature.

The unnamed protagonist who is searching her father is accompanied by her lover Joe and her friends Anna and David, a married couple. David and Joe decide to shoot interesting scenes during their journey. But the protagonist is filled with the memories of her past, she realises the truth that man exploits both woman and nature. When she identifies that her birth place is being violated by Americans in the name of civilization. She is able to associate herself with natural world. She understands that sub limitation of nature is exploited and in the same way she is also exploited. It is a great shock to her because the people in power are destroying nature. She feels bad because her birth place is collapsed. She says "this isn't where I live" (22).

On their way to campsite the crew sees a dead heron hanging from a tree. David shoots the scene for the purpose of his film 'Random Samples'. The image of the heron upsets the narrator and she assumes that the heron is killed by the American campers. But she is surprised on learning that the heron is killed by the Canadians. It depicts man's dominance over nature. Similarly women are dominated by men in the name of marriage. The narrator's friend Anna applies make up all the time, because if she fails she would be punished by David, her husband. This shows insecure state of women in the married life. David doesn't respect Anna and ill treats her. He even insists his wife to take of her clothes for 'Random Samples'. The narrator asks David why he tortures Anna, and David claims that she does cheat him. She concludes that marriage makes women powerless and dependent.

While the narrator dives into the lake, she sees a disturbing object and screams. Later she realises that it was her dead child. She recollects her past when she left her husband and child for the sake of her love for an art professor. When she becomes pregnant the professor asks her to abort the baby. She committed the sin of killing the innocent life and she becomes guilty of it. But her association with nature gives her a new hope. She realises that delivering a child is a blessing and it is the power of women. She becomes positive and decides to have a child without getting into any kind of traditional bond. She also bring in the evil, how even doctors restrict women to have natural delivery of child. Doctors, instead asserts that it is their power and right to deliver a child into the world. The narrator pours her feelings as:

Woman can pretend she's still natural cynical, instead of a chemical slot machine. But soon they will have the artificial womb. I wonder how I feel about that. After the first I didn't ever want to have another child, it is too much to go through for nothing, they shut you in a hospital, they shave the hair off you and tie your hands down and they don't let you see, they don't want you to understand, they want

you to believe that it's their power and yours. They stick needles into you so you won't hear anything, you might as well being a dead pig, your legs are up in a metal frame, they bend over you, technicians, mechanics, butchers, students clumsy or snickering practising on your body, they take the baby out with a fork like a pickle out of a pickle jar. After that they feel your veins up with red plastic, I saw it running down through the tube. I won't let them do that to me again". (79)

Thus the protagonist brings out the truth how science and knowledge devalues the natural reproductive powers of women and also nature.

At the end of the novel, she comes to know about her father's death but refuses to accept the fact. The night before the day when they decide to leave the island, the narrator seduces Joe so that she could become pregnant. She feels that a new child would replace her lost child. On the last day she abandons her friends. She destroys David's film and escapes in a canoe. Her friends search for her in vain eventually leaving the island. Alone on the island, the narrator falls deeper into madness. She becomes an animal running around naked, eating unwashed plants, and, living in a burrow. She looks at herself in the mirror and sees just a natural woman.

The protagonist, who appears to be a neurotic in all the situations throughout the story, finds rest or peace nowhere. Finally she finds a way to remain in peace, by choosing a life in harmony with nature. She doesn't even diagnose her problem with a physician but she finds the natural medicine in the natural way of living. By taking a huge leap back into the nature she presents herself as a true ecologist.

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## Cashless Economy In India

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### **Abstract**

*The cashless transfer is soon becoming the most preferred option and there are a number of benefits of going cashless. The digital or electronic transaction of the capital by using net banking, credit cards, etc., is called cashless transfer. People can easily pay their bills online, shop and schedule transactions and manage all the finances using their laptops or smartphone. Going cashless not only eases one's life but also helps authenticate and formalize the transaction that are done. This helps to curb corruption and the flow of black money which results in an increase of economic growth. The expenditure incurred in printing and transportation of currency notes is reduced.*

**Keywords:** Transactions, Expenditure, Formalize, Authentic, Curb.

### **Introduction**

Cashless economy is a situation in which the flow of cash within an economy is non-existent and all transactions are done through electronic media channels such as direct debit, credit and debit cards, electronic clearing and payment systems such as Immediate Payment Service (IMPS), National Electronic Funds Transfer (NEFT) and Real Time Gross Settlement (RTGS). Today, credit cards and online payment services are becoming increasingly popular in urban India, paper currency notes are still an essential part of daily life. One saying is revenue is vanity, cash flow is sanity but cash is king. Cash may be defined as any legal medium of exchange that is immediately negotiable and free of restrictions.

### **Current position of cashless India**

- The cash centric informal sectors like, agriculture, real estate, etc., have been affected by demonetization. However the experts say that it's a short term scenario and this move will give positive long term consequences.
- To bring the economy on track again, government is promoting cashless economy because scrapping of cash needs an alternative to cash.
- India's black money has been estimated by the World Bank in 2010 to be worth about one fifth of the GDP. In a country where 90% transactions are carried out on cash basis it was a revolutionary move to transform from cash to cashless transactions.
- Under this scheme, 250 million bank accounts have been opened in two years, As per RBI reports bank branches increased by 5% per year but ATMs, debit cards and card swiping machines have doubled in four years and online transactions have grown 20times in six years to 2016.

- All these data shows a gradual shift towards cashless economy Demonetization has speed up this transactions.

### **Advantages of cashless payments**

The whole country is witnessing the effects of demonetization and with our Prime Minister hinting at a cashless economy, many people are left in confusion. How would a cashless economy be beneficial is the question of many?.

The cashless transfer is soon becoming the most preferred option and there are a number of benefits of going cashless. The digital or electronic transaction of the capital by using net banking, credit cards , etc., is called cashless transfer. People can easily pay their bills online, shop and schedule transactions and manage all the finances using their laptops or smartphones.

Going cashless not only eases one's life but also helps authenticate and formalize the transaction that are done. This helps to curb corruption and the flow of black money which results in an increase of economic growth. The expenditure incurred in printing and transportation of currency notes is reduced. In a nation like India, cashless transactions are not widespread and this is due to the technology gap and the lack of proper education. Though these are the matters of concern, the government or the financial institutes need to address them to create a strong cashless economy.

### **Disadvantages of cashless payments**

Here are some of the problems which stand in the way of India becoming a cashless society:

- **Cyber Security:-** In October 2016, the details of over 30 lakh debit cards were feared to have been exposed at ATMs. It was believed that the card and PIN details might have been leaked due to which customers were advised to change the PINs of their ATM-cum-debit cards. Stringent steps issuing new cards were also taken. Just a month later, the PM is motivating people to move to a cashless society. While a card is cloned, it takes several months to recover someone's hard-earned money from the banks. How can people be assured that swiping cards at small shops and vendors will not be a risk to revealing our card details?
- **Network Connectivity:** Since the day demonetization was announced, people are trying to use more of card transactions to save that dreaded trip to the bank and to save the last penny of the hard cash in hand. However, a sudden surge in card transactions has led to connectivity issued. Several people have faced trouble while standing in line to pay for a transaction at a shop when the card machines have stopped working due to an overload on the network. Connectivity issues must be resolved before dreaming about a cashless society.
- **Internet Cost:** The internet cost in India is still substantially high . There is no Wi-Fi at public places and if people do not get their monthly data packs recharged,

there is no way they can be connected to make online payments. Internet connectivity is needed even for the e-wallets. In order to convince people to do cashless transactions, the cost of the internet should be lowered and free Wi-Fi should also be provided at public places.

- **Charges on cards, online transaction:** Heard of convenience charges? Of course, you would have if you do online transactions. These are additional charges that are levied by the vendors when they offer an online payment facility. But when the government is forcing us to go cashless, shouldn't this compulsory fee on online transactions be taken off?
- **Non-tech-savvy:** While the new generation is glued to their phones and gadgets, computer literacy among the people in the over-50-age group is still low. Not many people are comfortable using computers or mobile phones and depend on their children when it comes to using the gizmos. Before promoting a cashless society, efforts need to be taken to educate people on how to use phones for transactions.
- **Smart phone affordability:** Several companies have come up with new and inexpensive phones, but they still not affordable for most of the population in the country. More affordable options should be launched by the government for people to buy smart phones for cashless transactions.
- **Infrastructure/phone battery:** India still lacks when it comes to supporting a mobile society. It is extremely difficult to find a public charging point if the phone battery discharges, /even metro stations or railway stations in the tier one cities do not provide that infrastructure. So what happens if you have cash in your wallet, but you are out of battery after travelling on the road for a day? Is there any alternative that we have then?
- **Not enough bank accounts:** Most people still do not have bank accounts. Most often there is just one account per family which also limits the number of cards people can have individually,. A family of even four people cannot be dependent on just one card for al household expenditure.
- **Internet Blockage:** States like Jammu and Kashmir often face crackdown where the internet is the first thing that is blocked . In such circumstances, neither is it possible to use cards for transactions nor is it possible to use e-wallets. Any alternatives there?
- **Are banks ready:** A cashless society needs a proper infrastructure. The banks need to be fully equipped to handle the surge in e-transactions. Infrastructure is also needed in terms of opening more accounts in the banks.
- **Encourage people to spend:** Spending by cards often encourages people to spend more giving cash by hand helps people keep a check on their expenses but



paying by card gives people a free hand. Not just through credit but even the debit cards give that impression that you can make that payment immediately.

A cashless society is a welcome idea but not without preparation. There is a precursor to taking such steps without which a move such as this would be more harmful than being beneficial. A cashless society, for now, seems like a distant dream but a less cash society can be appreciated.

### **Conclusion**

The government needs to take the necessary steps and make some policy considerations when they are preparing for a cashless economy. The payment systems have to be protected from the cyber-attacks which are the major threat for cashless transactions.

Also, the government should be able to serve the under banked as well. Everyone from the society should have access to an electronic system that they can use for such transactions.

Government should take measures to increase liquidity into the system so that people face less inconvenience. Government should also try to improve overall infrastructure so that more and more people can come into banking net and internet.

Society has also to play its part. They have to understand the importance of cashless economy and appreciate measures taken by the government.

As a conclusion, it can be said that going cashless provides a lot more benefits than just convenience to people, businesses and the government in particular.

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## Advantages of Goods and Services Tax Bill in India

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### **Abstract**

*The Goods & Service Tax or GST is one of the biggest fiscal reforms in India since Independence. All businesses, small or large, will be impacted by this new indirect tax regime. GST will be levied on both goods and services and will subsume and replace the current indirect taxes such as excise, VAT, and service tax. The GST is a Value added Tax (VAT) is proposed to be a comprehensive indirect tax levy on manufacture, sale and consumption of goods as well as services at the national level. It will replace all indirect taxes levied on goods and services by the Indian Central and State governments. Though GST is considered to be a historical tax reform in India, it also has some demerits. We here would look into GST Taxation and deal with its advantages and disadvantages.*

**Keywords:** Value added tax, Regime, composition, scenario, cascading tax, IGST, SGST, CGST.

### **Introduction**

From July 1, the country will move to a new indirect tax regime as GST or goods and services tax will subsume nearly a dozen of central and state taxes. From the consumer's point of view, the biggest advantage would be in terms of reduction in overall tax burden on goods. For businesses, it means reduction in a multiplicity of taxes and a much simpler tax regime with fewer rates and exemptions. GST is being hailed as a potential "game-changer" for Indian economy. "GST will definitely change the way in which business operates. To that extent it is a major positive disruption, leading to more transparency and will make doing business easier," said Madan Sabnavis, chief economist with CARE Ratings, adding that in the short-term there could be some implantation challenges. Goods and services, depending on their nature, have been placed under four tax rates of 5 per cent, 12 per cent, 18 per cent and 28 per cent while some are exempt.

### **Meaning of GST:**

The GST is paid by consumers, but it is remitted to the government by the businesses selling the goods and services. In effect, GST provides revenue for the government. Also referred to as Value-Added Tax (VAT) in some countries. The Goods and Services Tax (GST), India's biggest tax reform since Independence, was rolled out past midnight on Friday at a gala event organised in the Parliament's Central Hall. A minute after the stroke of midnight, President Pranab Mukherjee and Prime Minister Narendra Modi pressed the button to launch the new indirect tax regime on a digital screen with 'GST' emblazoned on it in a golden hue.

## Benefits of GST to the Indian economy

### Removing cascading tax effect

An important benefit of the introduction of GST will be the removal of the cascading tax effect. In simple words, “**cascading tax effect**” means a tax on tax. Under the current regime, the service tax paid on input services cannot be set off against output VAT. Under GST, the input tax credit can be availed smoothly across the spectrum of goods and services, thus reducing the tax burden on the end user and removing cascading effect.

**Current scenario** A trader buys office supplies for Rs. 20,000 paying 5% as tax. It charges 15% service tax on services of Rs. 50,000. Currently, he has to pay Rs.  $50,000 * 15\% = \text{Rs. } 7,500$  without getting any deduction of Rs. 1,000 VAT already paid on stationery.

### Under GST (assuming GST= 18%)

This will be especially beneficial to industries that involve both goods and services (like restaurant business) and pay both VAT & Service Tax under the current regime.

GST on service of Rs. 50,000 @ 18%	9,000
Less: GST on office supplies (20,000*18%)	3,600
Net GST to pay	5,400

### Higher threshold for registration

As per the current VAT structure, any business with a turnover of more than Rs. 5 lakh (in most states) is liable to pay VAT (different rates in different states). Similarly, for service tax, service providers with turnover less than Rs. 10 lakhs are exempted. Under GST this threshold has been increased to Rs. 20 lakhs thus exempting many small traders and service providers.

### Composition scheme for small businesses

GST also has an *optional* scheme of lower taxes for small businesses with turnover between Rs. 20 to 50 lakhs. It is called the composition scheme. It has now been proposed to be increased to 75 lakhs. This will bring respite from tax burdens to many small businesses.

### Simpler online procedure under GST

The entire GST process – starting from registration to filing returns and payment of GST tax – is online. Start-ups do not have to run around to tax offices to get various registrations under excise, VAT, service tax.

### Lesser number of compliances

Also, the current tax regime has excise

VAT and service tax, each of which have their own returns and compliances.

GST will unify all these, thereby reducing the number of returns and the time spent for tax compliances. There are about 11 returns under GST, out of which 4 are basic returns which apply to all taxable persons under GST. There are fears that the number of returns will increase after GST. But the main GSTR-1 will be manually populated. But GSTR-2, GSTR-3, GSTR-4 will be auto-populated.

Tax	Return filing
Excise	Monthly
Service tax	Proprietorship/Partnership- Quarterly Company/LLP- Monthly
VAT	Different for different states Some states require monthly returns over a threshold limit. Some states like Karnataka require a monthly return

### Defined treatment for e-commerce

Many Indian businesses provide goods and services through the internet. Earlier, there were no specific provisions for treatment of the e-commerce sector. Currently, states have variable VAT laws for this sector. For example, online websites (like Flipkart and Amazon) delivering to Uttar Pradesh have to file a VAT declaration and the registration number of the delivery truck. Tax authorities can sometimes seize goods when there is a failure to produce documents. Again, these e-com brands are treated as facilitators or mediators by states like Kerala, Rajasthan, and West Bengal which do not require them to register for VAT. All these differential treatments and confusing compliances will be removed under GST. For the first time, GST clearly maps out the provisions applicable to the e-commerce sector and since these will apply all over India, there should be no complication regarding inter-state movement of goods anymore.

### Increased efficiency in logistics

The logistics industry in India had to maintain multiple warehouses across states to avoid the current CST and state entry taxes on inter-state movement. Most of the

times, these warehouses were forced to operate below their capacity thus increasing their operating costs.

When GST goes live, these restrictions on inter-state movement of goods will be lessened and the logistics sector might start consolidating warehouses across the country. As an outcome of GST, warehouse operators and e-commerce players have already shown interest in setting up their warehouses at strategic locations such as Nagpur, which is the zero-mile city of India, instead of every other city on their delivery route. Reduction in unnecessary logistics costs will increase profits for businesses involved in supply of goods through transportation.

### **Regulating the unorganized sector**

Certain industries in India like construction and textile are largely unregulated and unorganized. GST has provisions for online compliances and payments, and availing of input credit only when the supplier has accepted the amount, thereby bringing accountability and regulation to these industries.

### **GST- Disadvantages**

1. Some Economist say that GST in India would impact negatively on the real estate market. It would add up to 8 percent to the cost of new homes and reduce demand by about 12 percent Some Experts says that CGST(Central GST), SGST(State GST) are nothing but new names for Central Excise/Service Tax, VAT and CST. Hence, there is no major reduction in the number of tax layers.
2. Some retail products currently have only four percent tax on them. After GST, garments and clothes could become more expensive.
3. The aviation industry would be affected. Service taxes on airfares currently range from six to nine percent. With GST, this rate will surpass fifteen percent and effectively double the tax rate. Adoption and migration to the new GST system would involve teething troubles and learning for the entire ecosystem

### **Conclusion**

The GST is a Value added Tax (VAT) is proposed to be a comprehensive indirect tax levy on manufacture, sale and consumption of goods as well as services at the national level. It will replace all indirect taxes levied on goods and services by the Indian Central and State governments. Though GST is considered to be a historical tax reform in India There is no doubt that GST is aimed at increasing the taxpayer base by bringing SMEs and the unorganized sector under its purview. This will make the Indian market more competitive than before and create a level playing field between large & small enterprises. Further, Indian businesses will be able to better compete with foreign countries such as China, Philippines, and Bangladesh.

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## Amino Acid Based Schiff Base Metal Complexes- A Review

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### Abstract

*Schiff bases derived from an amino and carbonyl compound are an important class of ligands that coordinate to metal ions via azomethine nitrogen and have been studied extensively. In azomethine derivatives, the C,N linkage is essential for biological activity, several azomethine have been reported to possess remarkable antibacterial, antifungal, anticancer and anti malarial activities. Schiff base ligands are potentially capable of forming stable complexes with metal ions. Schiff base amino acid complexes act as good chelating agents and behave as efficient biologically active and cytotoxic agents. An overview of synthetic methodologies used for the preparation of Schiff bases is described. This short review compiles examples of the most promising antimalarial, antibacterial, antifungal, and antiviral Schiff bases.*

**Key Words:** Amino acid, Schiff base ligand, Metal Complex, azomethine, biological activity.

### Introduction

Compounds containing an azomethine group ( $-\text{CH}=\text{N}-$ ), known as Schiff bases are formed by the condensation of a primary amine with a carbonyl compound. Amino acids are molecules that contain both a carboxyl, and amino group with a side chain that varies between different amino acids. The complexes of transition elements with Schiff bases have wide applications in food industry, dye industry, catalysis, fungicidal, agrochemical, anti-inflammatory activity, anti radical activities and biological activities. Studying the interaction between transition metal complexes and DNA has attracted many interests due to their importance in cancer therapy, design of new types of pharmaceutical molecules and molecular biology.

Heterocyclic Schiff base ligands and their complexes possess great importance due to their pharmacological properties. Deoxyribonucleic acid (DNA) is a most important target molecule in anticancer and antiviral therapies. Furthermore, the interaction of these complexes with DNA has gained much attention due to their possible applications as new therapeutic agents. Some drugs show increased activity when administered as metal chalets and inhibit the growth of tumors. The transition metal ions are responsible for the proper functioning of different enzymes. If their concentration exceeds a certain level then their toxic effects become evident. Certain drugs play a vital role as bio-ligands in the biological systems. Due to the presence of the imine group, the electron cloud of the aromatic ring and electronegative nitrogen, oxygen and sulfur atoms in the Schiff base molecules, these compounds effectively prevent corrosion of mild steel, copper, aluminum and zinc in acidic medium. In this review we present the general approaches to the synthesis and biological activities of some amino acid based Schiff bases and its complexes. There are many interesting studies on the Schiff bases compounds derived from amino acids.

## Schiff Base Metal Complexes from Amino Acids

Elzahany *et al.*, synthesized some transition metal complexes with Schiff bases derived from 2-formylindole, salicylaldehyde and N-amino Rhodanine. The Schiff base ligands were characterized by elemental analysis, IR, Mass,  $^1\text{H}$  NMR and electronic spectra. The free ligands and their metal complexes were also screened for antimicrobial activities against *Bacillus cereus*, *Escherichia coli*, *Pseudomonas aeruginosa*, *Staphylococcus aureus* and *Candida albicans*. The results indicated that the ligands do not have any activity, where as their complexes showed more activity against the same organisms under identical experimental conditions.

Matharasi *et al.*, found that the Schiff bases derived from amino acid and Aloin [the bioactive molecule, 10-glucopyranosyl-1,8-dihydroxy-3-(hydroxymethyl)-9, (10H) anthracene] having good antibacterial activity in good range when comparison to control (Ampicilin).

Yorur-Goreci *et al.*, synthesized four new and two known amino acid Schiff base compounds derived from the condensation reaction of benzaldehyde, salicylaldehyde, pyrrole-2-carbaldehyde, pyridine-2-carbaldehyde, fluorene-2-carbaldehyde and terephthalaldehyde with 2-phenylglycine methyl ester hydrochloride by both conventional method and microwave irradiation protocol.

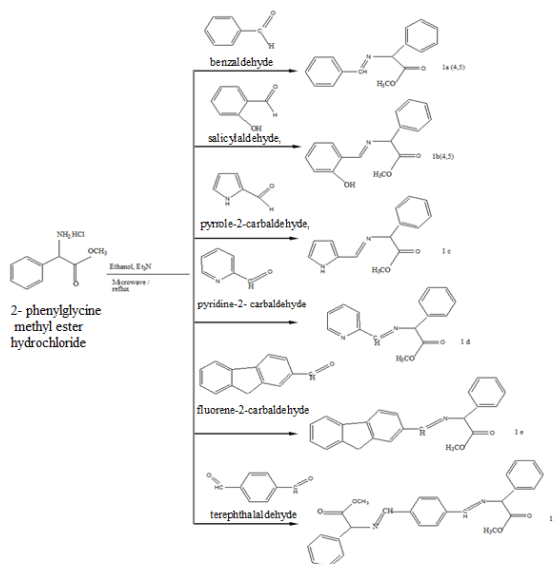


Fig. 1 Synthesis of various Schiff base ligand (1a-1f)



The synthesised compounds were characterized by FTIR,  $^1\text{H}$  NMR, electronic spectral studies. A comparative study between conventional heating and microwave irradiation has also been reported. Based on these results, with the microwave synthesis, the yield of the products was increased from 37% up to 96% as compared to conventional method. By microwave, reactions were completed within 5.5-8.5 minutes and the products were obtained in good to high yields, with reduced time, waste, and formation byproduct. DPPH (2,2-diphenyl-1-picrylhydrazyl) radical scavenging effect were performed to determine antioxidant activities of the new compounds. All of the compounds exhibited significant activities in DPPH radical scavenging.

*Laila H. Abdel Rahman* reported the synthesis and biological activities of new dibasic tridentate ONO amino acid Schiff bases ligands and its iron (II) and copper (II) complexes. Azomethine amino ligands derived from the condensation of 3-methoxysalicylaldehyde (MS) or 4-diethylaminosalicylaldehyde (DS) with  $\alpha$ -amino acids (L-phenylalanine (P) and DL-tryptophan (T)).

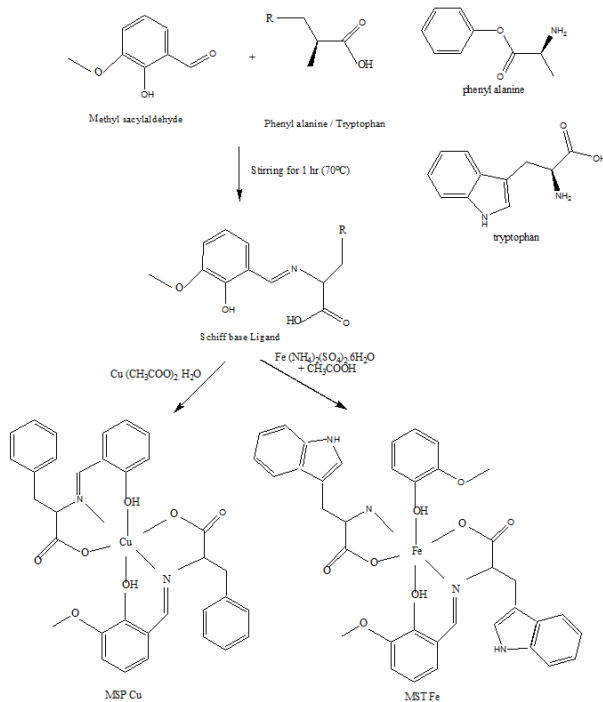
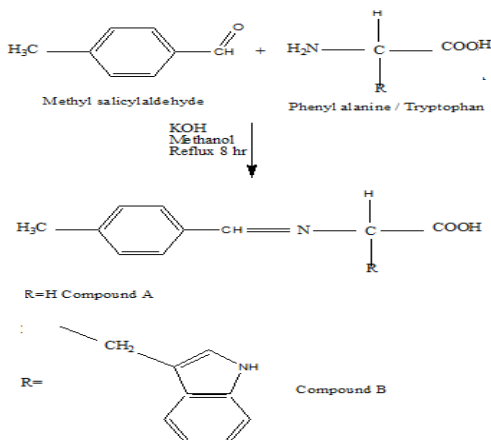


Fig. 2 Synthesis of Schiff base metal complexes (MSP Cu & MST Fe)

The structure of these complexes has been confirmed by analytical data, IR, electronic,  $^1\text{H NMR}$ , magnetic susceptibility, molar conductance and thermal studies. Based on the analytical and spectral studies, octahedral geometry was proposed for the Fe (II) and Cu(II) complexes with general formula  $[\text{M}(\text{HL})_2]\cdot n\text{H}_2\text{O}$ . The particle size of the prepared complexes was determined using TEM and it was found to be in nano scale. The synthesized ligands, in comparison to their metal complexes were also screened for their antibacterial activity against bacterial species, *Bacillus subtilis* (+ve), *Escherichia coli* (-ve) and *Micrococcus luteus* (+ve) and other types of fungi such as *Aspergillus niger*, *Candida glabrata* and *Saccharomyces cerevisiae*. The synthesized Schiff base metal complexes show better antibacterial and antifungal activities than those of the ligands.

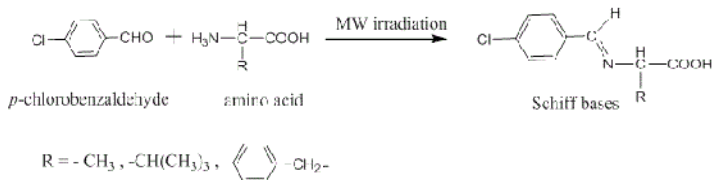
Al-Shaheen et al., synthesized a new Schiff base Fe(III) complex derived from vanillin and amino acids (glycine, L-serine, L-tyrosine and L-phenylalanine) and Schiff base complex were characterized by many physicochemical methods such as elemental analysis (CHN), magnetic susceptibility, molar conductance as well as spectral studies such as IR and UV-Visible. The analytical data showed that the complexes having four and six coordination number.

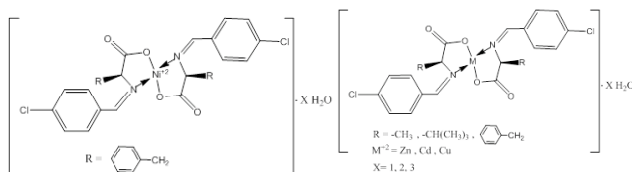
Zahraa Salim reported the synthesis, characterization and biological activities of two Schiff base compounds (compound A, *L*-glycine and -methylbenzaldehyde and *L*-tryptophan with 4-methylbenzaldehyde. compound B derived from glycine and tryptophan ) were prepared and structurally characterized using spectroscopic techniques (FT-IR,  $^1\text{H NMR}$  and UV-Vis). The Schiff base compounds were prepared to check the effects on the Acid phosphatase (ACP), prostatic acid phosphatase (PAP) and NPA enzymes. The biochemical studies revealed that the derivative A caused activation effects on PAP enzyme activity and inhibition effects on ACP and NPA enzyme activities while the derivative B caused activation and inhibition effects on these enzymes depending on its concentration.



**Fig. 3** Synthesis of Schiff base metal complexes (MSP Cu & MST Fe)

Al-Salami *et al.*, synthesized some transition metal complexes with Schiff bases derived from the condensation reaction of 4-chlorobenzaldehyde and some amino acid (DL- Alanine, DL-Phenylalanine and DL-valine) by using microwave irradiation. The Schiff base ligands and their metal complexes were characterized by elemental analysis, FT - IR,  $^1\text{H}$  NMR. The free ligands and their metal complexes were also screened for antimicrobial activities against some bacteria. Gram positive (*S. aureus*) and Gram negative (*A. hydrophila*) bacteria. It indicates that chelating increases the antibacterial activity. These complexes distribute the respiration process of the cell and thus block the synthesis of the protein that restricts further growth of the organism and as result the bacteria die.





**Fig. 4 Octahedral geometries for the complex  $[Ni(L_3)_2(H_2O)_2] \cdot H_2O$**

Antony et al., reported the synthesis, characterizations and Antimicrobial studies of amino acid based Schiff bases from salicylaldehyde with amino acids Glycine, D-Alanine and 3-Amino benzoic acid. The Synthesised ligand and their complexes were characterized by IR, UV and SEM analysis. The ligands and their metal complexes were screened for antimicrobial activities against *E. coli*. The Glycine Schiff base Zn complex show more antimicrobial activity than other two.

Sundaramurthy Santha Lakshmi and Kannappan Geetha synthesized a series of ternary mononuclear Schiff base transition metal complexes [ Cu(II), Ni(II), Zn(II) and Co(II) ions). Schiff base ligand derived from L-tryptophan and 2'-hydroxyacetophenone and characterized by molar conductance, elemental analysis and spectral studies such as UV-Vis and FTIR. Tridentate coordination nature of Schiff base ligand was confirmed on the basis of FTIR spectra. *In vitro* antibacterial activity of the Schiff base ligand and its metal complexes were screened against Gram-positive bacteria such as *Staphylococcus aureus* and Gram-negative bacteria such as *Pseudomonas aeruginosa*, *Bacillus spp.*, and *E. coli* using well diffusion method. All the metal complexes exhibited very good zone of inhibition when compared to the Schiff base ligand against the bacteria under study. The Schiff base ligand and its metal complexes were assessed for their *in vitro* antifungal activity by well diffusion method against fungi such as *Rhizopus*, *Aspergillus flavus* and *Mucor*. The *in vitro* antifungal activity of metal complexes showed very good inhibition activity than the Schiff base ligand against the fungal strains under investigation. Cu(II) complex exhibited very good inhibition against *A. flavus*, *Rhizopus*, and *Mucor*. The antioxidant scavenging activity of the synthesized metal complexes studied by DPPH method. All the complexes exhibited moderate antioxidant scavenging activity when compared with the standard  $\alpha$ -tocopherol.

Har Lal Singh and Jangbhadur Singh reported the synthesis of Dibutyltin (IV) Schiff base complexes derived from phenylalanine, isoleucine and glycine. The Schiff base complexes were Characterised by UV- Vis IR,  $H^1$  NMR  $C^{13}$  NMR  $^{119} Sn$  NMR. NMR spectral data shows that the distorted octahedral structure. The compound tested for their *in-vitro* antibacterial activity against Gram -Positive (*B.cereus*, *Staphylococcus spp.*) and Gram negative (*E.coli*, *Klebsiella Spp.*)Bacteria. This result shows that the dibutyltin complexes are more reactive with respect to their corresponding Schiff base ligands.

Zahid H. Chohan et al., reported the synthesis of Schiff base by the condensation reaction of Salicylaldehyde with glycine, alanine, phenyl alanine,

methionine and cysteine (Co (II) Cu, Ni, Zn). The Schiff base complexes were characterised by UV- Vis IR spectroscopy. The synthesised ligand along their Metal Complex were screened by in-vitro antibacterial activity against Gram negative (*E.coli*, *Shigella flexneri*, *Pseudomonas aeruginosa* and *Salmonella typhi*.) Bacteria and Gram – Positive (*Bacillus subtilis* and *Staphylococcus aureus*) Bacteria. Antifungal activity against *Trichophyton longifusus*, *Candida glabrata*, *Candida albicans*, *Aspergillus flavus*, *Microssporum canis*, *Fusarium solani*. This result shows that the metal complexes are more antibacterial and antifungal activity against one are more species with respect to their corresponding Schiff base ligands.

## Conclusion

Schiff base ligands are easily prepared by a simple one pot condensation of an aldehyde and primary amines. Schiff base ligands easily form stable complexes with most transition metal ions. These ligands and their metal complexes have a variety of applications including clinical, analytical, industrial and catalysis. Schiff bases have wide applications in many biological aspects, proteins, visual pigments, enzymatic aldolization and decarboxylation reactions. Some Schiff bases also act as antibiotic, antiviral and antitumor agents because of their specific structure.

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## A Study on Consumer Behaviour in Electronic Home Appliances Market in Tirunelveli City

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### Abstract

*Day by day with growing needs and importance, the buying behaviour of consumer is changing rapidly. In the overall population, in this study, we divided the consumer groups in to three categories based on significant growth in recent years. The categories are upper class, middle class and below middle class based on their financial status. Consumer attitude also studied based on need, information search, evolution of alternatives, purchase decision and purchase behaviour here we tried to explain broadly on Selected items. Customer behaviour study is based on consumer buying behaviour, with the customer playing the three distinct roles of user, payer and buyer. Consumer buying behaviour has become an integral part of strategic market planning. The scope of this paper is to: (1) provide knowledge discovery in consumer behaviour, (2) provide experience in the application of K-means data mining techniques in consumer behaviour concepts to marketing management decisions. This paper highlights that, life style determinants of consumer buying behaviour towards home appliance products.*

**Keywords:** Consumer Buying Behaviour, Home Appliances, Factors Influences, Marketing Strategies.

### Introduction

Generally speaking, consumer behaviour is the study of the processes that individuals or groups go through in making their purchasing choices in order to satisfy their needs. Usually the buying behaviour takes many forms of consumer's choices that can vary depending on a broad set of factors such as: earnings, demographics, social and cultural factors. Beside these basic internal factors which are considered to be influential to the buying behaviour, there are also a set of factors that would be simulated by the external circumstances in the environment surrounding the consumer. It is valuable to mention that the consumer behaviour is a combination of customer's buying awareness combined with external motivators to result in a change in the consumer's behaviour. This is why most of the economies around the globe shares one problem; because of the external influence on the internal community aspects. Consumers' behaviour is a composition of four aspects viz., consumer preference, information search purchase decision and post purchase behaviour or satisfaction. These aspects are explained in detail in the following pages. Define consumer behaviour as "those acts of individuals directly involved in obtaining, using, and disposing of economic goods and services, including the decision processes that precede and determine acts". Thus the marketing concept is more consumers oriented. Hence the study of consumer behaviour is basic to all marketing activities.

### Objectives of the Study

- 1) To study and analyze the Consumer Buying Behaviour towards selected Home Appliance Products in Tirunelveli.
- 2) To understand the various factors and its impact on Consumer Buying Decision of Home Appliance Products in Tirunelveli
- 3) To offer Findings and Suggestions.
- 4) To assess the factors influencing the knowledge discovery from the consumer behaviour of the respondents
- 5) To group the respondents into group based on the factors of active participation in purchasing the electronic products using data mining techniques.

### Review of Literature

- **Moschis and Mitchell (1986)<sup>1</sup>**, conducted a study designed to test the effects of television advertising and interpersonal communications on the teenager's consumer behaviour. Unlike previous studies, however, the effects of such communication processes on teens are evaluated in the context of household decision making. Thus, the influence of these images may be of enormous significance in shaping the attitudes and behaviours and attitudes of young people.
- **Romaniuk and sharp, (2003)<sup>2</sup>**, in his article "Brand salience & consumer defection in subscription Markets" depicted the major aim of advertising is to impact on buying behaviour; however, this impact about brand is changed or strengthened frequently in people's memories. Memories about the brand consist of those associations that are related to brand name in consumer mind. These brand cognition influence consideration, evaluation, and finally purchases.
- **Simta Sharma, (2005)<sup>3</sup>**, in his article "Celebrity Endorsement" reveals that as a part of marketing communication strategy are common among organizations around the globe. The celebrity endorsements industry today is estimated to be a one fifty-two to two hundred crores industry, and growing. Celebrities are the million dollar babies of the advertising world, attracting a lot of money for themselves and the products they endorse. However, companies need to choose celebrities carefully; a wrong decision will tarnish the company's image, while a right choice will result in benefits that are unimaginable.

### Marketing Strategies

Before we get into more detail about how consumer behaviour can affect marketing strategy, let's step back and define exactly the meanings of behaviour. Simply put,



consumer behaviour is the study of all consumers and the process they go through to satisfy needs. These all count as consumer behaviour.

### Collection of Data

1. **Primary Data:** The study mainly based upon the primary data. Interview schedule method is used to collected the data from the sample of 180 respondents in the research report.
2. **Secondary Data:** The secondary data and literature for the study purpose were collected from the number of reference books, journals and internet.

**Table-1: Socio-Economic profile**

<b>Gender</b>	<b>No of Respondents</b>	<b>Percentage</b>
Male	80	44
Female	100	56
<b>Total</b>	<b>180</b>	<b>100</b>
<b>Age</b>	<b>No of Respondents</b>	<b>Percentage</b>
Below 25 years	35	19
25- 35 years	48	27
35- 45 years	66	37
Above 45 years	31	17
<b>Total</b>	<b>180</b>	<b>100</b>
<b>Education</b>	<b>No of Respondents</b>	<b>Percentage</b>
Hsc	23	13
Graduate	62	34
Post Graduate	58	32
Professional	37	21
<b>Total</b>	<b>180</b>	<b>100</b>
<b>No Of Work Year</b>	<b>No of Respondents</b>	<b>Percentage</b>
Less than 1 year	50	27
1year - 2years	63	35
2years - 3years	37	21
More than 3years	30	17
<b>Total</b>	<b>180</b>	<b>100</b>
<b>Monthly income</b>	<b>No of Respondents</b>	<b>Percentage</b>
Below Rs. 15000	32	17
Rs. 15000- Rs. 25000	37	21
Rs. 25000- Rs. 35000	50	23
Above Rs. 35000	61	34
<b>Total</b>	<b>180</b>	<b>100</b>

*Source: Primary data*

The above table shows that 44 percent of the respondents are male and 56 percent of the respondents are female.

The above table shows that 19% of respondents come under the age group of below 25 years, 27% of respondents come under the age group of below 25-35 years, 37% of respondents come under the age group of below 35-45 years, and 17% of respondents come under the category of above 45 years.

The above table shows that 13% of respondents come under the category of Hsc, 34% of respondents come under the category of Graduate, 32% of respondents come under the category of Post Graduate and 21% of respondents come under the category of Professional.

The above table shows that 27% of respondents come under the category of Less than 1 year, 35% of respondents come under the category of 1year - 2years, 21% of respondents come under the category of 2years - 3years, and 17% of respondents come under the category of more than 3years.

The above table shows that 17% of respondents come under the category of below Rs.15000, 21% of respondents come under the category of Rs. 15000- Rs. 25000, 23% of respondents come under the category of Rs. 25000- Rs. 35000, and 34% of respondents come under the category of above Rs.35000.

**Table-2: Parameters / Indicators of Analysis**

Factor	Total	Average	Rank
Washing machines	658	43.8	V
Mp4 players	660	44	IV
Online mobile phones	690	46	III
Digital cameras	694	46.2	II
Refrigerator	707	47	I

*Source: Primary data collected from factor.*

Ranks reveal that majority of the respondent opine first rank for Refrigerator, followed by Digital cameras, Online mobile phones, Mp4 players, Washing machines which secured second, third, fourth, fifth ranks respectively.

## Findings

“Product buying motives” and the reason behind the purchase from a particular seller is “Patronage motives” When a person gets his pay packet, and if he is educated, sits down along with his wife and prepares a family budget, by appropriating the amount to different needs. It may happen that after a trip to the market, they might have purchased some items, which are not in the budget, and thus there arises a deviation from the budgeted items and expenditure, all the behaviour of human beings during the purchase may be termed as buyer behaviour.

## Suggestions

- Consumers give maximum preference only for cash payment. But at present, credit cards were introduced and this card was used by the consumers for purchasing any kind of home appliances.
- In case consumers belong to middle income group then they show great attitude towards purchasing home appliances on credit basis
- Female shows much importance to the sentimental values while purchasing a home appliance than male.
- Consumers give much importance to the advertisement than the sale talk.

## Conclusion

Despite the basic characteristics of consumers the behaviour pattern of consumers are more or less similar to each other, particularly in the aspects like quality, preference and decision making. However, it is evident that the present approaches to draw the attention of customers are not adequate. The consumers are particular about the appropriate system of distribution and hence there is a great need for change in the electronics buying system. Consumer attitude towards electronics based on age group, income group, and price leads major role while purchasing the electronic goods.

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## Web Server

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## Cashless Transaction from the Perspective of General Public

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### **Abstract**

*Demonetization involves introducing new notes or coins of the same currency or completely replacing the old one. Owing to shortage of fund and felt difficult to change the old currency to new currency at bank. The researcher collected both primary data and secondary data for the research purpose. It is imperative to evaluate the short run and medium term impacts that such a shock is expected to have on the economy. Which leads to a cash less-digital or virtual payment in a long run. General public, daily wage people suffered a lot due to less circulation of currency note. The regular day to day expenses can be easily met through cash payment which was more convenient.*

**Keywords:** Black Money, Demonetization, Currency, Digital payments, Transactions

### **Introduction**

Demonetization involves introducing new notes or coins of the same currency or completely replacing the old one. Our central government demonetized the 500 and 1000 rupee note on 8<sup>th</sup> Nov 2016 the biggest denomination in the country. With the goal to eradicate counterfeit currency, tax evasion and eliminate black money. Individuals and entities faced a lot of inconvenience owing to shortage of fund and felt difficult to change the old currency to new currency at bank. It will definitely tackle the amount of black money, reduce the print of fake money and reduce their circulation in the country.

### **Objective**

1. To know both positive and negative impact of demonetization
2. To study the view of cashless transaction among the general public in Tirunelveli

### **Scope**

The scope of this study wanted to know the perspective of general public about cashless transaction

### **Methodology**

#### **Data collection**

The primary and secondary data were collected for this study. The primary data is collected directly from the respondents by using Questionnaire. The secondary data were collected from News Papers, Journals and websites.

### **Sampling Design**

The researcher has selected 220 general public (respondents) by applying the simple random sampling method.

### **Tools of Analysis**

Statistical tools percentage is used for the analysis to present the data collected in an effective manner.

### **Limitation of the Study**

1. The researcher has confined her study only towards demonetisation and cashless payment.
2. The respondents of the researcher were the general public of Tirunelveli only.

### **Importance of Demonetization**

Demonetization is an established practice in monetary policy to tackle black money. It is a radical financial step in which a currency the legal tender has been declared invalid. The long-term objective of demonetisation is to cleanse the system of corruption, tax evasion and the generation of black income. Demonetisation only targets that part of existing black wealth which is held in cash. It does not affect the continuous flow of black income and the corruption or tax evasion which generates it in the continuous flow of black income and corruption. The current demonetisation has adversely affected the poor, wage labourers, small businesses, farmers and other minorities.

### **Cashless Payment**

The additional objective of demonetisation is to make India as a cashless society. All payment should be made without hard cash. The virtual wallet or digital payment or card payment may be possible in a long run. It is benefited to the govt as each piece paid by the citizen of the country is accountable. Our govt tries to push the public towards cashless payment. This modern approach is vague and complex problem until the construction of clear path. Cashless payment is not possible in all situations, not for all persons and not for all purpose.

### **Impact of Demonetization**

- 1) **Black Money:** Black money and fake currency notes stored in the form of Rs 500 and Rs 1000 notes will be taken out even though it is not possible to prevent black money because demonetization was not the regular process, if it was made at a frequent interval there is some possibility to reduction n black money.
- 2) **Regular funding:** By taking out 500 and 1000 rupee notes out of circulation will have a lasting impact on regular funding of currency in the country. Public faced lot of difficulties in the supply of currency notes.

- 3) **Economic slowdown:** The major industries like real estate, infrastructure, gold etc have been affected their sales came down and that impacted on the growth of the economy. Many transactions stopped, until the market gets back to normal. Markets may see a temporary fall, and temporary recession. At least a year would be the span to retain the normalcy. There could be a long-term gain.
- 4) **Moving towards digital payments:** The process of demonetization, likely to result in adopting the card payment and virtual wallets such as Paytm, Ola Money etc. Which will be the most convenient and easier mode of payment. But it is not possible in all levels
- 5) **Cash Deposits in Banks:** A lot of cash has been deposited in the banks and now the banks with more deposits will be able to do more lending.

## Review of Literature

### Demonetisation: Impact on the Economy- Tax Research Team

The argument posited in favour of demonetisation is that the cash that would be extinguished would be “black money” and hence, should be rightfully extinguished to set right the perverse incentive structure in the economy. Therefore, it is imperative to evaluate the short run and medium-term impacts that such a shock is expected to have on the economy. Further, the impact of such a move would vary depending on the extent to which the government decides to remonetise. This paper elucidates the impact of such a move on the availability of credit, spending, and level of activity and government finances. Cash being only partially replaced in the system would have the opposite effects of expansion in potential credit creation. The potential credit creation would translate into actual credit creation provided there is sufficient demand for credit. In other words, while the cash was mediating in legitimate economic activity, if this currency is extinguished there would be a contraction of economic activity in the economy and that is a cost that needs to be factored in while assessing the impact of the demonetisation on the economy and its agents.

Tax Research Team: “Demonetisation: Impact on the Economy” National Institute of Public Finance and Policy, New Delhi, No. 182 , 14-Nov-2016

## Analysis and Interpretation

**Table 1 - Gender Classification**

Particulars	No of Respondents	Percentage
Male	131	59.55
Female	89	40.45
Total	220	100

*Source: Primary Data*

The above table layout the gender wise classification of the respondents male and female: 59.55% of the respondents are male and 40.45% of the respondents are female.

**Table 2- Educational Classification**

Particulars	No of Respondents	Percentage
School	72	32.72
Ug	90	40.90
Pg	42	19.10
Others	16	7.28
Total	220	100

*Source: Primary Data*

The above table reveals the educational classifications of the respondents. 34.2% of the respondents completed schooling, 43% of the respondents completed their UG, 20% of the respondents completed their PG. 2.8% have other qualification.

**Table 3-Work Nature**

Particulars	No of Respondents	Percentage
Business	60	27.27
Private employee	59	26.81
Government employee	47	21.36
Student	30	13.65
Homemaker	24	10.91
Total	220	100

*Source: Primary Data*

The above table depicts nature of work of the respondents: 27.27% were business persons, 26.81% were private employee, 21.36% of respondents were government employee, 13.65% were students and 10.91% were homemakers.

**Table 4-Regular Expenses**

Particulars	No of Respondents	Percentage
Grocery	53	24.09
Cloths	54	24.55
Foods	78	35.46
Fees/Rents	35	15.90
Total	220	100

*Source: Primary Data*

The above table shows the regular expenses meet by the respondents: 24.09% spend for grocery, 24.55% spend for cloth, 35.46% spend for food and 15.90% spent for rent.

**Table 5-Preferred Mode of Payment**

Particulars	No of Respondents	Percentage
Cash payment	151	68.64
Card payment	69	31.36
Total	220	100

*Source: Primary Data*

The above table reveals the preferable mode of payment by the general public: 68.64% of general public prefer cash payment for their regular purchase and 31.36% of general public prefer card payment for their regular purchase.

**Table 6-View About Cashless Payment**

Particulars	No of Respondents	Percentage
Convenient	29	13.18
Low risk	83	37.73
Easy to carry	108	49.09
Total	220	100

*Source: Primaru Data*

The above table shows the view about cashless payment by the general public: 13.18% of public says it is convenient way to pay money. 37.73% of public says it involve low amount of risk. 49.09% of public says it is very easy to carry everywhere.

**Table 7-Cent Percent Possibility To Turn Towards Cashless Economy**

Particulars	No of Respondents	Percentage
Yes	70	31.82
No	150	68.18
Total	220	100

*Source: Primary Data*

The above table depicts the public view about cashless economy: 31.82% of public says there is cent percent possible to turn towards cashless economy. 68.18% of public says there is no cent percent possible to turn towards cashless economy.

## Findings, Suggestion and Conclusion

### Findings

1. 59.55% of the respondents are male and 40.45% of the respondents are female.
2. 32.72% of the respondents completed schooling, 40.90% of the respondents completed their UG, 19.10% of the respondents completed their PG. 7.28% have other qualification.
3. 27.27% were business persons, 26.81% were private employee, 21.36% of respondents were government employee, 13.65% were students and 10.91% were homemaker.



4. 24.09% spend for grocery, 24.55% spend for cloth, 35.46% spend for food and 15.90% spent for rent.
5. 68.64% of general public prefer cash payment for their regular purchase and 31.36% of general public prefer card payment for their regular purchase.
6. 13.18% of public says it is convenient way to pay money. 37.73% of public says it involve low amount of risk. 49.09% of public says it is very easy to carry everywhere.
7. 31.82% of public says there is cent percent possible to turn towards cashless economy. 68.18% of public says there is no cent percent possible to turn towards cashless economy.

### **Suggestion**

1. Research can be made on black money.
2. Research can be made on 100% virtual payment.

### **Conclusion**

Demonetisation is a massive change in our economy. We have to appreciate those hidden brains of our democracy who brought this decision, which leads to cash less-digital or virtual payment in a long run. General public, daily wage people suffered a lot due to less circulation of currency note. The regular day to day expenses can be easily met through cash payment which was more convenient. Cash less economy is possible but it is a long term process, which cannot be maid overnight. Surely this demonetisation will help to eradicate certain percentage of the black economy in the country. Still now there was some hesitation and discomfort in the changing process of cashless economy.

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## Growth of E-Commerce in India

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### **Abstract**

*E-commerce is trading of products and service through the medium of internet. In this paper we present factors that are fuelling growth in ecommerce sector in India. The methodology of my study is from secondary sources such as articles, journals, reports, papers ,blogs and conference proceeding . E-commerce one of the highest growing business, with India having great market potential for investments. There has been huge surge in investment since last year and more is expected in coming years. The rapid growth in use of mobile and internet users has facilitated ecommerce business in both urban and rural cities. The topics covered include the terms study of commerce, key drivers of growth, India's growth potential, investment, retail market, logistics infrastructure, internet regulations, key challenges and future of e-commerce.*

**Keywords:-** E-commerce, Retail, Sales, Investment, Logistics, Internet Regulation.

### **Introduction**

The E-Commerce market has seen unparalleled growth since last year, It is expected that E-commerce will become \$20 million by the year 2018. With increased use of smart phones, tablets and internet, e-commerce has become widely accessible to both urban and rural users. Foreign companies are investing huge sums of money into Indian companies. Experienced international players are taking interest in Indian companies .E-commerce is growing in rural areas with most of the traffic coming from tier-2 and tier-3 cities. In July 2014 Amazon invested \$2 billion in India, following the news of Flip kart raising \$1 billion in funding. There are lot of bigger companies in e-commerce market like Snap deal, Flip kart, Amazon, Shop clues and Jabong etc. With numbers of companies increasing the competition is bound to happen for the first position. The retail industries have recorded annual growth of 40-50%, huge investments is expected to flow into logistics sector in future. Many offline brick and mortar companies are slowly moving to online business and those who are not in online commerce business will be forced to come online. The commerce industry is in nascent stage, more niche e-commerce companies are joining the competition. The customer is winning and there is pressure to deliver best to the customer.

### **E-Commerce?**

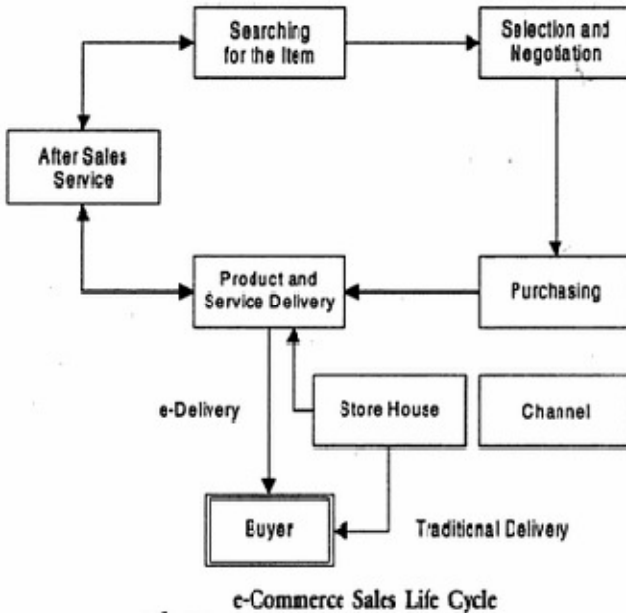
E-Commerce is buying and selling of goods and services or transmitting of funds or data, over an electronic networking, primarily the internet. These transaction occur either business to business, business to consumer, consumer to business and consumer to consumer. E-Commerce is done using applications EDI ,email, shopping carts, Digital commerce makes possible for purchasing transaction over the web and

supports creation and constant growth of online relationship with customers across multiple channels like retail ,mobile, direct and indirect sales and so on.

**E - Commerce Sales Life Cycle Model**

E-commerce sales life cycle model depicts various stages in the sales life cycle, a customer undergoes and e-commerce system supports each of these stages. In other words, else model describes the customer perspective for the purchases of an item over the internet. Typically, a customer passes through the following stages:

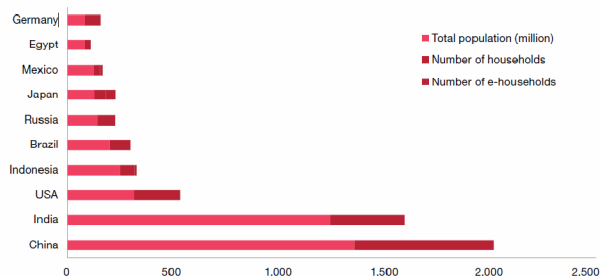
- Searching for the item
- Selection and negotiation
- Purchasing
- Product and service delivery
- After sales service



### India's Growth Potential

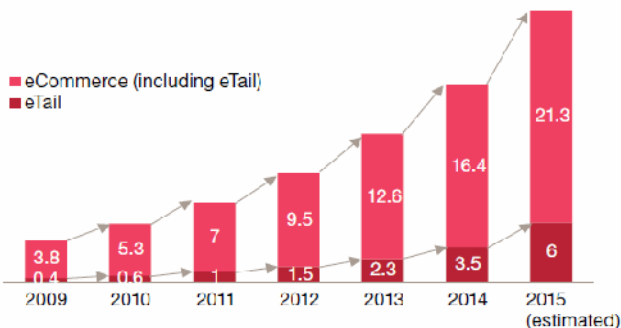
Since the E-Commerce industry is fast rising, changes can be seen over a year. The sector in India has grown by 34% (CAGR) since 2009 to touch 16.4 billion USD in 2014. The sector is expected to be in the range of 22 billion USD in 2015. Currently, E-Travel comprises 70% of the total E-Commerce market. E-Tailing, which comprises of online retail and online marketplaces, has become the fastest-growing segment in the larger market having grown at a CAGR of around 56% over 2009-2014. The size of the E-Tail market is pegged at 6 billion USD in 2015. Books, apparel and accessories and electronics are the largest selling products through E-Tailing, constituting around 80% of product distribution. The increasing use of smart phones, tablets and internet broadband and 3G has led to developing a strong consumer base likely to increase further. This, combined with a larger number of home grown E-Tail companies with their innovative business models has led to a robust Tail market in India rearing to expand at high speed.

Top 10 countries in terms of population and corresponding e-households



Source: Froomeva Foundation, 2014

### India's eCommerce and eTail growth



Source: IAMAI, CRISIL, Gartner, PwC analysis and industry experts

## Investment

Since last year commerce industries have secured over \$3.9 billion investment from venture capitalist and private equity firms and internal funders. Chinese E-Commerce Company Alibaba group holding and its partner Zhyian mutually invested about \$575 million in One97 communication Limited also known Pay tm. At present Pay tm is doing billion Gross Merchandise values which is huge sum for any ecommerce done by any Indian company. Paytm offers mobile payment, plus it allows customer to buy tickets ,deals and shop from its 1800 merchants in its network .After Alibaba investment Pay tm got grant from Rattan Tata for an undisclosed amount .In December 2014 Japanese internet giant Softbank said that it aimed to invest \$10 billion in India in the next few years. It already owns 30% stake in Snap deal and Housing.com .Earlier it invested about \$20 million in Alibaba in year 2000 which is now valued about billions of dollars. New York firm Tiger Global management had funded in companies such Make MyTrip, Search portal JustDial, Flip kart ,Myntra and Quicker. In present scenario start-ups that were funded by promising investors have become prosperous enough to give stiff competition to international companies who want to make customer base in India.

## Retail Market

The online retail market is increasing at the rate of 3% of the complete commerce industry. E-Travelling companies are taking the lion share of total E-commerce market which is about 70% of total commerce. This size is expected to increase further to about \$17.32 billion. The retail market is in growing stage and its customers are expected to reach 300 million shoppers within 10 years. Most of the people prefer cash on delivery which is a challenge for the growth of retail industry. Increased credit and debit card penetration with high value of expenditure is expected to reach \$350 million for fiscal year 2015.Online retailers are also offering installment payment for customers. Banks have tied up with electronic commerce companies and are giving EMI(Equated Monthly Installment ) alternatives to customers on purchase of electronic goods. Credit card usage has gone up 24% in 2014 at end of December. One advantage of credit card usage for banks is that it creates heavy income for them as they charge penal interest for dues beyond the fixed period .Last year India Post has done transaction of worth \$280 crore in Cash and delivery segment for ecommerce firms like Amazon, Flipkart and Snapdeal alone.

## Logistics Infrastructure

Some E-Commerce companies have built in logistics component such as E-Kart of Flipkart ,Amazon logistics of Amazaon. Third party logistics companies benefit from increase in number of orders. All logistics firm charge hefty amount for cash on delivery purchases which increase customer cost. Delhi vary logistics had received fresh funding from multiple investors in this year. Indian logistics need to improve their reach to customers by expanding outside major cities. Most of international companies have their own logistics department which are funded by government eg China ,which is not in case of India. Another important hurdle is airplanes availability for supply chain. During

festival season numerous shipments pile up at airport as a result delivery cannot be done at scheduled time. Delivery of goods is uphill task in a country like India where there are millions of customers having multitudes of zip code. It includes lot of paperwork for good to move from one state to another.

### **Internet Regulations**

Foreign Direct Investment is 49% in multi brand retail but with restrictions .The Indian government does not allow foreign investment in online retail companies that sell goods directly to customers. The government allows FDI in only Indian owned companies .This move has forced Amazon to abandon its inventory model and shift to electronic marketplace model. India permits 100% FDI in B2B commerce but not in B2C commerce. Kerala Commercial Taxes department had issued notice to Flipkart ,Jabong ,Myntra ,Alibaba and to many other companies. Flipkart alone paid tax amount to Rs 226 crore in this year. In May 2015 the Karnataka government pledged to investigate tax invasion by several e-commerce companies which caused the state exchequer loss of Rs2000 crore. Uber a US based taxi service application came under scanner for not paying tax. Online sale of prescribed drugs and medical store are unable to abide by Indian laws. There are many technical legal requirements pertaining to security requirements such as piracy, confidentiality ,data protection, cyber law diligence that are required to be followed by all ecommerce companies . There is need for greater discussion about how new age companies can fit into Indian e-commerce space, as India has become significant for global operations. There is an urgent need for introducing suitable provision for tax regulation and predatory pricing for Indian and international companies.

### **Key Challenges**

E-commerce companies need to address many issues

1. Strengthening logistics infrastructure and service levels in e-commerce market as warehousing requirement will increase in coming years with increase in e-commerce activity in coming years. In case of cross border ecommerce there exist problem of reverse logistics.
2. Security, privacy breaches and fictitious transaction issues need to focused as e-commerce is moving to mobile platform.
3. Rules and regulations for taxation and pricing of product for international and local companies .There should be throughout discussion regarding complexities of tax evasion, FDI, and loopholes in commerce between government and various competent e-commerce companies.
4. Customers are concerned about security when it comes to use of credit and debit cards so they are hesitant doing online transactions .Thus cash and delivery is preferred mode of payment which is expensive and risky.

5. Companies need to adopt to change in technology shift from laptop to mobile .They should provide multi channel sales coupled with fast browsing experience along with after sales support and service. Online reviews, videos, return, product comparison should also be provided to enhance mobile experience.

### **Future of E-Commerce**

Mobile commerce is finding increased infiltration in e-commerce market. Mobile transactions are increasing every year, the value of these transactions are estimated to be Rs36,000 crore according to Forester research. According to Google India managing director India adds five million internet users a month which are mobile users. Recently Myntra decided to shut down its website and moved all its operations to its mobile app. Gartner says that digital business means co-opetition; which means companies interact with competitors with partial congruence of interest. They cooperate with each other to work in same market to acquire global reach. In coming years more high profile mergers and acquisitions are expected to take place in digital commerce sector. Future of e-commerce looks promising because more and companies will be investing in small business startups. E-Commerce investment list was big in India last year, more investment are expected in coming years. Social media has become marketing place for merchants where they can advertise and promote their product freely. The expansion of mobile networks and social media in commerce will take ecommerce to new horizons that will change online retail markets in future.

### **Conclusion**

Internet connectivity has become basic obligation in not only urban cities but also in rural ones. The rapid growth of e-commerce is challenged by legal hassles, logistics and factors which need to address early. Companies that want to expand their business need to spend resources in advertisement, branding, logistics, reverse logistics, supply chain management and customer services. There is need of depth understanding of security requirements such as confidentiality, privacy of data. To maintain loyal customers companies need to provide superior website experience coupled with customer service. Companies who want to reach more consumers and want to cater need of local population should develop website in local languages.

E-commerce growth is inevitable as Indian e-commerce industry is having access to funds both local and international investments. The e-commerce industry will be faced with challenges as it matures but there is potential for growth owing to rising internet users and advancement in technology. Companies will need to work harder to provide better service to customer as more companies will be foraying in commerce business in future.

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## Prospects and Opportunities in Retail Sector

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### **Abstract**

*Service industry is performing a pivotal role in creating employment opportunities in India. The retail industry is one such sector that offers a number of job opportunities in merchandising, store management, central management and centralized buying. Retail continues to grow at a rapid rate offering face-paced, people-oriented, and service based careers. The retail industry is focused on the sale of goods or merchandise from a specific location for direct consumption by the purchaser. Online retail or e-tailing is a part of the retail industry that is quickly growing. Today in urban areas KIRANA SHOPS concept is developing in to malls and retailing chains. The changing scenarios of Indian consumers give a proof to the potential opportunity in the retailing arena. Like other branches of management, retail management is also developing in a promising and bright career option. This trend in retail sector in India has produced an additional 8-10 million jobs in 2020 and 13 million in 2025. Considering the huge potential of retail industry in India, it is necessary to research and comment on the career options in Indian retail sector. Against this background, the present paper discusses various aspects of career options in the retailing industry in India.*

**Key words:** *Gdp, service sector, retailing, emerging, employment*

### **Introduction**

The term 'retail' is derived from the French word retailer which means "to cut a piece off" or 'to break bulk'. Retailing is an important functional aspect of business industry that involves selling products and services to consumers. The word Retailing refers to any activity that involves the direct sale to an individual customer or end users. Retailing has been the most active and attractive sector of the last decade. While the retailing industry itself has been present throughout the history in our country, it is only the recent past that has witnessed so much dynamism. Retailing has changed a lot during last two decades. It's the latest bandwagon that has been witnessing of players leaping onto it.

In today's dynamic and shaky business world, the retail industry is constantly upgrading itself. With an endless array of customer choices, fierce competitors, pervasive use of the internet, and a complex global economy, retailers need to focus on finding ways to sustain and grow their businesses. The rapid growth of the retail sector and its deep penetration in various parts of the country within a very short span of time has now been termed as the retail revolution by India media. In order to cater to the manpower needs of the retail industry various retail management courses are being launched by several business schools in India. As the sector is booming in India, a career in retail sector promises good wages and growth potential for the ambitious youngsters. Retail management is associated with retailing business of departmental stores and shopping malls. There is a big demand for the retail management professionals to process all

merchandise shipments, to achieve store sales and profitability, administration of stores as well as communication with the clients to satisfy them. The candidates are trained in retail and supply chain management, finance management, marketing information, electronic retailing, marketing and business communication, customer relationship etc. Numerous opportunities are available in various stores, books and publishing industries, shopping malls, multiplex, processed food industry, garment industry etc.

### **Evolution**

In India the retail market is as old as in the global context. However, the concept organized retailing is comparatively new. Retailing has been one of the prominent driving forces in business in India. Traditionally it has been dominated to a large extent by the unorganized sector. But the growth of the organized sector has been steadily increasing especially after liberalization of the Indian economy.

### **Distributing Channel System is Functioning Today as**

Manufacturer → Wholesaler → Retailer → Customer

Manufacturer → Retailer → Customer

Manufacturer → Customer.

### **Impact of Retail Sector in India**

In India, the retail sector is the second largest employer after agriculture. The retail industry in India is estimated to employ about 10% of the total labor force. The retail industry in India is enjoying boom time and job opportunities in retailing have been increasing. In fact, retailing has emerged as a new stream of management curriculum, providing new areas of employment. The retailing sector in India is highly fragmented and predominantly consists of small independent, owner-managed shops. Given the size, and the geographical, cultural and socio-economic diversity of India, there are only very few role models for Indian suppliers and retailers to adapt or expand in the Indian context.

### **To develop retail sector**

1. Working in retail requires keen sales skills in order to be successful. Those looking for a career in retail also need to enjoy working with people since there is constant customer interaction. It is also important to know how to empathize with customer concerns.
2. Enthusiasm, flexibility, Hardworking, Devotion and a positive attitude are essential characteristics necessary to find success in the retail industry.
3. Generally little or no travel is required to work in retail. This allows workers to spend more time with their families. Those working in retail also have more time to become involved in the community. Buyers in the retail industry are required to travel.

4. The downfall of working in retail is abnormal hours. Because stores are often open nights and weekends, employees work long hours for usually minimal pay.
5. Although entry level jobs in retail pay little, workers can advance in specialty jobs or management positions that offer higher pay.
6. Education is not as essential in the retail industry as in other areas of marketing. Senior executives in retail typically do not have MBA,s but are hired based on hard work, experience, enthusiasm, and speed. However, a business and professional education can be helpful in retail because it provides a better understanding of finance, merchandising, and inventory control.

In recent years, several Indian and international companies like Reliance, Pantaloons, Wal-Mart, Big Bazaar and Mega Mart has rooted their presence in the country. The vacancies in retail sector are available from the entry to senior management level. Career in retail sector can be developed as store manager, retail managers, retail buyers, retail design/visual merchandise, merchandise planning and product developers.

### **Career and Job Prospects**

India is one of the top ten emerging retail markets all over the globe. There are approximately 4.3 million retail outlets spread over the nation, which require about 3.25 million retail personnel at present. With such a huge potential retail management offers limitless job opportunities in supply chains, exporting houses and departmental stores. Manufacturing companies also recruit retail managers to reach out to the customers directly. Banking, finance and insurance companies also need professional retail managers to bring their products directly to the customers. IT and IT enabled services companies particularly in the field of telecommunication also require large numbers of retail managers considering the recent boom in this sector. Besides these education and health care industry also absorb a large number of retail managers.

Jobs in the retail sector can bring handsome remuneration and good opportunity to move up the career ladder fast. With the tremendous growth of economy, retail management has emerged as one of the fastest growing career in the country. The enormous expansion in the retail sector during the past few years has thrown up a big demand for trained professionals in the field. It is an industry looking for people at all levels, from the school pass out with basic skills, to the well qualified supply chain and retail management professionals. One can take up a job depending on their interest and aptitude, since retail industry is an array of activities starting from marketing to branding. This makes retail profession one of the most demanding career of the era. The working time and atmosphere all depends up on the company one works for. One could start his career as a management trainee, and with hard work and right attitude, could reach the manager posts of different departments. Advertising agencies, Airlines, insurance companies, banks etc are some other areas where one can find jobs, apart from retail shops. One can even start their own business and be an entrepreneur.

## Profiles in Retailing

Management trainees, Department managers: Regional managers, Sales Personnel Store Manager, Retail Manager, Retail Buyers and Merchandisers, Visual Merchandisers: Supply Chain Distributors Logistics and Warehouse Managers Marketing Executives etc. Trained and talented retail management professionals are always in great demand not only in India but abroad also.

## Major Companies providing Career in the Retail Sector

Jobs in the retail sector can bring handsome remuneration and good opportunity to move up the career ladder fast. The retail sector in India is dominated by the companies like Reliance India, RPG Group, Westside, Titan, Pantaloons, Raymonds, Food World, Barista, Café Coffee Day, Bata, Trent and Crossword etc. They offer large employment opportunities for the qualified retail management professionals. The multinational companies such as Pizza Hut, Adidas, Nike, Dominos, Kodak, Benetton, Sony, Sharp and Levis are also recruiting the skilled professionals making a career in retail sector lucrative.

## Remuneration

The remuneration in the retail industry depends up on the company and nature of the work and area where you work. The average starting salary in the retail industry is Rs 4,000 to 25000 per month depending on various post. The special packages, bonus, incentives offered are the peculiarities of this career.

Entry-level jobs help workers gain experience as well as learn retail procedures and lingo. Terms such as cross-promotions, sales per square foot and shelf space are commonly used in the industry.

Entrepreneurs have great opportunity in the retail industry. Many times people work in retail to gain experience before opening their own businesses. Success has been attained by many entrepreneurs who took retail ideas to a national level.

## Changing waves

The change that organized retail has brought about is evident from how it has transformed the neighborhood grocery or „kirana store Organized retail accounts for merely 2% of total retail market. The pace of development is, of course, still below the desired level but the phased growth has been strong enough to ensure that retail does not go the way some of the other sunrise industries did following over-investment.

Shopping has become a hobby for the new generation.. The whole concept of shopping has altered with time, in terms of format and consumer buying behavior. Thanks to rapid urbanization and sprawling shopping centers, multi-storied malls and huge complexes that emerge at an ever increasing speed in every upcoming city, retailing has grown into one of the largest sectors in the global economy and a booming industry in the present century.

As a career, retail management is a dynamic field that offers affluent employment opportunities for talented youth. Basic educational qualifications, as well as personal skills like good communication and analytical mind is needed to outshine in this profession. Even though related with selling, not all the job opportunities in this field is in the stores/outlets themselves. In this career, one will get openings in sales and marketing, operation, concept and design, buying and merchandising and also in administration. The economic boom and the enormous expansion in the retail sector make this career most sought after. As the competition in this field is very tough, nowadays the shopping malls are doubling up as leisure and entertainment centers, to attract customers. Those who wish to be in this field must be creative and should have new ideas to promote their business. Many multinational companies have come forward in the retailing business. Reliance Group, ITC Retail, Aditya Birla Group, Tata Groups Trent & Westside, Subhiksha, Shoppers Stop, Future Groups Big Bazaar & Pantaloons, Apparel Chains, Raymond's, Arvind Brands, Lifestyle International, Spencers etc. are some of the top companies.

### **Eligibility & Course Areas**

There are options for taking up a degree or diploma in retail management, for those who choose the career. Various institutes offer courses in retail management such as MBA in retail management, Post Graduate Diploma in Retail Management and so on. In some institutes, retail management is offered as a specialized paper with MBA or other subjects. Candidates having a high school graduation or its equivalent, plus two or degree can apply for certificate, diploma or bachelors courses in Retail Management. The MBA in retail Management is more like a specialization than general MBA. The selection procedure for these courses is as same as that of MBA.

Retailers Association of India (RAI), the first independent body of retailers in India, conducts a Common Admission Retail Test (CART) on national basis for admission to Postgraduate Program in Retail Management (PGPRM) offered in 15 B-Schools across India. Abroad, there are institutes that offer four year Bachelor of Science courses in Retail Management.

### **Personal skills:**

Talented, dedicated people, who possess a wide variety of skills, good leadership qualities, positive attitude, and good communication, self confident are needed to effectively run a large retail business. Merchandising techniques. Enthusiasm and creativity will be always countable in this career. Apart from these, one should have tact, patience, an interest in sales work, a neat appearance and the ability to communicate clearly.

With rapidly expanding departmental stores and huge shopping malls, plenty of job opportunities are opening all over India. An estimated growth rate in retail sector in India has been about 30- 40% with establishment of more than 200 shopping malls. It is estimated that the retail sector will create over 13 million jobs throughout the country by

2012. More than 60% of these jobs will be available in the rural areas. Retail Industry, one of the fastest changing and vibrant industries in the world, has contributed to the economic growth of many countries. There has never been a better time for a career in India's retail industry. It is also auspicious to hear that about 60 per cent of these job vacancies will be in the rural India. The trend will help a lot to check migration of educated manpower from rural areas to the metro cities. As major companies that are already operating in the sector, including Future Group, Reliance Industries and Retail Solution Group are targeting to multiply its workforce to ten folds, there are about a dozen of world-renowned retail groups are preparing to take



## Conclusion

With speedily development and changing scenarios in all areas, concept of living life also changed. Day by day old concept like kiranadukan, pan dukan, various type of stores are replaced with malls , pizza huts, bazaars, chain shops etc. but such changes we can observe in urban areas only.

From the above discussion it can be concluded that India will remain the most sought destination for retail giants in the times to come, indicated by its ever rising contribution to Indian GDP and employment. In post-recession period, there has been increased job potentials for Indians in all sectors, especially in retail sector. It also depicts that tremendous opportunities exists in Indian retail sector due to increase in GDP and per capita disposable income. The task lying ahead of Indian retail is an onerous one. Plenty of opportunity exists and the formidable task is to tap this opportunity, in a unique country like India.

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## Effects of demonetization on retail outlets

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### **Abstract:**

*Demonetization is a tool of Government to eliminate the currency. It is used in very adverse situations. This paper tells about that what's are the post effects of demonetization on retailers. This paper throws light on how much problems are faced by shopkeepers, how their business effected and the effects on most popular brands sale. This paper also tells about consumers shifting to cashless means such as paytm, internet banking and the like.*

**Keywords:** *Demonetization, Retailer, Consumer*

### **Introduction**

This is not the first time when Indian currency is demonetized in India. The first instance was in 1946 and the second in 1978 when an ordinance was promulgated to phase out notes with denomination of Rs 1,000, Rs 5,000 and Rs 10,000. The highest denomination note ever printed by the Reserve Bank of India was the Rs 10,000 note in 1938 and again in 1954. But these notes were demonetized in January 1946 and again in January 1978, according to RBI data. Rs 1,000 and Rs 10,000 bank notes were in circulation prior to January 1946. Higher denomination banknotes of Rs 1,000, Rs 5,000 and Rs 10,000 were reintroduced in 1954 and all of them were demonetized in January 1978. The Rs 1,000 note made a comeback in November 2000. Rs 500 note came into circulation in October 1987. The move was then justified as attempt to contain the volume of banknotes in circulation due to inflation. However, this is the first time that Rs 2,000 currency note is being introduced. Bank notes in Ashoka Pillar watermark series in Rs 10 denomination were issued between 1967 and 1992, Rs 20 in 1972 and 1975, Rs 50 in 1975 and 1981 and Rs 100 between 1967-1979. The banknotes issued during this period contained the symbols representing science and technology, progress and orientation to Indian art forms. In the year 1980, the legend Satyameva Jayate - 'truth alone shall prevail' - was incorporated under the national emblem for the first time. In October 1987, Rs 500 banknote was introduced with the portrait of Mahatma Gandhi and Ashoka Pillar watermark. Mahatma Gandhi (MG) series banknotes – 1996 were issued in the denominations of Rs 5, (introduced in November 2001), Rs 10 (June 1996), Rs 20 (August 2001), Rs 50 (March 1997), Rs 100 (June 1996), Rs 500 (October 1997) and Rs 1,000 (November 2000). The Mahatma Gandhi Series – 2005 bank notes were issued in the denomination of Rs 10, Rs 20, Rs 50, Rs 100, Rs 500 and Rs 1,000 and contained some additional/new security features as compared to the 1996 MG series. The Rs 50 and Rs 100 banknotes were issued in August 2005, followed by Rs 500 and Rs 1,000 denominations in October 2005 and Rs 10 and Rs 20 in April 2006 and August 2006, respectively.



## Meaning of Demonetization

Demonetization is a process by which a series of currency will not be legal tender. The series of currency will not acceptable as valid currency. The same thing happens with the Rs. 500 and Rs. 1000 note demonetization.

### Objectives:

1. To study the demonetization post effects on retailers.
2. To know the merits and demerits of demonetization

### Effects of demonetization on the following categories

- Salty snacks sale decreased
- Chocolates sale decreased
- Biscuits sale decreased
- Sparkling drinks sale decreased
- Juices/fruit drinks sale decreased
- Cigarettes sale decreased
- Toilet soaps sale decreased
- Hair dyes sale decreased
- Mobile phones and pc sales decreased
- Gold sale increased
- Durable goods sale decreased

### Merits of Demonetization

- \* To curb black money in India.
- \* Using of digital money is evolved.
- \* Debit cards and credit card are used for purchase.
- \* ATM'S were recalibrated to accommodate the new currency.
- \* It is the way to adapt digital transaction.
- \* Jan Dhan account was introduced.
- \* USSD platform were created by National payment corporation of India to pay wages and buy things.
- \* Point of sales payment was introduced.

### Demerits of Demonetization

- \* Problem for common men, small scale traders, daily and weekly wage earners at the night of November 8.
- \* Common people suffered a lot to exchange the demonetized money
- \* I was nightmare to bank employees.

- \* Many small scale grocery retailers, and other retailers could not open their store as they could not get new stock for want of cash that needed to be exchanged.
- \* ATM'S were closed.

### **Conclusion**

So the study shows that initially the demonetization effects on market were painful but this also instigate the shopkeepers to adopt cashless means such as pay tm, debit card use, internet banking to buy goods. By adopting the cashless means economy will be sound in coming time and Indian Economy will get benefits of early and hassle free transactions. Demonetization effect will be positive in coming time for Indian Economy. Indian consumers will strives To learn new ways of cashless transactions. By adopting the cashless means certainly there will be a check on black money.

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## A Study on Online Advertising in Tirunelveli city

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### **Abstract**

*Online Advertising is a form of promotion that uses the Internet that uses the Internet and world wide web for the expressed purpose of delivering marketing messages to attract customers. It includes email marketing, search engine marketing (SEM), social media marketing, many types of display advertising (including web banner advertising), and mobile advertising. Online advertising is also known as Internet marketing. Internet as an advertising medium is versatile and this is it where it stands apart from the conventional advertising medium. It is a highly flexible medium that allows you to make changes during the course of the campaign and when required without incurring much additional cost. This makes internet all the more important in a country like India where the business scenario is highly dynamic and changes with each passing day. Online marketing media allows the user to make changes as and when required to meet the latest demands of the market. The main strength of Internet as an advertising medium is its ability to reach out to a vast audience at one goes.*

*Key words: Online advertising, Internet, online marketing, mobile advertising, E-mail advertising*

### **Introduction**

Online advertising is a marketing strategy that involves the use of the Internet as a medium to obtain website traffic and target and deliver marketing messages to the right customers. Online advertising is geared toward defining markets through unique and useful applications. Since the early 1990s there has been an exponential increase in the growth of online advertising, which has evolved into a standard for small and large organizations. Online advertising, also called online marketing or Internet advertising or web advertising, is a form of marketing and advertising which uses the Internet to deliver promotional marketing messages to consumers. Consumers view online advertising as an unwanted distraction with few benefits and have increasingly turned to ad blocking for a variety of reasons. It includes email marketing, search engine marketing (SEM), social media marketing, many types of display advertising (including web banner advertising), and mobile advertising. Like other advertising media, online advertising frequently involves both a publisher, who integrates advertisements into its online content, and an advertiser, who provides the advertisements to be displayed on the publisher's content.

### **Objectives of the Study**

- It saves lot of time
- The customer can purchase easily and quickly

- To know the most effective media of advertisement.
- To find out the reasons for preferring on line advertisement.
- To increase the market strategy
- To explore the various types of conventional and online medium of advertising that have impact on purchase intention of generation consumers.

### Review of Literature

- **Choi and Rifon (2002)** were of the view that “rapid growth in online advertising revenues indicates the viability of worldwide web advertising as an alternative to that of traditional media considering internet advertising growth, there is little doubt that the internet is a powerful and viable alternative to traditional media advertising.”
- **Latif & Abideen (2011)** studied media advertising’s influence on audiences, television is one of the strongest medium of advertising and due to its mass reach, it can influence not only the individual’s attitude, behavior, lifestyle, exposure and in the long run even the culture of the country.
- **Azizul Yadi Yaakop, et al. (2012)** examined the online factors that influence the perception and attitude towards advertising in social networking sites. The factors perceived interaction, privacy and advertisement avoidance were positively correlated with the attitude towards advertising. But the respondents responded unfavorably towards the credibility of the advertisements on the Internet. Informational interactivity assumed a greater role towards formation of attitudes.
- **Magesh, et al., (2013)** Regarding the theme of online advertisements, customers prefer video advertisements followed by banner advertisement and the youngsters, non graduate and students frequently notice different types of advertisements on SNS.

### Types of Display Advertising:

**Floating Advertising:** An advertising which moves across the user’s screen or floats above the contents.

**Expanding Advertising:** An advertising which changes size and which may alter the contents of the web page.

**Polite Advertising:** A method by which a large advertising will be downloaded in smaller pieces to minimize the disruption of the content being viewed.

**Wallpaper Advertising:** An advertising which changes the background of the page being viewed.

**Trick Banner:** A banner advertising that looks like a dialog box with buttons. It simulates an error message or an alert.

**Pop-up:** A new window which opens in front of the current one, displaying an advertisement or entire webpage.

**Pop under:** The pop-up except that the window is loaded or sent behind the current window so that the user does not see it until they close one or more active window.

**Video Advertising:** The banner advertising, except that instead of a static or animated image, actual moving video clips are displaying. This is the kind of advertising most prominent in television, and many advertisers will use the same clips for both television and online advertising.

**Map Advertising:** Text or graphics linked from and appearing in or over, a location on an electronic map such as Google maps.

**Mobile Advertising:** The mobile advertising means an SMS text or multi-media message sent to a cell phone.

**E-mail Advertising:** E-mail advertising is often known as “opt-in e-mail advertising” to distinguish it from spam.

**Affiliate Marketing:** Affiliate marketing is a form of online advertising where advertisers place campaigns with a potentially large number of small publishers, whom are only paid media fees when traffic to the advertiser is garnered.

**Contextual Advertising:** Many advertising networks display graphical or text- only ads that correspond to the keywords of an Internet search or to the contents of the page on which the ad is shown.

**Behavioral Targeting:** In addition to contextual targeting, online advertising can be targeted based on a user’s past click stream.

**Semantic Advertising:** Semantic advertising applies semantic analysis techniques to web pages. The process is meant to accurately interpret and classify the meaning and or main subject of the page and then populate it with targeted advertising spots.

### **Advantages of online Advertising**

- It can easily test the market
- The advertising campaign is less expensive
- The advertising works 24 hours a day, 7 days a week, 365 days a year
- It can change your online advertising much more easily than you can change ads in other media
- It can target your audience effectively
- The ability to set daily spend limits

- The ability to track, test and evaluate the effectiveness of campaigns compared to other medium
- The ability to run multiple campaigns
- Easy to implement and easy to withdraw

### Methodology

**Primary data:** Primary data was collected from the respondents through systematically prepared questionnaire through structured interview methods.

**Secondary data:** The main source of information for secondary data was collected from old records and the websites books, journals, newspaper etc.

### Analysis and Interpretation:

**Table-1: Socio economic profile**

Gender	No of Respondent	percentage
Male	70	58
Female	50	42
<b>Total</b>	<b>120</b>	<b>100</b>
<b>Age wise</b>		
Below 25 years	25	21
25-35 years	30	25
35-45 years	35	29
45-55 years	20	17
Above 55 years	10	8
<b>Total</b>	<b>120</b>	<b>100</b>
<b>Monthly income</b>		
Below Rs 25000	32	27
Rs 25000-35000	40	33
Rs 35000-45000	33	28
Above Rs 45000	15	12
<b>Total</b>	<b>120</b>	<b>100</b>
<b>Educational qualification</b>		
Hsc	20	17
Graduate	33	27
Post Graduate	36	30
Professionals	26	22
Others	5	4
<b>Total</b>	<b>120</b>	<b>100</b>

**Source: primary data**

Table 1 shows that out of 120 respondents 58 percentage of the respondents are male, Next 29 percentage of the respondents are under age group 35-45 years, Next 33

percentage of the respondents are under monthly income of Rs 25000-35000, Next 30 percentage of the respondents are post graduate.

**Table-2: Features of Online Advertising**

particular	Total	Mean score	Rank
Time consuming	409	81.8	V
Collection of Brand	422	84.4	III
Low Rate	454	90.8	I
Convenient	420	84	IV
24/7 Hours	426	85.2	II

**Source: Computed data**

Table-2 shows that Low Rate ranked first score 454, next 24/7 Hours ranked second score 426, next Collection of Brand ranked third score 422, next Convenient ranked fourth score 420, next Time consuming ranked fifth score 409.

### Findings

- 58 percentage of the respondents are male.
- 29 percentage of the respondents were under age group of 35-45 years.
- 33 percentage of the respondents were laid on between Rs25000-35000 monthly income.
- 30 percentage of the respondents are post graduate.

### Suggestions

- It is suggested that offline and online marketing strategies be brought into alignment to prevent mixed messages and to promote the availability of the online forums for interaction.
- The social networking strategy should be sufficiently flexible to allow it to adapt to new developments and to determine what works and what does not work.
- A dedicated social media co-ordinator is recommended to monitor the impact of any changes implemented. A dedicated co-ordinator would also allow for consistency in communication.
- The reviews and complaints raised by the customers on the SNS should be effectively managed and proper actions should be taken by the hotels management and the action taken should also be communicated to the customer.
- The promotional offers during season should be displayed on the SNS on a regular basis, so that a large number of customers is captured.

## Conclusion

Internet advertising offers increased awareness of companies, an easy method to distribute information, advanced methods of targeting consumers, an immediate and direct line to the customers, and reduced costs in performing these tasks. The main problem related to this is the interference of online advertisements in the work of people and the fear of falling prey to online advertising fraud and malpractice. As people get more accustomed to finding product information on the web, more and more readers will actively seek out Internet advertising sites. Like other advertising media, online advertising frequently involves both a publisher, who integrates advertisements into its online content, and an advertiser, who provides the advertisements to be displayed on the publisher's content.

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## A Study On Performance Appraisal In Hrm

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### **Abstract**

*In this study the operative function in the human resource department are analyzed with the contribution of employees and their opinion about the function performed by the employees and their opinion about the function performed by the HR Department in Wipro Infrastructure Engineering Pvt Ltd, Chennai. The employees in the organization are directly interviewed and related data's where collected through the questionnaire. The data are analyzed through the percentage analysis and chi-square method. From these inference were drawn, based on the inference it is found that most of the respondents feels that the performance appraisal system done by the organization is comfortable and satisfactory. From the study it is found that they are enriching their knowledge with appraisal system and necessary findings are made and suggestions were given. Within a short period of time the employees are aware about the various policies which are implemented by the company and also it gain goodwill in the minds of employees. It is suggested that the company should introduce new methods to provide good services promptly and efficiently at the time of employees' measures. Thus the study mainly focus on performance of the employee among executives, and their opinion efficiently and effectively.*

**keywords:** HRM, Organisations, Performance appraisal.

### **Introduction**

Performance appraisal is an integral part of HRM and HRM deals with personnel is people. "People" is the important and valuable resource that every organization or institution has in the form of its employees. Dynamic people can build dynamic organization. Effective employees can contribute to the effectiveness of the organization. HRM has multiple goals, which include employee's competency development, employee motivation development and organization development. Employees require a variety of competencies, knowledge, attitude, skills in technical area; Managerial areas, behavioural and human relations areas and conceptual area to perform different tasks or functions required by their jobs. HRM aim at constantly the competency requirements of different individual to perform the job assigned to them, effectively and provides opportunities for developing these competencies. As HRM deals with humans it is necessary to keep a check on their performance after regular interval of time given jobs, it is necessary to corrective actions term or there is need to appraisal their performance. The process of appraising for doing their work effectively is known as performance appraisal system.

### **Review of literature**

1. **stonich (1984)<sup>1</sup>** also argued that performance measurement in an organization should be in tune with its structure and culture. Since the nature of the enterprises

in which each industry is engaged varies, its organizational type, business policy, internal and external environment are also usually different. The purpose of this study is to conduct a direct comparative analysis of performance appraisal system in the service and manufacturing industries.

2. **Cleveland, Murphy, and Williams (1989)<sup>2</sup>** argued that there is a relationship between organizational characteristics and the uses of a performance appraisal system.
3. **Ilgem, Barnes-Farrell, and McKellin (1993)<sup>3</sup>** concluded, from their extensive review of the literature since the 1980s about performance appraisal, that there are four aspects that need to be considered. In practice performance appraisal systems cover a wide range of these aspects, and seldom have exactly the same nature and functions. In order to integrate findings in the area, Chu (2002) proposed a comprehensive framework including six categories, namely, appraisal purposes, appraises personnel, appraisal criteria, appraisal methods, appraisal timings, and appraisal feedback. This study will adopt this framework to compare performance appraisal systems in the service and manufacturing industries
4. **Alford and beatty** says, "It is the evaluation or appraisal of the relative worth to the company of a man's service on the job".
5. **Flipper** says, "Performance Appraisal is a systematic, periodic and so far as humanly possible and impartial rating of employee's excellence of matters pertaining to his potentialities for a better job". Performance appraisal has been defined in many ways. The simplest way to understand the meaning of performance appraisal is as follows: "A regular and continuous evaluation of the quality, quantity and style of the performance along with the assessment of the factors influencing the performance and behaviour of an individuals called performance appraisal".

### Objectives of the study

- ❖ To identify the actual performance of the employees and performance standards used in performance appraisal program.
- ❖ To create and maintain a satisfactory level of performance.
- ❖ To identify the awareness level of performance appraisal technique among the employees.
- ❖ To identify the strength and weakness of employee to place right men on right job.
- ❖ To maintain and assess the potential present in a person for further growth and development.
- ❖ To provide feedback to employees regarding their performance and related status.
- ❖ To review and retain the promotional and other training programmers.

## Methods of performance appraisal

With the evolution and development of the appraisal system, a number of methods or techniques of performance appraisal have been developed. The important methods among them are presented.

- ❖ Traditional Methods
- ❖ Modern Methods

### Traditional Methods

- a) Graphic Rating Scales
- b) Ranking Method
- c) Paired Comparison Method
- d) Forced distribution Method
- e) Checklist Method
  - i. Simple checklist
  - ii. Weighted Checklist
- f) iii)Critical Incident Method
- g) Psychological Appraisal
- h) Results Method
- i) Productivity Measures

### Modern Methods

- a) Behaviorally Anchored Rating Scales
- b) Assessment Center
- c) Human Resources Accounting
- d) Management by Objectives
- e) Behavior Observation Scales
- f) Essay or free form Appraisal
- g) Group Appraisal
- h) Confidential Reports
- i) Balance Score Card

## Several ways of performance appraisal

Performance appraisals are useful for the organizations in several ways including:

- ❖ Professional development (identifying strengths and weaknesses in performance, implementing strategies for improvement)
- ❖ Determining organizational training and development needs.
- ❖ Making and validating administrative decisions (e.g., pay, promotion, placement, and termination)
- ❖ Identifying systemic factors that are barriers to, or facilitators of, effective performance.

- ❖ Some workers can find performance appraisals to be threatening or intimidating. However, with good Design and planning, performance appraisals can be rewarding and constructive for workers and managers / supervisors. When performance appraisals are clearly linked with recognition and
- ❖ Rewards, there are also likely to be benefits for workers □ motivation, productivity and retention

### **Five steps of approach to conducting a performance appraisal:**

The following five-step approach to conducting a systematic performance appraisal is recommended:

1. Identify key performance criteria
2. Develop appraisal measures
3. Collect performance information from different sources
4. Conduct an appraisal interview
5. Evaluate the appraisal process.

### **Using performance appraisal to address workforce development challenges**

Regular performance appraisals provide a useful opportunity to conduct a “check-up” on various workforce development issues that may impact on workers □ effectiveness and wellbeing. Performance appraisals can be used to:

- ✓ Recognize, reward and support effective performance
- ✓ Develop and reward effective teamwork
- ✓ Identify and manage issues likely to impact on retention
- ✓ Monitor and support workers well being.

### **Primary data**

Primary data is known as data collected for the first time through field survey. Such data are collected with specific set objectives. Primary data always reveals the cross section picture of anything studied. This is needed in research to study the effect or impact of any policy. For this study the primary data are collected through structured questionnaire.

### **secondary data**

Secondary data refers to the information or facts already collected. Such data are collected with the objectives of understanding the past status of any variable data collected and reported by some source is accessed and used for the objectives of the study. The secondary data were collected from: Magazine, Books, Journals, Records maintained by HR department, Company websites.

### Analysis of data

**Table-1: Socio Economic Profile**

<b>Gender</b>	<b>No of Respondents</b>	<b>Percentage</b>
Male	50	67
Female	25	33
<b>Total</b>	<b>75</b>	<b>100</b>
<b>Age</b>	<b>No of Respondents</b>	<b>Percentage</b>
Below 25 years	5	7
26-30 years	20	27
31-35 years	17	22
36-40 years	18	24
Above 40 years	15	20
<b>Total</b>	<b>75</b>	<b>100</b>
<b>Education</b>	<b>No of Respondents</b>	<b>Percentage</b>
SSLC	8	11
HSC	10	13
UG	12	16
PG	22	29
DIPLOMA	23	31
<b>Total</b>	<b>75</b>	<b>100</b>
<b>Monthly Income</b>	<b>No of Respondents</b>	<b>Percentage</b>
Below 5000	18	24
5001-10000	13	17
10001-15000	24	32
Above 15000	20	27
<b>Total</b>	<b>75</b>	<b>100</b>
	<b>No of Respondents</b>	<b>Percentage</b>
Married	45	60
Unmarried	30	40
<b>Total</b>	<b>75</b>	<b>100</b>

**Source:** Primary data

The above table shows that out of 75 respondents, 67 percent of the respondent are male and 33 percent of the respondent are female. 7 percent of respondents are below 25 years, 27 percent of the respondents are 26-30 years, 22 percent of the respondents are 31-35 years, 24 percent of the respondents are 36-40years, 20 percent of the respondents are above 40 years.

Table-2

Factors	NX5	NX4	NX3	NX2	NX1	otal	Wgt/ Avg	Rank
Ranking method	100	60	54	20	12	246	16.40	I
Checklist method	75	80	33	32	13	233	15.53	III
Graphic rating scale	50	48	48	34	20	200	13.33	V
Result method	90	64	60	18	12	244	16.27	II
Productivity measures	60	48	30	46	18	202	13.47	IV

Source: Computed data

From the above table it is evident that Ranking method got first rank, the Result method got second rank, then the Checklist method got third rank, and Productivity measures got fourth rank, finally Graphic rating scale got fifth rank.

### Findings

- 67% of the respondents are male.
- 27% of the respondents age group laid down 26-30.
- 32% of the respondents were laid on between rs.10001-15000 monthly income.
- The majority of the respondents are educated at diploma level.
- Ranking method scored first rank.

### Conclusion

Human resources are the vital source of every organization. Every employee in an organization increases the productivity and goodwill of every company. An employee, being an individual is treated as assets in the organization. So the organization should mainly emphasis performance appraisal techniques and its development programme. Both the appraiser and appraise should realize the principle and use the tool of appraisal system in a constructive way for the prosperity of the organization. The performance appraisal technique prevailing in the organization is fair. Employees are satisfied with the present performance appraisal system that is a traditional one. As many new appraisal techniques are emerged, the organization can implement modern technique which would be more effective. The welfare measure of organization is at par with the company policies and has brought a great sense of involvement in work among the employees of the organization.

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## A Study on Trends in Finance and Accounting

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### Abstract

*Accounting and Finance (A&F) has experienced a surge in published research in the last decade. The analysis here reveals a marked increase in the number of published articles in A&F since 2003, a distinct trend for published papers to have a larger number of authors, a significant and stable contribution by the top 5 Australian accounting/finance departments, as well as a notable increase in contribution from non-US foreign universities, particularly those located in the UK, Canada, Hong Kong, Singapore and Spain. An analysis of citations indicates the increasing impact of A&F in recent years.*

**Keywords:** Improved collaboration, Intellectual property, Client information, Gaining popularity, Hip Chat, Down cost, Reduce risk.

### Introduction

Accounting plays a key role in the functioning of any business. With global financial crisis in the recent past and a number of businesses expanding on a daily basis, the presence of a strong accounting system is the need for any business.

Over the years there have been a number of changes in the way accounting is carried out. Many accounting and bookkeeping firms are embracing the trends in accounting in order to reshape their business and simplify their work to a great extent. In this article we are going to discuss about the most recent trends that impact

### Watch Out for These Accounting Trends in 2017

We have come a long way from manual bookkeeping to automation and cloud accounting. Most people are also outsourcing their accounting needs in order to completely focus on the task at hand and generating new business. Let's take a moment to talk about the top 5 accounting trends in 2017 and beyond.

### Objectives

- To know the various trends in accounting
- To analyse the challenges and its benefits
- To know the real time processing of work in practice
- To suggest save time
- To help to predict the accounting channels



## Review of Literature

**Usman.S.H (2013)<sup>1</sup>** The fundamental role of audit as well as the ownership structure is to reduced asymmetric information between managers and share holders that an effective control exercises by these mechanisms is associated with lower levels of earnings management.

**Abernathy, J. L. (2014)<sup>2</sup>** Association between audit committee members financial expertise and financial reporting timeliness and extend the discussion by investigation how the source of accounting expertise.

**Gajevszky (2015)<sup>3</sup>**This investigate the correlation between specific corporate governance attributes and the quality of financial reporting process across the Romanian entities listed on the Stock exchange.

### 1. Cloud Accounting

Most businesses depend on cloud for various operations from data storage to connectivity and reducing business costs. An emerging accounting trend, the Cloud today is being increasingly used to work and enable easy access to world-class infrastructure without the need to spend huge amounts of money on it. Cloud accounting also paves the way for improved collaboration with team members and a better overview of the business' finances.

Cloud Accounting requires a software that runs on servers and connectivity to the internet. The advantages of cloud accounting include -

- It enables use of cloud-based software from any device using any internet connection.
- Cloud accounting allows small business owners to stay connected with accountant as well as data.
- Cloud software can be integrated with a wide number of add-ons.
- It removes the necessity to run applications over a desktop.
- Using cloud is a secure way to protect a business' intellectual property in case of loss of physical assets such as laptops (unless the login credentials to the online account are available).

### 2. Automation

Automation of accounting is a trend that can save businesses a great amount of time when it comes to accounting. It is slowly eliminating the need for manual data entry and saving businesses a great amount of production hours. Automation in accounting is intended to reduce the burden of manual bookkeeping and accounting, and use that time to deal with actual real time accounting issues. Although automation and accounting software may seem like a threat for accountants, they aren't going to replace accountants in the near future.

Automating accounting is extremely beneficial for entrepreneurs and small business owners.

In addition to automation in accounting, automating their marketing solutions is also trending today. The tools available make it easier to take advantage of existing client information in a cost-effective way, to benefit both the accounting firms as well as their customers. From sending newsletters with marketing content to videos, articles, and much more, everything is automated. Apart from simplifying the work process, automating marketing also provides for increased business and referrals, and decreases loss of valuable time.

### **3. Social Media Strategy**

Most businesses use social media to create a presence for their business online, and reach a wider audience. Using social media strategy for accounting is also gaining popularity this year as business owners are becoming more active on social media. This trend in accounting is not just beneficial for accounting firms but also for the clients who are able to gather information themselves, which provides clarity when it comes to choosing the services provided by an accounting firm. There are many benefits of using social media for accounting, they include -

- No cost on usage
- Communicating with millions of people
- Increased business exposure and visibility
- Increased website traffic
- Providing insight in areas of accounting expertise

### **4. Collaborative Accounting**

Accounting is not just seeing trends in software and automation, but also in terms of collaborating with their clients. Collaborative accounting may not be a new term at all, although a new breed in collaborative accounting involves using the internet and trending technology to work together in real-time regardless of their location. For example: CPAs can view information of their clients' transactions and make changes where ever necessary using cloud software and communicate the same using instant chat platforms such as Slack and Hip Chat.

Collaborative accounting is the future of accounting. It doesn't necessarily occur only between clients and CPAs, it applies to a plethora of services available today. A sale could be made by a sales person sitting at a different location using a mobile device or tablet and issues related to the same could be resolved by a manager at a different location. All that needs to be incorporated is the technology required, tools, and portals in order to carry out smooth flow information between the collaborators.

## Outsourcing

One of the biggest trends in accounting is outsourcing finance and accounting services. Outsourcing accounting most importantly enables businesses focus on their primary business rather than building an accounting department. Outsourcing accounting services can help businesses cut down costs, and also reduce risk of fraud and provide access to the services of dedicated professionals in the field. Read further to learn more about the advantages of outsourcing accounting services -

- Access to a team of experts in accounting
- Collaborative accounting has a number of benefits
- Scalability of business
- Access to top systems
- Enough time to focus on growth and expansion of business
- Keeping an eye on your cash flow
- Complete control over business accounts

## Methodology

- **Primary data:** Primary data was collected from the respondents through systematically prepared questionnaire through structured interview methods.
- **Secondary data:** The main source of information for secondary data was collected from old records and the websites books, journals, news papers.

## Analysis of Data

**Table-1: Socio Economic Profile**

Gender	No of Respondents	Percentage
Male	60	67
Female	30	33
<b>Total</b>	<b>90</b>	<b>100</b>
Age	No of Respondents	Percentage
Below 25 years	12	13
26-30 years	23	26
31-35 years	19	21
36-40 years	18	20
Above 40 years	18	20
<b>Total</b>	<b>90</b>	<b>100</b>

Qualification	No of Respondents	Percentage
UG	12	13
PG	16	18
Diplomo	17	19
Engineers	23	26
Doctors	22	24
<b>Total</b>	<b>90</b>	<b>100</b>
Monthly Income	No of Respondents	Percentage
Below 10000	23	26
10001-20000	20	22
20001-25000	25	28
Above 25000	22	24
<b>Total</b>	<b>90</b>	<b>100</b>
	No of Respondents	Percentage
Married	35	39
Unmarried	55	61
<b>Total</b>	<b>90</b>	<b>100</b>

*Source: Primary data*

The above table shows that out of 90 respondents, 67 percent of the respondent are male and 33 percent of the respondent are female. 13 percent of respondents are below 25 years, 26 percent of the respondents are 26-30 years, 21 percent of the respondents are 31-35 years, 20 percent of the respondents are 36-40years, 20percent of the respondents are above 40 years.

**Table-2**

Factors	Total	Wgt/Avg	Rank
<b>Cloud accounting</b>	297	19.80	I
<b>Automation</b>	287	19.13	II
<b>Social media strategy</b>	245	16.33	V
<b>Collaborative accounting</b>	254	16.93	IV
<b>Outsourcing</b>	267	17.80	III

*Source: Computed data:- The above table indicates that cloud accounting scores the first rank followed by Automation Outsourcing, Collaborative accounting and Social media strategy.*

### Findings

- Majority of respondents are male.
- Majority of respondents come under down the age group of between 26 to 30.

- Majority respondents income were between 20000 to 25000.
- Majority of respondents are engineers.
- Cloud accounting scored first rank.

### **Suggestions**

The following suggestions are given for further improvement. There must be a need of awareness in finance and accounting. It takes very expensive and need more time to automation from manual. There is a chance for appearing errors in communicating in the field of social media. Small scale business cannot adopt this trend due to lack of potential.

### **Conclusion**

In conclusion accounting and finance can be differentiated by education, jobs, skills, tools and ethics. First of all the jobs scope of accounting is to recording and transaction and provides a financial report. Financiers are to do analysis based on the financial report which provided by the company. Not only that, financier also have to do decision making regarding on the financial report, in addition accounting professional is to see how the company is performing and make sure that day to day accounting is good operations.

For finance, they have to forecast to how the company performs in the future, in my opinion Finance and Accounting both are totally different because base on the proofs above we know that accounting and finance have different skills.

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## A Study on Measuring the Effectiveness of Online Advertising

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### Abstract

*There has been a tremendous increase in Internet penetration in India during the past 10 years, things for which there was a whole day invested can now be done in few clicks. Looking at the immense opportunity, companies have made this a good platform to advertise. Online advertisement, also called internet advertising uses the internet to deliver promotional marketing messages to consumers. This study reveals that the effectiveness of on line advertising and usefulness and the reasons for using online advertisement.*

**Keywords:** Online advertising, types of online advertisements

### Introduction

Online advertising also called online marketing or internet marketing or internet advertising or web advertising, is a form of marketing and advertising which uses the internet to deliver promotional marketing messages to consumers.

Online advertisers are increasingly making use of this for reaching consumers for a number of reasons:

- It is relatively inexpensive
- It reaches a wide audience
- It can be tracked to measure success or failure
- It can be personalized for target consumers.

### Review of Literature

1. Anandam P. Kavoori and Kalyani Chadha (2001) studied the future of the internet in the developing world by exploring the discourse of advertising. On the basis of a visual analysis from records of New Delhi and newspapers and magazines, the study concluded that a rethinking is required for online advertising in developing world. It argues that the advertisement themes used in online advertisement used a vision of the future of internet which defies the issues of linguistic hegemony, technological innovations, a consumerist culture, support of sexism and class. The study suggests that the future of internet technology in the developing world is intimately connected with the issues of global capitalism and cultural hegemony.
2. Palanisamy and Wong (2003) found a positive relationship between online consumer expectations and web- based banner ad effectiveness. Online advertising can be an effective branding vehicle that could provide marketers with powerful communication tools the web can present information in numerous ways including text, images, videos, and sound and therefore, is a flexible medium. The marketplace

is changing and it has been shifting towards online shopping, and virtual market businesses. Due to the changes in the environmental trend, the online business has to focus more on web-based advertisement

### Objectives of the study

The study is designed with the following objectives:

- To know the most effective media of advertisement.
- To find out the reasons for preferring online advertisement.
- To Find out the consumers attitude towards online advertising.

**Table :1 Distribution of Respondents details**

		No. of Respondents	Percentage
Gender	Male	76	63
	Female	44	37
Age	Below 20 years	30	25
	21 – 30 Years	53	44
	31 – 40 Years	17	14
	Above 40 years	20	16
Marital Status	Married	73	61
	Unmarried	47	39
Educational Qualification	School level	31	26
	Graduate	56	47
	Post Graduate	17	14
	Professional	16	13
Occupation	Private Employee	26	22
	Govt. Employee	22	18
	Business	37	31
	Others	35	29
Income	Less than Rs.15,000	39	33
	Rs. 15,000 – Rs. 25,000	47	39
	More than Rs.25,000	34	28

The above table represents the distribution of respondent's details. 63 percentage of the respondents are male and 37 percentage of the respondents are female.

Majority 47 percentage of the respondents are graduates and comes under the age group of 21 – 30 years. An income level classification reveals that 39 percentage of the respondents come under the income group of Rs15,000 – Rs 25,000

### Types of advertisement

Consumers prefer various types of advertisements. The following table shows the preferences of the advertisements in purchasing the products.

**Table :2 Types of Advertisement**

Types of Advertisement	No. of Respondents	Percentage
TV advertisement	44	37
Magazine / Newspaper advertisement	19	16
Banner advertisement	17	14
Online advertisement	30	25
Other advertisement	10	8
total	120	100

The above table shows that Majority 37 percentage of the respondents prefers Tv advertisements. 25 percentage of the respondents prefer online advertisements. 16 percentage of the respondents like magazine or newspaper advertisements. 14 percentage of the respondents like banner advertisements and 8 percentage of the respondents are like other advertisements like notice etc..

**Table :3 Time spent for Browsing**

Time spent for Browsing	No. of Respondents	Percentage
Half an Hour	62	52
One Hr	43	36
Two Hrs	9	8
More than Two Hrs	6	4
Total	120	100

The above table shows that Majority 52 percentage of the respondents use internet daily for half an hour. 36 percentage of the respondents use internet for one hour and a least number of responds use internet for two and more than two hours.

**Table :4 Types of Online Advertisements**

Types of Online Advertisements	No. of Respondents	Percentage
Floating advertisement	20	17
E-Mail Advertisement	18	15
Pop – up Advertisement	21	18
Video advertisement	34	28
Social media Advertisement	27	22
Total	120	100

The above table shows that majority 28 percentage of the respondents are like to watch video advertisements. 22 percent of the respondents are interested in social media advertisements like face book twitter etc. 18 percentage of the respondents are view pop up advertisements , 17 percentage of the respondent are like floating advertisements and 15 percentage of the respondents are interested in e-mail advertisements.



**Table :5 Time spent for Online Purchasing**

Time spent for Online Purchasing	No. of Respondents	Percentage
Half an Hour	34	28
One Hr	14	12
Two Hrs	12	10
More than Two Hrs	8	6
Nil	52	44

The above table shows that majority 44 percentage of the respondents are not interested to spend time or browsing for online purchasing. 28 percentage of the respondents are spend half an hour for online purchasing. 12 ,10 percentage of the respondents spend one and two hours for online purchasing respectively. Only 6 percentage of the respondents spend more than two hours for online purchasing.

**.CHI-SQUARE TEST:** To establish the relationship among the consumers, a chi-square test was applied with a hypothesis

	Hypothesis	Result
Ho	There is no significant difference among the consumers on the basis of their gender, age, marital status, educational qualification, occupation, income and their level of awareness about the online advertising	Rejected
H1	There is significant difference among the consumers on the basis of their gender, age, marital status, educational qualification, occupation, income and their level of awareness about the online advertising -	Accepted

**Table:6Features of Online advertisement**

S.No	Features	Mean value	Rank
1	Time Consuming	51.62	1
2	Collection of Brand	50.83	2
3	Low rate	49.56	3
4	Convenient	43.21	4
5	Door Delivery	39.09	5
6	Sales Service	37.84	6

Majority of the respondents select time consuming as the preferable factor , second place is for collection of brand respondents feel that number branded collections are available in online. Low rate gets third rank while comparing with offline sales there is a change in the rate of the same products. Convenient get fourth rank, fifth place for door delivery and sixth place for sales service.

## Findings

- Most of the respondents prefer advertised products more than non-advertised products.
- Out of all the different types of online advertisements, video advertisements are preferred by majority of the respondents.
- It is found out that not many respondents spend time on online purchasing
- It is found out that not many respondents spend time on online purchasing

## Suggestions

- Trust or confidence can be built in online business by using testimonials with the permission of customers.
- Advertisements should be designed to meet the preferences of target customers or target audience.

## Conclusion

The study titled 'Effectiveness of online advertising' reveals that online advertisement allows the advertisement to be viewed globally all around the world and takes the business to a whole new targeting much more audience, its low cost offers small business to invest in online marketing. The main problem related to this is the interference of online advertisements in the work of people and the fear of falling prey to online advertising fraud and malpractice.

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## Panoramic View of Pennington Private Public Library

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### **Abstract**

*This paper deals with the role of the private public library in Sirvilliputtur. Established in the year 1875 by the collector it is functioning efficiently since then and serving the needs of public, students and researchers. It contains innumerable volumes of various titles as the rare collection of historical books compared to any other libraries.*

**Keywords:** Pennington Library, Committee Members, Membership service, Book Lending Service, Infrastructure.

### **Introduction**

Library is a place to enlighten one's self where people acquire enormous knowledge by doing searching various books and magazines. A library has collection of volumes written by famous authors from different fields. It is also a temple where one can worship all Gods together. Libraries are classified as private libraries, public libraries, and private public libraries. Private libraries are maintained by private owners whereas public libraries are run by governmental organizations.

### **History of Pennington Library**

Pennington library is located at Sirvilliputtur in Tamilnadu, India. This is located 73 kms away from Madurai. This town is having an overall population of 76000 people and the library caters the educational needs of these people for the past 140 years. Pennington Library was founded in the year 1875.It was started near Sir Andal Temple in Sirvilliputtur. Pennington Library was developed by some philanthropists under the head of Thasildar Saravana Muthu. Pennington Library was established in the name of the Tirunelveli Collector J.B. Pennington. Pennington Library was structured by the money collected from the public. With that money in 1878, many shops were being built in and around Sirvilliputtur to support the financial proceedings of the library. The revenue collected from the shops was fully utilized for the maintenance and development of the library. Pennington Library was run by Pennington Committee which consists of 13 members from Sirvilliputtur. The committee also organized a nursery school and Pandrama school; but those schools were handed over to a convent in 1935. During 1910 to 1958, several shops were built and added to the income of the Pennington Library. In 1970, the building was renovated by the chief Justice of Madras High Court Hon. Sri K.Veerasamy under the presidency of Hon. Sri N. Krishnasamy Reddiar.

### **Composition of the Committee Members**

The Pennington Library was controlled by a committee of members from various fields for the maintenance and upkeep of the Pennington Library. The members were headed by the District Collector of Virudhunagar who was the Ex-officio president.

At present, Mr. S. Ragavan is the Vice president of the committee and Mr. A. Arumugam was elected as the secretary of the Pennington Library committee. The accounts of the Pennington Library were maintained by the treasurer Mr. G. S. Subramaniam and Vice President. They have three executive members Dr. M. Jeyakumar, Mr. A. Shanmugavel and Mr. Shanmuganath, and committee members Dr. M. Saroja, Mr. K. Karuppasamy, Mr. V. Santhanamahalingam, Mr. S. Chandran, Mr. V. Muthupattar, Mr. M. Srumugam, Mr. A. M. M. Radhasankar, Mrs. R. Selvi are the other members involve in the active participations of the committee.

### **Special Features**

Pennington Library provides accessibility to a wide range of users of several categories. It comprises most of the old and rare collections of the book world. As this library was organized in 1875 many rare books before that time could also be referred here. Many libraries were organized after Pennington Library and run by Government as well as private parties but Pennington Library holds a unique place in history by periodical upgrading of its services. Beyond the paper work service in practice in Pennington Library, also provide access electronic media in the year 2000. Pennington Library provides users with the facility to read e-books and its contents with free of cost. Also this Pennington Library has printing facility for the users to make a copy of them, the pages they need. Printing and Copying is done inside the library at a very low cost compared to others of this status. Recently, the Pennington Library has added one more essential facility to its members. The computer is fully enabled with Wi-Fi settings so if a user has laptops, he/she can access the internet directly through a portable hotspot and enjoy enormous benefits of the library. These frequent uploading and upgrading of the Pennington Library makes its unique and distinct from other libraries. Additional volumes of books and publications are added to its catalogue every year. The committee members actively maintain by allotting essential funds to the development of the Pennington Library. It has also "Tamilnadu Government Gazette (1972)", "The fort St. George Gazette (1966)", "Tamilnadu Public Service Bulletin (1996)". The library is run by women folk solely and is always neat and tide. Library accepts donation of books from any sources.

### **Membership services**

It is essential and important for any library to maintain the standard. For that, Pennington Library has certain conditions for assigning membership in this library. Any person, who has crossed 16 years of age is accepted as eligible to use this library. When a new person wants to become a member of the Pennington Library, he/she has to produce a guarantee from an existing member of the library. The work of the guarantor is that he/she is responsible for the loss or damage or delay in submission of books produced by his/her ward. The person who wishes to join the library has to make a small contribution to the library. It is noted that the member have to pay Rs. 115/- towards the enrollment in the library. This charge should be paid in the Pennington Library counter along with a duly signed form of enrolment with your full details. Library tickets will be issued to the

new member at the spot after registration. From then, he/she can withdraw books of their choice from the library. If a token is lost or damaged then they have to pay late fee penalty of Rs 2 and apply for duplicate token. Also an overdue fee is charged if the book is not returned in time. The subscription of the library as a life-time member is around 300 and an ordinary member is around 1600.

## **Services**

Various services are offered by the Pennington Library from the date of establishment. Many new services are also rendered as days passed by under the efforts of the Pennington Library committee. The services are listed as book lending service, Inter library loan service, OPAC service, Reference service, children section service, Newspaper and Journal service, Reprographic service.

### **Reprographic Service**

Libraries act as a place when a collection of age old records are kept and preserved. Previous editions of a book may be a research book will be published in the research style by its authors which would be very rare. The research books will be re-edited and compiled simply by other authors and after some years the original copy would be forgotten. In these cases, this reprographic service would be of more importance. Many newspapers and magazines can be photocopied for future reference. In this Pennington Library also, many rare collection of newspaper and old rare books were preserved.

### **Book Lending Service**

Pennington Library offers a valuable service to its members. It delivers books to the members to their residences, and at their workplace. Any kind of books could be borrowed from the library with the prior permission from the Library authorities. The books delivered must be returned to the library in good condition.

### **Newspaper and Journal services**

Newspapers are the daily source of information to the readers. A newspaper contains all the details and happenings all around the world. It is a collection of various data from the past till the present. Newspapers should be gathered for future references. Even for many criminal cases, the reference sections of Newspapers were mostly used for understanding the facts. In Pennington Library, separate section is there for the collection of older Newspapers and this available to the readers anytime. Magazines grouped under various categories as Science, Technology, and Medical, etc. These journals may be issued monthly or Bi-monthly. Around 51 Science journals were available. This service has added a crown to the Pennington Library. In paper section it subscribes 3 copies of different dailies, two for men's use and one for women's use. It also buys 2 copies of more than 50 journals.

- i. **Tamil Section:** This Section has all the works of Mr. K. Rajanarayan an awardee of Sahitya Academy. It contains nearly 32,000 books. Earlier century Tamil literature books were also available here.
- ii. **English Section:** This section contains books around 28,000. Many doctoral candidates visit this section for their doctoral studies.
- iii. **Children Section:** Pennington Library Play major role of helping children to read, improving children's literacy skills. Summer reading programs seek to attract large numbers of children to the library during the summer. Story telling time is in by every holiday. Children film are screened often..
- iv. **Counter Section:** This section looks after return and renewal of the books borrowed, collect the late fee etc. All sorts of enquiries are done here; new comers also can clarify their needs with this section.
- v. **Reference Section:** This section is known for its rich sources available on government examinations such as Civil services, TNPSC, Police, Entrance for Law, Medicine etc. Many poor student got benefited by this section, as they can't afford such costly books .
- vi. **Reading Section:** The library has separate section for women for reading.

### Rare Book Materials

Historic and Rare Books are available in the Library followings

### Publication

S.No.	Title	Year of
1.	Penny Cyclopedia	1833
2.	The Standard Library Cyclopedia	1860
3.	Science for all	1888
4.	Historian History of the World	1908
5.	Castes and Tribes of Southern India	1909
6.	Imperial Library Catalogue	1910
7.	The Private Diary of Ananda Renga Pillai	1914
8.	An Indian Ephemeris	1922
9.	Lands and Peoples	1929
10.	Webster's New International Dictionary	1932
11.	War Memories of David Lloyd	1936
12.	The New illustrated Atlas	1938
13.	The Second World War	1950
14.	India at a glance	1953

**Precious Books Today**

S.No	Title
1	New Book of Popular Science
2	Britannica Illustrated Science Library
3	The Phaidon Atlas of Contemporary world Architecture
4	Southern India
5	Agni: Vedic Ritual of the Five Altars.
6	Flora
7	20 <sup>th</sup> Century World Leaders
8	50 Years of space a global perspective
9	Guinness World Records 2009

**Important persons who visited Pennington library**

In 1962 Honorable **Justice shri C.P.Ramasamy** Iyer visited, many more Justices visited the library. In 22/11/2000 **Dr. A.P.J.Abdul Kalam** visited government gazette file.

**Rules and Regulation**

Pennington Library maintain codes of conduct and regulation for the members of the library. There rules and regulations were to be followed strictly. Library will be open from 9.00A.M to 1.00 P.M and 3.00 P.M to 7.00 P.M on all days except Tuesday and special holidays. Books are issued from 9.30 A.M to 12.30 P.M and 3.30 P.M to 6.30 P.M

- Members must enter the Names and Address in the Entry Register.
- Silence was strictly observed.
- Spitting, smoking & sleeping were prohibited.
- Umbrellas, sticks must be left at the entrance.
- No reproduction of the books was allowed without permission from librarian.
- No damage should be made to books.
- If any mishaps, it should be informed to the librarian immediately.

**Infrastructure**

The Pennington Library was built in a total area of 1,343.98 square meters & first floor area is 286.44 square meters. The library comprises of a garden to an area of 630.27 square meters. The library had well equipped furniture and the books are kept in order in clean shelves at respective places. The library had many sections as Reference section, periodicals section, Tamil section, English section & children section. The library possessing internet facility for the campus with well equipped software. The library had 16 staff members for managing the library. One librarian, One assistant

librarian, four library assistants one accountant, one typist, one reprography operator, one computer operator, one peon, 3 watchmen, and two sweepers .

### Conclusion

Pennington Library is considered as a private public library. It is functioning for the uplift of the rural and urban population in and around the villages of Srivilliputtur. It is a place of ancient importance and preserved with care. In the future, Pennington Library had planned to organize coaching classes for the competitive exams conducted by the Government of Tamil Nadu.

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## A Study on Digital Marketing and its Impact

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### Abstract

*Digital marketing is the avenue of electronic communication which is used by the marketers to endorse the goods and the services towards the marketplace. The supreme purpose of the digital marketing is concerned with consumers and allows the customers to intermingle with the product by virtue of digital media. This editorial concentrates on the magnitude of digital promotion for both customers and marketers. We scrutinize the result of digital marketing on the base of firm's sales. 50 respondents opinion are collected to get the clear picture about the present study.*

**Keywords:** Digital marketing, Promotion, Consistent, Interact

### I. Introduction

Michael Aldrich's invention of online shopping or e-shopping in 1979 allowed the consumers to buy goods or services directly from a seller by using a web browser over the Internet. The prospect of online marketing is increasing in India with the increasing internet literacy. Flipkart, Snap deal, Amazon.com, and eBay are few of the online retail corporations. Wang and Emuian (2004) defined online shopping as buying stuff through the internet. The items are usually sent to the buyer's door step that you have purchased online. Turban et al. (2002) explains that it is an emerging concept us through cargo or courier. The entire Process of buying and selling or exchanging products, services and information is via the Internet. In a country like India uses of electronic (digital) marketing services are increasing drastically and therefore, it is necessary to understand the consumer's online as well as offline buying patterns. The dominant factors that influence consumer perceptions of online shopping are Information, Ease of Use, Convenience, Satisfaction, Security/Privacy, and Proper Utilization of the channels.

The Internet can be a powerful tool for the manufacturers for advertising and marketing goods and services and through this they can also attract new customers or market the business. But sometimes the online transactions are not safe; therefore, people hesitate to do any online transactions. Internet helps in changing the way customers shop and buy goods and services. To purchase the products or services they are no longer bound to the opening times or specific location.

### II. Review of Literature

1. Sharma and Mittal (2009) said that India is showing tremendous growth in the Ecommerce, in their study "Prospects of e-commerce in India". Online shopping shows unlimited potential in India with the population of millions of people. E-commerce has become an integral part of our daily life and it is a common word in Indian society with websites providing a number of goods and services. Some of these portals provide specific product along with its allied services.

2. Donald Rogan (2007) explains that the strategy of his study is about increasing the probability and frequency of buyer behavior. For succeeding in this the requirements are to know the customer and to understand their needs and wants. Bhattacharjee (2001) pointed that through several mediating and moderating factors such as trust and satisfaction adoption and continuance are connected to each other.

3. Kim and Park (1991) stated that the consumers spend more time online for information search and they also found that the Internet is easily accessible. The attitude of consumers toward internet shopping depends on the effects of relevant online shopping features (Davis, 1993). Li and Zhang (2002) found that consumer's attitude is going to affect the intention to shop online and whether an online transaction is made or not. Consumers shop on the internet because it is more convenient than to shop in-store and they can compare the perceived benefits of products and shopping channels. Kotler and Armstrong (2000) said that consumer's buying choices are influenced by four psychological factors which are: motivation, perception, learning, belief, and attitude. Since different customers have different personalities they have their own their perception towards online shopping (Wolfenbarger and Gilly, 2001).

### III. Objectives

1. To study the awareness of digital marketing
2. To analyze the impact of digital marketing in purchase decision

### IV. Research Design and Methodology

The sources of data used in this project report are both primary and secondary data.

**Primary data:** Primary data consists of information gathered from sample size of 60 respondents residing in Thoothukudi

**Secondary data:** Secondary data consists of information that already exists and that was collected in the past for some other purposes.

### V. Data Analysis

**Table-1: Profile of the Online Buyers**

	Category	Number of Respondents	Percentage of Respondents
Gender	Male	25	50%
	Female	25	50%
	<b>Total</b>	<b>50</b>	<b>100%</b>
Age	Below 18Years	12	24%
	19-30 years	16	32%
	31-40 years	12	24%
	Above 40 years	10	20%
	<b>Total</b>	<b>50</b>	<b>100%</b>

Profession	House Wife	5	10%
	Employee	10	20%
	Business	15	30%
	Students	20	40%
	<b>Total</b>	<b>50</b>	<b>100%</b>
Monthly Family	Below 10000	6	12%
	10000-20000	9	18%
	20000-30000	15	30%
	Above 30000	20	40%
	<b>Total</b>	<b>50</b>	<b>100%</b>

**Table-2: Awareness of Online Shoppers**

Particulars	Number of Respondents	Percentage of Respondents
Having knowledge about online shopping	20	40%
Not having knowledge about online shopping	30	60%
<b>Total</b>	<b>50</b>	<b>100%</b>

**Table-3: Availability of Online Information about Product**

Particulars	Number of Respondents	Percentage of Respondents
Excellent	6	12%
Good	12	24%
Average	8	16%
Poor	14	28%
<b>Total</b>	<b>50</b>	<b>100%</b>

## VI. Observations

We can observe from the data that as there is awareness in the market there is an increase in the number of respondent in online shopping.

There are certain parameters that motivates the user to shop online:

- Website user friendliness.
- Discounts and offers.
- Cash on delivery.
- Free shipping.

In online shopping Physical examination is the important issue.

Since it offers all the basic aspect of the online shopping supermarket are the preferred shopping destination.

## **VII. Conclusion**

Utilized mostly by the “Net- Generation”, online shopping is extremely convenient and has become extremely popular. Consumers have shown different buying behaviors when shopping online as compared to when they are shopping in a physical store. Online shopping is very convenient and beneficial but there are some potential problems that can arise. In order to remain profitable and successful retailers study the behaviors of consumers and make changes. To improvise online purchase behavior of customers, marketers need to know about how to convert consumer’s requirements into digital services. Internet is one of the ways which is changing the consumers shopping and buying behaviour. Mostly consumers are using the internet to buy the product and to compare prices and features of product therefore, e-companies should understand the internet users perception towards the online shopping.

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## சித்தர்கள் பார்வையில் யோக நெறி

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### முன்னுரை

**“தன்னை அறிந்திடும் தத்துவ ஞானிகள்  
முன்னை வினையின் முடிச்சை யவிழ்ப்பவர்கள்  
பின்னை வினையைப் பிடித்து பிசைபவர்கள்”**

சித்தர் என்பவர்கள் தன் முன்வினை முடிச்சை அவிழ்த்தெறிவதுடன் வருங்கால வினையின் வேர்களையும் கசக்கி அழித்துவிடுபவனாக தோன்ற வேண்டும் என்று திருமூலர் அவர்கள் குறிப்பிடுகின்றார்கள். சித்தர்கள் சாகா நிலையைப் பெற்றவர்கள்., நிலையான அழியா உடம்பைப் பெற்றவர்கள். உடலைப் பாதுகாக்கும் வழிமுறைகளை கண்டுணர்ந்தவர்கள். முக்காலத்தையும் உணர்ந்தவர்கள் ஆவார்கள். அழியாத யாக்கை பெறவும், இறைநிலையை அடையவும், யோகத்தைக் கையாண்டுள்ளனர். உணவு, உடலை வளர்க்க உதவுவது போல யோகம் உயிரையும், உடலையும் வளர்க்க உதவுகிறது., சித்தர்களின் பார்வையில் யோக நெறியின் சிறப்புகள் மற்றும் அதன் நிலைகளை எடுத்துரைப்பதே இக்கட்டுரையின் நோக்கமாகும்.

### யோகம்

யோகம் என்பதற்கு ஒருமுகப்படுத்துதல், இரண்டறக் கலத்தல், என்பது பொருளாகும். உலகைப் படைத்த இறைவனுடன் இரண்டறக் கலப்பதே யோகம் என்று ஞானிகள் உரைக்கின்றனர். உடம்பை ஒழுங்குப்படுத்தி உள்ளத்தினை உறுதிப்படுத்தும் நிலை என்பதையே யோகத்தின் சிறந்த நிலையாக கருதலாம். யோக மார்க்கத்தில் செல்வோரை யோகி என்று அழைக்கின்றனர். இன்பம் மற்றும் துன்பம் அனைத்தையும் சமமாக கருதுபவனே யோகி ஆவான். யோகத்தின் சிறப்பியல்பு என்பது விடுபட்ட, பற்றற்ற நிலையை உருவாக்குவதே ஆகும்.

**“யோகச் சமாதியின் உள்ளே அகலிடம்  
யோகச் சமாதியின் உள்ளே உளரொளி  
யோகச் சமாதியின் உள்ளே உளசக்தி  
யோகச் சமாதியில் உகந்தவர் சித்தரே”**

என்று திருமூலர், யோகத்தின் சிறப்பு நிலையை எடுத்துரைக்கின்றார். யோகம் என்பது ஒருமுகச் சிந்தனையை வலியுறுத்துவதாக உள்ளது. யோகத்தின் வகைகள்

பலவாக இருந்தாலும் அவற்றை உடலை அடிப்படையாகக் கொண்டவை, மனத்தை அடிப்படையாகக் கொண்டவை, உடல், மனம் இரண்டையும் அடிப்படையாகக் கொண்டவை என மூன்றாக பகுக்கலாம்.

### **புலனடக்கம்**

உடலும், உள்ளமும், அறிவும் யோக நெறியில் முரண்பட்டால் யோக நிலை கலைந்துவிடும் என்பதை திருநாவுக்கரசர்,

**“புலன்களை போக நீங்கி புத்தியை ஒடுங்க வைத்து இலக்கைப் போகநின்று இரண்டையும் நீங்கி ஒன்றாய் மலங்களை மாற்ற வல்லவர் மனத்தினுட் போகமாகி சின்னங்களிக் களைவர் போலும்”**

மெய், வாய், கண், மூக்கு, செவி என்னும் ஐம்புலன்களையும் தன் வசப்படுத்துதலே யோகம். பக்தி யோகம் மற்றும் ஞான யோகம் என்பதற்கான அடிப்படை புலனடக்கம் என்பதே ஆகும். அத்தகைய புலனடக்கமே சிறந்த யோகிகளை உருவாக்குகின்றன.

**“மனமென்னும் மாடு அடங்கில் தாண்டவக் கோனே – முத்தி வாய்த்தேன்று எண்ணோடா தாண்டவக் கோனே”**

என்று மனத்தை அடக்கினால், உலகில் உள்ள அனைத்தையும் அடக்கி ஆளலாம். உலகம் என்பது நிலையில்லாதது என்றும், நிலையானது என்பது இறைவனை சரணடைவது மட்டுமே என்ற உண்மையை அறிந்தவர்கள் ஐம்புலனை அடக்கியவர்களே ஆவர். சித்தர்கள் புலனடக்கத்தின் மூலம் தங்கள் உடலையே உலர்ந்த குடுவை போலாக்கி அதனுள் நடக்கும் செயல்களை ஒளிக்கண்ணால் நோக்கி, அதன் நிலைகளை உலகுக்கு உணர்த்தினார்கள்.

### **குண்டலினி யோகம்**

குண்டலினி என்பது ஒவ்வொரு மனிதனிடமும் இருக்கும் பேரண்ட சக்தியின் வடிவமாகும். குண்டலம் என்ற காதணியின் பெயரிலிருந்து தான் குண்டலினி என்ற பெயர் ஏற்பட்டிருக்கிறது. குண்டலம் என்ற தமிழ்ச்சொல் வளைந்து சுருளாக இருக்கும் குண்டலினியைக் குறிக்கிறது. திருமூலர், குண்டலினி யோகத்தை மெய்யாகம் என்கிறார். மெய்யாகம் செய்து பெற்ற உடல் அழியாதது என்று உறுதிப்படுத்தியுள்ளார். பாம்பாட்டிச் சித்தர் குண்டலினியை ‘காயக் குடத்திலே நின்ற பாம்பு’ என்று குறிப்பிட்டுள்ளார். இத்தகு சிறப்பு பெற்ற குண்டலினி சக்தியை அடைவதில் குருவின் வழிகாட்டுதல் தேவை என்று திருமந்திரம் வலியுறுத்துகிறது. இவ்வகை யோகப் பயிற்சியால் உண்டாகும் சித்ததேகத்தைப் பற்றிய பல குறிப்புகள் சித்தர் பாடல்களில் காணப்படுகின்றது.

**“காலது மேல்தாசக் கனியுண்ணும் வெளவால் போல  
மூல நல்வாசியோடு முறைமையை அறிவற்கண்டு”**

என்று நெஞ்செறி விளக்கம் என்னும் நூலில் கணபதி தாசர், மரத்தின் கிளையில் தலைக் கீழாக தொங்கியவாறே பழத்தை தின்னும் ஒரு வெளவாலோடு குண்டலினி யோகத்தை ஒப்பிட்டுள்ளார். யோகா சாதனையின் பூரணத்துவமே குண்டலினியை அடையும் வழியில் தான் உள்ளது என சித்தர்கள் விளக்கியுள்ளனர்.

**பிராணாயாமம்**

பிராணன் என்பது உயிர்க் காற்று. அதனை உள்ளிழுக்கும் கால அளவு, உள்ளே நிறுத்தும் கால அளவு வெளியே விடும் கால அளவு ஆகியவற்றை வரையறுப்பதே பிராணாயாமம் ஆகும். பிராணா என்றால் தலைமையான, உயர்ந்த என்று பொருள். பிராணாயாமம் என்பது ‘பிராணனைக் கட்டுதல்’ என்பதாகும்.

மூச்சுப்பயிற்சியை மேற்கொள்ளுதல் கூரிய கத்தியின் மேல் நடப்பதற்கு ஒப்பாகும். ஏனெனில், சிறிது பிழையானாலும் உயிருக்குத் துன்பம்[மரணம்] நேரிடும் என்பர்.

**“புறப்பட்டுப் புக்குத் திரிகின்ற வாயுவை  
நெறிப்பட உள்ளே நிம்மல மாக்கில்  
உறுப்புச் சிவக்கும் உரோமம் கறுக்கும்  
புறப்பட்டுப் போகான் புரிசடை யோனே”**

பிராணாயாமம் செய்வதன் மூலம் உடம்பு முதுமை அடையினும் பளிங்கினைப் போல் பிரகாசிக்கும், இளமையோடிருக்கும் என்கிறார். மேலும் இதன் மூலம் எமனையே விரட்டும் ஆற்றலைப் பெறலாம் என்கின்றனர் சித்தர்கள்.

**ஆயுள் நிலை**

மனிதர்களுக்கு 21,600 சுவாசம் நடக்குமானால் ஏறத்தாழ 120 வருடங்கள் உயிர் வாழலாம். இப்பொழுது மனிதர்கள் 61,600 சுவாசத்துக்கு மேல் விடுகிறார்கள். ஒருவதனாலும், நடப்பதனாலும், தூங்குவதாலும், போகம் செய்வதாலும் சுவாசம் அதிகரிப்பதனால் இந்த 120 வயதிலும் குறைவு ஏற்படுகிறது. சுவாசம் அதிகரிக்க, அதிகரிக்க ஆயுள் குறைகிறது என்பது சித்தர்கள் கண்ட உண்மை.

**“நூறும் அறுபதும் ஆறும் வலம்வர  
நூறும் அறுபதும் ஆறும் இடம்வர  
நூறும் அறுபதும் ஆறும் எதிரிட  
நூறும் அறுபதும் ஆறும் புகுவரே”**

சுவாசம் குறையக் குறைய ஆயுள் கூடிவரும் என்ற உயரிய நிலையை திருமூலர் எடுத்தியம்பியுள்ளார்.

### வாசி யோகம்

வாசியோகம் என்பது சித்தர்களின் இரகசிய யோகக்கலை என்று கருதப்படுகிறது. இது சித்தர்களின் கருணையின்றி கிட்டாது என நம்பப்படுகிறது. சுவாசத்தில் உட்சுவாசமாகவும், நாதாமாகவும் இயங்குவதாக உள்ளது. இதனை அனுபவம் மிகுந்த ஆசானிடம் கற்று பயிற்சி செய்தல் வேண்டும். வாசி என்பது மூலாதாரத்தில் குண்டலினி சக்தியை எழுப்புவதாக உள்ளது. பிராணாயாமம் என்பது உயிர் வளர்க்கும் கலையாக உள்ளது. பிராணாயாமத்தில் பிராணனையும், வாசி யோகத்தில் தனஞ்செயன் வாயுவையும் பிடிக்க வேண்டும் எனப்படுகிறது. ஸ்ரீ கோரக்கர் அருளிய சந்திர ரேகை 2□□ என்னும் நூலில் வாசி யோகம் பற்றி குறிப்பிட்டுள்ளார்கள். வாசி யோகத்தின் மூலம் ஈசனை அடையும் வழியை அழகாக எடுத்துரைக்கிறார்கள். நம் உடலில் தச வாயுக்கள் இயங்கி வருகிறது. வாசிப் பழக்கத்தை தொடர்ந்து செய்து வரும் போது, நெஞ்சு சளி, மண்டைச் சளி யாவும் வெளியேறும். நோய் வரக் காரணமான வாத, பித்த, சிலேத்துமங்களை சமநிலையில் இருக்க வைக்கும். வாசியே ஓளடதமாக்கி நோயில்லா வஜ்ர தேகத்தை தரும் என்பதில் ஐயமில்லை.

மனித உடலிலுள்ள அசுத்த அணுக்களை சுத்த அணுக்களாக மாற்றி சரீரம் ஒளிமயமாக மாற, சாகா நிலையை அடைய காயகல்ப சாதனையையும் 'வாசி' பயிற்சியையும் வகுத்து தந்தவர்கள் சித்தர்கள் ஆவார்கள்.

### அட்டாங்க யோகம்

**"இயம நியம மாதனம் பிராணா  
யாமம் பிரத்தியா காரந் தாரணை  
தியானம் சமாதியென் றட்டாங்க யோகம்"**

என்று பிங்கல நிகண்டும் அட்டாங்க யோகத்தை பற்றிக் குறிப்பிடுகிறது.

அட்டாங்க யோகம் என்பது யோகத்தின் எட்டு உறுப்புகளை உள்ளடக்கியதாகும். அவை (தவிர்க்கப்பட வேண்டியவை), நியமம், (கடைப் பிடிக்க வேண்டியவை) ஆசனம் (உடம்பை இறுத்திக் கொள்ளும் முறைகள்) பிராணாயாமம், மூச்சுக்கட்டுப்பாடு பிரத்தியாகாரம் (புலன் அடக்கம்) தியானம்(ஆழ்ந்த ஒருமை உணர்வு) தாரணை (மனம் ஒரு நிலைப்படுத்தல்) சமாதி(முற்றடங்கல்) இவற்றில் கடைசி மூன்றும் தியானம் பற்றியவை ஆகும். இது சம்யம யோகம் எனப்படும். முன்னதாகக் குறிப்பிடப்பட்ட ஐந்தும் உடல் தொடர்பானவை, எனவே இது கிரியா யோகம் எனப்படும். "இந்த எட்டு வழிமுறைகளையும்



மேற்கொள்பவர்களுக்கு ஞானவாசல் திறக்கும் என்பது சித்தர் வாக்கு. அவன் பிறப்பு இறப்பு என்னும் சூழலில் இருந்து விடுபட்டு மரணம் இலாப்பெருவாழ்வை எய்துகிறான் என்று ஞானிகள் கூறுகிறார்கள் என்று சித்தர் இலக்கியம் என்ற நூல் குறிப்பிடுகின்றது.

### முடிவுரை

உலக மக்கள் அனைவரும் இயந்திரமயமான சூழலில் ஓடிக்கொண்டிருக்கும் நிலையில் உடலையும், மனத்தையும் ஆரோக்கியமாக வைத்துக் கொள்வதற்கு யோகம் இன்றியமையாததாகிறது. ஐம்புலனை அடக்கி உடலையும், மனத்தையும் கட்டுக்குள் வைக்கும் போது உலகில் சாதிக்க முடியாதென்று எதுவும் இல்லை. சித்தர்கள் மனிதர்களுக்கு உணர்த்தும் அறிவுரையில் யோகம் என்பது தலையாயது ஆகும். யோகத்தால் உடல், உள்ளம் செம்மை பெறுவதால் தனி மனிதன் மற்றும் சமூகப் பண்புகள் உயர்வடைகின்றன. “தூய மனிதனை எந்த துன்பமும் நெருங்காது” அவன் தேவலோகத்தில் நீண்ட நாட்கள் வாழ்ந்து பிறகு தூய்மையானவர்களின் மத்தியில் பிறப்பான் என்று கூறப்படுகிறது. தூய மனிதன் என்பது யோகம் என்ற ஒன்றினால் மட்டுமே சாத்தியமாகும் என்பதால் தான் சித்தர்கள் யோகத்தை வலியுறுத்தி கூறுகின்றனர்.

### துணை நின்ற நூல்கள்

- [1] நாஞ்சில் ஸ்ரீ விஷ்ணு., சிந்தையுள் உறைந்த சித்தர்கள், பத்மாவதி ஆப்செட், சென்னை-2
- [2] ஜெகாதா., சித்தர்களின் யோகா நெறி., செந்தமிழ் பதிப்பகம், சென்னை-49
- [3] சி.எஸ்.முருகேசன்., பதினெண் சித்தர்கள் வரலாறு., எம்.கே.கிராபிக்ஸ்., சென்னை-21
- [4] பி.ஆர்.தாமஸ்., அட்டாங்க யோகம்., எம்.கே.கிராபிக்ஸ்., சென்னை-21

## சோலை சுந்தரபெருமாளின் படைப்புகளில் திருமணம்

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ம.தி.தா. இந்துக்கல்லூரி, பேட்டை.

### முன்னுரை

ஆணும் பெண்ணும் இணைந்து இல்லறம் ஏற்பதின் தொடக்க விழாவாகத் திருமணம் அமைகின்றது. இத்திருமணத்தை சடங்காகவே நடத்துவதைக் காணலாம். வாழ்வின் தலையாய நிகழ்ச்சி திருமணம் ஆகும். பிறவிதோறும் தொடர்ந்து வருவதாகப் போற்றப்பெறும் தாம்பத்திய உறவுக்கு தோற்றுவாயாக அமைவது இந்நிகழ்வே ஆகும்.

### திருமணம் குறித்து அறிஞர்கள் கருத்து:

“திருமணம் என்பது வெறும் உடலின்பம் தரும் பிணைப்பு மட்டுமன்று. காதல், கருணை, தியாகம், சகிப்புதன்மை, மன்னிக்கும் பெருநோக்கு என்ற எல்லா அம்சங்களிலும் இருவர் என்ற குறைந்தபட்சக் கூட்டு வாழ்க்கையில் மனிதனைப் பக்குவப்படுத்தக் கூடிய பந்தம் அது” (1) என்கிறார் ஜெயகாந்தன்.

“தான் என்ற தன்மை அழிந்து ஒருவன் ஒருத்திக்காவும், ஒருத்தி ஒருவனுக்காகவும் வாழ முற்படும் திருமணம் என்ற சடங்கானது ஆண் பெண் பாலுணர்வு உந்துதலினாலும், பொருளாதாரத்திற்காகவும் சமயத்தின் பொருட்டும் நடைபெறுவதாகும்” (2) என்கிறார் பெட்ரண்ட் ரஸ்ஸல்.

### திருமணத்தின் வகைகள்

சோலை சுந்தரபெருமாளின் படைப்புகளில்

1. காதல் திருமணம்
2. மரபுத் திருமணம்
3. மறுமணம்

என்னும் மூவகைத் திருமணங்கள் பதிவாகியுள்ளன.

### காதல் திருமணம்

ஆணும் பெண்ணும் ஒருவரை ஒருவர் புரிந்து காதல் கொண்டு அக்காதல் திருமணத்தில் நிறைவு பெறுவது காதல் திருமணம் ஆகும். சோலை சுந்தரபெருமாளின் புதினங்களில் காணப்படும் காதல் திருமணத்தை

1. பெற்றோர் வழி திருமணம்
2. உடன்போக்கு திருமணம்

என்று இரண்டாகப் பகுக்கலாம்.

### பெற்றோர் வழி திருமணம்

தலைவன் தலைவியர் காதலை அறத்தோடு நின்று உணர்த்துவதும் பின்னர் பெற்றோர் அவர்களை இணைத்து இல்லறம் ஏற்க வைப்பதையும் சங்க இலக்கியத்தில் காணலாம். அறத்தோடு நிலை என்னும் துறை இதற்குச் சான்று.

இத்தகைய மணம் சோலை சுந்தரபெருமாளின் புதினங்களில் அமைந்துள்ளதைக் காணலாம்.

‘ஒரே ஒரு ஊர்’ என்ற புதினத்தில் சண்முகமும் வள்ளியும் ஒருவரை ஒருவர் விரும்புகின்றனர். இதனையறிந்த பெற்றோர் தங்கள் பிள்ளைகளின் காதலை ஏற்றுக் கொண்டு திருமணம் நடத்தி வைக்க ஏற்பாடு செய்கின்றனர்.

“சண்முகத்திற்கு வைகாசியில் கல்யாணம் முடிச்சிடலாம், அவன் வள்ளியைத்தான் கட்டிக்குவேன்னு பிடிவாதமா இருக்கான், பல வருமா பகையாளியா இருந்த குடும்பம் ஒண்ணா சேரட்டுமே” (3) என்று சண்முகத்தின் தந்தை வீரபத்திரன் கூறுகிறார். பெரியவர்கள் சம்மதத்துடன் அவர்களது குல வழக்கத்தின்படி நாள் குறிக்கப்பட்டு உறவினர்கள் முன்னிலையில் திருமணம் நடைபெறுகிறது.

### உடன்போக்கு திருமணம்

காதலர்கள் ஒருவரை ஒருவர் விரும்புகின்றனர். ஆனால் பெற்றோர்கள் அவர்களது காதலுக்கு ஏதாவது காரணத்தைச் சொல்லி மறுப்பு தெரிவிக்கின்றனர். இந்நிலையில் பெற்றோர்களின் எதிர்ப்பையும் மீறி உடன்போக்கு சென்று திருமணம் செய்து கொள்வது உடன் போக்கு திருமணம் எனப்படும்.

‘தப்பாட்டம்’ என்ற புதினத்தில் மதுக்கன் பகடையின் இரண்டாவது மகன் தோழப்பனும் வள்ளி என்கிற பெண்ணும் பெற்றோரின் அனுமதி பெறாமல் திருமணம் செய்து கொள்கிறார்கள். தொடக்கத்தில் இத்திருமணத்திற்கு எதிர்ப்பு தெரிவித்த இருவரின் பெற்றோர்களும் பின்னர் தங்கள் பிள்ளைகளை ஏற்றுக் கொண்டு வாழத் துணைபுரிகிறார்கள்.

“ஒரே பெண்ணா இருக்காளேன்னு செல்லமா வளர்த்தவ ஒரு நாள் ராவோடு ராவா ஓடிப்போயிட்டாளேங்கிற ஆதங்கத்துல தான் இத்தன நாளா ஒதுங்கி இருக்கோம். மவள இன்னிக்கி நினைச்சாலும் சோறு தண்ணி எறங்க மாட்டேங்குது” (4) என்று வருத்தப்படுகிறார்கள் வள்ளியின் பெற்றோர்.

“இந்தா பாருங்க! உங்க மவா அங்க கண்கலங்காம இராசாத்தி போல இருக்கா, வள்ளி முழுவாம நின்னதும் குடும்பத்துல ஒரே சந்தோம் தான். மாப்பிள்ளை ரொம்ப விதரணையானது, ஒரு நாழி சும்மா இருக்காது. சுறுசுறுன்னுதான் நிக்கும். ஒதுக்கப்பட்டு கிடக்கிற நம்ம சனத்தை எப்படி மத்த சாதிசனங்க போல வாழவிடுறதுன்னு யோசிச்சி பாடுபட்டுக்கிட்டு இருக்கு. நீங்க இன்னும் பழைய கதையையே நினைச்சுகிட்டு இருக்கிறது நல்லதா தெரியல” (5) என்று மதுக்கன் பகடையின் மைத்துனர் கோவிந்தராசு வள்ளியின் பெற்றோருக்கு அறிவுரை சொன்னதும் அவர்கள் ஆறுதலடைகிறார்கள். தன் மகளையும் மருமகளையும் பார்ப்பதற்காக மகளின் புகுந்த வீட்டிற்குச் செல்கிறார்கள். கருவுற்றிருக்கும் மகளையும் அவளின் அன்பான கணவன் தோழப்பனையும் அவளின் கனிவான மாமன் மாமியையும் பார்த்து மகிழ்ச்சியடைகிறார்கள்.

### மரபுத்திருணம்

இருத்தரப்பிலுள்ள பெற்றோரும் உற்றோரும் ஒப்புதலோடு பேசி உறுதி செய்யப்பட்டு ஊர்கூடி நிகழ்த்தும் திருமணம் மரபுத் திருமணம் ஆகும்.

“இருபெருங்குரவரும் ஒருபெரு நாளால் மணவணி காண மகிழ்ந்தனர்” (6) என்று சிலப்பதிகாரம் இதனைக் குறிப்பிடுகிறது.

மாப்பிள்ளை, பெண் ஆகிய இருவீட்டாரின் ஒப்புதலுடன் சமுதாய ஏற்புடன் மரபுத் திருமணம் நடைபெறுகிறது. இவ்வகை மணத்தில் ஆண் அல்லது பெண்ணின் விருப்பு வெறுப்பிற்கு இடமில்லாமல் போய்விடுகிறது.

நம்பியாண்டார் நம்பியின் செல்வ மகளான உமாவதிக்கும் சிவபாத இருதயரின் செல்வ மகளான ஆளுடையப் பிள்ளைக்கும் ‘நல்லூர் பெருமணம்’ என்ற ஊரில் நடைபெறும் மரபுத் திருமணத்தை மிகச்சிறப்பாக தாண்டவபுரம் நாவலில் படம் பிடித்துக் காட்டுகிறார் ஆசிரியர். சங்கு, தாமரை, சின்னம், எக்காளம், தாளம், குழல், யாழ் போன்ற இசைக்கருவிகள் மேலெழுப்பிய இசை ஒலி எங்கும் விரவிக் கொண்டிருந்தது. இளமகளிர் பலவகையான மலர் தட்டுக்களை ஏந்தியும், நம்பியாண்டார் நம்பியின் உடன்பிறந்தாள் மங்கல நிறைகுடம் ஏந்தியும் மணாளான ஆளுடையப் பிள்ளையை வணங்கி வரவேற்றனர். தம் திருமகளான பூர்ணாம்பிகையை மணமகளாகக் கொடுக்கும்பேறு பெற்ற நம்பியாண்டார் நம்பியும் அவர் மனைவியாரும் உற்றார் உறவினரோடு மணமகளை மங்கல இசை முழங்க அழைத்துச் சென்றனர் என்பன போன்ற மரபுத் திருமணச் சடங்குமுறைகளை விவரிக்கிறார். இவ்வாறு நாள்பார்த்து, நாழிகை குறித்து ஆட்களைக் கூட்டி அனுமதி பெற்று நடக்கும் மரபுத் திருமணத்தை தனது படைப்புகளில் பதிவு செய்கிறார் ஆசிரியர்.

### மறுமணம்

கணவன் மனைவி இருவரில் யாரேனும் ஒருவர் இறந்துவிட்டாலோ அல்லது இருவரும் மணமுறிவு பெற்றுவிட்டாலோ மீண்டும் தங்களுக்கேற்ற இணையைத் தேடிக்கொண்டு வாழ்வதற்கு மறுமணம் துணைபுரிகிறது. “சமூக விதிமுறைகள் வழி செய்யுமிடங்களில் மறுமணம் கொள்கின்றனர். இல்லாத போது மணப்பிணைப்பு இன்றியே சேர்ந்து வாழ்கின்றனர்” என்கிறார் சேதுமணியன்.

சோலை சுந்தர பெருமானின் ஓரான்காணி சிறுகதைத் தொகுப்பில் ‘இறுக்கம்’ என்ற சிறுகதையில் கணவனை இழந்த ‘வள்ளி’ மாதக்கணக்கில் அழுது புலம்புகிறாள். உறவினர்கள் அவளுக்கு பைத்தியம் பிடித்துவிட்டது என்று கூறி அவள் ஆடையை அவிழ்த்து அவமானப்படுத்தி வீட்டை விட்டு அனுப்பி விடுகின்றனர். ஆதரிக்க யாருமில்லாமல் கோவிலில் அழுதுகொண்டு நின்றுருந்த வள்ளியை அதே ஊரைச் சேர்ந்த ஏற்கனவே திருமணமாகி மனைவியை இழந்து வாடும் வேலுப்பிள்ளை என்பவர், உடுத்திக் கொள்ள புத்தாடைகள் வாங்கிக் கொடுத்து திருமணம் செய்து வீட்டுக்கு அழைத்து வருகிறார். வேலுப்பிள்ளைக்கும் வள்ளிக்கும் ஒரு அழகான ஆண்குழந்தை பிறக்கிறது. ‘முத்து’ என்று குழந்தைக்குப் பெயர் வைத்து வளர்க்கிறார்கள். மிகச்சிறப்பாக வள்ளியும் வேலுப்பிள்ளையும் மறுமணம் புரிந்து கொண்டு இல்லறத்தில் ஈடுபடுவதாக கதை அமைகிறது.

“வேலுப்பிள்ளையால் ஒரு நாழி கூட அவளப் பிரிந்து இருக்க முடியாது. அவரோட இருபத்தி மூணாம் வயசுல மொதக் கல்யாணம் கட்டிக்கிட்டபோது கூட இப்படி இல்ல. ஒரு மூர்க்கம். வெறி தணிஞ்சா போதும், அப்புறம் பொண்டாட்டி நினைப்பே இல்லாம இருப்பாரு. ஆனா இப்ப வள்ளிக்கிட்ட மட்டும் என்னத்த கண்டாரோ, அப்படி ஒரு ஒட்டுதல், அன்னியோன்யம், ஈர்ப்பு...” (8) என்று

வேலுப்பிள்ளையும் வள்ளியும் மறுமணம் புரிந்து கொண்டு வாழ்க்கை நடத்தும் விதத்தை நமக்கு அறியத் தருகிறார் ஆசிரியர்.

மறுமணத்தை ஏற்றுக் கொள்ளாத மூடர்கள் சிலரும் இருக்கத்தான் செய்கிறார்கள் என்பதையும் ஆசிரியர் காட்டுகிறார்.

“வெக்கங்கெட்டவ ஓடம்புல சூடு சொரணை இருக்கா? எல்லாத்தையும் உதுத்திட்டு வந்தவ தானே, அறுத்து போட்டத எடுத்து கட்டிக்கிட்டு வந்துட்டா அந்தஸ்து சேர்ந்திடுமா? (9) என்று சிலர் வசைப்பாடுவதையும் இக்கதையில் காணமுடிகிறது.

### முடிவுரை

திருமணத்தில்தான் பெண்ணிடம் உள்ள தான் என்ற தன்மை மறைந்து அவள் ஒருவனின் வாழ்க்கையில் தன்னை பகுதியாகக் கருதி இணைத்துக் கொள்ளும் உணர்வைப் பெறுகிறாள். திருமண வாழ்வில் இணைந்த ஆண் பொருளீட்டுவதுடன் எல்லோரும் போற்றும்படி இனிய இல்லறத்தை ஏற்று நடத்துகிறான். சோலை சுந்தரபெருமாள் தனது படைப்புகளில் திருமண முறைகள் பலவற்றைப் படைத்துக் காட்டுகிறார். ஆணும் பெண்ணும் அன்பால் இணைந்து தனக்காக மட்டுமல்லாமல் பிறருக்காகவும் வாழ வேண்டும் என்பதே அவரது படைப்பின் நோக்கமாக அமைந்துள்ளது.

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6. சிலப்பதிகாரம், மங்கல வாழ்த்துப்பாடல், 41 - 42
7. சேதுமணியன், தமிழ்ப்புதினங்களில் மதிப்புகள் ப.79
8. சோலை சுந்தரபெருமாள், ஓரான்காணி, ப.8
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## सर्वतन्त्रस्वतन्त्रः भोजदेवःप्रस्तावना

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भोजदेवः(१०००-१०५५) परमारवंशजातःधारानगराधीशः ।बल्लालकविना विरचितः भोजप्रबन्धात् अवगम्यते यत् धारानाम नगर्या सिन्धुलाभिधो राजा,तस्य महिषी सावित्री, तयोर्वार्धक्ये भोजनाम पुत्रो जातः। सः एव दानशीलः सर्वशास्त्रपण्डितः भोजशाला – भोजसरस् – भोजेश्वरालय - निर्माता संस्कृतकवीनामाश्रयदाता इति प्रसिद्धः । भोजप्रबन्धसः कतिवर्षं शासनमकरोदित्युल्लिखितम्।

*पञ्चाशत् पञ्चवर्षाणि सप्तमासा दिनत्रयम्।*

*भोजराजेन भोक्तव्यं सगौडं दक्षिणापथम्॥*

### भोजदेवेन विरचितकृतयः

संस्कृतसाहित्येबहुमुखीग्रन्थकर्तृणामध्येमहाराजाभोजःएक अद्वितीयस्थानंवहति। विविधशास्त्रसाहित्यकृतयः भोजेन विरचिताः सन्ति । केटलोगोरस् केटलोगोरं ग्रन्थे उल्लिखितप्रकारेण भोजविरचित कृतयः यथा,

- काव्यम्- चम्पूरामायणम्, विद्याविनोदकाव्यम् , शृङ्गारमञ्जरीकथा, कोदण्डकाव्यम्
- सङ्गीतशास्त्रम्- सङ्गीतप्रकाशः
- व्याख्यानम्- राजमार्ताण्डः (रघुवंशव्याख्यानम्)
- अलङ्कारशास्त्रम्—सरस्वतीकण्ठाभरणम्, शृङ्कारप्रकाशः
- योगदर्शनम्—राजमार्तण्डः(पतञ्जलियोगसूत्रभाष्यम्)
- ज्योतिषम्-राजमार्तण्डः,विद्वज्जनवल्लभः, भुजबलनिबन्धः आदित्यप्रतापसिद्धान्तः
- वैद्यशास्त्रम् -राजमृगाङ्करणम्,आयुर्वेदसर्वस्वम्, विश्रान्तविद्याविनोदः
- शिल्प / वास्तुशास्त्रम् –समराङ्गणसूत्रधारः, युक्तिकल्पतरुः
- काव्यशास्त्रम् –शृङ्गारप्रकाशः , सरस्वतीकण्ठाभरणम्
- धर्मशास्त्रम्-व्यवहारसमुच्चयः,चारुचर्या, विविधविद्याविचारः , चाणक्यनीति , पुत्रमार्ताण्डः, सिद्धान्तसारपद्धतिः
- वैदिकव्याकरणम्- सरस्वतीकण्ठाभरणो नाम वैदिकव्यकरणम्
- शैवदर्शनम्- शैवसिद्धान्तसंग्रहः, प्रश्नचिन्तामणिः, शिवतत्त्वत्रमालिका, तत्त्वप्रकाशः,सूत्रधारीयम्
- सुभाषितम्- सुभाषितप्रबन्धः
- कोषः- नाममालिका , शब्दानुशासनम्

- स्तोत्रम् – वाग्देवीस्तुतिः , अवनिकूर्मशतकम् , खड्गशतकम् , महाकालीविजयम्

आदयः। परन्तु ८४ ग्रन्थाः भोजदेवेन विरचितमिति सरस्वतीकण्ठाभरणव्याख्यायां उद्धृतमस्ति ।

भोजदेवः भोजशाला नाम एकः सर्वकलाशाला स्थापितवान् । भोजदेवस्य कालानन्तरमपि भोजशालायां व्याकरणं भोजदेवेननिर्णयित सरलक्रमेण छात्राः पठितवन्तः । तस्य ग्रन्थाः छात्राणां सरलग्रहणार्थं ललितरूपेणैव लिखितवन्तः ।

भोपालनगरेविद्यमानः "भोजसरोवरः" अस्य वास्तुशिल्पप्रबुद्धतायाः परिचयः आसीत् । पञ्चदशशतकपर्यन्तमपि एष सरोवरः दृष्टिगोचर आसीदिति श्रूयते । भोजसरस् कर्षकानां जनानां च जलावश्यकं पूर्तीमकरोत् । भोपालनगरतः २८ किमी . रेदू रायसेनमण्डले भोजपुरनामकं स्थानमस्ति । अत्रत्यः शिवदेवालयः भोजराजेन निर्मितः । द्वादशत्रयोदशशतककालीनः अपूर्णः देवालयः एषः । एतत् उत्तरभारतस्य सोमनाथः इति कथयन्ति ।

### **समापनम्**

भोजदेवस्य कृतिषु भारतीयाः पुरा सकलशास्त्रेषु महोन्नतज्ञानं प्राप्तवन्तः इति निरूपणं कर्तुं शक्यते । व्याकरणं , अलङ्कारशास्त्रं , वास्तुशास्त्रं , शिल्पशास्त्रं , वैद्यशास्त्रं , ज्योतिषं , धर्मनीतिशास्त्रं , दर्शनशास्त्रं इत्यादि सर्वकलासु शास्त्रेषु निपुणः भोजदेवः सर्वतन्त्रस्वतन्त्रः इति निस्संशयं ज्ञातुं शक्यते।

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## ताम्रपर्णी नदी

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ताम्रपर्णी= ताम्र+पर्णः, अस्याः नद्याः जलं ताम्ररूपपर्णवर्णं अस्ति । अतः तस्याः नाम ताम्रपर्णी इति । यथा गङ्गादेवी देवलोकात् भूलोकं आगता तथैव ताम्रपर्णीदेवी मेरुपर्वतान्ते जननं कृत्वा मलयपर्वतात् नदीरूपेण प्रवहति । ताम्रपर्णी दक्षिणभारतस्य जीवनदी अस्ति । सा दक्षिणगङ्गा इत्यापि ख्याता । एषा नदी कृतयुगादारभ्य पाण्ड्यदेशे प्रवहति॥ अस्माकं भारतदेशे शताधिक नद्यः विष्णोः पादात् समुद्भूता इति पुराणेषु श्रूयते । एतेषु ताम्रपर्णीनदी बहु विशेषास्ति । एषा शिवशक्तीरूपे अस्ति । एषा अन्य पुण्यनदीभ्यः विलक्षणा । यो नरः ताम्रपर्णीनद्याः स्मरणं करोति सः सर्व पापेभ्यो विमुच्यते । पापनाशप्रदेशे उपरि ३२ तीर्थघट्टाः देवेभ्यः समुद्रपर्यन्तं नरेभ्यः ८६ तीर्थघट्टाः सन्ति ।

### ताम्रपर्णीदेव्याः जननं

शिवपार्वत्याः विवाहावसरे अनेके मुनयः, सिद्धाः, देवाः, भूतगणाश्च हिमालयपर्वतं आगतवन्तः, त्रैलोक्यवासिनः उमापरमेश्वरविवाहं द्रष्टुं तत्र आगतवन्तः। लक्ष्मी, नारायणः, सरस्वती, ब्रह्मादयःसर्वैः तत्र आगतवन्तः । आदिपारशक्ती मेरुपर्वतात् आगत्य पुष्पमालां पार्वत्या हस्ते ददाति । शिवस्य कण्ठे जगन्माता पार्वतीदेवी पुष्पमालां अर्पयति । तत् समये भूम्याः भारं उत्तरभारते अधिकं अभवत् । अतः अशुभं भविष्यति इति अशिरीरी उक्ता ।

करुणामूर्तिः परमेश्वरः ध्यानं कृत्वा महाकुम्भमुनिं अगस्त्यं आहूय अवदत् – “अगस्त्य! स्व पत्न्या लोपामुद्रया सह दक्षिणदिशि गत्वा भूमिभारं समनं करोतु” इति । सः स्व कण्ठात् पुष्पमालां उद्धृत्य अगस्त्यस्य हस्ते अदात् । तत् पुष्पमालातः दिव्यकन्या कोऽपि उद्भूतवती । तत्समये आकाशात् पुष्पवृष्टिः अभवत् । सर्वदेवानां शक्तयः तस्याः रूपे अन्तर्हितोऽभवत् । अतः तस्याः नामः ताम्रपर्णी इति देवाः उक्तवन्तः । ताम्रपर्णीदेवी लोपामुद्रा सन्तोषेन आलिङ्गनं अकरोत् ।

परमेश्वरस्य आदेशेन वृषभमासे विशाखा नक्षत्रे ताम्रपर्णीदेवी नदीरूपंप्राप्य तथा समुद्रराजेन सह सङ्गमं करोति । तस्याः तीरे अनेकशिवविष्णोः देवालयाः उद्भूताः । ताम्रपर्णी नदी तीरे नवतिरुपतिः, नवकैलासः, पञ्च सभासु ताम्रसभा, चित्रसभा स्तः । महर्षिः अगस्त्यः नव कमलानि ताम्रपर्णीनद्याः प्रवाहे समर्पयति । यत्र यत्र कमलं नदीतीरे तिष्ठति तत्र तत्र आलयनिर्माणं कुरु इति तस्य शिष्यं महर्षिरोमशं प्रति आदिष्टवान् ।



अगस्त्यस्य छात्रः रोमशः ताम्रपर्णीनदीतीरे नवकैलासं निर्माणं कृतवान् । एतत् एव नव कैलासाआलयानां उद्भवचरितं इति ताम्रपर्णीमहात्म्यं कथ्यते । अनेक मुनयः देवाः ताम्रपर्णी तीरे मोक्षं प्राप्तवन्तः।

अस्मिन् वर्षे आगस्ट् मासे ताम्रपर्णीनद्यां महा पुष्करणीभविष्यति । मनुष्याणांजीवनादारभ्य मोक्ष पर्यन्तं सर्वसौभाग्यं एषा ददाति । ताम्रपर्ण्याः महत्त्वं अनन्तम् ।

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## On Steiner Number of a Graph

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### Abstract

*In this paper, we have discussed about the steiner number of a graph with peripheral vertices and antipodal vertices. .*

**Keywords:** *steiner distance, steiner number, peripheral vertex, antipodal vertex.*

### Introduction

Let  $G = (V, E)$  be a finite undirected graph with neither loops nor multiple edges. The concept of Steiner number of a graph was introduced by G. Chatrand and P. Zhang[2]. For a non empty set  $W$  of vertices in a connected graph  $G$ , the Steiner distance  $d(W)$  of  $W$  is the inimum size of a connected sub graph of  $G$  containing  $W$ . Necessarily, each such sub graph is a tree and is called a Steiner tree with respect to  $W$  or a Steiner  $W$ -tree. The set of all vertices of  $G$  that lie on some Steiner  $W$ -tree is denoted by  $S(W)$ . If  $S(W) = V$ , then  $W$  is called a Steiner set for  $G$ . A Steiner set of minimum cardinality is the Steiner number  $s(G)$  of  $G$ .

For a vertex  $v$  in a connected graph  $G$ , the eccentricity  $e(v)$  is the distance between  $v$  and a vertex farthest from  $v$ . The minimum eccentricity among the vertices of  $G$  is its radius  $\text{rad } G$  and the maximum eccentricity is its  $\text{diam } G$ . A vertex  $v$  is called a peripheral vertex of  $G$  if  $e(v) = \text{diam } G$ . A pair  $u, v$  of vertices in  $G$  are antipodal if  $d(u, v) = \text{diam } G$ .

Let  $G_1$  and  $G_2$  be two graphs with vertex sets  $V_1$  and  $V_2$  and edge sets  $E_1$  and  $E_2$  respectively. The Cartesian product  $G_1 \square G_2$  is defined to be the graph whose vertex set is  $V_1 \times V_2$  and edge set is  $\{(u_1, v_1), (u_2, v_2) / \text{either } u_1 = u_2 \text{ and } v_1 v_2 \in E_2 \text{ or } v_1 = v_2 \text{ and } u_1 u_2 \in E_1\}$ .

If  $x = uv$  is a line of  $G$ , and  $w$  is not a point of  $G$ , then  $x$  is subdivided when it is replaced by the lines  $uw$  and  $wv$ . If every line of  $G$  is subdivided, the resulting graph is called subdivision graph  $S(G)$ .

### Main Result

The following result presents two properties of the steiner set in a connected graph with steiner number 2.

**Theorem:** Let  $G$  be connected graph with steiner number 2. Then

- (a) Every steiner set consists of two antipodal vertices,
- (b) If  $W_1$  and  $W_2$  are two distinct steiner sets of  $G$ , then  $W_1 \cap W_2 = \phi$ .

**Proof:** (a) is obviously true. Since  $s(G)=2$ , every steiner set of  $G$  contains two vertices and the two vertices must be of longest distance.

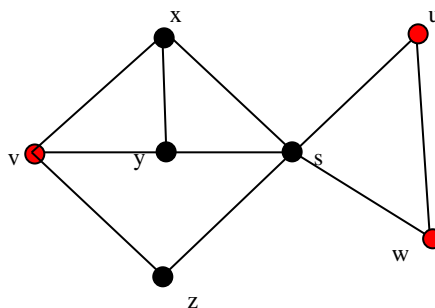
Now to prove (b), assume to the contrary, that  $W_1 \cap W_2 \neq \emptyset$ . Let  $W_1 = \{u, v\}$  and  $W_2 = \{u, x\}$ , where  $v \neq x$ . Since  $W_1$  is a steiner set,  $u$  and  $v$  are antipodal vertices of  $G$ . Moreover, every vertex distinct from  $u$  and  $v$  lie on some steiner  $W$ -tree of  $G$ . Hence  $x$  lies in some steiner  $W$ -tree of  $G$  formed by the vertices  $u$  and  $v$ . On the other hand,  $W_2$  is also a steiner set of  $G$ . So  $u$  and  $x$  are antipodal vertices of  $G$  as well. However, the fact that  $x$  lies in some steiner  $W$ -tree of  $G$  formed by the vertices  $u$  and  $v$  implies that, size of the steiner  $W$ -tree formed by the vertices  $u$  and  $x$  that is  $d(u, x) <$  size of the steiner  $W$ -tree of  $G$  formed by the vertices  $u$  and  $v$  that is  $d(u, v) = \text{diam } G$ , which is a contradiction.

**Minimum Steiner Set with Peripheral Vertices**

There are many graphs  $G$  where each minimum steiner set of  $G$  consists only of peripheral vertices.

For example, consider the graph in Figure 2.1. For the graph  $\text{diam } G = 3$  and the vertices  $u, v, w$  are the peripheral vertices of the graph  $G$ . The minimum steiner set of the graph is  $\{u, v, w\}$ . Therefore  $s(G)=3$ .

Therefore, the minimum steiner set of  $G$  consists only peripheral vertices.



**Figure 2.1**

**Minimum Steiner Set without Peripheral Vertices**

It may seem that, for every graph the minimum steiner set consists of its peripheral vertices. However this is not the case. There are graphs possessing a minimum steiner set in which no vertex is a peripheral vertex.

Figure 2. 2 shows the subdivision graph  $S(K_3 \times K_2)$  of the Cartesian product  $K_3 \times K_2$ .

The diameter of  $S(K_3 \times K_2)$  is 5 and the minimum steiner set is  $\{u,v,w\}$  each of whose eccentricity is 4. Here the minimum steiner set consists of those vertices which are not peripheral vertices.

Also, this graph does not have any minimum steiner set consisting entirely of peripheral vertices. The only minimum steiner set is  $\{u,v,w\}$  and the steiner number  $s(S(K_3 \times K_2))=3$ .

Also, for the graph  $G$  given in Figure 2.3, the set  $\{x,y,z\}$  is the unique minimum steiner set which has no peripheral vertices.

Hence we can conclude that, every steiner set of a graph need not contain its peripheral vertices.

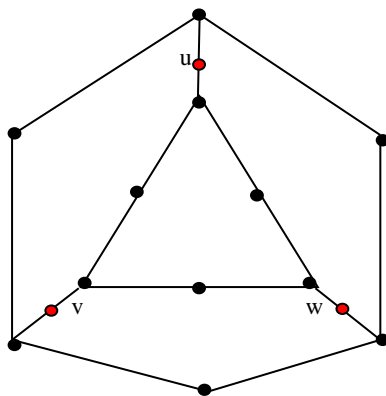
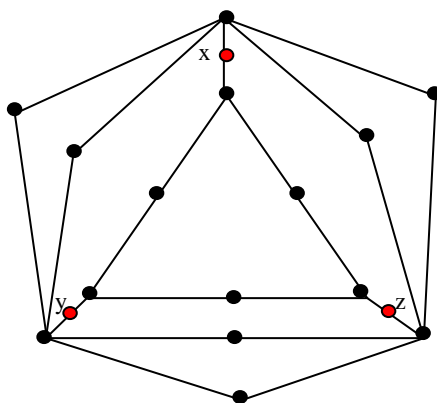


Figure 2.2:  $S(K_3 \times K_2)$



G: Figure 2.3

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## Alpha Decay Half Life time of Super Heavy Isotopes of Seaborgium (Sg) and Hassium (Hs)

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### Abstract

*The Half-life time prediction of super heavy elements is the on-going active research work in the Nuclear Physics field. Alpha decay plays a vital role in the predictions of super heavy elements. This work deals with theoretical determination of alpha decay half life time values, that is in the present work ground state (g.s.) decay properties of Trans-actinide nuclei - Seaborgium (Sg) and Hassium (Hs) are calculated using Cubic plus Yukawa plus Exponential (CYE) model which is successful in predicting the decay properties of trans-actinide elements by two sphere approximation. The results obtained are compared with the CPPM formalism and also with the available experimental values. The comparison of the calculated half-lives agrees well with the reference values.*

*Keywords: Alpha decay, Half-lives, Super heavy element*

### Introduction

Now-a-days a rapid progress has been made in the field of super heavy elements (SHEs). Both theoretical and experimental methods have been established in the investigation of super heavy atomic nuclei that is the heavy nuclei which exists or expected to exist. Much progress has been made in the investigation of decay properties of heaviest atomic nuclei. With the notion of theoretical findings any laboratory experiments had been done by comparing the measured alpha decay half-lives. Based on this, here we apply our well known Cubic plus Yukawa plus Exponential (CYE) model which is successful in predicting the decay properties of trans-actinide elements by two sphere approximation [1],[2] for the study of super heavy elements.

### Description of CYE Model

In this work, using CYE model we tried to study the alpha decay properties of the nuclei with atomic number  $Z = 106$  and  $108$ . In order to study the properties of super heavy elements a realistic model [3] called as Cubi Plus Yukawa Plus Exponential potential (CYEM) Model was used. The zero-point vibration energy is explicitly included without violating the conservation of energy and the inertial mass coefficient depending on the center of mass distance. It has a cubic potential for the overlapping region which is smoothly connected by a Yukawa plus Exponential potential for the region after separation. Then the potential as a function of  $r$  (which is the center of mass distance of the two spherical fragments) for the post-scission region is given by,

$$V(r) = \frac{Z_1 Z_2 e^2}{r} + V_n(r) - Q, r \geq r_t \quad (1)$$

Where  $V_n(r)$  is the nuclear interaction energy.

For calculating the zero – point vibration energy  $E_v$ , we choose [4]

$$E_v = \frac{\pi \hbar}{2} \frac{\left[ \frac{(2Q)}{\mu} \right]^{1/2}}{(C_1 + C_2)} \quad (2)$$

where  $c_1$  and  $c_2$  are the central radii of the fragments and given by [5]

$$C_i = 1.18 A_i^{1/3} - 0.48$$

$$(i=1,2)$$

$$\text{and } \mu = \frac{mA_1A_2}{A}$$

where  $\mu$  is the reduced mass of the system and  $m$  is the mass of the nucleon

Half-life time of the system is calculated using the formula

$$T = \frac{1.433 \times 10^{-21} (1 + \text{Exp } K)}{E_v}$$

Here  $E_v$  is the Zero point vibration energy.

In Table 1, the alpha decay half-lives of Seaborgium with  $Z = 106$  without deformations are calculated and are compared with the theoretical results[6].

In Table 2, we have tabulated the calculated alpha decay half-lives of Hassium with  $Z = 108$  without deformation parameters and are compared with the theoretical results[6].

Figures1&2 gives the comparison plot between alpha decay half-lives and  $Q$  values using CYE model with Coulomb and Proximity Potential model (CPPM) and with the available experimental results for Hassium (Hs) with  $Z=108$  and for Seaborgium (Sg) with  $Z=106$ .

From the tables and figures it is seen that our calculated values are closer to that of available theoretical results as the earlier work [7,8,9].

**Table I:** Comparison of calculated alpha decay half-lives for isotopes of Seaborgium with Theoretical and available Experimental values.

A	Z	N	Q(Mev)	LOG T $\frac{1}{2}$ (S)		
				CPPM Ref.(6)	CYEM	EXPERT. Ref.(6)
257	106	151	9.655	-0.536	-0.63	-
258	106	152	9.712	-0.7258	-0.82	-2.5382
259	106	153	9.860	-.1814	-1.26	-0.4948
267	106	161	8.320	3.7802	3.54	-
268	106	162	8.140	4.4507	4.19	-
269	106	163	8.385	3.506	3.27	2.0792

**Table II :** Comparison of calculated alpha decay half-lives for Hassiumisotopes with Theoretical and available Experimental values.

A	Z	N	Q(Mev)	LOG T $\frac{1}{2}$ (S)		
				CPPM Ref.(6)	CYEM	EXPERT. Ref.(6)
261	108	153	10.935	-3.3967	-3.40	-
262	108	154	10.987	-3.5474	-3.54	-
263	108	155	10.942	-3.4506	-3.45	-3.1307
271	108	163	9.394	0.8348	0.67	-
272	108	164	9.630	0.07809	-0.6	-
273	108	165	9.660	-0.02983	-0.17	-0.6989



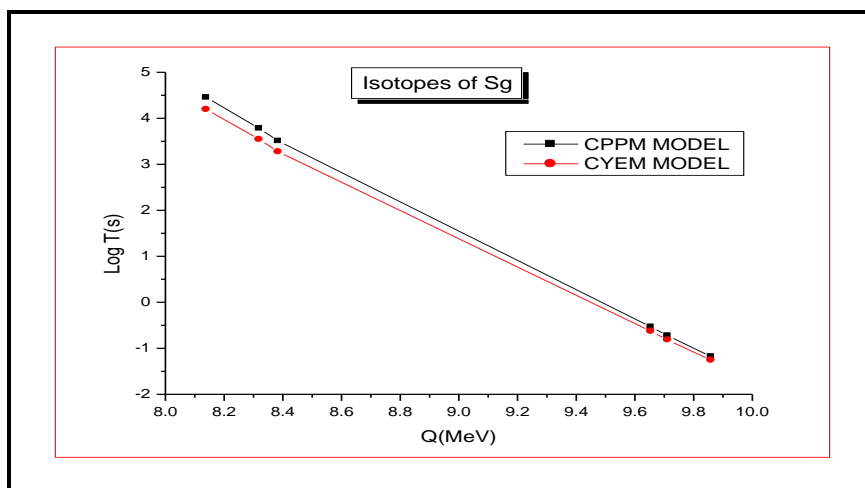


Fig.1 shows the plot for half-life versus decay energy ( $Q$ ) values for Seaborgium nucleus.

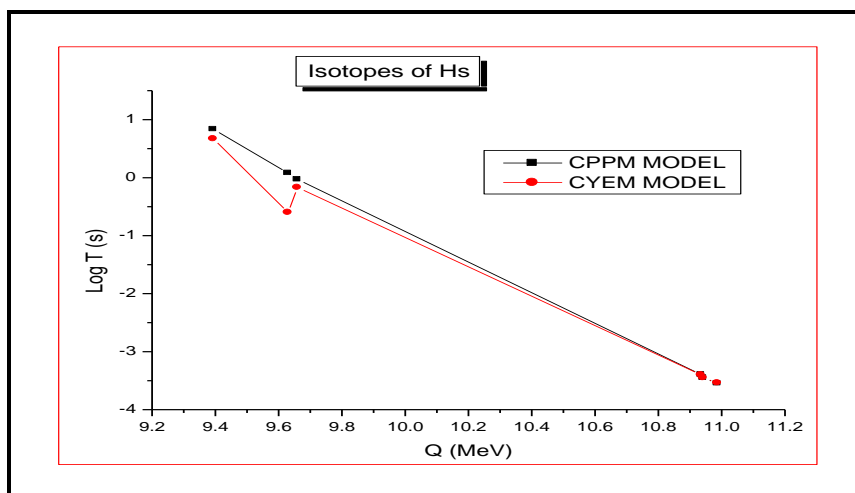


Fig.2 shows the plot for half-life versus decay energy ( $Q$ ) values for Hassium nucleus.

## Results and Discussion

As the half-lives of spherical SHE are expected to be relatively long and even though the progress on the way to the exploration of the island of spherical SHEs is difficult to predict, the work on the predictions of stable super heavy elements are ensuing expeditiously. In the present work, using CYE model the ground state based on nuclear models, half-life time values from microseconds to years have been calculated for Seaborgium-Sg and Hassium-Ha isotopes in the region of the heaviest

elements. Various phenomenological formula have been proposed so far for studying the alpha decay half-lives but CYEM model successfully agrees well with experimental results when incorporated with different parameters. This enables us to extract basic information about the super heavy elements which in turn will provide new guidance for future experiments.

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## Estimation of Calcium and Magnesium IONS in Various Brands of Milk

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### Abstract

*We all know that the milk has calcium and magnesium ions. In this work we are going to estimate the calcium and magnesium ions in various brands of milk which we regularly use in home daily. The children and elders in take these type of milk for gain the calcium and magnesium ions to strengthen the bone. So the value of the calcium and magnesium content in various brands in milk is very important. So we take as a project to estimate the calcium and magnesium ions in various brand in milk. It gives the result of the calcium and magnesium content in various brand in milk*

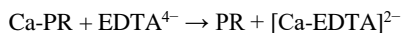
**Keywords:** Milk, Calcium, Magnesium, EDTA, Molar ratio

### Introduction

Essential to the proper formation of teeth and bones calcium (Ca) is a mineral that can be found fruits and vegetables. Predominantly important during childhood ones calcium intake is a key determinant of bone mass in adults, and it also influences the rate. Dairy products are an excellent source of bio-available calcium and with increase intake can reduce osteoporosis, a disease that affects millions where bones become fragile (bone thinning) that over time leads to bone fracture. In this experiment the percentage of calcium present in milk will be determined using back titration with EDTA. EDTA is a hexaprotic ion (chelating agent): meaning that each of the acid oxygen and each of the amine nitrogen's can donate one electron pair, and it works by binding to metal ions.

The EDTA will react with the Calcium in 1:1 molar ratio. In this titration, a solution containing the free metal ion (i.e. calcium) with a solution of chelating agent (EDTA) is titrated against the standard  $\text{Ca}^{2+}$  ion solution. The endpoint is usually measured with an indicator ligand that forms a colored complex with the free metal ion. This method called a complexometric titration is used to find the calcium content of milk the 'hardness' of water and the amount of calcium carbonate in various solid materials. The method uses a very large molecule called EDTA which forms a complex with calcium ions. EDTA stands for ethylenediaminetetraacetic acid. A blue dye called Patton and Reeder's indicator (PR) is used as the indicator. This blue dye also forms a complex with the calcium ions changing colour from blue to pink in the process, but the dye-metal ion complex is less stable than the EDTA-metal ion complex. As a result, when the calcium ion-PR complex is titrated with EDTA the  $\text{Ca}^{2+}$  ions react to form a stronger complex with the EDTA. For the titration, the indicator is added to the sample solution containing the calcium ions and forms the pink/red calcium ion-indicator complex (Ca-PR). This

solution is then titrated with EDTA. The endpoint occurs when the solution turns blue, indicating that the Ca-PR complex has been completely replaced by the calcium ion-EDTA complex and the PR indicator reverts to its blue colour. The reaction is:

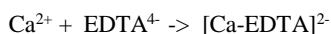


This method, called a complexometric titration, is used to find the total calcium and magnesium content of milk, sea water and various solid materials. It can also be used to determine the total hardness of fresh water provided the solutions used are diluted. The combined concentration of calcium and magnesium ions is considered to be the measure of water hardness.

The method uses a very molecule called EDTA which forms a complex with calcium and magnesium ions. EDTA is short for ethylenediaminetetraacetic acid. A blue dye also forms a complex with the calcium and magnesium ions, changing colour from blue to pink in the process. The dye-metal ion complex is less stable than the EDTA-metal ion complex. For titration, the sample solution containing the calcium and magnesium ions is reacted with an excess of EDTA. The indicator is added and remains blue as all the  $\text{Ca}^{2+}$  and  $\text{Mg}^{2+}$  ions present are complexed with the EDTA.

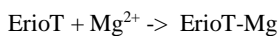
A back titration is carried out using a solution of magnesium chloride. This forms a complex with the excess EDTA molecules until the end-point, when all the excess EDTA has been complexed. The remaining magnesium ions of the magnesium chloride solution then start to complex with Eriochrome black - indicator, immediately changing its colour from blue to pink.

The main reaction is



**Back titration:**  $\text{EDTA}^{4-} + \text{Mg}^{2+} \rightarrow [\text{Mg-EDTA}]^{2-}$

**Indicator reaction:** Eriochrome T is blue and Eriochrome T-Mg is pink



## Materials and Method

### Apparatus Required

- Burette
- 20ml pipette
- 250ml conical flasks
- 100 ml volumetric cylinder
- pipette

### Solutions Needed

**EDTA:- (ethylenediaminetetraaceticacid)** 500mL of a  $0.05\text{molL}^{-1}$  solution. Weigh 9.31g of the EDTA salt and dissolve it in 500 mL of distilled water in a volumetric flask.

**Buffer:-** Dissolve 7.0g of ammonium chloride in 57mL concentrated ammonia. Dilute to 100mL with distilled water in a volumetric flask. The pH should be 10.5.

**MgCl<sub>2</sub>.6H<sub>2</sub>O:-**  $0.025\text{molL}^{-1}$  solution. Weigh 2.54g of magnesium chloride hexahydrate and dilute to 500mL with distilled water in a volumetric flask.

**Eriochrome black - T indicator:-** Dissolve 0.2 g of Eriochrome Black T indicator in 15mL of concentrated ammonia solution(or 15 mL of triethanolamine) and 5mL absolute ethanol. Do not store more than one to two days before use.

## Procedure

### Sample preparation:-

For samples that are already in solution, such as freshwater, seawater and milk, no further preparation is needed.

### Standardisation of the EDTA solution:-

- Pipette a 10mL sample of the EDTA solution into a conical flask.
- Add 10mL of ammonia buffer solution and 1mL of Eriochrome Black T indicator solution.
- Titrate the EDTA with the magnesium chloride solution until the endpoint is reached - a permanent colour change from blue to pink.
- Having determined the average titre of the magnesium chloride solution, determine the number of moles used.
- Given the  $\text{Mg}^{2+} : \text{EDTA}$  ratio of 1:1, Calculate the concentration of your EDTA solution.

### Titration Method, for Milk samples:-

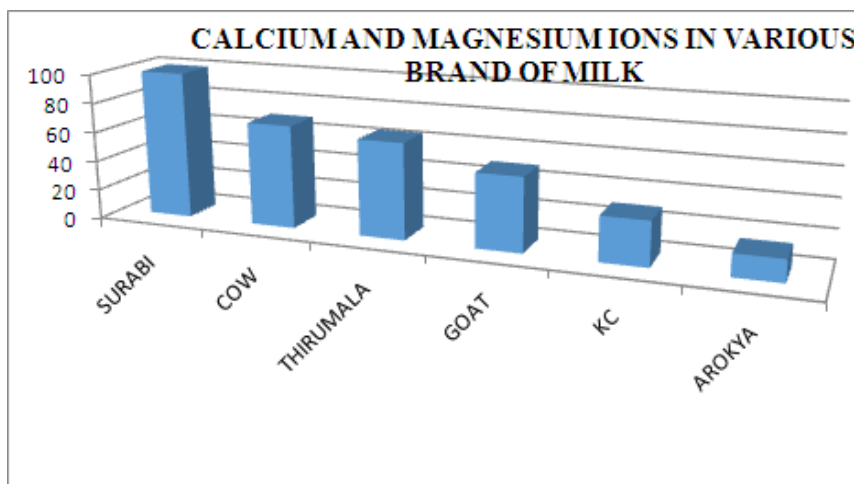
- Pipette 10mL of the sample solution into a conical flask.
- Add 20 mL of  $0.05\text{mol L}^{-1}$  EDTA solution.
- Add 10L of ammonia buffer, 50 mL of distilled water and 1mL of Eriochrome Black T indicator solution.

Titrate the sample with the standard  $0.025\text{mol L}^{-1}$  magnesium chloride solution until a permanent pink colour appears.

## Result and Discussion

BRAND NAME	CALCIUM & MAGNESIUM IN (mol)
1.Surabi	$4.30 \times 10^{-4}$
2.Cow	$3.25 \times 10^{-4}$
3.Thirumala	$3.20 \times 10^{-4}$
4.Goat milk	$3.00 \times 10^{-4}$
5.Kc	$2.50 \times 10^{-4}$
6.Arokya	$1.85 \times 10^{-4}$

The calcium & magnesium content is necessary for our health. The higher amount of calcium content is present in milk. So we estimate calcium content in various brand of milk. From the above data, we found that brand Surabi milk contains the higher amount calcium & magnesium content and Arokya milk contains the lower amount of calcium & magnesium content.



## Conclusion

In our present investigation we have compared the calcium & magnesium content in various brands of milk. From the values obtained we came to find that brand Surabi contains the higher calcium content. Brand Kc & Arokya contain lower calcium content.

Low intake of calcium & magnesium content leads to bone problems, so it is advisable to take brand Surabi milk.

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- [8] University of Canterbury

## Estimation of Carotenoid in Vegetables by Calorimetry

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### Abstract

*Commercial food products using carotenoids are expanding, and the greatest demand is in the Asian continent. The pigment is extracted from microalgae such as Chlorella, Dunaliella, Haematococcus, from the cyanobacterium Spirulina, and from the fungus Monascus. Thus we are going to estimate the carotenoids present in the following vegetables such as Carrot (Daucus carota), Beetroot (Beta vulgaris), Drumstick (Moringa Oleifera), Cabbage (Brassica perkinensis), Tomato (Lycopersicum esculentum), Mango (Mangifera indica), Potato (Solanum tuberosum), watermelon (Citrullus lanatus). By calculating carotenoids in these vegetables we can get knowledge about which one among these vegetables have the highest carotenoid value.*

**Keywords:** Carotenoid, pigment, Carotene, Acetone, Optical density, Calorimetry

### Introduction

Oxidative stress is an important contributor to the risk of chronic diseases. Dietary guidelines recommend increased consumption of fruits and vegetables to combat the incidence of human diseases such as cancer, cardiovascular disease, osteoporosis and diabetes. Fruits and vegetables are good sources of antioxidant phytochemicals that mitigate the damaging effect of oxidative stress. Carotenoids are a group of phytochemicals that are responsible for different colours of the foods. They are recognized as playing an important role in the prevention of human diseases and maintaining good health. The term carotene (also carotin, from the Latin *carota*, or carrot) is used for several related unsaturated hydrocarbon substances having the formula C<sub>40</sub>H<sub>x</sub>, which are synthesized by plants but cannot be made by animals. Carotene is an orange photosynthetic pigment important for photosynthesis.

Carotenes are all colored to the human eye. Carotenes are valuable preventive medicines, too. Research shows that people, who eat a lot of foods rich in beta-carotene—the carotenoid with the greatest vitamin A value, are less likely to develop lung cancer. They are metabolized by hydroxylation, epoxidation, isomerization, oxidation-reduction and degradation. In addition to being potent antioxidants some carotenoids also contribute to dietary vitamin A. They are all synthesized by higher plants, algae and bacteria and are widely distributed in animals, which acquire them via their diet. In the plant carotenoids act as photosynthetic accessory pigments and also play a protective function as scavengers of oxygen radicals released from chloroplasts during photosynthesis, thus protecting cellular constituents such as DNA from free radical damage. Carotenoids generally cannot be manufactured by species in the animal kingdom so animals obtain carotenoids in their diets, and may employ them in various ways in metabolism. They are split into two classes, xanthophylls (which contain oxygen) and carotenes (which are purely hydrocarbons, and contain no oxygen).



All carotenoids are tetraterpenoids, meaning that they are produced from 8 isoprene molecules and contain 40 carbon atoms. Carotenoids in general absorb blue light. They serve two key roles in plants and algae. They absorb light energy for use in photosynthesis, and they protect chlorophyll from photodamage. In humans, three carotenoids (beta-carotene, alpha-carotene, and beta-cryptoxanthin) have vitamin A activity (meaning they can be converted to retinal), and other carotenoids can also act as antioxidants.

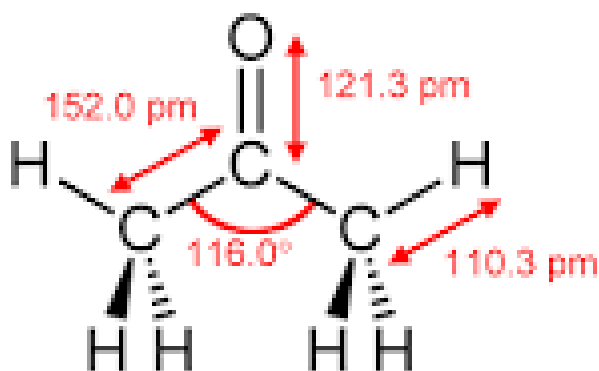
## Methods and Materials

### Materials

Molten and pestle

Acetone

**Acetone (propanone)** is the organic compound with the formula  $(\text{CH}_3)_2\text{CO}$ . It is a colorless, volatile, flammable liquid, and is the simplest and smallest ketone. Acetone is miscible with water and serves as an important solvent in its own right, typically for cleaning purposes in laboratories. It is a common building block in organic chemistry. Familiar household uses of acetone are as the active ingredient in nail polish remover and as paint thinner.



Fruits and vegetables (beetroot; carrot; potato; tomato; cabbage; watermelon; drumstick leaves; raw mango)

## Methods of Preparation

### Collection of Sample

Vegetables such as Carrot (*Daucus carota*), Beetroot (*Beta vulgaris*), Drumstick (*Moringa Oleifera*), Cabbage (*Brassica perkinensis*), Tomato (*Lycopersicum esculentum*), Mango (*Mangifera indica*), Potato (*Solanum tuberosum*), watermelon (*Citrullus lanatus*) were collected, during the month of March 2018. Healthy vegetables and leaves were selected and used for the test.

### Experimental Procedure

- Weighed 2g of vegetable sample and ground the sample using molten and pestle.
- Mix the contents with sufficient amount of solvent.
- Centrifuge at 4000rpm for 20 minutes.
- Supernatant was collected and diluted to appropriate volume.
- Acetone was used as blank.
- Optical density was measured using calorimetry

### Formula Used

To estimate the amount of ,

**CAROTENOID VALUE,  $C = DVF / 2500$**

C = CAROTENOID CONTENT

D = OPTICAL DENSITY

V = VOLUME OF THE SAMPLE

F = DILUTION FACTOR

2500 = MIDDLE MEDIUM ABSORPTION COEFFICIENT

### Result and Discussion

S.No	VEGETABLES	OPTICAL DENSITY(OD)	CAROTENOID VALUE(C)
1	CARROT	0.17	0.0034
2	TOMATO	0.07	0.0014
3	POTATO	0.06	0.0012
4	CABBAGE	0.06	0.0012
5	RAW MANGO	0.07	0.0014
6	WATER MELON	0.07	0.0014
7	DRUMSTICKLEAVES	0.14	0.0028
8	BEETROOT	0.07	0.0014

### Conclusion

In this study we estimated the amount of carotenoid values in following vegetables: *Carrot (Daucus carota)*, *Beetroot (Beta vulgaris)*, *Drumstick leaves (Moringa Oleifera)*, *Cabbage (Brassica perkinensis)*, *Tomato (Lycopersicum esculentum)*, *Mango (Mangifera indica)*, *Potato (Solanum tuberosum)*. Among this we came to know that CARROT has the high carotenoid value. So its better to use carrot in our food to get Commercial food products using carotenoids are expanding, and the greatest demand is

in the Asian continent. The pigment is extracted from microalgae such as *Chlorella*, *Dunaliella*, *Haematococcus*, from the cyanobacterium *Spirulina*, and from the fungus *Monascus*.

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## Preparation and Characterization of Zinc Sulphide Nano Particles

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### Abstract

*Nano materials have created a high interest in recent years by virtue of their unusual mechanical, electrical, optical and magnetic properties. Zinc Sulphide nano particles were synthesized by reduction method using Zinc nitrate & Sodium Sulphide. The synthesized Zinc Sulphide nanoparticles were characterized by UV-Vis spectroscopy. UV-Visible spectrum shows the absorption peak at 280 nm.*

**Key Words:** Zinc Sulphide, Nanoparticles, Zinc Nitrate, Sodium Sulphide, UV-Visible spectroscopy

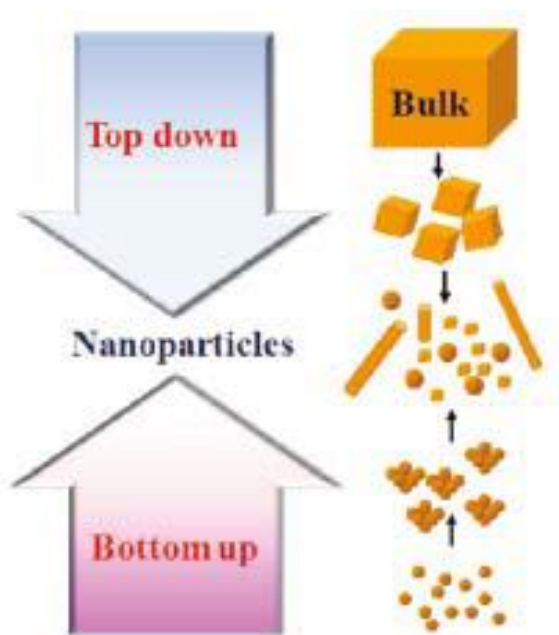
### Introduction

A nano particle is a microscopic particle with at least one dimension less than 100nm. Nano particle is of great scientific interest as they are effectively a bridge between bulk materials and atomic or molecular structures. Nano materials have a much greater surface area to volume ratio than their conventional forms, which can lead to greater chemical reactivity and affect their strength. Also at the nano scale, quantum effects can become much more important in determining the materials properties and characteristics, leading to novel optical, electrical and magnetic behaviors. Nano particles often have unexpected visible properties because they are small enough to confine their electrons and produce quantum effects. Suspensions of nano particles are possible because the interaction of the particle surface with the solvent is strong enough to overcome differences in density, which usually result in a material either sinking or floating in a liquid. Sintering can take place at lower temperatures, over shorter time scales than for large particles. This theoretically does not affect the density of the final products, though difficulties and the tendency of nano particles to agglomerate complicate matters. They are even being projected as future generation anti microbial agent. Zinc nano particles are important materials that have been studied extensively, such nano particles possess unique electrical, optical as well as biological properties and are thus applied in catalysis, imaging, drug delivery, nano device fabrication and in medicine. Synthesis of Zinc nano particles was extensively studied employing chemical and physical methods, but the development of reliable technology to produce nano particles is an important aspect of nano technology.

### Nanomaterial - synthesis

Nano materials deal with very fine structures: a nanometer is a billionth of a meter. This indeed allows us to think in both the 'bottom up' or the 'top down' approaches (Fig. 1) to synthesize nano materials, i.e. either to assemble atoms together or to dis-assemble (break, or dissociate) bulk solids into finer pieces until they are

constituted of only a few atoms. This domain is a pure example of interdisciplinary work encompassing physics, chemistry, and engineering upto medicine.



*Fig. 1 Nanomaterial - synthesis and processing*

## **Zinc Sulphide**

Zinc Sulphide is an inorganic compound with the chemical formula of ZnS. This is the main form of Zinc found in nature where it mainly occurs as the nature sphalerite. Although this mineral is usually black because of various impurities, the pure material is white and it is widely used as a pigment. In its dense synthetic Zinc Sulphide can transparent, and it is used as a window for visible optics and infra red optics. Zinc Sulphide exists in two main dualism often a salient example of poly morphism. In each form the coordination geometry at Zn and S is tetrahedral. The more stable cubic form is known also as Zinc blende or sphalerite. The hexagonal form is also known as the mineral wurtzite although it is also can be produced synthetically. The transition from the sphalerite form to the wurtzite form occurs at around 1020 Celsius. A tetrahedral form is also known as very rare mineral called polhemusite, with the formula  $(\text{Zn,Hg})\text{S}$ .

## **Applications of Zinc sulphide nanoparticles**

## **Luminiscent material**

Zinc sulphide, with addition of few ppm of suitable activator, is used as phosphor in many applications, from cathode ray tubes through x-rays screens to glow in the dark products when silver is used as activator, the resulting colour is bright blue, with maximum at 450nm using manganese yields an orange red colour at around 590nm. Copper gives long time glow, and it has the dark familiar greenish glow in the dark. Copper doped Zinc Sulphide ("Zinc Sulphide plus copper") is used also in electro panels. It is also exhibits luminescent phosphorescent due to impurities on illumination with blue or ultra violet light.

## **Pigment**

ZnS is common pigment, sometimes called sachtolith. When combined with Barium Sulphide, Zinc sulphide forms lithop one.

## **Catalyst**

Fine ZnS powder is an efficient photocatalyst, which produces hydrogen gas from water upon illumination. Sulphur vacancies can be introduced in Zinc sulphide during its synthesis; this gradually turns the whiter yellowish ZnS into a brown powder; and boosts the photo catalytic activity through enhanced light absorption.

## **Scope**

Zinc Sulphide is an inorganic compound with the chemical formula of ZnS. This is the main form of Zinc found in nature where it mainly occurs as the nature sphalerite. Thus ZnS has variety of applications in various fields. In our present work ZnS is prepared by reduction using  $ZnNO_3$  and NaS.

## **Materials and methods**

### **Chemicals Required**

Zinc Nitrate, Sodium Sulphide, Glucose

### **Synthesis of Zinc Sulphide Nanoparticle**

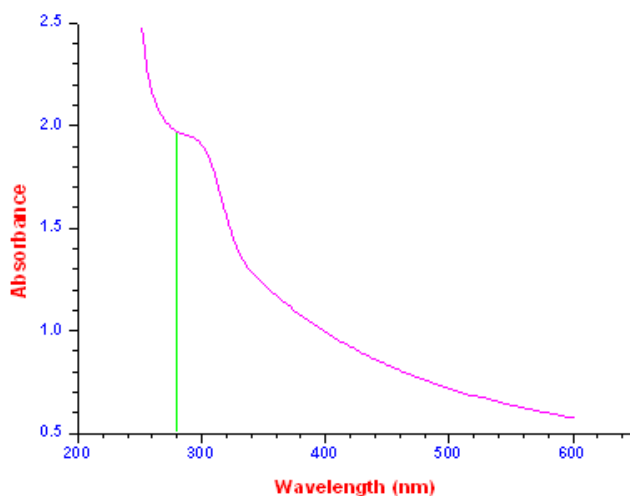
In a typical synthesis of ZnS NPs, 1M sodium sulphide was added drop wise in a beaker containing 1M of Zinc nitrate with constant stirring. The white colored solution was obtained. This was further stirred with magnetic stirrer for 15 hours. To this solution one mole of glucose solution was added. The solution was heated and incubated at 70<sup>o</sup>c for more than 6 hours. The precipitate was obtained. This was centrifuged with 2000 rpm for 15 minutes and the product was dried at 30<sup>o</sup>c for 4 hours. The obtained product was crushed into fine powder.

## **Result and Discussion**

It is generally recognized that UV-Visible could be used to examine the size and shape controlled nanoparticle in aqueous suspensions.

### UV-Visible Spectroscopy

UV Spectra of Zinc sulphide nanoparticles:



ZnS NPs UV  $\lambda_{\text{max}} = 280\text{nm}$

The ZnS nano particle were characterized by UV-Vis spectrophotometer. The absorption spectrum was observed in the range 280nm; this observation indicates that there is no aggregation in UV – Visible absorption spectrum. A comparison of the value of bulk ZnS was found to be 337 nm shows the band edge is blue shifted. The absorption spectrum of ZnS nanoparticles shift towards the (280 nm) lower wavelength side.

### Conclusion

ZnS nanoparticles were synthesized from the reaction with Zinc nitrate and sodium sulphide in the presence of glucose medium. Synthesized ZnS nanoparticles were studied by UV-Vis spectroscopy. The study confirm the formation of ZnS nanoparticles.

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## Mammographic Image Based Breast Cancer Analysis Using Order-Statistics Filters

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### Abstract

*Mammography is a well-known method used for the detection of breast cancer. Many researchers worked in the area of breast cancer detection and proposed segmentation methods. However, no solution given by researchers is best promising and has limitations and it is still a challenging problem to solve. This paper is a simple and easy approach for detection of cancerous tissues in mammogram. This paper makes a comparative study on the filtering algorithms namely minmax and median that are applied on mammographic images.*

**Key Words:** filter, Mammography, Median, Midpoint, RMSE, PSNR, X-rays, image sensors

### I. Introduction

The expert radiologist visually searches the mammograms based on their shape, density, and margin [1], [2]. The shape can be irregular, round or oval. An expert radiologist pays attention to these features during the diagnosis process. However, the involvement of human factor causes a low degree of precision which often results in biopsy and anxiety for the patient involved. Human involvement also results in a high false negative rate. Recently, a variety of CAD systems have been developed to reduce the human factor involvement and to help the radiologist in automatic differentiation between benign and malignant tumor [3]. CAD system is not only useful in breast imaging but also equally beneficial in other field of medical diagnosis such as diagnosis of Pulmonary Edema [4] and related respiratory chronic diseases for early and easy diagnosis [5]. A combination of CAD and experience of an expert radiologist can significantly improve the accuracy of diagnosis process. In X-rays digital medical image sensing, CAD can be classified in two ways: (a) the CAD system point out the region of suspicious (ROS) and alert the expert radiologist to the need for further analysis and (b) the CAD system which can take the decision from ROS whether it is normal, benign or malignant tissue. However, the expert radiologist uses CAD system as a second opinion and the radiologist makes the final decision [6], [13].

### II. Related Work

Over the years, the researchers have been involved in developing two types of CAD systems, one for detecting the lesions and another to diagnose the detected lesions based on the classified benign, malignant or normal results and also the differentiation between different diseases related to the breast tissues. For example, an automatic

computerized system was developed to assess the malignancy of pulmonary nodules on low-dose helical CT (LDCT) images [7]. Ramirez-Villegas and Ramirez-Moreno [8] developed a support vector and neural-based classification of mammographic regions. Statistical and wavelet packet energy and Tsallis entropy parameterization were used for feature extraction while SVM/MPL was used for classification purpose. The result shows a sensitivity varying from 86.67% to 91.67%, a specificity varying from 82.50% to 100.00% and an accuracy varying from 85.42% to 93.75%. Verma *et al.* [9] combined the six statistical features with fuzzy-SCBDL and MLP neural classifier and achieved 92.7 highest classification accuracy. An important issue with supervised learning is the assessment circumstances of classifiers. Saki *et al.* [10] proposed a fast opposite weight learning rule to accelerate the training procedure of the MLP classifier and significantly obtained virtuous results with area under the curve of 0.928, a False Negative Rate (FNR) of 9.9% and a False Positive Rate (FPR) of 11.94%. 90% sensitivity and 0.903 areas under the curve (AUC) were accomplished. Recently, Tahmasbi *et al.* [11] used Zernike features for computer aided diagnosis. The region of interest was extracted manually and then the shape-based features were analysed using multilayer perceptron classifiers. This work was extended by Sharma and Khanna [12]. They used a combination of ZM and SVM classifiers and achieved 97% sensitivity and 96 % specificity.

Our current research interests focuses on the feature extraction and classification section of the CAD system. For feature extraction, Polar complex exponential transform is proposed to extract the features of the suspicious region. To the best of our knowledge, all the applications involving ZM features for CAD system, presented in the literature so far, uses the magnitude of the moment for rotation invariant but they avoid phase information [10], [11], [13]. However, the phase of the rotated image also carries significantly equal information as the magnitude does [14], [15].

There exists a strong relationship between magnitude and phase. To take the advantage of the phase information, a method of phase correction to incorporate a correction in the moment of the rotated mammogram has been proposed. The aim of the proposed classifier is to improve the classification accuracy and optimization scheme in initial parameter setting of the network.

### III. Materials and Method

Mammography is a specific type of x-ray imaging that focusing on breast imaging. This process uses system with low dose x-ray, high contrast and high-resolution film [3]. However the accuracy in detecting the cancer based on mammogram image with bare eye by qualified personnel (radiologist) will be affected by poor mammographic image quality and fatigue radiologist. Radiologist misdiagnose 10-30% of the malignant cases due to the difficulty to maintain required attention level when reading large number of screening mammograms since most are free of cancerous features [1].

Due to the need of overcoming the problem that cause high rate of false positive and false negative detection, a Computer Assisted Detection (CAD) system is develop to provide assistant for clinician to identify cancerous tissue in mammogram.

The system will be designed based on image processing technique on MATLAB platform. The method describes as follows:

Step 1. By using the formula for median filter  $A=I(i, j) * g(x, y)$ , the image is filtered.

Step 2. By using the formula for median filter  $A=I(i, j) * g'(x, y)$ , the image is filtered.

Step 3. The performance of both the algorithms are evaluated.

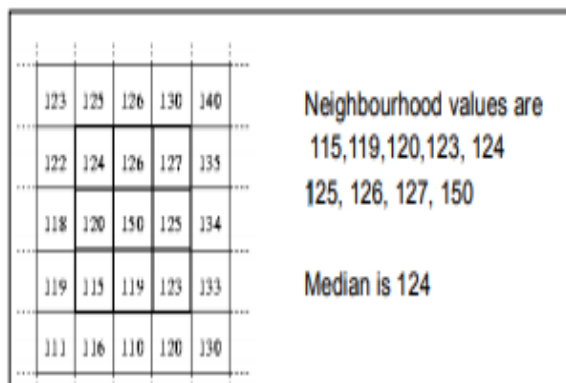
Step 4. Results are tabulated and plotted on graph.

## Median Filter

It is the best known order statistics filter, the filter replaces the value of a pixel by the median of the intensity levels in the neighbourhood of that pixel:

$$\hat{f}(x, y) = \text{median}(s, t) \in S_{xy}\{g(s, t)\}$$

Median filters are quite popular because, for certain types of random noise, they provide excellent noise-reduction capabilities, with considerably less blurring than linear smoothing filters of similar size. Median filters are particularly effective in the presence of both bipolar and unipolar impulse noise.



**Figure 1: Median value of neighbourhood pixels Midpoint filter**

The midpoint filter simply computes the midpoint between the maximum and minimum values in the area encompassed by the filter:

$$\hat{f}(x, y) = \frac{1}{2}[\max\{g(s, t)\} + \min\{g(s, t)\}]$$

It works best for randomly distributed noise, like Gaussian or uniform noise.

#### IV. Performance Metrics

##### Peak Signal to Noise Ratio (PSNR)

Bigger PSNR point out a smaller difference between the original and reconstructed or segmented image. The smaller value of PSNR means that the image is poor. PSNR is defined as follow.

$$\text{PSNR}=20\log_{10} (1/\text{RMSE}) \text{ db.}$$

##### The root-mean-square Error (RMSE)

The root-mean-square error (RMSE) (or sometimes root-mean-squared error) is a frequently used measure of the differences between values (sample and population values) predicted by a model or an estimator and the values actually observed. To measure the analysis of the filtering techniques, the image quality measures such as RMSE and PSNR is used. The same PSNR and RMSE are represented with line graph, the dashed a line indicates the efficient techniques at the table

**Table 1. PSNR values for ten images**

INPUT I	MINMAX	MIDPOINT
mdb001	47.0563	50.6739
mdb002	45.2154	48.591
mdb003	46.1332	49.4012
mdb004	45.9442	50.2604
mdb005	46.0727	49.4759
mdb006	45.7941	49.5331
mdb007	45.9709	49.5573
mdb008	45.7711	49.5295
mdb009	45.4086	49.5099
mdb010	46.6068	50.0961

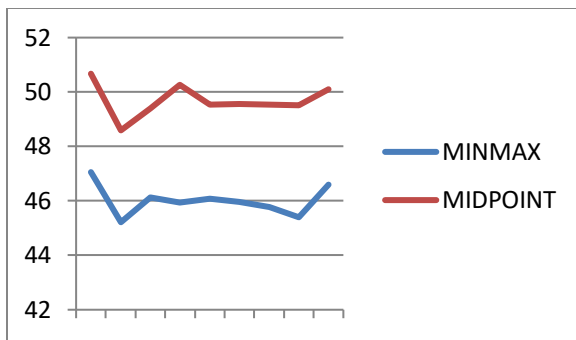


Figure 2. Line chart of PSNR values for ten images

Table 2. RMSE values of ten images

INPUT I	MINMAX	MIDPOINT
mdb001	1.9722	0.9065
mdb002	1.6189	0.7394
mdb003	1.7261	0.7297
mdb004	1.6573	0.7257
mdb005	1.7261	0.7297
mdb006	1.6573	0.7257
mdb007	1.6573	0.7257
mdb008	1.7353	0.7303
mdb009	1.8864	0.7336
mdb010	1.4315	0.641

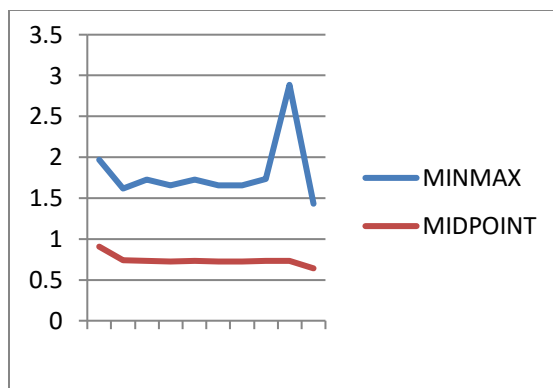


Figure 3. Line chart of MSE values for ten images.

## V. Conclusion

In this paper, the filters namely midpoint and median are applied to ten images and the performance metrics are evaluated. Comparing the two filters, the median filter has the highest PSNR value and less MSE value Which means the filtering method called median filtering is better in performance.

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## E-marketing - An analysis

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### Abstract

*Electronic business, or e-business, is the application of information and communication technologies (ICT) in support of all the activities of business. Commerce constitutes the exchange of products and services between businesses, groups and individuals and can be seen as one of the essential activities of any business. Electronic commerce focuses on the use of ICT to enable the external activities and relationships of the business with individuals, groups and other businesses or e business refer to business with help of internet. This papers talks about e-marketing and the reasons for problems of e-marketing. For the present study, primary and secondary data were used. Secondary data were collected from various books, journals, websites, etc. the rank method and chisquare test is used as statistical tools for analyzing the data and testing of hypothesis. Sample of 100 e-marketing users was surveyed by using a structured questionnaire in Tirunelveli city.*

**Keywords:** *creating strategy, customer loyalty, and incremental sales.*

### Introduction

E-marketing refers to the use of the internet and digital media ability to help sell your products or services. These digital technologies are a valuable addition to traditional marketing approach regardless of the size and type of your business. E-marketing is also referred to as internet marketing. As with conventional marketing, e-marketing, e-marketing is creating a strategy that helps businesses deliver the right messages and product and services to the right audience. It consists of all activities and processes with the purpose of finding, attracting, winning and retaining customers. What has changed is its wider scope and options compared to conventional marketing methods. E-marketing is deemed to be broad in scope, because it not only refers to marketing and promotions over the internet, but also includes marketing done via e-mail and wireless media. E-marketing also embraces the management of digital customer data and electronic customer relationship management and several other business management functions.

E-marketing joins creative and technical aspects of the internet, including, design, development, advertising and sales. It includes the use of a website in combination with online promotional techniques such as search engine marketing, social medial marketing, interactive online ads, online directories, e-mail marketing, affiliate marketing, viral marketing and so on.

Email marketing occurs when a company sends commercial messages to a group of people by use of electronic email. Most commonly through advertisements, request for business, or sales or donation solicitation, any email communication is considered email marketing if it helps to build customer loyalty, trust in a product or

company or brand recognition. Email marketing is an efficient way to stay connected with your clients while also promoting your business.

### **Objectives of the study**

- To explore the reasons for starting in e-marketing.
- To study the benefits, problems and key types of customer data.

### **Purpose of E-marketing**

As internet users are growing day by day: so are internet advertisers because they can easily, effectively and efficiently communicate their products or services to targeted mass audience. Add to this the fact that internet users are well educated with high incomes, it is only logical to conclude that internet surfers are a desired target for advertisers. Geographical location often becomes irrelevant through e-marketing. The nature of internet means that a potential customer can be anywhere across the globe. Unlike traditional marketing methodologies the power of the web means that prospects and clients can become a part of your companies marketing mix 24-7 and anywhere in the world. A well implemented e-marketing strategy can achieve a more cost effective customer acquisition than traditional marketing.

### **Benefits of e-marketing**

**Wider prospect reach-** the internet has become part of everyone's life. So for whatever products you offer, there is already an existing market on the World Wide Web. With e-marketing, it allows you to find new markets and potentially compete worldwide with only a small investment.

**Cost-effective approach-** A properly planned and effectively targeted e-marketing campaign can help you business reach target customers at a much lower cost compared to traditional marketing methods.

**Reduction in costs through automation and use of electronic media-** e-marketing presents a strong business case in cost savings, particularly in the areas of transactional costs, customer service, digital media channels, print and distribution.

**24/7 marketing-** with a website your customers can find out about your products and make purchases even if your physical premises are closed or you don't have physical premises at all. **Personalized one-on-one marketing-** e-marketing allows you to reach people who want to know about your products and services instantly. For example, many people take mobile phones and PDAs wherever they go. By combining this with personalized e-marketing, you can create very influential and targeted campaigns.

**Increased interactivity-** e-marketing allows you to create interactive campaigns using music, graphics, and videos. Through two-way communications, interactive games or quizzes, you can engage your audience and give them greater involvement and control over their web experiences.

## Methodology

Both primary and secondary data are collected. The primary data was collected from 100 respondents in Tirunelveli city by using structured questionnaire. The secondary data was collected from journal, books, article and websites. Percentage analysis, Garratt ranking technique and chi-square test are used for arriving at conclusions.

## Results and materials

Data relating to the demographic profile of the respondents in the following tables.

**Table 1: Demographic profile of the respondents:**

S.NO	Factor	Category	No. of respondents	Percentage
1	Age	Below-30 years	27	27
		31-40	35	35
		41-50	36	36
		Above 50 years	12	12
		<b>Total</b>	100	100
2	Marital status	Married	72	72
		Unmarried	28	28
		<b>Total</b>	100	100
3	Occupation	Salaried people	63	63
		professionalize	27	27
		<b>Total</b>	100	100
4	Gender	female	48	32
		Male	52	68
		<b>Total</b>	100	100

Table 1 reveals that out of 100 respondents, 36 percent of the respondents are belong to the age group of 41-50 years, 72 percent of the respondents are married, 63 percent of the respondents are salaried people, 52 percent of the respondents are male.

**Table 2- problems of innovation in e-marketing:**

Reasons	Score	Rank
Cost	500	I
Culture	340	IV
Insufficient knowledge	450	III
Lack of experience	475	II
Weak bargaining position	328	V

Source: computed data

Among the problems of innovation in e-marketing cost scores first rank, lack of experience got second rank, insufficient knowledge got third rank, and culture, weak bargaining position got fourth and fifth rank respectively.

### Hypothesis

**Ho:** There is no significant difference between the innovations of e-marketing and growth of business

**Ha:** There is significant difference between the innovations of e-marketing and growth of business

**Table -3: Innovations of e-marketing and growth of business**

Factors	Calculated value	Degrees of freedom	Table value	Level of significance	Result
innovations of e-marketing and growth of business	$X^2=13.11$	3	$X^2=7.81$	5%	(Ho) is rejected

Expected frequency (E) = Total no. of frequencies / Total no. of education

$$X^2 = (O-E)^2 = 13.11$$

Degrees of freedom ( $\nu$ ) =  $n-1=4-1=3$

Since the calculated value is greater than the table value of  $x^2$  at 5% level of significance that null hypothesis is rejected and there is no significant difference between the innovations of e-marketing and growth of business.

Therefore alternative hypothesis is accepted and it is concluded that there is significant difference between the innovations of e-marketing and growth of business.

### Key types of customer data

In order of importance, here are the four primary data types every mail marketer needs to get acquainted with.

- **Email interaction:** Basic email interaction data shows where the customer has clicked within the email, open rates, opened links, clicks, customer conversions, and related metrics.
- **Web interaction:** Access to a recipient web interaction data can help marketers gain an in depth understanding of how the customer is browsing a website. Abandoned shopping carts and completed applications, for instance, will show that the consumer in the market for, thus filling the blanks for what kinds of email campaigns will prove most compelling.
- **Purchase data:** past purchase data can be a valuable predictor of a consumer's next move. By looking at what the subscriber has purchased in the past and what they are using now, email campaigns can be customized to suggest a personalized next step. For example, if the customer just bought a new mobile

phone, knowing specific specials for phone cases and screen protectors can help direct the next purchase.

- **Profile preferences:** Data from user profiles, such as location, age and gender, may not be as reliable as the users most recent e-mail or web interactions, but is still valuable in baseline targeting.

### **Suggestions**

- Create a website that is up-to-date, attention-grabbing, and most of all, mobile friendly.
- Search engine marketing and optimization allow the name and website to appear on a list of search engine results. With a strong SEO strategy, a company website will become associated with the keywords used to find services.
- With an affiliate program, people who believe in a company can share the information and grow the market on a commission-based platform.
- Take a hard and clear look at the purchasing habits of the customers and use that information to develop a strategy.
- An opt-in email list allows customers to come to and sign up to receive email campaigns and correspondence. This allows to connect with new customers or clients.
- Having the name and information listed in other locations on the web can help to grow the company and business. This makes name a visible in an area where customers and clients are already looking and also allows to become a trusted source of products or services.

By following the above tips it will be on a way to creating a concrete internet marketing strategy that could boost the business substantially.

### **Conclusion**

Electronic marketing is directly marketing a commercial message to a group of people using email. In its broadest sense, every email sent to a potential or current customer could be considered email-marketing. It usually involves using email to send ads, or solicit sales or donations, and is meant to build loyalty, trust, or brand awareness. Email marketing can be done to either sold lists or current customer database. Broadly, the term is usually used to refer to sending email messages with the purpose of enhancing the relationship of a merchant with its current or previous customers, to encourage customer loyalty and repeat business

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## Demonetization Effect on Commercial and Cooperative Bank

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### Abstract

*Demonetization is the act of stripping a currency unit of its status as legal tender. It is necessary whenever there is a change of national currency. The old unit of currency must be retired and replaced with a new currency unit. In 2016, the Indian government decided to demonetize the 500 and 1000 rupee notes, the two biggest denomination notes. These notes accounted for 86% of the country's cash supply. The government's goal was to eradicate counterfeit currency, fight tax evasion, eliminate black money gotten from money laundering and terrorist financing activities, and promote a cashless economy. By making the larger denomination notes worthless, individuals and entities with huge sums of black money gotten from parallel cash systems were forced to convert the money at a bank which is by law required to acquire tax information from the entity. The demonetization initiative caused a sudden breakdown in India's commercial ecosystem. Trade across all facets of the economy was disrupted, and cash centric sectors like agriculture, fishing, and the voluminous informal market were virtually shutdown, with many businesses and livelihoods going under completely - not to mention the economic impact of millions of people standing in line for hours to exchange or deposit canceled banknotes rather than working or doing business.*

**Key words:** legal tender, retired and replaced, fight tax evasion, eradicate counterfeit currency.

### Introduction

Chamber's Twentieth Century Dictionary defines a bank as an "institution of the keeping, lending and exchanging, etc. of money." Commercial banks are those banks which perform all kinds of banking functions such as accepting deposits, advancing loans, credit creation, and agency functions. They are also called joint stock banks because they are organised in the same manner as joint stock companies. Demonetization is the act of stripping a currency unit of its status as legal tender. It is necessary whenever there is a change of national currency. The old unit of currency must be retired and replaced with a new currency unit. The demoThe government's goal was to eradicate counterfeit currency, fight tax evasion, eliminate black money gotten from money laundering and terrorist financing activities, and promote a cashless economy. The demonetization initiative caused a sudden breakdown in India's commercial ecosystem.

### Demonetisation Effect on Commercial Banks

Soon after the demonetization announcement, cooperative banks were asked not to accept the old Rs 500, Rs 1,000 currency note deposits or exchange those notes with the new currency notes. This meant that these lenders could only deal with permissible denominations of Rs 100 and below or takes deposits in new currencies that are hardly available in the system. This effectively left many smaller cooperative banks with a few

thousand rupees of funds. Banks are in no way getting many benefits out of demonetisation

- As per the information available, it has been estimated that more than 425000 crores had been deposited in commercial banks in India.
- The huge increase in deposit amount is on account of deposit of currencies with commercial banks.
- Now the commercial banks have to pay interest for the deposits held with them in savings accounts and term deposit accounts. As such cost of funds will be more.
- They need not pay interest for the amount held in current accounts
- As per recent announcement, commercial banks have to transfer the cash to RBI (by depositing in currency chests) for destruction (Old 500s and 1000s) For the cash deposited in currency chests, RBI will not pay interest. However, out of the total amount deposited in cash with RBI, the commercial banks might have received new currencies as exchange from RBI.
- It can be assumed for the entire amount of Rs. 425000 crores deposited in cash with currency chests less amount received in new currencies, banks are not going to earn any interest from RBI. There are chances, that the commercial banks may lend to corporate by means of big ticket loans since they have more funds with them in the form of deposits.
- In order to earn an income, commercial banks have only two options - lending loans or investment securities.
- Commercial banks can utilise some portion to buy government securities for which they will be getting lesser income and some portion as big ticket loans to corporate and there are chances that some categories of loans becoming bad and not recoverable after some years
- Now the question is - as to how commercial banks are going to earn an income towards meeting the cost of funds and other expenses?
- The banks may be compelled to lend loans and normally the banks will be tempted to lend loans to big corporate

### **Demonetisation Effect on CO OPERATIVE BANK.**

There are a couple of reasons why the government and the Reserve Bank of India (RBI) did not allow cooperative banks to accept or exchange old notes for the new currency. First, the checks and balances at these banks aren't perceived to be strong enough to counter efforts to push black money into the banking system. Staffers, too,

aren't trained well. These banks aren't as tightly regulated as scheduled commercial banks. Most of these banks are indirectly controlled by politicians or local businessmen. Hence, there is, of course, reason to worry to let these banks participate in such a massive exercise. But, by choking funds to cooperative banks and prolonging the crisis (it has already been more than 10 days), can inflict significant damage to the health of several cooperative banks, which are already on the verge of closure. The tiny ones are more vulnerable.

Restricting commercial banks to conduct business, as happened post-demonetization will have major impacts on them: It damages the business of cooperative banks and their financial health.

As mentioned earlier, following restrictions, there has been hardly any business in cooperative banks across the country. Also there are no new funds, their lending operations and even ATM services have been hit hard. Even large multi-state cooperative banks, like Mumbai-based Saraswat cooperative bank are struggling to get funds for routine transactions of normal customers.

Second, the whole chaos will take away the trust of common man from cooperative banks. Customers will think twice again before depositing their hard-earned money or taking a loan against their property from a local cooperative bank. As currency shortage is acute and cash withdrawal limits are likely to stay longer than expected, banks will have to bear huge service cost on the deposits for the short to medium term, which they are passing on to RBI via reverse repurchase rate.

Reverse repo is the rate at which commercial banks lend excess deposits to RBI.

## **Conclusion**

According to government and RBI, banks deposits have already touched Rs.6 lakh crore mark, beginning November 10 till the teller closing November 18, while withdrawals, including the exchange of old notes, came in above Rs.1.35 lakh crore during the same period. The revised RBI data is yet to be made public. However, Minister of State Finance, Santhosh Gangwar, has been reportedly said, "A total of Rs.8 lakh crore in scrapped currency notes has been deposited in the banks." Mint Street experts also estimate almost 75% of the total cash with public might have entered or transited through the official channel of banking and exchange system. Now the old notes exchange facility at the banks stands scrapped, experts believe, deposits will keep swelling and collection may touch 9.9 lakh crore till December 30, i.e., close to the level of cash with public recorded before demonetization. The success of the scheme however will be measured by the fact that how much cash will come back for exchange and how much of it will disappear from the system.



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## A Relationship Study Between Functional Physical Fitness and Dynamic Balance Among Men Older Adults

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### Abstract

*The purpose of the study was to find out the relationship between functional physical fitness and dynamic balance among men older adults. To achieve the purpose of the study twenty five men older adults were selected at random from Tirunelveli Corporation, Tirunelveli District and their age ranged from 55-65 years. The functional physical fitness such as upper body strength, upper body flexibility, resting pulse rate, aerobic endurance and motor ability were selected as dependent variables and it was assessed by using arm curls, back stretch test, sphygmomanometer, two minute step test, eight foot up & go test respectively. Dynamic balance was tested by using functional reach scale. All the subjects were tested on selected criterion variables and were statistically analyzed for significant relationship using product moment and multiple correlation. In this cases, 0.05 level of significance was used to test the hypothesis. It was concluded that, there was significant relationship between the dynamic balance and upper body strength, upper body flexibility, resting pulse rate, aerobic endurance, motor ability among older adults and it was concluded that, 98% of relationship was explained by combination of all the dependent variables with dynamic balance among older adults.*

**Key words:** Functional Fitness, Dynamic Balance

### Introduction

With an increase in various problems emerging as a result of an ageing society, preventing or delaying the onset of physical frailty of people who are 65 years old and over is a primary concern in gerontology studies and practice. People with advancing age and decreasing physical activity in daily life were reported to have a higher probability of falling (Rikli, R.E. and Jones, C.J. 1999). According to the World Health Organization, falls are the second primary cause of accidental or unintentional injury deaths worldwide, and one out of three adults older than 65 years would fall every year. Fall-associated injuries (e.g., fracture) can result in older adults losing their independence, requiring hospitalization and even death. In addition, post fall syndromes, such as decreased self-efficacy and increased fear of falling, limit fallers' participation in physical activities, which in turn make the adverse effects from falling become more severe (World Health Organization, 2008).

Functional fitness, defined as having the physical capacity to perform normal daily activities safely and independently without undue fatigue, is essential for people to maintain quality of life in later life. Functional fitness is an essential indicator of independence and life quality for older adults in the late years; it is also one of the most commonly reported indicators in fall-related studies (Milanović, Z., Pantelić, S., Trajković, N., Sporiš, G., Kostić, R., and James, N. 2013).

Differences in functional fitness between balance have been well-documented (Tromp, A.M., Smit, J.H., Deeg, D.J., Bouter, L.M., and Lips, P. 1998), however little is known about these differences in dynamic balance. Therefore, the purpose of this study was to identify the differences of the physical parameters associated with functional fitness among older adults with dynamic balance.

### **Statement of the Problem**

The purpose of the study was to find out the relationship between functional physical fitness and dynamic balance among men older adults.

### **Methodology**

To achieve the purpose of the study, twenty five men older adults were selected as subjects at random from Tirunelveli Corporation, Tirunelveli District and their age ranged from 55-65 years. The functional physical fitness such as upper body strength, upper body flexibility, resting pulse rate, aerobic endurance and motor ability were selected as dependent variables and it was tested by using arm curls, back stretch test, sphygmomanometer, two minute step test, eight foot up & go test respectively. Dynamic balance was tested by using functional reach scale. All the subjects were tested on selected criterion variables, such as upper body strength, upper body flexibility, resting pulse rate, aerobic endurance, motor ability and dynamic balance. The collected data were statistically analyzed for significant relationship using product moment and multiple correlation. In this cases 0.05 level of significant was used to test the hypothesis.

### **Analysis of Data**

The summary of descriptive statistics was calculated on the selected functional fitness variables and has been presented in table I.

The data on the selected dependent variables with dynamic balance were statistically analyzed using Pearson product moment and multiple correlation and the results are presented in table II.

The correlation matrix values of dynamic balance with the selected functional fitness among older adults were graphically presented in figure I.

**Table I: The Summary of Descriptive Statistics on Selected Functional Fitness Variables and Dynamic Balance of Older Adults**

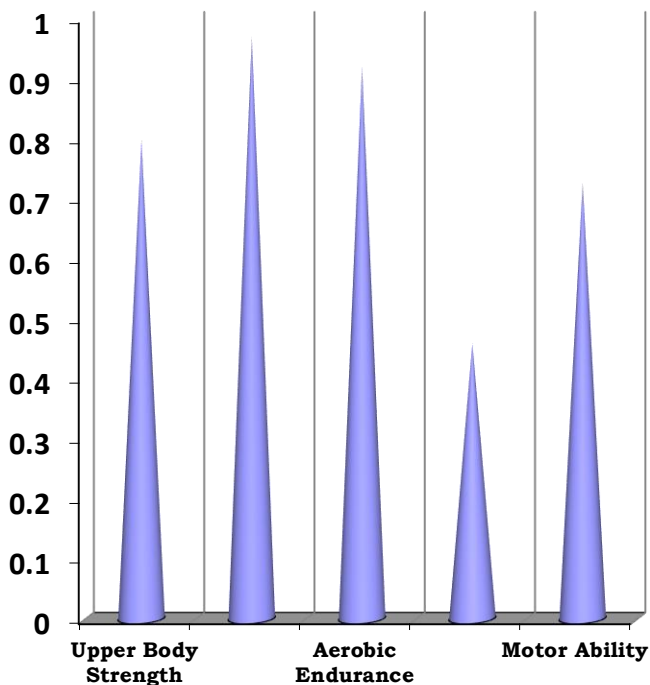
Descriptive Variables	Upper Body Strength	Upper Body Flexibility	Aerobic Endurance	Resting Heart rate	Motor Ability	Dynamic Balance
N	25	25	25	25	25	25
Mean	14.08	-2.04	89.76	74.88	4.96	9.20
Std. Deviation	3.09	2.23	7.90	2.65	0.68	1.94
Minimum	10	-5	79	70	4	7
Maximum	19	2	102	78	6	13

**Table II: Pearson Product Moment Correlation and Multiple Correlation Between Dynamic Balance and Dependent Variables**

Independent Variables	Dependent Variables	Pearson value $r_{12}$	Multiple $R_{1.23456}$ Value
1. Dynamic Balance	2. Upper Body Strength	0.797*	0.980*
	3. Upper Body Flexibility	0.968*	
	4. Aerobic Endurance	0.919*	
	5. Resting Heart Rate	0.458*	
	6. Motor Ability	0.726*	

The required table 'r' value is 0.278 with df 48 at 0.05 level of confidence.

**Figure – I: The Correlation Matrix Values of Dynamic Balance with the Selected Dependent Variables**



### Discussion on Findings

The present study compared five physical parameters associated with functional fitness among older adults with dynamic balance. Results reveal that there is a significant relationship between upper body strength, upper body flexibility, aerobic endurance, resting heart rate and motor ability with dynamic balance. Many studies have been conducted focusing on the comparison of physical or mental differences among older adults with balance.

Among the various physical fitness parameters, muscle strength, endurance, and response time have contributed most to balance and postural stability (Roe, B., Howell, F., Riniotis, K., Beech, R., Crome, P., and Ong, B.N. 2009). In addition, one cross-sectional study revealed a close relationship between functional fitness and balance, risk of falling, and physical functionality accounted for 24.0% of risk of falling (Tinetti, M.E., Speechley, M., and Ginter, S.F. 1988).

A series of studies were conducted to explore the differences in functional fitness-related parameters between balance among older adults, in which certain physical parameters were found relationship, such as muscle strength and muscle power in the

lower limbs [20], muscle endurance, response time for postural instability, flexibility, and agility and balance (Toraman, A. and Yıldırım, N.Ü. 2010).

Muscle strength and muscle power are connected to each other, their roles may be different in keeping body balance. It was demonstrated that the muscle strength of the lower limbs was more associated with static balance, while muscle power was more important for dynamic balance (Smee, D.J., Anson, J.M., Waddington, G.S., and Berry, H.L. 2012).

Several of these fitness-related parameters were applied to the maintaining balance and prediction of falls, such as muscle strength of the lower limbs, agility and balance (Shin, S., Valentine, R.J., Evans, E.M., and Sosnoff, J.J. 2012). Differences in functional fitness between fallers and nonfallers have been well-documented, however little is known about these differences in nonfallers with or without risk of falling (Schwendner, K.I., Mikesky, A.E., Holt, W.S., Peacock, M., and Burr, D.B. 1997).

Most of the previous studies have focused on the muscle properties of lower limbs rather than of upper limbs. Although some studies have demonstrated significant correlations between the 30-second arm curl test and dynamic balance (Chiacchiero, M., Dresely, B., Silva, U., DeLosReyes, R., and Vorik, B. 2010).

It is inferred from the result of the present stud and from the previous research findings, this study indicated that, older adults who are at the early stage of risk of falling is due to they have an overall reduced functional fitness capacity, especially in agility and balance, aerobic endurance, and upper limb muscle strength, as well as a combined relationship among all these factors. Hence it was concluded that, older adults with deteriorating agility and dynamic balance would indicate a higher probability of falling. In turn, among the various physical fitness parameters, agility and dynamic balance capacity are the parameters most likely to deteriorate earlier.

In addition, the five significantly reduced physical capacities, as found in this study, emphasize the importance of implementing of effective interventions aimed to improve agility and dynamic balance, aerobic endurance and muscle strength among older adults in the early stage of risk of falling.

## **Conclusions**

1. There was significant relationship between the dynamic balance and upper body strength, upper body flexibility, resting pulse rate, aerobic endurance, motor ability among older adults.

2. 98% of relationship was explained by combination of all the dependent variables with dynamic balance among older adults.

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## Project Management Office

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### Abstract

*A Project Management Office (also called PMO), is an office or department within an organization that defines and maintains standards for project management within the organization. The Project Management Office provides guidance and introduces economies of repetitions in the execution of projects. A PMO plays many roles within an organization and the depth of each role varies greatly for each organization. It depends on the size of the organization and the scope of projects it manages. In any case a successful PMO is a combination of people, processes and tools. Apart from just managing project portfolios, here are a few important roles it plays.*

**Key Words:** *policies, regulations, functions, process, procedures, responsibilities, establishment, management, control of projects, programs, portfolios.*

### Introduction

If you are a small operation, maybe you are doing well without as Project Management Office (PMO). But if your organization runs multiple, cross-functional projects at the same time, then it needs a PMO. A PMO plays many roles within an organization and the depth of each role varies greatly for each organization. It depends on the size of the organization and the scope of projects it manages. In any case a successful PMO is a combination of people, processes and tools. Apart from just managing project portfolios, here are a few important roles it plays.

### Strategic planning and governance

This is the most important function of a Project Management Office (PMO). They assist in the scoring of projects using predefined criteria, in the strategic selection of potential projects and their planning according to the business goals of the organization. PMOs advise senior management or C-level leaders to select candidate projects that best align with the strategic goals of the company, by providing a sound business case and the cost/benefit ratio.

With regards to project governance, PMOs set policies, regulations, functions, process, and procedures and responsibilities that define the establishment, management and control of projects, programs or portfolios.

### Best practices and process

PMOs implement and consolidate best practices and process within the organization. They standardize the process across all departments and services. A PMO can implement a repeatable project delivery process so that organizations can readily manage and deliver projects. It provides consistent project management guidance, methods, systems, tools and metrics for consistent project outcomes all over the



organization. Thus, maintaining consistency between project managers working for different projects and department.

### **Resource Management**

PMOs manage and allocate resources accurately across projects. It also manages priorities based on timelines, budgets, resource loads and what-if analysis information and accordingly provides the right resources at the right time. They also define roles and responsibilities. PMOs train, mentor and coach employees in general and in particular project managers. They organize regular workshops and training programs regarding project management.

### **The Scope of PMO**

The Project Management Office (PMO) is a centralized management structure for a group of projects in an organization, aimed at ensuring standardization, reducing duplication and leveraging resources such as people, technology, and communication. The major role of the PMO is to define and maintain process standards by providing a framework to establish standard performance measures based on organizational goals and objectives, and providing tools and procedures to achieve this. This translates into three key areas:

- Establishing Project Methodologies
- Project Tracking, and
- Project Support

### **Project Support**

Apart from defining, maintaining, and managing the project processes, the PMO roles and responsibilities include providing support for the smooth execution of the project.

- The PMO provides a centralized customer focused office that not only plan, negotiate and analyze projects, but also redress the project related concerns of the client, sponsor, and staff;
- The PMO develops a team of competent project managers through training and mentoring. Such project managers ensure implementation and maintenance of the project methodology and retain the team members' focus on the tasks in hand;
- The PMO provides training in project management and the applied project tools to team members;
- The PMO provides in-house consultancy services to the project team on project related issues.

### **Establishing Project Methodologies**

One of the major PMO roles include providing a program baseline or the "[road map](#)" for implementation of a project. The PMO makes an estimate of the size of the

project, the time and resources the project requires and lays down the project methodologies through many PMO tools and instruments:

- **Program Charter** provides an overall vision of the program goals and objectives to the team members;
- **Work Plans** lay down detailed schedules of activities, milestones, and deliverables of the project team, and identifies the resources available;
- **Governance Plan** identifies the roles and responsibilities of each member of the project team;
- **Work Breakdown Structure** defines the specific deliverables due from each team member, at each stage of the project;
- **Communication Plan** establishes the protocol, procedure, and methods to communicate project information and issues among members of the team;
- **Forms and Templates** simplify communication, record-keeping and reporting;
- **Risk Analysis** lists out potential problems and chances of deviance from the project methodology, the probability of such occurrences, the possible impact, and possible solutions.

## Conclusion

The exact roles and responsibility of the PMO varies among organizations, depending on organizational needs and the nature of projects executed by the organization. A proper application of PMO nevertheless enables the organization to undertake quality work with lesser resources, lesser risk, and lesser costs.

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