

ForceNetezine

INTO THE FUTURE

Together



INSIDE

COVID Career Impact Webinar
Star of Forces Network
Entrepreneurship



INSIDE

Data Science as a Career
Expatriate Interview
Equity Markets



INSIDE

Corporate Grooming
Book Review



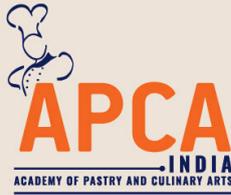
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*Step forward into the future
by keeping the life lessons you have learned
eternal in your memory
and you will never back step into the past again.*

- Dana Stoner-Blech



From the Editor

Dear Reader,

The last one month has surely been challenging for all of us individually, and collectively as Indians. We continue to combat it, and are a little uncertain about how the near future is going to unfold in terms of overall economic impact, and cascading effect of jobs, services, businesses etc. However, even if we are unable to see light at the end of the tunnel, surely our confident steps, one at a time, will usher us into a bright new future.

On its part, Forces Network has already started anticipating the challenges which our fraternity is likely to encounter in the coming days, and has started taking proactive steps to inform, prepare and guide to meet these challenges through webinars and other suitable advisories. The Members are also pitching in, in their individual capacity with information about fields and domains they excel in.

We as individuals also now need to stand tall, take cue, and put our best foot forward. Being fore warned, is being fore armed. Let us make adequate efforts to equip ourselves accordingly. The first step in overcoming anything is to acknowledge that it is there. Look back at the last time you had an idea and never started it, or when you gave up on a project. Were there obstacles that were impossible to overcome, or did you just lose confidence? Success comes in spite of obstacles, not without them. When your fear of failure is too large, obstacles occur as excuses not to continue. Success only happens when you find a way around those obstacles.

There are lots of reasons that people lose interest. One is perfectionism, which leads to setting very high goals that quickly burn the person out. Till we meet again next month, take care, stay safe, and keep reinventing. Such ambitious plans are not necessarily bad. It is great to dream big but not when that holds you back rather than sets you free. Consistent small steps are almost always more effective in the long term.

Have you ever tried to force yourself back into the swing of things after a setback? Almost every leader does from time to time. What makes great leaders so great though is that they experience setbacks merely as part of the process – as in “two steps forward, one step back” – rather than total failures to be ashamed of. More than that, strong leaders know how to bounce back – fast! Learning how to deal with setbacks is a very essential aspect of personality for any successful leader.

So, let us resolve today to bounce back, from this minor adversity in our life. Look ahead, be cheerful, and keep smiling and enjoying this life. Stay safe, till we meet next.

Cheers to Forces Network - the Network that Works!!!

Regards,
Lt Col Ranvir Singh

Events

Webinar by Forces Network on the COVID-19 Career Impact

BY IQBAL SINGH

I was approached by a few members of ForceNet, seeking advise on their transition plans due to the corona virus impact. While I did share whatever I could, I firmly believed that I did NOT have all the wisdom. And, I was also sure that many other members were also seeking similar advice. Keeping that in mind I thought that we at Forces Network could come up with a career advisory on the impact of COVID19 both for those planning to switch from the military to the corporate, as well as those already part of the civilian workforce. And, keeping in mind our guiding philosophy of “Better Together” we decided to crowd source the wisdom from amongst our members.

The Unfolding Tragedy

The spread of the disease, it's impact, it's global reach, it's scale and the speed of contagion are all truly unprecedented. While a range of outcomes is possible – no one really knows and is in a position to make a fair guess. While to begin with it is a human tragedy already unfolding, it shall definitely have an impact on the global economy. Maybe on how we work or even how we live. The world may change forever. Probably no Country, industry, or people will come out unscathed. Intellectually understanding the situation is one thing but internalizing the reality is quite another. Not sure how many people are able to do that, since most of us are clearly unable to think of the second or third order ramifications.

Probable Impact on Careers

The present situation is definitely going to throw up many unprecedented challenges in the coming time, with signs becoming evident in the next few months itself. All these could be a result of the following:

- Companies/organizations have an imperative to act quickly, protect their business interests, address business challenges and risks.
- The world economy as we know it today maybe changed unalterably.
- Workforces would be optimized or cut down. Are we prepared?
- Our assumptions may be misplaced.
- Optimism about the return of normalcy, which may be dangerous.

In the wake of all this, the question is what impact would this have on our careers? The smart employees would need to have a career strategy. Do we have one? What should you be doing if you are planning for Premature Retirement from the military, or seeking a job post military career, or already in the corporate and in-between jobs, or even secure (as of now) in a cushy corporate job.

We at Forces Network are a future focused community. We have a bias for pro-active actions, and thus we decided to share a suitable and appropriate advisory with our members so that they all are better equipped and prepared for the forthcoming challenges. Hence, it was decided to take charge, understand the challenge, and prepare for a better future.

For this purpose, a two pronged strategy was devised. In the first part, a survey was shared with the members of the Forces Network to collect the details of apprehensions they had with regard to this sudden development, and the responses received were then collated. Based on this collated data, the reply to such apprehensions were sought from a limited group of experienced members, as the second part of the strategy. Once sufficient data was in place, which was adequate to give out suitably appropriate pointers regarding 'desirable actions', the ball was set rolling for the next event.

The Webinar 'Forces Network Career Advisory on the COVID19 Impact' was then scheduled for 28 March 2020. Attendance was by Registration for the limited seats that were available, and there was an overwhelming response. Sadly, many desirous candidates had to be left out due to time and technological constraints.



The Webinar covered the following aspects:

- What's different this time.
- Likely adverse impact for employees/ entrepreneurs.
- Some unmistakable trends.
- Career Strategies. Career strategies to handle the impact successfully. A different strategy was outlined for each of the below segments:
 - Left military service already but yet to pick up a job.
 - Still in military service but planning to quit.
 - Already in the corporate but between jobs.
 - Already in a comfortable corporate job.
 - Want to be an Entrepreneur/Solopreneur.

There were three Speakers representing their respective below mentioned industries. They also shared some competence development/certification paths for their respective industry domains.

- Security/ Risk management.
- Technology.
- Data Science.

The webinar was very well received. We had a record attendance and the participants feedback has been extremely positive.

Forces Network has made the recording of the webinar available to its members on request.

Those desirous of requesting to view the Webinar recording can do so, by filling the required Form at <https://forms.gle/6oDnd86QcCmNBpqz7>.



Lt Col Iqbal Singh was commissioned on 19 Dec 1987 into 4th Battalion The Garhwal Rifles. He completed MTech after undergoing the EME Officers Degree Engineering course on Infantry vacancy, and subsequently graduated from the DSSC Wellington. The officer has also done a tenure in the Indian Army's Wargaming and Development Center (WARDEC). After hanging his boots in Jun 2008, he is currently working in a senior role in a large European telecom MNC based at New Delhi. He is a frequent speaker on various industry fora on technology topics especially Cloud Technology and Artificial Intelligence. He founded the Forces Network, now having 5400 plus members, on 04 Dec 2007 and continues to drive it to greater heights. He can be contacted at igchucks@gmail.com

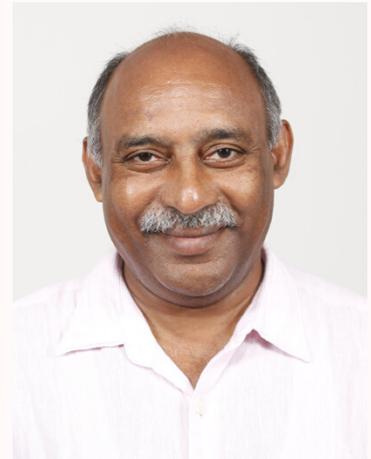
"Change is situational. Transition, on the other hand, is psychological. It is not those events, but rather the inner reorientation or self–redefinition that you have to go through in order to incorporate any of those changes into your life. Without a transition, a change is just a rearrangement of the furniture. Unless transition happens, the change won't work, because it doesn't 'take'." ~ William Bridges

Stars of Forces Network

A Forces Network Star is a member of the Forces Network who has gone on to achieve glory in the his/her corporate/civilian avatar. The aim of this series is not just to celebrate our successes from the veteran community, which unfortunately we do not do enough, but also to inspire others. The ultimate goal is to set up a virtuous self-sustaining cycle of inspiration leading to more successes in turn inspiring many more.

BY BIDISHA PANDEY

Brig Jyothikumar Dharmadheeran was commissioned into the Remount Veterinary Corps of the Indian Army in 1984. He is a veterinary doctor who has completed his Masters in veterinary medicine. On superannuating in 2017, he decided to move to the social service sector. Presently, he heads Brooke India, the Indian arm of an international charity “The Brooke” that protects and improves the lives of working horses, donkeys, mules, and the community that owns them. It works in the domains of animal welfare and community development, which give people in the developing world the opportunity to work their way out of poverty.



The Big Switch

Post his tenure in the Indian Army, Brig Dharmadheeran was keen on taking up jobs/assignments that would help him give back to the society. An opportunity was offered to him and he joined the Blue Cross of India as Chief General Manager in 2017. The Blue Cross is an animal welfare NGO that supports activities such as animal rescue, rehoming animals, adoption drives, ABC (Animal Birth Control), veterinary hospitals, mobile dispensaries, and working with other NGOs for improving animal welfare law and practices.

Brooke India

In Sep 2018, Brig Dharmadheeran applied for the position of CEO of Brooke India. Getting the job was no cakewalk. He had to first appear for an online examination. Thereafter, along with other shortlisted candidates, he had to make an individual presentation on an assigned topic. Finally, three candidates were shortlisted and called to Brooke headquarters for a personal interview; the other two candidates with him were highly qualified people with degrees from premier management institutions and international NGO experience. Therefore, the competition was tough. but Brig Dharmadheeran cracked it and took over as CEO in Sep 2018.

Brooke India seeks to bridge the gap between human development and animal welfare

by highlighting the benefits of improved and sustainable working equine welfare and improving the livelihoods and resilience of the community. Their activities include lobbying decision makers at national and state level, to include equines in livestock policies and veterinary curriculum, and disseminating evidence, at all forums in government and other organizations, that have the ability to influence working equine welfare.

The NGO Sector

Brig Dharmadheeran explains that one should not join the NGO sector with the only aim of enjoying a relaxed life. On the contrary, working in an NGO requires more motivation and dedication, though the pay one gets is a lot lesser than any corporate organization. Love for the work you do is what matters the most here. Brig Dharmadheeran says he works even on Saturdays and Sundays whenever required. Even at a senior position like his, one needs to be fully involved and aware about what is happening on the ground.

Advice to Fellow Officers

Officers interested in joining the NGO sector must understand that their goals must be aligned with the organization, and they should be genuinely interested in making a difference. If money is a priority, this may not be the right choice.

That said, jobs in this sector could be found on portals such as devnetjobsindia.org. One can apply to a number of jobs in the development sector through these portals. It is important that one studies the organization thoroughly before the interview, gets himself/herself acquainted with 'Development Industry' terms and practices. It is also expected that one is aware of the Sustainable Development Goals promulgated by UN, and other major developmental initiatives and projects around the globe.

A job in the development sector is a dream job if you have the correct combination of the Head (the ability to think), the Heart (the ability to empathize) and the Hand (the ability to do).



Bidisha Pandey is a blogger who believes every individual has a story and a lot can be learnt from every story. More stories and interviews by her can be read on her blog site www.sassyweekender.com

ForceNetPreneurs

In this series we plan to showcase a few entrepreneur members of Forces Network who have achieved a reasonable degree of success in their business ventures. The aim being to celebrate their success as also to learn from them with a view to motivating more amongst our community to take up entrepreneurship as a full time vocation. Finally - we do need job creators in greater numbers than job seekers.

BY RANVIR SINGH

Col Sanjeev Govila, is the Founder and CEO of Hum Fauji Initiatives. He has many financial qualifications to his credit like SEBI Certified 'Registered Investment Advisor', CERTIFIED FINANCIAL PLANNER, accreditations from AMFI and IRDA, thesis on personal financial management of Indian Army Officers during his MMS, etc that make him eminently suitable for taking on his noble venture. He is a SEBI Registered Investment Advisor who is exclusively facilitating Indian Armed Forces Personnel, and also a regular contributor to the financial planning pages of Times of India, popular magazine 'Fauji India', etc.



Col Sanjeev Govila has a hectic schedule, and is occupied for most part of the working hours in his office at Dwarka. Though he has a branch office at Gurgaon too, however visits to this branch is limited. My plan to catch him at Gurgaon could not materialise, and thus I decided to meet him at his Head Office. When I landed there, I found him eagerly waiting for me, while the office work continued, with the COVID 19 restrictions in place. After proper and diligent sanitisation supervised by his staff, I made it to his cabin, where we had a quick cup of coffee and straight away got down to business.



Ranvir: Tell us something about your background prior to joining the Army, and your subsequent Army career.

Sanjeev: I come from a non-fauji, service, middle-class family from Delhi who've never had even a cursory interaction with anything fauji before I ventured in. An advertisement for NDA entrance seen by me, resulted in me joining NDA as an Army cadet in June 1979 with a proud All-India 10th in Air Force merit and 28th in Army merit under my belt. When I came to know in IMA that I was figuring in the Super Block in merit and could get an Arm/Service of my choice, I opted for the Corps of EME. Joining EME in June 1983 was one of my best decision ever and I thoroughly enjoyed the fulfilling life of a Soldier Technician throughout.

Regular things happened as to anybody in the fauj. Highlights of my career have been topping all the courses that I did within EME including YOs, Degree Engineering, Radar Course etc. Outside the Corps, my M Tech at IIT Kanpur in Electromagnetics, getting the Lentaing Medal for dissertation in my Staff Course at DSSC, Wellington and standing 3rd in HDMC Course at CDM, Secunderabad were quite satisfying. Amongst the postings, my tenure as the AMS (Assistant Military Secretary) at MS-16 (EME) in Army HQ, command of EME Battalion at Tezpur and Directing Staff for three years at DSSC, Wellington are memorable to me.

I thoroughly enjoyed doing my dissertation at HDMC in 'Personal Financial Management for Indian Army Officers' in 2007-08 and got convinced that this is what I would really like to do in future. Finally, I was a 'prematurely retired officer' after 27 years of service on 1st April 2010 (April Fool's Day) even though I had already got approved for the flag rank of Brigadier two months back. That's how my journey as a Financial Planner to the faujis started.

Ranvir: What prompted you to set up a personal finance company, Hum Fauji Initiatives, catering exclusively to armed forces officers, after such a distinguished career in the armed forces?

Sanjeev: Two primary reasons why I chose to do so:-

- Personal finance has always held out a lot of interest for me. Even while in the army, I was an unofficial advisor to a large number of friends, relatives and colleagues on the subject. Hence, when I got a feeling that the army did not offer anything 'more exciting or interesting' to me than what I had already done, personal finance as a career was a very natural choice for me.
- Armed forces officers are generally not financial savvy. The huge planning discontinuity due to their constant movement, the fact that armed forces actively prohibit social discussions on personal finance and treats it as a taboo resulting in very little domain knowledge in the community, remote locations, and lastly, exposure to considerably more risk to life makes it imperative that they get ethical, correct and continuous financial advice irrespective of their location and service conditions.

Another big reason why I could literally 'jump' into an entrepreneurial venture almost blind-folded was the huge support I had from my wife, Bindu. She has always supported me in whatever I have done in my life. She convinced me that I could go ahead with my dream venture and we will be able to survive with the pension, her school salary and earnings from the retirement corpus. She later agreed to leave her job and join me after about a year later. We have been together in the thick and thin of it ever since with the company's work divided almost equally between the two of us.



Ranvir: Having decided that you wish to pursue the personal finance field, why did you consciously decide to focus on armed forces officers only? Where was the need to restrict your options and the catchment prospects so narrowly? Has it been a good strategy?

Sanjeev: When I started off, I had two options – be 'A small fish in a big pond' or be 'A big fish in a small pond'! I chose the latter. My conviction was further strengthened when I came across a fabulous book called 'Blue Ocean Strategy' by Professors Chan Kim & Renée Mauborgne who've coined the terms 'red ocean' and 'blue ocean' to describe the market universe. In blue oceans, demand is created rather than fought over. There is ample opportunity for growth that is both profitable and rapid, and the competition is irrelevant because the rules of the game are to be set by the early mover. A blue ocean is an analogy to describe the wider, deeper potential to be found in unexplored market space because a blue ocean is vast, deep, and powerful in terms of profitable growth.

Bindu and I decided that we will follow blue ocean strategy to the hilt and not waver from it. Till date, we only take armed forces officers (Indian Army, Navy and Air Force)

and their close family members like their parents and children only as our clients - not even their brother and sisters. The only exception is widows where we do not differentiate between fauji and non-fauji widows, and never charge them anything for our in-house services. This has made us a super-speciality financial planning company in the country - the only one to be so. This unique selling proposition (USP) got a lot of curiosity from all over and that, combined with our superlative performance over a short period of time itself, is the reason you see us getting covered so extensively in media all over.



We understand the world of army officers and their families far better than anybody else in this industry. With this intimate understanding, we are able to provide solutions that address their deepest fears and insecurities, their stated and unstated aspirations. I am invited by armed forces formations as also institutions like DSSC, NDC, Army War College etc all across the country to educate faujis on personal finance. For our fauji officers and their families, we are already the 'go to' company for all their personal financial needs. What we have done - by consciously positioning our firm as an exclusive super specialist for army families - is to have put our firm on a huge and sustainable growth path. We chose our pond, have become biggest fish in our pond and are growing rapidly along with the growth of our pond.

Ranvir: How did you go about acquiring the skills for this profession? What were some of the initial challenges in this regard and how did you overcome them?

Sanjeev: I was convinced that I have to be the very best, have to acquire the best of qualifications required for the job and there is no way for me or my Company to do the job in any manner other than the most ethical, transparent and professional way. Hence, I got the Certified Financial Planner (CFPCM) and the SEBI Registered Investment Advisor (RIA) certifications. SEBI RIA was a very big assertion for me since it is a clear unequivocal stamp that we follow the highest levels of ethics, client centricity and professionalism in going about our business.

The biggest challenge I have faced, initially as also even now, is HR related - getting quality manpower. It remains my biggest bugbear in spite of one of the best pay scales in the industry and good working environment in my company.



Ranvir: What is the key differentiation in your customer proposition that attracts clients? How does it show up in your growth?

Sanjeev: Probably the fact that we are a niche company catering solely to them. If we are approached by some civilian prospects, we politely refer them to other good financial advisors that we know of. Hence, I and my staff exactly know our clients' and prospects' needs, situations, and challenges of life when they approach us. In fact, personally, I am a financial advisor, career counsellor, family disputes' arbitrator, marriage counsellor and what-not to so many of them - a faith developed in us over a period of time. Niche businesses have these undeniable benefits.

Within a few days of associating with us, our clients know that we do what we said, and we do it in a very professional manner. I am absolutely clear and confident that efficient and prompt client service is the only way to work. Consequently, we have a very strong word-of-mouth publicity. This has resulted in us having approximately 3000 clients spread across the world, us managing about Rs 700 Crores of investments which any other company normally takes 20-25 years to get to, serviced by a team of 40 employees spread across two locations - Delhi and Gurgaon - with aggressive plans to expand to more locations.

Ranvir: How do you find your entrepreneurial journey so far? Any regrets? What advice would you like to give to the fellow ForceNet members who want to take up entrepreneurship?

Sanjeev: I was convinced that I have to be the very best, have to acquire the best of

qualifications required for the job and there is no way for me or my Company to do the job in any manner other than the most ethical, transparent and professional way. Hence, I got the Certified Financial Planner (CFPCM) and the SEBI Registered Investment Advisor (RIA) certifications. SEBI RIA was a very big assertion for me since it is a clear unequivocal stamp that we follow the highest levels of ethics, client centricity and professionalism in going about our business.

However, the actual journey turned out to be far different from what was so meticulously planned. Like they say - In a War, the first casualty is the Plan. It was painfully slow to acquire clients. Lots of people would concur with us and our planning but few would actually go ahead. It took a long time to establish the trust, which is the life-blood of a financial planning profession. There were long periods of gloom where I seriously doubted my decision of entrepreneurship. It was only my wife Bindu's inspirations which kept me on. Finally, it was about 3 ½ years later when we could take the first rupee home, and we were still not sure whether we were on to anything worthwhile.

We are now comfortably out of the woods, reasonably famous, well trusted and more experienced to handle various situations. I can say that I've liked what we've achieved over these 10 years. A sincere regret though - I should've first taken up a job and learnt the ways of corporate environment and of doing business. I could've easily avoided so many mistakes, reinventing-the-wheel instances and shortened the learning curve.



Advice to the faujis who are contemplating an entrepreneurial journey? Plan, plan and plan. Entrepreneurship needs huge amount of planning, though going by my own experience, I would recommend getting into a job in the industry first where you wish your entrepreneurial venture to be. In your own venture, following could be a check list:-

- Read up everything available easily, especially about the downsides, before you leap into a business.
- Make a Business Plan and make it as if the world's worst things will happen to your business. Work out how early would you be profitable in a pessimistic scenario. The effect of the worst contingency needs to be catered for at least three times over.
- Do not burn cash when you start – do not buy an office, have swanky interiors, hire people just for some future business coming, etc, unless your business requires you to put up that façade. Bootstrap till you can actually burn cash.
- Sales is the life-blood of any business. You could make the best product or deliver the best service but if you cannot sell it, it is of no use.
- Cash flow is your life-line. If you do not control you cash outgo and don't monitor the cash inflows on an everyday basis, there will be trouble sooner than think.
- And remember, business is not fun...it is a very serious business.

Ranvir: Thanks a lot, Sanjeev Sir. It was really enlightening to interact with you and gather a few gems from your experience.

Sanjeev: It's been a pleasure for me too. I am available to any ForceNet member, who would like any additional information or assistance on the subject.



Lt Col Ranvir Singh, a product of Rashtriya Military School and an alumnus of National Defence Academy, was commissioned into 2nd Battalion The Bihar Regiment in June 1988. He has served in all terrains of the country, held appointments at Armoured Brigade HQ, Area HQ, and HQ ARTRAC, and finally hung his boots in Jan 2009. Thereafter, as a Corporate Warrior, he has immensely contributed for last 10 years to recognised organisations like IL&FS Technologies Ltd, National Institute of Bank Management of RBI, and MMTC-PAMP India Pvt Ltd. He has a keen interest in the field of ever evolving Information Technology, and a flair for writing. He can be reached at ranvirsm@gmail.com

"It isn't the changes that do you in, it's the transitions. Change is not the same as transition. Change is situational: the new site, the new boss, the new team roles, the new policy. Transition is the psychological process people go through to come to terms with the new situation. Change is external, transition is internal" ~ William Bridges

Expatriate Interview

In this series we plan to showcase the achievements of the members of Forces Network who have settled abroad and carved a niche for themselves through hard work, grit and determination. The aim is to bring to fore the mechanics of such transitions, and thereby quell the apprehensions of the larger community in the Network. Learning from each other would help us exploit our true potential in any part of the World. And, it could be beneficial for our families too.

BY RANVIR SINGH

Lt Col Ronodeep Anand was commissioned in Dec 1986 into 73 Armoured Regiment. He is an absolute technology freak and dabbles in all kinds of software (and hardware) related work. A PGDBA from Symbiosis School of Distance Learning armed him with HR skills, however, he has dabbled with everything from HR to Marketing and Finance to Sales. He currently leads two IT Staffing and Software Development companies as President and Head Strategy. His work permits him to move freely on the US East Coast in the states of New York, New Jersey, Delaware, Maryland, Washington DC, and Virginia.



Ranvir: Tell us something about your background prior to joining the Army, and your subsequent Army career.

Ronnie: Most of my family are Veterans or still serving in the Armed Forces. As an Army brat, my upbringing was within Military Stations or Cantonments. Those were the days when parents spent weeks begging local private schools to take their children on their rolls. There were no Army Schools or KVs and no priority admissions. Resultantly, I was educated in private schools. Although I cultivated long-lasting bonds with Army brats, my exposure to, for lack of an appropriate word, civilian children at these schools was equally extensive. Curiously, none of these bonds lasted very long, usually petering out once we moved to another station on posting and I think my long-lasting friendships were built more at college and of course, at the Academy! The choice I made of joining the Army was dictated more by the fact that I loved the Army life, having of course, seen it from the standpoint of an adolescent with easy access to the Good Life! More importantly, I wished to follow my Father, my Brother and most of the family into the Armed Forces.

Ranvir: Please give us more details about what you are presently engaged in.

Ronnie: I am working in a Staffing and Consulting Company. Since IT software development is done mostly with a temporary workforce and since IT development projects have a finite lifespan, worker resources are employed on a contractual basis and the Software Developers (aka Consultants) are rotated off projects by the client. The Consulting company is a workforce-holding firm that rents out the expertise to their clients for a specified duration after which they return to the bench. This domain

has spawned a huge industry in the sub-continent, primarily in India and is India's second largest revenue earner after the BPO business, followed closely by the KPO and LPO domains.

Ranvir: What was the impetus for you to leave the uniformed service and then immigrate to the US?

Ronnie: I served in the Army, the Armoured Corps for 20 plus years and, if I could do it again, I would! Like most of us, my career in these twenty years was uneventful and like most of us, I too realized the futility of continuing in a career that was coming to a dead end. I had seen the Army both from afar and from within from the early 1970's to the 2000's. Knowing that it would do me well to step out of the Army, I took that call in June 2007. I did it because I knew that I had age on my side if I quit when I did. If I had waited, I would have been redundant in civvy street.

When I made my move into the Corporate sector, I realized that the perception of the Armed Forces has been shaped by Bollywood rather than a real exposure to our fraternity. I was being offered jobs in Security & Vigilance or Real Estate. The salary was always unrealistic and unacceptable and eventually, I landed an offer with a Panipat based manufacturing company as Head HR, but the terms of the job did not suit, so I dropped it. I began my Corporate journey by initially assisting the family owned (US based) business. The business needed establishing an India support base. Their need was for somebody to assist in setting up their India operations for them, which I did. Although this was to be a short term arrangement, I successfully established and ran the India operations for the business for the next seven years during which I had filed for and was granted the US Permanent Residence Card aka Green Card. I moved to the United States in 2014.

Ranvir: While being from a comparatively non-technical background, how did you transform for the technical field you are presently engaged in?

Ronnie: This was purely by chance! In 1994, I returned from ERE to find that Army HQ had allotted my Regiment two 'new' x286 computers which in effect were discarded by AC Directorate. This was before the time of IT resources being consciously allocated to units. Being tagged as in the same category as controlled stores and because nobody knew how to use them except an NCO clerk who was sent to Delhi to be trained, they were left untouched on a table in the G Branch office. On the NCO clerk's return, a cadre was organised and I was appointed the Officer In-charge for the Cadre. Quite obviously, I had to read the precis brought back from Delhi and be able to train the unit clerks, which I managed well enough, to be then appointed as the Regimental IT Officer lording over two defunct B&W machines using Wordstar! This went on for about six months before we were allotted a machine running a Windows version - the Windows 3.11. Quite conveniently, AC Directorate did not part with the OS Disks and consequently we had a machine which did not have a driver for the Mouse. It was then left to me by my Commanding Officer to figure out how to use the

computer minus the Mouse. To add insult to injury, I was required to create a PowerPoint presentation for the Army Commander's visit to the Regiment. I learnt to handle the machines, repair them, even cannibalize them for parts! Then came tasks to set up unit LANs etc. and gradually I became an expert.

I never formally learned programming languages but used most of my free time trying to learn them by myself. Suffice it to say that now I can get by if I need to assist in writing code.

Ranvir: What were the challenges faced in this regard? How did you overcome the challenges?

Ronnie: I think my intrinsic curiosity with computers and computing helped me greatly in doing what I am doing today. I have come to realize that not everybody in IT is doing coding. There are skills related to Microsoft technologies i.e. Office Suite that are just as much a part of the domain as, say an Systems Administrator or DBA or HelpDesk people who are nowhere responsible for writing code. Typically, I faced each challenge with a motto I read somewhere: "If they ask you if you can do it, say Yes, and then get down to learning how to do it". In addition, a large proportion of people actually end up doing the job they never trained for! I think I'm one of those people.

Ranvir: How do you find your journey so far post migrating to the US? Any regrets? Any views or advice to share?

Ronnie: I can't really be specific about regrets. There are pros and cons in life wherever one exists. I have read that you can never forget one's roots and I think that's true for me. I miss everything about India and the cities and towns I grew up in. Nothing can replace that part of my life. However, do remember that the grass always looks greener on the other side of the fence. In reality, the West is no longer a land of opportunity that it once was. I was fortunate to arrive on these shores with a permanent residency in hand. Life has been much easier for me in comparison to those of us who came to the US on non-immigrant visas. Take it from me, it's slavery at it's worst for those who aspire to settle here without a permanent status. I have always been vocal on ForceNet when I advise parents not to send their children to any foreign shore for this very reason.

What I'd like to say to those of us who wish to immigrate is, "Be prepared to start all over again". It means unlearning everything one has been familiar with for years, things that we take for granted. It also means relearning everything in a system that you are not familiar with, and old dogs never learn new tricks! Not easily anyways!

Here's my advice:

- Acquire more skills: Make every effort to acquire skills that arm you for the West. Primarily, IT skills are good to have but global certifications are a must. I would

recommend NOT doing PMP because there is a glut of PMP pros in the US. The hottest skills are in Big Data, Data Science and languages that are needed to work on data, e.g. Python and SQL.

- Use the skills the Forces gave you: People in the support Arms have a distinct advantage but being qualified in say: Radar or aeronautical engineering will not give you the advantage in the US because you need security clearances as most jobs are with the government. Look for supplemental skill certification.

- Drop the attitude: The jobs you'll start with will be as convenience store clerks, retail salesperson or service managers in McDonald's or Macy's. It's easy to give up but just stick it out. It gives you a steady income and you can pay your bills. Your spouse needs to work as well – that's a given if you want to survive; Therefore, please also include your spouse in your skill and certification enhancement plans.

- Be ready for multiple jobs: The jobs as I've mentioned are part-time jobs and will earn you an average salary and work hours of about 20 hours a week. You will have to do multiple jobs to survive till you pick up a Full-Time permanent job.

- Keep a Plan B: Much as it sounds negative, your Plan B (or Plan C, D etc.) should have the option to return. There's nothing wrong in admitting to a failure.

- Muster all your resources: Make sure you have adequate funds at your disposal for upwards of a year of unemployment (or part-time employment).

- Do not dispose of your assets in India: Obvious but necessary to state. Your assets must remain available to you till you come to the realization that you're now stable.

- One leg on the ground: This principle cannot ever be overstated. DO NOT move lock, stock and barrel with the entire family even if you have familial support in the US. Take time to move over a full year because once you decide to move the kids (especially Middle school kids), they have to settle into the new system, and you can't yoyo between the US and India.

Ranvir: What are your future plans going forward?

Ronnie: Not very different from what I'm doing now. I'm not planning on anything other than sustaining the business I'm in. My fervent wish is to explore the US as well as travel to countries that I've always wanted to.

Ranvir: There must have been great lessons during this tremendous journey after hanging the spurs. Can you share a few from your experience?

Ronnie: I think the greatest learning has been the need to remain confident and upbeat. As members of the Armed Forces, we have never always been given the

recognition that we deserve for the sacrifices we make for the Nation. While the general public is more than willing to show their respect to us government functionaries and public officials are less than willing to show this deference. This sometimes brings up issues that lead to despair. Take for example getting your bank to assist in pension issues. It almost always involves multiple futile trips to the bank over several months. This also happens in civvy street. The 'chalta hai' attitude can often bring frustration at work especially when one is trying to set up an office, or get licences out of government.

Ranvir: So, what advice would you like to give to the fellow ForceNet members in this regard?

Ronnie: There are lessons that have been well stated on ForceNet, but I can safely say that we are a breed that lives and breathes commitment, determination, honesty and grit - qualities that every employer looks for in an employee. Our greatest contribution would be to make the corporates see us for what we really are and not the caricatures that they see on the movie screen. For Officer's opting for PMR, I would particularly advise:

- Keep Your Dignity: Do not accept or apply for jobs that you know are not suited to the status of an Officer. Do remember that you also need to shed the 'Sahab' attitude that comes with rank and status.

- Drop The Rank: It does not matter, period. I can quote examples where a Colonel is reporting to a Captain or a Brigadier is a peer to a Major. The Corporate domain respects experience, not rank.

- Negotiate Shamelessly: Corporates have been negotiating for years so they already know what they're going to pay you - plus/minus a few thousands. Unless you're being head-hunted when they'll pay what you ask, drop any reservations about bargaining for more money. Our ladies do that every day in the market so why not you!

- Do Not Oversell Yourself: Most of us have no idea what to quote for our skills. Do remember that for a corporate executive interviewing a fauji, Army Certifications and operational experience does not matter. A DGR sponsored IIM certificate has as much value as the paper on which it is printed on so if one is relying on picking up a big salary on that basis, forget it.

- Comrades in Corporates: Don't expect officers in the company you're trying to interview in to help you out - they can not. Positions at VP and above levels are not decided by HR but by CXO's and they are the people that set the bar. I have been seeing posts offering openings on ForceNet hugely criticizing the salary levels being quoted. I have been on that side of the table and I know that bottom lines have a

huge effect on salary levels and they are decided on what exactly the company wants.

Ranvir: What insights would you like to share with ForceNet Members, who are thinking on the lines of migration to the US, to settle down, pick up a job, or start their own venture?

Ronnie: Unless one has a status that permits one to work freely and doesn't tie one down to an employer (and exploitation) immigration will be a nightmare. One must also take into account the financial effect of months of unemployment. The aspect of converting your hard earned money to USD and watching the money slowly slipping away at 70x the speed one spent earning it is disheartening to say the least. Those contemplating immigration must also consider support from family if they're in situ. In a nutshell, without a job, you're well on your way to bankruptcy in the US. I could go on about life in the US, but perhaps some other time.

Authored by Lt Col Ranvir Singh, based on interaction with Lt Col Ronodeep Anand aka Ronnie Anand, on e-mails.



Lt Col Ranvir Singh, a product of Rashtriya Military School and an alumnus of National Defence Academy, was commissioned into 2nd Battalion The Bihar Regiment in June 1988. He has served in all terrains of the country, held appointments at Armoured Brigade HQ, Area HQ, and HQ ARTRAC, and finally hung his boots in Jan 2009. Thereafter, as a Corporate Warrior, he has immensely contributed for last 10 years to recognised organisations like IL&FS Technologies Ltd, National Institute of Bank Management of RBI, and MMTC-PAMP India Pvt Ltd. He has a keen interest in the field of ever evolving Information Technology, and a flair for writing. He can be reached at ranvirsm@gmail.com

Migration is an expression of the human aspiration for dignity, safety and a better future. It is part of the social fabric, part of our very make-up as a human family.

Ban Ki-Moon

quotefancy

Knowledge Bank

Data Science as a Career

BY VINAY GUPTA

This is the fourth part of the six series article on the subject, starting from the Jan 2020 issue of the eZine

DSC 4 - Five Stages of Career

*The best investment you can make is an investment in yourself.....
the more you learn, the more you'll earn - Warren Buffet*

How should one prepare or build their career in Data Science? This question has been asked from me by a large number of graduate/post-graduate students and working professionals. Searching the web has resulted in spewing of vast amount of information that provides answer in a limited/partial manner and mostly makes the query/issue much more complicated.

Today, I received calls from two of my friends. First call was from Sanjay (names changed), who is working in a leading multi-national IT Application Delivery company as Program Manager, IT-Security for last three years. He informed me that he wants to do Masters in Data Science from a reputed engineering college. He asked me whether it is the right step towards building his professional career in IT domain. After listening to him, my I asked him, "Sanjay, what do you intend to do after completing Masters?" He replied, "Data science is a hot field now-a-days and I am sure this degree or certification will help me somehow". I could understand that he is also victim of hype of data science, presently in the market.

At 40 plus years, he has 20 years or so experience in IT Infrastructure & Data Security systems. Now, at this stage why does he wants to do change his specialisation/track. Is it a right decision, especially when Cyber security is an equally hot field with loads of opportunities? When I apprised him about these facts, the reality dawned upon him. The investment of time and effort may not yield the desired results. I could feel the sense of despair and dejection on the other end of the phone. Then I asked him the other question, "Have you ever thought about using Deep Learning/Machine Learning models in your core task related to data security?". Prompt came the answer, "No". I said, "That's the problem in your whole plan. You are not connecting the dots. You need to leverage your skills and experience of Data security and use Data analytics as the tools/means to perform the tasks in a much more efficient and effective way". I continued, "Imagine you are able to apply the clustering algorithms, outlier analysis and pattern recognition in identifying the special events in real time and create alerts, in order to prevent any data loss or data hack."

These words were beginning to make sense, and I could find the excitement returning back in his conversation. He realised that he had not given adequate time and attention to the application of data science or defining the goal post of his Masters. He was doing it because it's the most glamorous thing going around now-a-days and being part of it gives a high. I also told him that use of data analytics is akin to having the additional tool set, but fundamentals of business still remains the same, how to increase revenue, how to reduce costs, how to create more revenue streams and above all – how to make the customer happy. Among various other options, Data science provides you novel ways to achieve these business objectives. So, we need to connect dots properly to derive optimal value out of data science field, lest we will drown in its hype.

Second call, was from my Army colleague. He said that his son, who is studying Bachelors in Engineering Physics in Indian Institute of Technology, Kanpur is planning to make his career in Data Science. He does not know, whether it is the right choice being made by him. "Can you guide me?" he said.

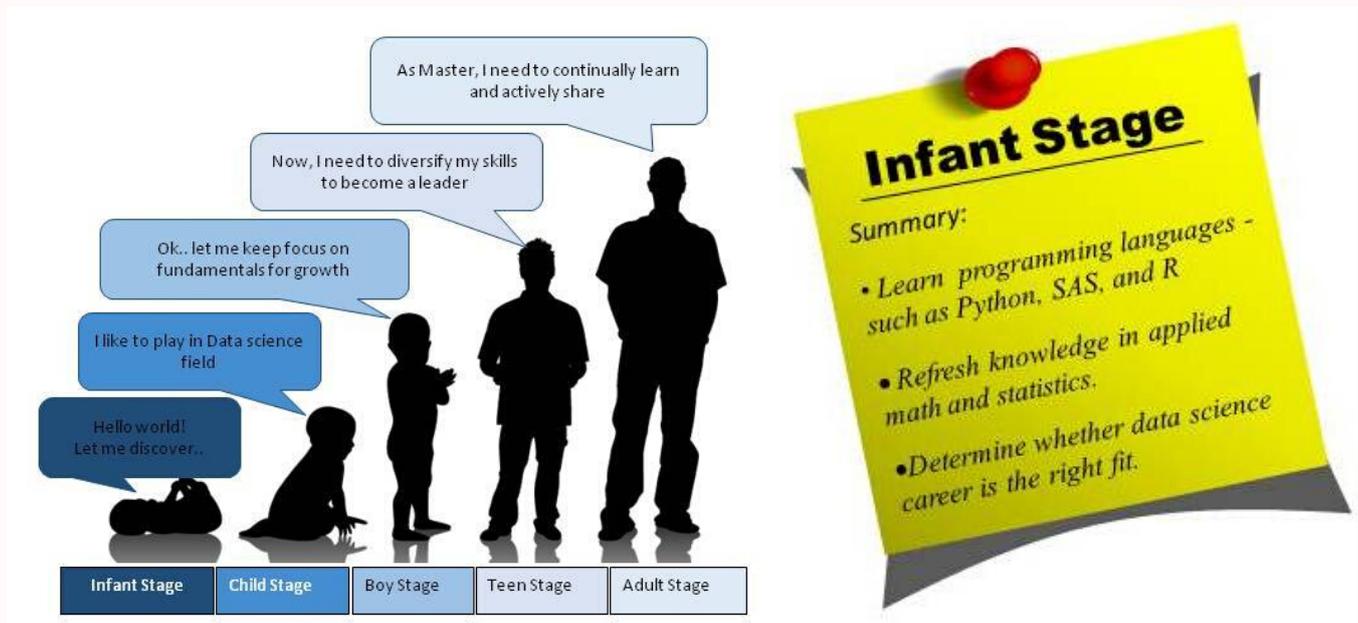
This predicament is being faced by large number of parents, where-in their son/daughter do not take the computer science field (a perceived logical step to make entry in the field of anything to do with computer programming) but plans to build their career in data science. As a matter of fact 90% of interns coming to me for data science projects are from non-IT background say metallurgical, mechanical, electrical, civil or industrial engineering. I told my friend, don't ask your son as to why you want to study data analytics. Instead ask him, is he passionate about statistical modelling, mathematics and computer programming. Yes, being passionate will carry him through the various challenges of learning, experimenting, getting dirty with data and finally making difference to the business/society. It does not matter, which branch of engineering or bachelor, one is doing, the data science provides opportunity for everyone. Data science use cases applies to every industry or sector. It's important to relate and build the use cases, based on their domain knowledge and strengths. So, I told him that if the answer to my question is 'Yes', than he should do internship at company with matured analytics practice or a Professor, who is doing research in this field. Slowly, he will find his 'ZING' and embrace it further for professional upgradation.

Presently, with the diverse analytical and database tools, technologies, applications and platforms in the market, and hundreds of new coming up every year, the charting of course in data science field becomes very difficult and confusing. In order to resolve this predicament, I have highlighted a five stage growth path in Data Science... Let's have a look at the same.

Five Stage Growth Path:

As the Rome was not built in a day, in a similar way the data scientist cannot be built in a day/short-period. It requires commitment, dedication, perseverance and immense hard work over a sustained period of 8-10 years. The journey is long, filled with

excitement, frustration, challenges, moments of despair and ecstasy.



Infant Stage - Discovery: Similar to the birth of a child, this stage corresponds to the birth of an idea in the mind of an individual, who wants to become a data scientist. Due to media hype, high salary advertisements and large number of training institutes mushrooming over the place, there seems to be a mad rush to join the Data Science bandwagon. A large number of students and professionals from IT and Non-IT background have either become part of this community or considering to join.

I happened to witness this mad rush, first-hand. My son had finished his twelfth class exams in 2019 and was thereafter applying for admission to engineering colleges. As part of admission process, we were called for Counselling by the leading engineering college in South India. As proud parents, we went to the college campus alongwith our son for selection of Engineering branch and finalisation of admission process. The college was offering admissions in 15 plus engineering branches, but to our utter surprise, 90% of students were opting for Computer Science (with data analytics) stream and the next best was Electronics & Telecommunications stream, say 6-7% and remaining 3-4% had given their first choice for remaining 13 branches. The demand was so lopsided that the admission faculty in-charges had to intervene and counsel the prospective students that other engineering branches such as Electronics/Electrical/Mechanical/Civil have equally good future, career opportunities and exciting work life. However, the students seems to be in state of data science stupor that they did not pay any heed to it. My son opted for the next best viz. Electronics & Telecommunications. No student was willing to introspect as to whether they have the basic innate qualities to become a good programmer, statistician and analyst. This aspect is important to ensure that we have the least number of early mortality rate of Data science aspirants.

So, the infant stage mainly relates to discovery of self with respect to Data science field. The desirous candidates, may be of any age or educational background will be

required to learn and do hands-on practice in any one of the analytics programming language, say R or Python or SAS. The open or free data sets available are to be worked upon and statistical models prepared for simple use cases say credit score analysis, regression analysis, time series analysis, clustering or segmentation. The maths/statistics underneath these models are to be studied in detail to understand the concepts. This is very important to derive the correct statistical inferences and thereafter business inference. In case, the statistical model is not correctly analysed or interpreted, the business decisions are likely to be incorrect and may affect the loss in terms of time, effort and cost.

For an aspiring candidate, the journey of discovery stage usually lasts for six months. The majority of aspirants are able to cross this threshold by joining various online or class room led courses, however, the differentiation happens, with respect to the ability to pursue this skill building efforts further. The qualifications gained, surely helps in adding few lines in their resume, but shallowness becomes prominent, if the skills obtained are not further built upon. Approximately, 60-70% aspirants are able to progress to the next step.

SELF- ASSESSMENT: *In order to choose the next step (from INFANT to CHILD stage), the ten questions, given at the end of this Article, should be answered in the utmost sincere manner.*

Child Stage - Preparation: So, you have got your hand dirty by doing actual hands-on programming, and building a statistical model on R/Python/SAS. You have been able to work with certain data sets given by the course providers or from freely available websites. And carried out the basics of data ingestion, data preparation, data cleansing, imputation, data modelling, data visualisation and data interpretation for business decisions. If you have not done this till now, you are still in Stage 1. But if you have done this and much more, then you are in Stage 2... Congratulations!!!!

During the Child Stage, the serious stuff begins. Now you know that you can play with numbers, perform mathematical operations using programming languages, understand the meaning of various statistical parameters (beyond mean, median and mode) and use various visualisation tools to display your data in various forms. Doing all this gives you kick and excitement, you yearn to play more and get yourself dirty!!! This excitement and energy will enable you to sail during this stage. In case you do not get feeling of elation or deja-vu then I suggest, you may hold for a while and do the introspection. Why are you doing this, Is it because your friend is doing it or Is it because it will give you a higher salary or because there is a mad rush, all around. Think, Think & Think!!!

Last year, one of the leading engineering college in Southern India approached us for internship of two M.Tech students in my Data Analytics team. They were from Power Electronics background and expressed their keenness to do a data science project. As it was a renowned college and we were doing some projects in Wind Farm Power

systems, we confirmed their internship. One of them was assigned with Project on Time series wind turbine data modelling using LSTM networks and other was given the project to carry out thermal image analysis to identify the hot spots in an automated manner using OpenCV.

During the progress of the internship project, we realised that both the interns were putting sincere efforts in understanding the problem statement, statistical computation behind the programming lines and final objective, but one of them could not translate the theoretical knowledge into the actual analytical model building.

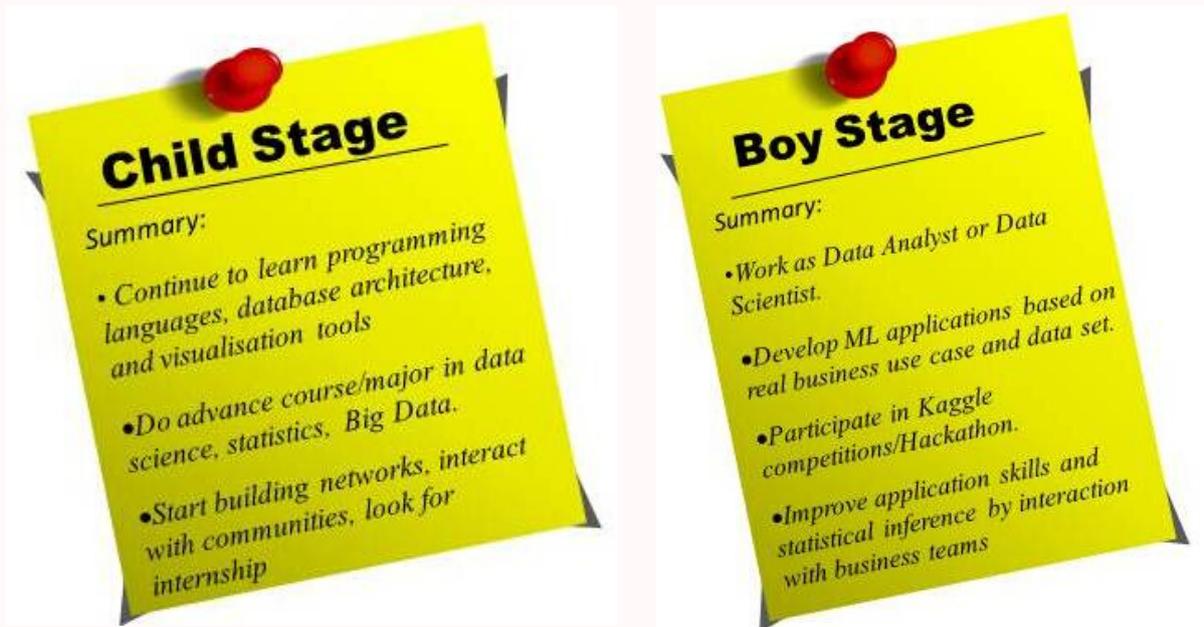
We carried out various hand holding sessions on the concept of LSTM networks, and various optimisation parameters, but it was of limited success. While, the project was completed by both the interns but with significant difference in the efforts. So, the learning was that in case we are not able to grasp the statistical concepts and apply the same to a business problem for decision making, then the journey ahead in Data Science career would either be very challenging, short lived or at a lower hierarchical level.

During the Stage 2, the number of hours dedicated for building the data science skills increases, the nature of data sets and their use cases complexity become higher and correspondingly, understanding the concepts used in programming libraries become harder. In order to build this capability, generally self-help courses are not so effective or require tremendous efforts from your end unless you are a genius. It is preferable to enrol in the Instructor led classes, which may be class room, online or hybrid.

Due to interactivity and peer learning during such classes, the effectiveness of understanding the concepts becomes better. You may also be lucky, if you can get a mentor, who can guide and support you. In case, you can manage time and money, then enrolment in Data Analytics Course from leading institutes, would be highly beneficial. Another, very important benefit of classroom learning is Networking. Every participant in your class, has a unique background, skills and experience. So, it makes your interaction very enriching and long lasting. The peer network you build here, is a start point for becoming the part of Data Science Eco-system or fraternity.

At this stage, it is also advised that one should attend various workshops or seminars in your neighbourhood area or city. These workshops or seminars give you an insight into various use cases, methodology being adopted by various companies and lessons learnt during their analytics maturity journey.

It also helps you to interact with various individuals and understand their journey in the data science field. This stage generally lasts for 12-18 months. One of the end deliverable or milestone of this stage is to acquire an internship in a leading company, so that you can work on the real business data sets.



Boy Stage - Build-up and Growth: During this stage, you start working on the real life and business problems and associated datasets. Various concepts being learnt in the class room gets applied here. At this stage you may realise that a great deal of efforts lies in Data plumbing and Data engineering related work. The real time sensor data or transactional data being stored in database cannot be directly used in the ML/DL models. There may be need to ingest the data, de-normalise the data, link up with master data, connect with various data sources, create a staging server/data lake, clean up the data to make it ready for processing in analytical models and thereafter create impressive visualisation. This would also require to work with cross functional team and face the challenge of buy-in and support. A strong leadership support and plan makes this task easier, otherwise it leads to delay in project implementation or deviation from the laid down plan.

Another important lesson learnt during this stage is the importance of business domain knowledge. Domain expertise is required to frame the problem correctly, in terms of scope, extent, grading criteria and sample data for analysis, and it is also needed to interpret the output and apply the algorithm effectively in day-to-day functioning. For example, for building predictive analytics model of Gear Box in a wind turbine, it is imperative for Data Scientists to understand the basic working of Gear Box, axial/torsional/transverse loads and heat dissipation system. It will enable them to understand the significance and role play of various parameters being recorded by the sensors of SCADA (Supervisory Control & Data Acquisition) System related to various components of the Gear box such as Drive end shaft, Non-Drive end shaft, intermediate shaft and Oil sump.

Similarly, if we are creating speech-recognition tools for a Multi-lingual Customer support system, then we would require domain expertise with respect to diction, accent, dialect and many other local features.

Domain expertise is the kind of skill, which you will learn more along with the industrial experience or on-the-job. Sometimes, though you are working in same business domain, the purpose/goal may vary as per the particular company/organisation and then it may also vary depending on the way you look at the datasets to come up with some meaningful insights. Having prior basic exposure to domain always helps in model building and drawing inferences.

Thus the domain knowledge is important both in the framework as well as the body of a data science project. It will make the project faster, cheaper and more likely to yield a faster acceptance from the primary stakeholders.

This also brings to another important point of discussion that for a successful data science project, whether the team composition should include both Domain Expert (DE) and Data Scientist (DS) or not. Domain Expert's greatest strength is the ability to identify which questions need to be answered, and the Data Scientists role is to manoeuvre and leverage advanced data technologies to build expert systems to answer those questions.

During the Boy Stage, it is desirable to participate in kaggle competitions. Kaggle is a platform for predictive modelling and analytics competitions in which companies and researchers post data. The data engineers, statisticians and data miners compete to produce the best models for predicting and describing the data. These competitions not only make you think out of the box, but also offer a handsome prize money.

Competitions on Kaggle are classified into different types according to their reward: Knowledge, Jobs, and Money. Knowledge competitions are meant for beginners who are looking to get started. These are a good fit for a beginner, because you can find a lot of articles and sample solutions explaining how to get a good score. There are over 19,000 public datasets and 200,000 public notebooks to assist you in building the analytics solution.

Another, big advantage of participating in kaggle competition is the opportunity to interact with people on discussion forum on various problems, tips and tricks and new features in programming language. The discussions and winner interviews are enlightening and give great insights into the problem solving and tools being used.

Each competition has its own discussion board and inputs from the winners. This enables you get into the thought process of more experienced statisticians and data scientists. Kaggle competitions provide valuable experience, if you approach them with the right mindset.

So, the Stage 3 (Boy stage) generally ends with gaining confidence on building an analytical model and gaining insights on the real business use case, working with cross functional team and be a part of the data science community. It generally lasts for 2-3 years.



Teen Stage - Diversify: This stage is an exciting stage for a Data Scientist, as you have built up the requisite skill set, gained real life experience and became part of the data science community. With 3 years plus of experience in this field, you are now ready to take the bigger leap, ready to solve complex social and business problems using machine learning and AI tool sets.

With a brief understanding of end-to-end analytical solution, building and deployment, now you start looking at a bigger picture, and able to appreciate the business and statistics angle of the same problem in a much clearer manner. A very important part is to use the Design Thinking approach for solving the problems. The definition of a set of core principles and the creation of a high-level process flow used by designers, can greatly enhance the success of data science project. The standard process/steps for implementing Design Thinking approach is given below:



The proposed Design Thinking Mindset for Data Science has the potential to assist team members with the other aspects of the process, including framing the problem, expanding ideation through creative methods, performing exploratory analysis with the end goal in mind, gathering feedback on prototypes to keep stakeholders involved, and packaging the end results into a compelling story. A successful data science project begins with clearly defining the problem statement or objective. As per the Design Thinking, the objective defining and subsequent solution building process is based on balancing the technical feasibility, desirability, and business viability. This mindset forces design solutions to consider the human elements to a solution in conjunction with the business and technical aspects, which is an area that is often overlooked.

During the empathy stage of the Project, the Data Scientists need to gather insights by interacting with the users and subject matter experts. A simple method of walking through the process may illuminate pains and problems even if they are not asking for them in an explicit manner.

Design thinking approaches the exploratory analysis phase by creating user journey maps, process diagrams and frameworks to organize key inputs, identify areas of significance, and communicate findings to all stakeholders. User journey mapping is a complex process and as we can visualize, there is no one-size-fits-all model/process. The inputs or feedback obtained from the stakeholders enables to modify/restructure the approach, so as to build the solution aligned to the business requirements. In order to present the insights & solution to the senior management, data scientists need to engage them in an effective manner. Design thinking approaches this step by framing the insights and proposed solution in a story, aimed at taking the audience through the journey of why the end results matter, how those results were achieved, and what to do about it.

Thus, Design Thinking concept, which has been brought in vogue by the popular design firm IDEO, when applied to a data science project from the initial stage itself can lead to the right blend of customer needs, business focus and effective analytical model. After spending few years in this stage, building complex deep learning and artificial intelligence based models and implementing the business solutions, one starts to wonder what next.

Today this is a vast and fast developing field, becoming an expert in more than few technologies or platforms requires a herculean efforts. At this cross road, one such thought occurs, 'Should I do Masters or PhD in Data Science?' For this decision, it is important to understand the difference. PhD involves deep dive into a topic, do an intensive research and present the new findings. This original idea/content needs to result in totally new scientific findings. Ideas and findings that help advance the knowledge in data science field and these ideas can be implemented in a real world setting and use cases. A Master's degree on the other hand, is mostly understanding the current state of data science in a detailed and comprehensive manner. Based on

this understanding, apply the existing models and algorithms in the business use cases to derive value for organisation, society or group of people. However, it contributes to scientific research only in a small way.

A lot of people pursuing PhD in Data science are driven by the motivation and passion for their area of study and thereafter be a part of faculty in leading universities or training institutes. A few of them also form part of the R&D team in leading organisations. However, it requires a deliberate effort to connect the data science research with the business domain or specific application areas. It enables them to push the boundaries of what a company is doing in building the product or service. Thus these qualifications and skills sets are desired by companies, which are looking to do pioneering work and solve more complex problems.

However, a PhD is not necessarily indicative of a candidate's ability in finding solutions to real life use cases and business problems. Industries such as engineering and pharmaceuticals often prefer industry experience and domain knowledge more suitable than research and study in data science algorithms. So, you can plan to do Masters and gain exposure in a particular industry to take your data science career to the next level. It is also important to note that there is no right or wrong option at this stage of journey. While there are some fantastic data scientists, who do not have a PhD, there are successful Data Science team leaders in companies with PhD degree. Finally, it comes down to personal preference, interests and opportunities available at that point in time. Accordingly, pick up an option and then pursue it with full motivation and drive.

There is no definite time duration of this stage, as there are various factors, which govern the growth in the field of Data Science such as individual motivation, professional opportunities and above all family commitments.

Adult Stage - Contribute: Becoming a master at anything in life takes time. According to Malcolm Gladwell, author of Book 'Outliers', it takes 10,000 hours to achieve mastery. That means if you want to master anything at all, you need to put in the hours. So, to achieve mastery in Data Science field, you need to put in hours and hours and hours of practice.

My father has been practicing yoga and conducting classes for last 15 years or so. I am sure he must have put in 10,000 plus hours of practice and teaching yoga during his lifetime. Similarly, one of my colleague is a cycling enthusiast. Earlier, he was a marathon runner, but due to knee injury he shifted to cycling seven years back. He pursued cycling as a passion and participated in 100, 200, 500 Km cycling competitions. He has done cycling for over 5000 plus Kms, and raring to go more and more. (pheew..). There is a sense of dedication, passion and commitment with every Master and they also knows that the mastery is transient. They need to continue to work on the same, with similar zeal, enthusiasm and perseverance to retain the title of MASTER. In case, the tools, technologies and applications (as happening in Data

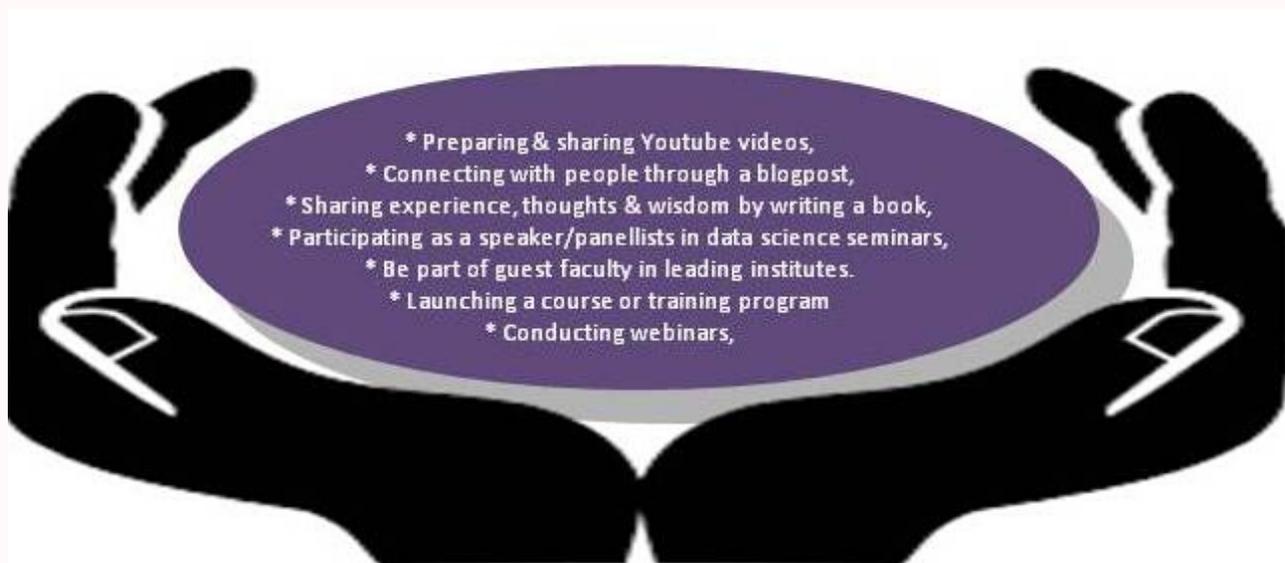
Science field) are changing at a fast pace, then retaining this title becomes even more challenging.

No matter the level of mastery you possess, you can always do whatever you do even better. You can increase your level of proficiency. My father does not feel as if he's mastered his art of yoga. My friend knows that he need to continue his cycling practice, as his passionate for the same. True masters know they must always continue to improve their level of mastery. If they don't, they won't maintain their level of mastery and someone else will become better than them. You can tell the real masters by the fact that they strive every day to improve.

A good master must be a living example of what he teaches. Besides being skillful, a good master should be having an excellent knowledge of his subjects. He should have a sound understanding of the dimension and depth of the art he is pursuing and teaching. He/She should be able to answer basic questions his students may have concerning the what, why and how of their practice. Without this knowledge, a master will be limited in helping his/her students to derive the greatest potential benefits in their training or guidance.

So, this stage constitute of two main things - sharing and learning. When the people, who are the best in data science field share their experiences, journey undertaken, hits and misses, latest developments and the path not taken so far, the new crop of leaders emerge. In fact, we are blessed that the data science leaders are part of the awesome data science community on various professional networking sites and inspire others to give back to the community by sharing their experience and knowledge along the way.

After studying few sites or web pages, which lists down the top or influential analytics leaders, I noticed that these top rung leaders contribute to the society in many ways. Few of them are given below:



This list by no means being exhaustive, the initiatives of the few leaders are given below:

- Dean Abbott, who is a co-founder and chief data scientist at SmarterHQ, and founder and president of Abbott Analytics. He is a co-author of the IBM SPSS Modeler Cookbook, and the author of Applied Predictive Analytics: Principles and Techniques for the Professional Data Analyst. He also writes on his blog at <http://abbottanalytics.blogspot.com>.
- John Elder, the founder of data mining consultancy Elder Research, Inc. He is the author of several books, including the Handbook of Statistical Analysis and Data Mining Applications, Ensemble Methods in Data Mining, and Practical Text Mining, and is an adjunct professor at the University of Virginia, where he teaches the optimization of data mining. You can watch many of his presentations on YouTube.
- Bernard Marr, founder and CEO of the Advanced Performance Institute, is a contributor to the World Economic Forum, and is recognized by LinkedIn as one of the world's top 50 business influencers. He is a sought-after keynote speaker, and is the author of many articles and books, including Big Data: Using SMART Big Data, Analytics and Metrics to Make Better Decisions and Improve Performance.
- Kirill Eremenko who is the founder and CEO of SuperDataScience, an online educational portal for Data Scientists. The company's mission is to "Make The Complex Simple" with the vision of becoming the biggest learning portal for Data Science enthusiasts.
- Randy Lao hosts a website that has all the useful data science and machine learning resources. Most importantly, he is also a Data Science Mentor at Data Science Dream Job, an E-Learning platform that helps aspiring data scientists grow and get jobs—founded by Kyle McKiou.

So, this stage is characterised by transition from Data Scientist to Data Science leader. Owing to this, you spend less time on hands on coding and more time on mentoring and guiding team members and data science community. Your job primarily becomes to evangelize data science and share with others. Within the company as Data Science leader, you need to build the vision, create strategy and plan to execute, grow the team, empower them by providing right tools, create a continual learning atmosphere and tell them not how to do it but why it is important to do.



Vinay Gupta served in the Army for 22 years where he established the Centre for Data Analytics in MCEME Secunderabad and thereafter developing analytics driven Military Equipment Management system. He has participated as speaker/panelist in various international/national seminars/conferences on Big Data Analytics, Industrial IoT and Renewable Energy. Presently, as Head Data Analytics & Business Excellence of Suzlon Global Services Limited, he is leading the Digitalisation & Analytics Program of wind and solar farm operations. He is a thought leader with 28 years of experience in the field of Predictive Analytics, Big Data Applications, IIoT systems, Telecommunications and Military Equipment.

SELF-ASSESSMENT: In order to choose the next step (from INFANT to CHILD stage), these ten questions should be answered in the utmost sincere manner:

1. A day before the Maths exam in your school, how did you feel:
 - a. My scoring subject, very confident and energetic
 - b. Need to practice a lot, to do well
 - c. I just need to pass
 - d. Wish this exam is postponed

2. When a C/Java programming assignment is given during your school or college days, your response was:
 - a. Rush to a nearest PC/Laptop in Computer lab or back home and aim to crack it first
 - b. Start thinking in mind the algorithm and process flow of code and then do the coding.
 - c. Go to Google and check, how others have done the same/similar problem.
 - d. Wait for your friend to finish and then ask him for tips or borrow the code

3. You were asked to do a survey, as part of your term break project and you did the following :
 - a. Prepared a good survey questionnaire and collected the information first hand from the respondents.
 - b. Prepared an online survey forms, shared with friends/family/neighbourhood
 - c. Asked your brother or sister to prepare the questionnaire and suggest the inferences
 - d. Opted not to do the survey, and wished teacher forgets it, when the school reopens

4. During your festival season at home, you are busy in the following activities
 - a. Plan something new and decorate the house with various colourful items and goodies, and wears festive clothes
 - b. Repeat the decoration and styling, as done in the previous years.
 - c. You only do the specific things as told by your parents or siblings or friends
 - d. You are busy in your own hobby or personal activities

5. In case you are faced with a personal or professional problem/issue, then your approach is
 - a. Face it head-on, and try to work upon till it's solved, in a reasonable manner
 - b. Discuss with your colleague/friend/family member and seek support to solve the issue
 - c. Work upon the problem, as and when you feel confident in resolving the same
 - d. Allow the problem to simmer and hope that it will peter-out with passage of time

6. You would like to choose data science as career, because:
 - a. Numbers, programming languages and analysis excites you. You are passionate about the same.
 - b. My acquaintances have successful stories in data science career
 - c. Your parents or friends have advised you, that it's the current fashion trends
 - d. It has a higher salary median than other jobs

7. When you find an article on analysis of some social cause/issue giving out detailed graphs and tables, in newspaper or magazine, your reaction is:
 - a. Make effort in understanding the graphs & tables, correlate the facts with each other and analyse the inferences given
 - b. Read the article and then do quick analysis of data and graphs presented
 - c. Understand the overview of social cause and inferences drawn
 - d. Skip/avoid the news article

8. In case, you have to learn new skills or enrol for online courses during your vacations, you would like to go for:
- Computer programming based courses
 - Leadership related courses
 - Communication skills related courses
 - Art/Craft related courses
9. After doing the coding, in case the desired results do not come as an output, then your main approach to resolve the issue is:
- Recheck the complete code based on the error displayed and try to correct it
 - Go to Stackoverflow or related web site, and look for similar error messages
 - Leave the problem for time being and revisit at a later date to resolve the issue
 - Blame it on the development platform
10. In case you come to know about a Hackathon related to Data Science, then you would like to
- Eagerly participate and encourage your colleagues/friends to also join
 - Wait for others reaction and then decide, if your friend is participating
 - Procrastinate to the next opportunity
 - Avoid participation

To calculate the score, a=1, b=2, c=3, d=4. You can check your suitability based on the following score range:

- 10-15 : Strong candidate
- 16-20 : Competency available
- 21-30 : Need to re-evaluate about Data science career option
- 30 plus : Not recommended

(Kindly share your comments/inputs/feedback at vinayeme@gmail.com to help improve the content and focus on the readers need and requirement.)

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"I like to define networking as cultivating mutually beneficial, give-and-take, win-win relationships. The end result may be to develop a large and diverse group of people who will gladly and continually refer a lot of business to us, while we do the same for them." – Bob Burg

Your Final Salute

BY RITA GANGWANI

Progress is impossible without change, and those who cannot change their minds cannot change anything. - George Bernard Shaw

Transitioning from the military to civilian/corporate world may have its challenges, but it isn't an impossible task, especially when you take time to prepare, and create a realistic plan. You would need more than a resume to ensure a successful transition.

The corporate world is a lot different from the military and would have different expectations of what and how things can be done. As a veteran you may get very disturbed if people don't meet the standards you're accustomed to, and that can be very frustrating. At the initial stage of transition, you will have to keep reminding yourself that you're not on a military timetable anymore, and learn to adjust to the corporate ways.

Here are a few tips that would certainly help you make this transition a smooth one:

- The most important thing is Networking. This is the most important element of a successful transition. Engage with other military members, veterans, and civilians to understand their career experiences, education, and training programs and ask them how they approached the transition from a military to civilian career. Networking simply means seeking out people who may be able to help you with advice, job leads and contacts, and then letting them know about you and your employment goals. You can utilize social media platforms and identify individuals to connect with, organizations of interest, and potential opportunities to learn about. Get active in various groups and build contacts through face-to-face networking. Applying for jobs online may look easy, but the reality is it doesn't work well. Recruiters are bombarded with thousands of applicants. To rise above the noise, you'll have to network. Successful networking not only helps you learn about post-military life, but it will also help you to get noticed.

- Find a mentor to guide you. The moment you announce your transition, a whole lot of people will jump at you with advice and will tell you what you need to do or not do to make a successful jump from military to civilian life. The whole thing will confuse you. The best thing to do is to find someone who has already made that jump. This person is best suited to guide you as a mentor. He or she will warn you about common mistakes they made (and keep you from making them) and maybe even help you determine what career you should consider on the outside. A mentor will guide you by offering advice and helping you get to know the ins and outs of a given field or organization.

- Value your experience in the forces. When it comes to transition to a corporate career, do not doubt yourself. You may be working with office colleagues who

have decades of totally unique, impressive experience making you feel you can't match them. You need to recognize and appreciate the scope of knowledge, skills and abilities you acquired in the military. Not only do you have exceptional technical skills and training, you've also mastered the military traits of great Time Management, Focus, good discipline, teamwork, leadership and the ability to put mission first. These will be some exceptional qualities you will be bringing to the table and believe me that would be your USP.

- Discover your translatable skill. Think about the jobs you've performed during your time in the armed forces. Would you like to find a similar position in the civilian workforce? I made it in the corporate world by polishing one of the most important skill I had learnt in the forces. The OLQ (Officer Like Qualities), the etiquette and finesse with which an officer conducts himself. I realized that this skill was missing badly in the civil world. Etiquette and soft skills became my roadmap of transition. Keep in mind what you enjoyed about your military experience and that will help you nail down the type of career you'd like to pursue. We all as a member of the forces, have skills and attributes that employers find highly valuable and unique.

- After you've researched different industries and jobs and assessed your skills, the next step is to determine the educational requirements you may need to turn it into a career. Go sharpen your skills to suit the requirement. Think of going for higher education. When you couple your military service with a specialized certification/degree, you become an even more desirable job candidate.

Last but not the least. Have patience. A lot of veterans feel their transition was difficult than expected or took more time than expected. Remember, Rome was not built in a day. Patience and persistence are key throughout the transition process.



Lt Rita Gangwani is the founder of RIGAHAUS – Rita Gangwani's House Of Personality Transformation and is a successful life/soft/social skills and Pageant Coach. Her initiative entails teaching people how to lead extraordinary lives through the power of living in the moment. She educates and inspires with a perfect blend of wisdom, healing therapies, etiquette tools, training programs, razor-sharp insight and humor. She is also the author of the best selling book- "The Beauty Pageants Greenroom".

We resist transition not because we can't accept the change, but because we can't accept letting go of that piece of ourselves that we have to give up when and because the situation has changed

William Bridges

Levels of Existence in Equity Markets

BY ANKUR JAYAKAR

The sudden carnage on equity streets has put many people in serious risk of heart failure. It is appearing as if the world is coming to an end and all are going to die because of a deadly virus as they show in sci-fi Hollywood movies.

As a qualified Life Coach, Executive Coach, Motivational Coach, Resilience Coach and Transformation Coach I have learnt many interesting tools and they have a huge scope for use in current scenario. As a goodwill measure for the health and wealth of all members of the group I would like to share one exercise with you all.

All those who are worried, scared, depressed, confused as well as those who are confident, casual or careless should try and do this exercise for their own good. So sit at a quiet place with a pen and paper. It will take about half an hour of deep thinking to complete this exercise. So make sure you are not disturbed for at least half an hour or more.

It may help to first accept that we live our life in five different segments: personal, family, professional, social and spiritual. We often mix these segments with one another. For example - bringing family stress to office or office stress to social life. While living our life in different segments we demonstrate different skills, different behavior and handle our environment in different manner. Also note that there are seven different levels of existence on which we live our life in each segment. These levels are Purpose, Identity, Values, Beliefs, Capabilities, Behavior and Environment. Readers must have noticed the inward to outward transition as we move from Purpose to Environment. Whatever is happening in equity markets is happening in the environment but it is causing disturbance deep inside us - it is challenging our beliefs and values and also threatening our identity. Take some time to realize this before reading further.

Firstly, decide which part of your life is most affected by your equity investment? (not by current fall in prices). Is it affecting your personal life, professional life, family life or social life? Unless you are a trader or have invested money taken on loan or have mortgaged your wife's jewellery/own house to invest in the share market or have invested on advice of a family member / friend, it might be affecting only your personal life at the moment. Don't move ahead in time and imagine which area of life your equity investment may affect in future. Remain in present time. Answers may be different for different people. Let it be.

Secondly, ask yourself what is the purpose of equity investment for you? Everyone invests in the market for different purposes - quick money, retirement corpus, children's education or marriage or simply learning and experiencing. Decide your purpose for yourself.

Thirdly, ask yourself who you have become or wish to become by investing in the share market? Again answers may be unique for everyone - investor, trader, gambler, risk taker, contrarian, etc. Decide your identity as an equity market participant.

Fourthly, decide at least 3 and at max 5 values that you think you hold to be in the equity market with your own identity and own purpose. For example, if your purpose is retirement corpus and identity is a long term investor, then what values you have to fulfill that purpose and identity. Maybe Patience, Learning Mindset, Tolerance for uncertainty, Resilience, etc. This may take some time, but it is worth investing time on this. Remember, your values are what are important for you and give health to your body, happiness to your mind and divinity to your soul. Also remember that values that you hold for equity investment may be entirely different from values that you hold in other aspects of life. Most importantly remember that different values are useful in different contexts for a limited number of time that is to say values may change and new values can be adopted to suit a particular goal in life. Lastly don't confuse values with emotions. For example, Passion is emotion, not value. So, decide your values about equity investment.

Fifthly, ask yourself what beliefs you hold related to equity investment? For example one may believe the Share market is a sure way to become rich or share market is only for big investors or share market always gives profit. Decide your beliefs related to equity investment.

Sixthly, find out what capabilities you have to be in the share market? Don't confuse it with money that you have to invest. What skills or techniques you have to be in the equity market. Do you know how to see price trends or balance sheets or earning transcripts or simply have discipline or know financial management very well. Your capabilities are your tools to deal with the world which will remain with you even if you lose all your physical assets. So, identify your capabilities.

Seventhly, ask yourself how do you behave as far as equity market investment is concerned? Does your behavior (daily checking of chart) matches with your capabilities (say, reading balance sheet), belief (say, I can invest for long periods), values (say, resilience - ability to remain happy no matter what), identity (say, long term investor) and purpose (daughter's wedding who is studying in class III). At this step the purpose of this whole exercise will start becoming clear. You will probably start seeing incongruence in your behavior and all other answers that you may have unearthed earlier. Our external behavior starts troubling us when it doesn't match with all other things which are internal to us. That's when we start feeling stressed, anxious, depressed, angry, frustrated or in any other negative manner. So, identify your behavior concerned with equity investment and check whether it is aligned with your previous answers.

Lastly, assess your environment as far as equity investment is concerned. Are you spending time with people who are traders but you identify yourself as a long term

investor? Or all people around you are running businesses and buying but you are the only person who is doing a job and saving in the equity market? You may not be able to change your environment immediately. But becoming aware about whether our environment is conducive for equity investment or not may help us see and accept things differently. So, be aware of your environment and slowly attempt to find the most conducive environment for equity investment.

This is a slightly long exercise but brings immense clarity in everything we do. This can be applied in all segments of life such as job selection, married life, planning children, children education, buying property, social engagements... The list is endless.

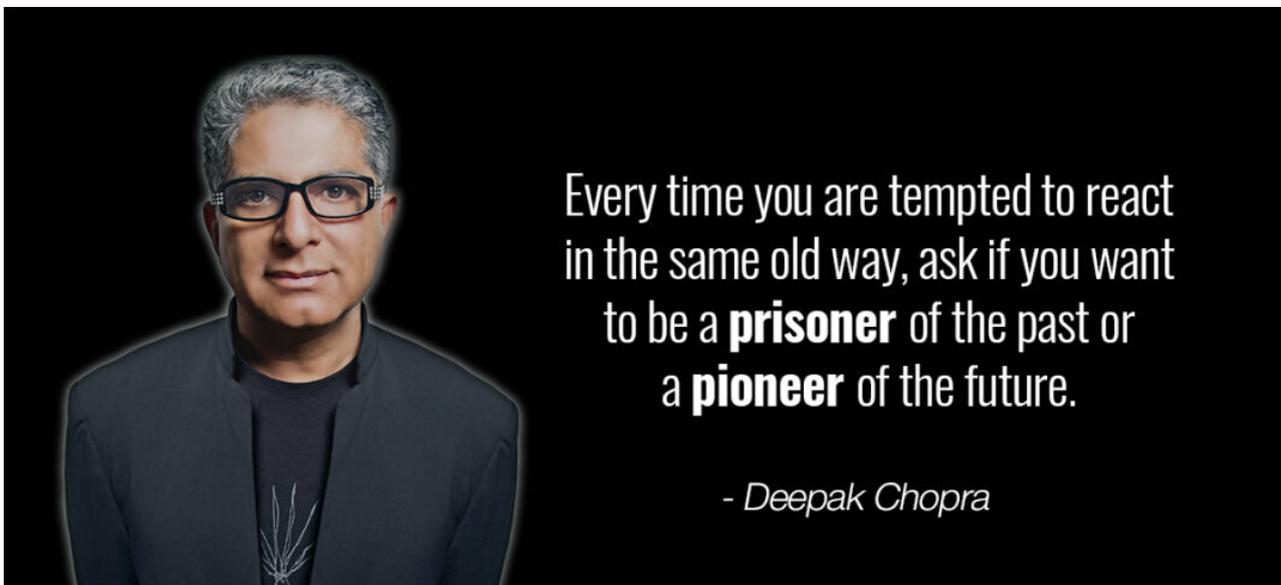
There are few more techniques related to this but explaining them here will extend this already lengthy piece of work. Those who wish to know more or need assistance can contact me personally.

For now, just doing this self investigation is good enough to calm our nerves.

Happy investing.



Col Ankur Jayakar is from Corps of EME. A Mechanical Engineer from Mumbai University, he joined the Indian Army through Technical Graduate Entry Scheme. He did his specialisation in Radar and Guided Weapons and super-specialisation in UAVs. An alumnus of DIAT, Pune he did his Technical Staff Officer's Course and was awarded M.Sc. from University of Pune. He has served as AMGO (Proc) in MGO's Branch where he was instrumental in procurement of spares and ammunition ex-import. He is presently posted with DRDL, Hyderabad. An avid reader, he is a qualified coach and is pursuing PCC from International Coaching Federation.



Are You Old Or Young?

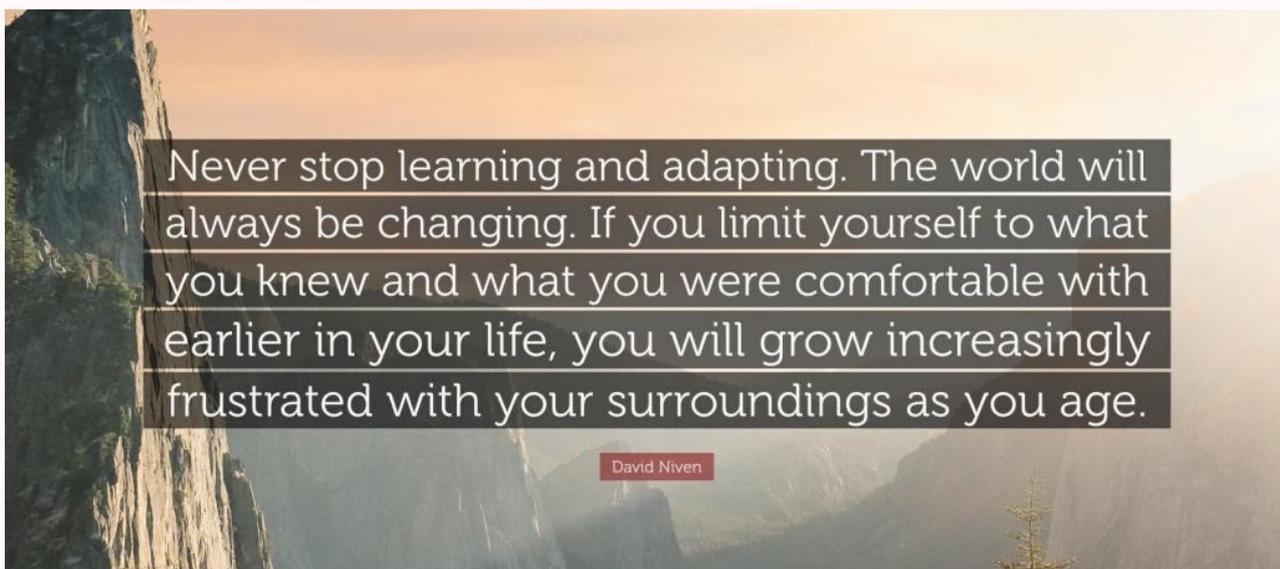
BY TEJINDER KAUR BHULLAR

Anyone who stops learning, is old...whether at Twenty or Eighty - Henry Ford

Well! Many are wondering and itching to ask what went into the tenacious mind of mine that I decided to go for a full-time MBA in the late thirties. It wasn't a decision I took in haste; rather I had planned it when I took voluntary retirement from the Indian Navy. I wasn't prepared as I had little knowledge about the current curriculum rather that motivated me to interact with those who were pursuing an MBA.

In fact, I realized after crossing 30, the need to give my career a fresh lease of life is even more that it might've ever been in my twenties. In order to fill the skills gap, I decided to pursue an MBA to take a leap into the next phase of my career. MBA paved a way for me to look at opportunities that otherwise I would have ignored. I had a clear mission to develop a deeper understanding of the corporate world than just attaining a Master's Degree.

And within a month's of joining the course, I was certain that I took the right call. My peers are all very young girls and boys in their early or late 20's aspiring to be future CEOs and CFOs. Rather by the end of the First Semester, I realized an MBA is a course one should undertake after gaining some experience. It helped me correlate to various work-related issues and helped me analyze where I went wrong and how I would have tackled the situation more effectively. At that point, I felt an edge over the young minds as I was having a better understanding and applicability of concepts being taught.



I started my career at the age of 22 and over the 10 years, I felt it was all about black and white. I somehow stopped appreciating colors by which I mean the creativity and innovativeness to look at a situation. Every day eight hours of interaction with these

nascent professionals proposed new ways of looking at things and understanding them better, future colleagues I would be working with. It even helps me understand the psychological and cultural diversity I am going to witness at work.

I work on projects with them that helped me develop a deeper understanding of how the human mind and human behavior are evolving with time. With AI and ML taking over, it is all the more important to understand human behavior and changing technological trends so as to build a team with an understanding of effective goal achievement.

It does not mean that it is all good and easy. It was quite a challenge to adapt and understand the mindset of a 20-year-old. But I took as a challenge as the gains are more. Every day I learn something new, not only that the Faculty interaction is also an experience in itself. They influence you in so many ways. I read and learned things that I never would have paid attention to. Overall, I would say it is a transforming experience at this age as my understanding of the value of education is not just limited to Master or Bachelor's degree rather its more holistic and fulfilling.



***Lt Cdr Tejinder Kaur Bhullar**, after ten years of service in the Navy mainly looking after recruitment and Training, is currently pursuing post graduation in Management from LM Thapar School of Management, Chandigarh. She is an internationally certified Yoga Instructor from Yoga Alliance, USA and a certified Diver from Padi Institute. She has worked as a freelance Personality and Communication Skills Trainer for two years and conducted workshops on Ayurvedic concepts of Cooking and Yoga for dealing with stress at work. As an Executive Member of Nivedita, a NGO, she is also actively involved in resolving issues related to Girl Child and Heritage in Punjab. Tejinder is also looking forward to a challenging second innings in the corporate world.*

**“He who learns
but does not think, is lost!
He who thinks
but does not learn
is in great danger.”
- Confucius**

Book Review

Sandworm: by Andy Greenberg

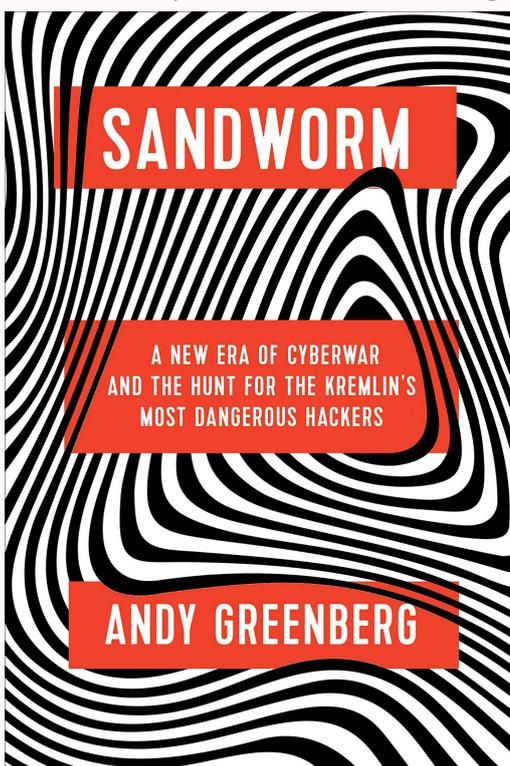
BY SURESH CHANDRA

Dune by **Frank Herbert** is a 1965 epic, where, Earth has been ravaged by a nuclear war against artificially intelligent machines. The rulers of Arrakis - also known as Dune are overthrown by the Harkonnens. The book's hero Paul Atreides takes refuge in the planet's vast desert, where thousand-foot-long sandworms roam underground, occasionally rising to the surface to consume everything in their path.

In the book, the story commences in 2014, when a malware analyst at iSIGHT Partners, a small, private cyber intelligence firm, while reverse engineering a malware based on MS Office vulnerability discovers that the malware has been designed to cause damage to physical infrastructure. Hackers use a 'campaign codes' which are tags associated with a specific version of the malware to sort and track victims, the malware has infected. A series of campaign codes were discovered during malware analysis by John Hultquist and his team at iSIGHT Partners. These campaign codes revealed the love of the hackers for Frank Herbert and his epic *Dune*. The campaign codes used by the hackers arrakis02, houseatreides94, BasharoftheSardaukars, SalusaSecundus2 and epsilonidani0 had a direct association with the epic. The malware was initially thought to be Russian espionage efforts. The hack team which created the malware was to be named. They would need a catchy, attention-grabbing name and choosing it as per custom was the prerogative of iSight, the firm that had uncovered the group. John Hultquist, the boss of iSight, who wanted to send a message to the hackers that

their campaign codes were busted named the hack team "Sandworm". The hack team, Sandworm later turned out to be the most dangerous hackers on the planet operating from Russian soil under the tutelage of the Russian government.

Andy Greenberg is an award-winning technology journalist at the Wired. The book *Sandworm* is a masterpiece and a product of extensive research on the cyberwar unleashed by Russia in Ukraine. In a post-Stuxnet world, he emphasises the role of state sponsored hackers who will not stop at anything and cause real damage in the physical infrastructure of the world. In about 40 short and crisp chapters divided into four sections, Andy has followed the rise of the Russian hack team "Sandworm" and their attacks especially in Ukraine, which has, in more ways than one, become the cyberwar laboratory for Russia.



He has also discussed in detail about Stuxnet and its impact on malware design and development world over. Global cyberattacks “NotPetya” and role of APT Fancy Bear in the US elections have been analysed threadbare. Andy travelled to Russia to discover the Unit 74455 and its linkage to GRU and the Russian state.

The Ukraine Cyberattacks – The much talked about cyberwar / the future of warfare had come alive in Ukraine, not once but twice. As a proof of concept, the state sponsored hackers on two separate occasions (2015 and 2016) turned off the power grid long enough to send the engineers to manually bring the grid online. Backed by Russia, the hackers proved that gears of modern existence can be brought to a grinding halt. The sustained cyber assaults on Ukraine’s infrastructure were not isolated attacks but were part of a “digital blitzkrieg” launched by Russia undermining practically every sector to include media, finance, transportation, military, politics and energy. Repeated intrusions have wiped out data, rendered computers dysfunctional, crippled basic functions of various organizations. “You can’t really find a space in Ukraine where there hasn’t been an attack,” says Kenneth Geers, a NATO ambassador. Greenberg lays out a very detailed historical background of Ukraine to indicate how the country has been caught between the east and the west and that it has been invaded so many times by everybody from the Mongols to the Nazis to Putin, thanks to its peculiar geography. Ukraine means ‘borderland’. The book looks at the Ukrainian cyber war and the ways that cyber war spilled out into the rest of the world leading us to think that “on the Internet we are all Ukraine” in the sense that we all live on this borderland and we are all at the doorstep of our adversary, we are all vulnerable to this kind of cyberwar. That’s the big idea out of Ukraine cyberattack in this book. Distance is no longer a defence and we can no longer ignore these conflicts that are taking place in other parts of the world. The author clearly brings out that the Ukraine cyberwar should be of great concern to all of us.



Global NotPetya Attack – The worm, NotPetya was a game changer. Looking like a typical ransomware, it used a ‘back door’ in the Ukrainian accounting software ME Doc, Ukraine’s equivalent of Tally in India, nearly anyone who files taxes or does business in the country uses the software. NotPetya was intended to target Ukraine only, but its poor design and our connected world enabled the worm to spread across borders. Though the worm masqueraded as a ransomware, it did not offer any means to decrypt files, post infection. The author explains how NotPetya led to colossal losses in major corporations across the world. They included pharmaceuticals giant Merck, shipping conglomerate Maersk, FedEx subsidiary TNT Express, French construction company Saint-Gobain and US food producer Mondelez amongst others. Total global losses estimated to US\$10 billion. Andy describes the NotPetya attack in great detail and the play of Mimikatz, Eternal Blue leading to the NotPetya global crisis reads like a fast-paced action thriller. Linkos Group, a small family-run Ukrainian software business, which created the ME Doc accounting software had not imagined/factored in possibility that it could be a carrier for a worldwide digital contagion. Olesya Linnyk, the company's founder said "They had simply never imagined that they might be a target. We do quite basic and simple things. We help out accountants. We saw ourselves as quite distant from cybersecurity issues." NotPetya reminds us as Andy says, "that distance is no defence. Every barbarian is already at every gate. And the network of entanglements in that ether, which have unified and elevated the world for the past twenty-five years, can, over a few hours on a summer day, bring it to a crashing halt."

Fancy Bear (APT28 or Sofacy etc) - This Russia based threat actor has been operating since 2008 and according to some experts is a significant threat to many worldwide organizations like aerospace, defence, energy, government, media etc. As Andy writes "On June 14, The Washington Post revealed that the Democratic National Committee had been penetrated for months by not one but two teams of state-sponsored Russian hackers. The security firm CrowdStrike, which the DNC had brought in to analyse its breach two months earlier, published a blog post identifying the pair of intrusion crews inside the Democrats’ network as Cozy Bear and Fancy Bear, teams it had watched carry out spying campaigns for years, hitting everyone from the U.S. State Department and the White House to aerospace and defence contractors." Operations of Fancy Bear and Cozy Bear could hardly conceal Putin's hatred of Hillary Clinton since her days as Secretary of State under Obama. A troll farm called the Internet Research Agency in Saint Petersburg as part of its influence operation strategy created numerous social media handles giving an impression of Americans supporting radical political groups and promoted Trump related events. These social media impressions comprising fake news, fabricated articles and other dis-information campaigns reached millions between 2013-2017. Fancy Bear’s real moment of glory came when Donald Trump won the U.S. presidential election.

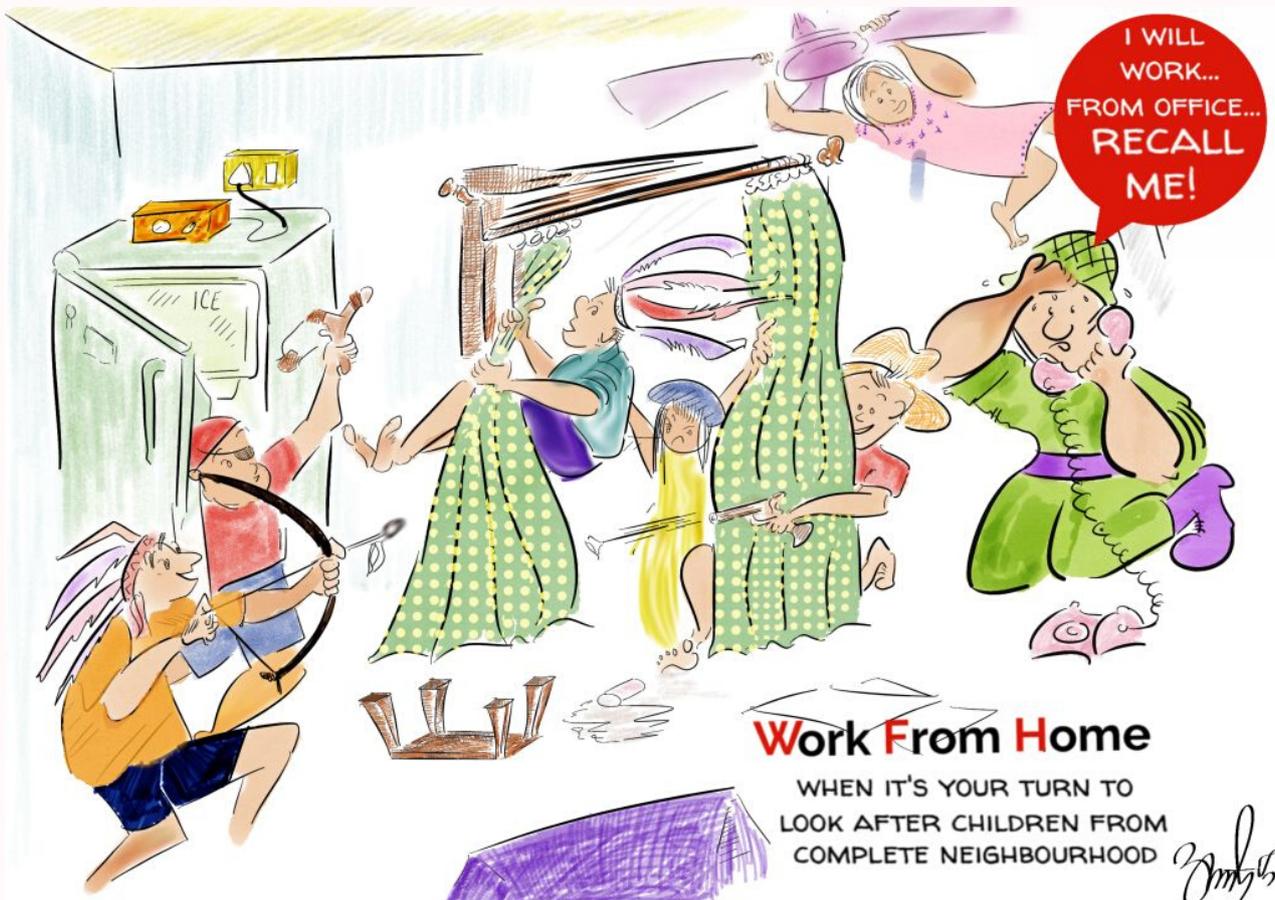
Olympic Destroyer – During the 2018 Winter Olympics opening ceremony, Russia based hackers as retaliation against the International Olympic Committee for banning the Russian team from the Winter Games due to doping violations attacked

the Olympics' IT infrastructure. It was "false-flag operation" wherein it was made to appear that North Korea was responsible for the attack.

These are some of the major cyberwar/cyberattacks carried out by Sandworm and its sub-teams. The book goes into many more details which makes it a thrilling read and offers a front-seat view of the changing cyberthreats that are shaping our world. It is highly readable even by laypersons with no technical cybersecurity background. It is also a must read for anyone interested in cyberespionage, cyberterrorism, cyberwar and advanced persistent threats.



Col Suresh Chandra was commissioned on 11 Jun 1988 in the 94 Field Regiment. He commanded 121 Light Regiment and superannuated from service on 30 Nov 2017. An MTech (CSE - IITD), he has been instrumental in the design and development of the ACCCS / Project Shakti. He was an instructor in School of Artillery and DS, JC Wing, Army War College. He has also served with the Wargaming Centre, SWC and was Col GS (Systems) Western Command. Post retirement he divides his time between mentoring underprivileged kids in Mathematics, Physics and Computer Science of Class XII level, and freelancing as a cyber security and data analytics expert. He is available at sureshchandra@protonmail.com



Amit Dalvi
Amit Dalvi

ForceNet Connect

Hand Holding in Lock Down

Forces Network is now a potent organised force which has never been found wanting at the time of need. It has risen to face challenges not only as a collective organisation, but even its esteemed members as individual entities have extended support beyond the limb in situations which seem insurmountable.

This was recently proved by three distinct incidents which happened over the last month, during this period when the Nation is in a state of lockdown, to combat the impact of COVID-19.

Help at Mumbai

Imagine, you are staying at Mira Road in Mumbai. Lock down has been ordered by the State government, and move of public and other transport has been stopped. Ola services have been discontinued and those of Uber are doubtful. And, tomorrow evening you, along with your wife, have to go to the Airport at any cost, with no reasonable and practical options available with you. What would you do?

This was the challenge being faced by Col KG Menon. And, not surprisingly, he knew whom to fall back upon for necessary support.

Yes, he straight away posted his predicament on the Forces Network. And, within no time the support started pouring in. While some proffered details and advice about officially approved movement of transport and situation at the airport, the good samaritan Col Vinay Bhandari contacted him and calmed his nerves. All help was assured.

And at the scheduled time, the next day, the personal car with the driver, of Col Vinay Bhandari reached the residence of Col Menon, to take them to the airport. It had come from all 40 kms away from Navi Mumbai, for their travel distance to the airport of about 18 kms.

The lateral distance covered for ensuring that Col Menon and his wife make it to the airport without any hassle or discomfort, and in sufficient time is actually insignificant when compared to the spirit of camaraderie and empathy exhibited by Col Vinay Bhandari, which is actually priceless!!! Three cheers to this spirit shown by him, and also for the bonhomie of the Forces Network.

This proactive and selfless assistance has been hailed by all members of the Forces network, for whom this is a motivating example. Col Tapesh Sen suitably applauded the effort by conveying to Col Vinay, "I don't know you, but I know the locations in this

act of yours. I ask myself whether I would have done something like you for someone I don't know? My honest answer is I don't know! It is people like you who keep the world going, give hope and force others to rethink their purpose in life. Thanks for being there!! Just great."

And, what does Col Vinay have to say about it? Just this - "Nothing great in what I did, just that I could understand his situation and I was there near him besides I had a vehicle at my disposal. Available Anytime for any Veteran!"

Yeoman Service

Saikat Datta, who is associated with Red Cross, is spearheading the cause of providing material support to 20,000 families caught due to lock down in Gurgaon. He had shared his requirements through various social media platforms, and was urging for noble support from the inhabitants of Gurgaon. The basic requirement was of rice, dal, salt, sugar and cooking oil. The contributed items were being collected centrally in a Control Room established, from where further distribution was planned and being carried out with the help of 20 volunteers.

They were now running out of rice. Most of the worst affected in Gurgaon are from the East - people who eat rice, and wheat is not their staple diet. So, Saikat put out some posts on social media asking for more rice and dry rations.

Through the social media, this message reaches Col Vikas Yadav.

Subsequent scenario is then best described in the words of Saikat. He says, "I get a call from Col Vikas Yadav, a former Signals officer from the Indian Army. He is from the 100th Regular Course of the Indian Military Academy. Nearly all my friends in the military are from this batch. It is one of the generation of officers that sacrificed the most during the Kargil War. Vikas asks me where I am. I tell him we are manning the Command Post of the district disaster relief efforts hit by the #COVID19 #lockdown. Vikas goes out and scouts for a a grocery shop and picks up whatever is available. He calls me. I take a volunteer and jump into my car and follow his Google location in an old part of Gurgaon."

He continues, "Vikas is standing in his house as rain starts spattering around us, the boot of his car open. Inside are 100 kgs of rice, 40 kgs of dal, 12 litres of cooking oil and packets of salt. We know tomorrow won't be as bad as we thought it will be a few hours ago. This is what the spirit of camaraderie is like."

This yeomen service of Vikas Yadav was brought to the notice of the Group by Velmurugan S, and the selfless humanitarian efforts of Vikas have been widely appreciated.

Those close to him have this to say about Col Vikas - "We all have known Vikas in this

network since quite sometime and he has been a shining example of camaraderie and selfless helping nature even when he was in J and K or later when he came down to Delhi. Awesome spirit. Really inspiring." and, "What I just read about him comes as no surprise to me. Vikas has always been extremely forthcoming and ready to help, even at own cost. Proud to have served with him."

Kudos to this undying spirit of extending a helpful hand, where ever and when ever feasible, not only within the best of our capacity and capability, but also going beyond that. Col Vikas though simply sums it with, "I just responded to the request."

Urgent Help

A close relative of Kumar Srinivasan expired at Chennai on the morning of 26 Mar 2020. The daughter of the deceased was at Bangalore. With State borders having been sealed, and movement of people and transport restricted, it was now difficult for this girl to move to Chennai for the last rites of her late father. At this juncture, Kumar reached out to Forces Network, seeking help in travel of the girl from Bangalore to Chennai in any manner.

Within an hour of his posting the message, he was contacted by Cdr B Gurumurthy, who assured him of safe passage of the girl from Bangalore to Chennai. He was provided complete confidence that no untoward incident would happen during the travel, and in case it still does happen then it would be tackled immediately. With the courage reposed that someone is at a calling distance, the girl started her journey, travelled the whole distance without any problem enroute, and finally reached Chennai well in time to attend the last rites of her father.

It was a very touching gesture for the bereaved family at this hour of need. Incidentally, Cdr B Gurumurthy happens to be the Divisional Officer of Kumar Srinivasan during his training at National Defence Academy.

Such is the undying spirit of Forces Network. The Network.....that works!!

Compiled from mails received in the Forces Network Group - Editor

I found family
not by Blood,
but Bonding & Brotherhood.

Stories

My Sahayak - My Buddy

BY SHANTANU CHAKRAVORTY

A few years back, I got a call from a number that I did not recognize. The voice at the other end was a bit shaky and quivering. He gingerly asked me in Hindi with rustic tone, usually associated with people from the Northern Hills of India.

In confirmation that yes indeed I was "Chakravorty Sahab" his voice changed to that of Rightful Acquaintance . He asked me, "Pehchana Sahab", I in my earnest sense had no clue, but could sense someone from the unit. Not wanting to offend him, I casually remarked, "Awaaz to pehchana lagta hai, but naam nahi yaad aa raha hai," Had been 14 years since I had hung my uniform, but didn't want to shatter the melancholic feeling of Bonhomie. Well, he said "Sahab, mai Tejbir Singh bol riya hoon."

Tejbir Singh, was my sahayak allotted to me when I first joined the unit. The menacing 6 feet 3 inches of the hulk standing at the Gwalior railway station who was eager to take my modest belonging of a black trunk boldly embossed with '2nd Lt Shantanu Chakravorty' and the beige colored bedding roll, our worldly possessions that were issued from the Military Academy as a parting gift on passing out. He happened to be at one point, a services level boxer, but a sports Injury had rendered him with a Low Medical Category and hence could no longer cater to the heavy demands of a Gunner that were warranted at our AD unit. Hence by choice he volunteered to be a sahayak and was allotted to me as my buddy.

At the first look, I seemed like a diminutive mortal in presence of his towering frame, but over the next few days, he became my only solace, when my world came crashing down during the initiation periods that every newly commissioned young officer goes through at his unit. Those were the salad days, and our grandiose feeling of having conquered the World post the pipping ceremony probably lasted 21 days, during the break that we were allotted after passing out. Once at the unit, in the name of the "Baby of the Regiment" the ragda at the Academy in the hands of the Seniors and Ustaads, seemed like a date with Alice in Wonderland!!! There we had our course mates as our soul mates, but here at the unit, in the solitude of being subjected to the feeling of the most lowly amoebic being, Tejbir stood out to be the only one, who was like my Agony aunt, tending to my wounds after a hard day at work. Listening with compassion, at the same time cautious of not crossing the line, as I was always a Sahab at the end of the day. The next few days, he became the soaking sponge for all my innuendos of reference points and doings of the day.

After a few months of being the baby of the Regiment, I too became a senior, and then the trappings of bachelorhood soon diverted to falling in love during my

Young Officers Course, and finally getting married to my significant half. Tejbir was then no longer was my priority of being the solace, and my energies were diverted to standing in the queue to catch up the late evening STD rates those days at the nearest "ISD-STD" booth near the Officers Mess where I was lodged to speak to my girl friend. Time soon flew and I got married, and remember that quaint chilly February evening when I along with my newly wedded wife, landed yet again on that pristine marble platform No - 1 of Gwalior Railway Station.

Tejbir happened to be there along with the group of other Unit folks, but the air in him showed he was the man with the 'Boots on the Ground' (BOG) directing everyone else, that "Memsahab aa rahi hain" and he was no less than the Best Man of the wedding. With a tinge of authoritative arrogance he was menacing to anyone else who tried to breed familiarity. Sahab was his possession and anything to do with me, had to be under his watch. Period. Being a motherless child from young, I was not privileged to have a traditional aarti and welcome that couples usually have when they enter their homes first time after marriage. I was fortunate enough to be allotted a Captains accommodation, a ground floor bungalow with a bar attached to the lawn. A royalty those days.

As we entered the nondescript SV Colony home, we realised that Tejbir had gathered a steel plate with the trappings of a diya, some grains of rice and red vermilion, with a brass pot full of grains to be rolled, which is a ritual for a new bride entering her dwelling for the first time. Well so much for being a Sahayak!!! Over the next few weeks, the rights of Tejbir over my wardrobes, clothes, etc could clearly be seen diminishing and unstated boundaries were drawn only over my uniform, mobike and official kits. So much so, I had to at times arbitrate between my non-fauji wife and Tejbir. I could definitely sense the underlying tension that would brew, as he felt she was like a "Souten" to his rights over me, and I was a punching bag. He used to very matter of factly tell her "Sahab ko chai aise hi pasand hai", or "Sahab apne kapde aise hi rakhte hain". My wife tried to give that feminine touch to my world of the rash bachelor who was being domesticated. I had to manage the truce with a strategic intent that no Management or YOs Course ever taught us. So much so, that sometimes his massive frame was a point of contention that she used to feel intimidated by his presence in the house. However things did ease out over the period of time, and we did have the boundaries being re-drawn amicably over the years.

Coming back to that phone call, that I started this story with, well after the pleasantries, Tejbir said he had since retired and was now settled and farming in his farmland near Mussoorie. Coincidentally, I was travelling to Mussoorie in a few days time, for a workshop I was supposed to conduct. Though Tejbir Insisted that I visit him, but I was to take the car from Jolly Grant and head for the venue at the JP, as time was limited.

I came back tired to my room on the second day, when the house phone rang, and the receptionist told me that there was a visitor who wanted to see me. I asked him to send the visitor to my room, and a few minutes later there was a knock on the door, I opened it to see a frail man, with wrinkles and the side burns grayed and the lines on his forehead clearly telling a story line of life. He was slouching a bit for his large frame, but one could vividly see the gigantic frame that this man Tejbir once commanded.

Without even looking into my eyes, he then signaled to someone down the corridor with an air of right, and said "Idhar leke aa." Before I could say anything, I found a young man in early 20s, come into my room with a sack and under the watchful eyes of Tejbir having it placed near the foyer, he was asked to leave and wait at the reception. Tejbir finally moved his gaze towards me and said, "Sahab, yeh chawal mere khet ke hain, aap to aa nahi sake, lekin mujhe pata hai, aap un dino bhi basmati chawal pasand karte thhe, isliye thoda sa leke aaya hoon. Madam ke liye leke jaayiyega. That 'thoda sa chawal' was clearly in excess of 25 kgs and I knew I would have to pay a bomb for excess baggage, but how could I say no? This was a pure Bond, that can never be explained. I asked Tejbir to sit, but the opulence of the room and his ingrained sense of hierarchy, probably did not allow him to settle in the same room on the sofa along with his Sahab. In spite of a lot of cajoling he refused to have a cup of coffee with me, and told me, "Sahab, I know you are very busy, just came by to see you." For 14 years, we had neither met nor spoken, and he was all ready to leave. The young man who had come along, whom I thought was a farm hand, actually was his son, and on being told the same I admonished him on why did he send him downstairs. All he said was, "Nahin, theek hai Sahab".

Then, as a parting remark, he said," Sahab you look weak, so please eat properly." A statement straight from the heart and with no pretension. Well, that's how my Sahayak and Buddy was....!!!!



Capt Shantanu Chakravorty, commissioned in 1993, joined G4S and handled their operations in Kenya and Dubai after six and half years of service. Having continually upskilled himself thereafter, he is now an independent Digital Learning Design and Leadership Consultant. He is a Certified Leadership Game Designer from NASAGA (North American Simulation and Gaming Association – USA) and a Master Coach and Facilitator from Eagles Flight – Canada, Performance Management Company-USA, Certified Professional in Behavioral Assessments (CPBA) & in a battery of Psychometric Tools.

My True Encounter

BY DINESH DUTT SHARMA

We went to one house, as the lady was keen to sell her vacant plot just behind the house. She mainly requested for help in getting a genuine buyer because of her attachment to the house.

The guide rang the bell and told her the purpose behind our visit. After she had shown the plot, she requested us to come inside the house and talk it over. It was well constructed house and well maintained. She was slow, in her voice, fumbling and limping, I then asked her the reason for disposing the land. In slow and trembling voice she said the reason was - LONELINESS.

To my surprise, she informed us that her late husband, who had expired the previous year, had retired as an Honorary Captain from the Army. Though the house was not very big but she said that she is now left all alone and rooms and other area is so big that she is scared living alone.

She have one son working in the Middle East. Her two daughters were both married, and were only available for her support. She was almost in tears and said, "When he bought this land and started building this house, I never dreamt that he would leave so soon. Now I being all alone and dependent on my daughters for hospital etc, so you please shift here." She kept on crying and said that due to this reason she wanted some good people as her neighbours, so that she could stay there a little longer.

We were feeling uneasy and upset, and thus after knowing the desired amount from her, we left that place though she came out to see us off.

After that I was all through out, and am still thinking about the uncertainties of life and our dreams and all our plans for the future. Still trying to find the answers to these endless questions, that what we want, what and how much are our endless needs, what all we should plan for future, and so on.

I now feel and firmly believe that we all just need peace of mind for survival.



Col Dinesh Dutt Sharma was commissioned in to Army Service Corps in 1985. He has served in all corners of the Country and in prestigious appointments. He is presently on his first leg of re-employment.

Matrimonials

Brides Desired

Suitable match is sought by Maj Gen S Radhakrishnan for his son. The son was born on 16 Oct 1992 and is 5' 7" tall. He is B Tech, MS qualified and is presently working as Robotics Engineer in Netherlands. Father is a serving officer. Mother was an Educationist, and is a home maker now. His elder brother is working in the US. A smart, educated and well settled girl is desired who is working in Europe or is willing to relocate to Netherlands.

Maj Gen S Radhakrishnan can be reached at +91-8572855153, for additional details.

Suitable match is sought by Col Pradeep Kumar for his son. The son has completed 26 years of age in Nov 2019, and is 6' 1" tall. He has graduated from St Mary University in Canada and is presently working in Oil industry in Canada. Mother is a homemaker. Brother has completed Engineering in IT from Mumbai University. Caste is no bar for a suitably qualified and compatible girl. It is a Jat family.

Col Pradeep Kumar can be reached at colonelpkd@gmail.com, for additional details.

Suitable match is sought by Col Dinesh Dutt Sharma for his son. The son was born on 6 Jun 1994 and is 5' 9" tall. He is a serving Captain in the Army. Father is a serving officer and settled at Noida. Mother is an Educationist. His elder sister is a dentist and married to an Army Officer. A compatible professionally qualified girl with height around 5' 5", and who is willing for constant move due to transfers, preferably from teaching profession is desired. Match from Brahmin families is desired and horoscope match is must. It is a Hindu Brahmin family.

Col Dinesh Dutt Sharma can be reached at +91-7587519163 (WhatsApp), for additional details.

Suitable match is sought by Lt Col Ravinder Bhatti for his son. The son was born on 10 May 1993 and is 5' 11" tall. He is a Power Generation Systems Specialist in Canadian Armed Forces. Father is a retired officer, settled in Calgary (Alberta) Canada, who is working as HR Manager and also has his own Immigration Consultancy Business. Mother is presently employed in Provincial Government. The elder brother is also employed in Canadian Armed Forces, and the younger sister is a student at the University. A compatible professionally qualified girl aged 26 or below years, with minimum height of 5' 5" is desired. Religion/Caste/Location - no bar.

Lt Col RS Bhatti can be reached at +1(587)707-3535 and matchforajay@hotmail.com for additional details.

Suitable match is sought by Col Raj Kumar Yadav for his son. The son was born on 27 Mar 1991 and is 5' 9" tall. He is B Arch qualified and has done Masters in Landscape Architecture, and is now working at Gurgaon. Father is a retired officer, running his own business, and settled at Gurgaon. Mother was an Educationist, and is now a home maker. His younger brother is studying in Final Year at NIFT Bangalore. A compatible professionally qualified and well settled girl from an educated, liberal and reputed family is desired, It is a Hindu Ahir family.

Col Raj Kumar Yadav can be reached at +91-9717016161 for additional details.

Suitable match is sought by Lt Cdr GS Beniwal for his son. The son is born on 7 Jan 1984 and is 5' 10" tall. He is BA, LLB qualified and has worked for 12 years with an Austrian MNC. Father is a retired officer and settled at Noida. Mother is an Educationist. His twin sister is working in the Corporate. A compatible professionally qualified girl between the age of 28 - 35 years, from Hindu/Sikh/Jain family is desired, with height between 5' 2" to 5' 7". It is a Hindu Jat family.

Lt Cdr GS Beniwal can be reached at +91-9958374781 and purvsenani@gmail.com, for additional details.

Suitable match is sought by Col Narayan Yadav for his son. The son was born on 2 Feb 1992 and is 5' 10" tall. He is serving pilot with Indian Navy in the rank of Lt Cdr. Father is a retired officer, and now working as a Consultant & Advisor with a Private Enterprise, and settled at New Delhi. Mother is a home maker. His younger brother is working with Invest India at Delhi after MSc Finance from the US. A compatible well educated working professional girl is desired preferably from a family with defence background, and hailing from Bihar or Delhi region, It is a Hindu Ahir family.

Col Narayan Yadav can be reached at +91-9968245065 and +91-9365041258 for additional details.

Grooms Desired

Suitable match is sought by Col Sanjeev Gupta for his daughter. The daughter was born on 2 Aug 1993 and is 5' 9" tall. She is BBA, LLB qualified and is practicing in Supreme Court at present. Father is a retired officer, serving as Dean-cum-Director of Manav Rachna University and settled at New Delhi. Mother is a home maker. Her younger sister is working in the Corporate. A compatible professionally qualified boy aged between 27 - 30 years, from a small liberal Hindu family with defence background is desired. Caste no bar, and matching of horoscope is not a must. It is a Hindu family.

Col Sanjeev Gupta can be reached at +91-9559628770, for additional details.

Suitable match is sought by Col Harpal Singh Gill for his daughter. The daughter was born in Sep 1993 and is 5' 2" tall. She would be completing her MDS (Endodontics) in June 2020. Father is a retired officer, now working in Private Sector and settled at New Delhi. Mother is an Educationist. Her younger brother is in the Final Year of BE (Hons). A compatible professionally qualified boy from a family with defence background is desired. Preference is for a boy serving in Defence, Medico or Government service. It is a Jatt Sikh family.

Col Harpal Singh Gill can be reached at +91-7889516719 and hpsg13@yahoo.co.in, for additional details.

Suitable match is sought by Lt Col Rakesh Rastogi for his daughter. The daughter was born on 9 Mar 1992 and is 5' 4" tall. She is qualified Chartered Accountant and is employed with M&A Firm at Hyderabad since 2016. Father is a retired officer, and now working in the Private Sector. Mother was an Educationist, and a home maker now. Her younger sister is pursuing Post Graduation at TISS Mumbai. A compatible boy, professionally qualified from reputed institution, and employed in Private Sector is desired. Basic matching of horoscope will be desired.

Col Lt Col Rakesh Rastogi can be reached at +91-9794000222 and rakesh.rusty@gmail.com, for additional details.

Suitable match is sought by Lt Col Rakesh Rastogi for his daughter. The daughter was born on 22 Apr 1996 and is 5' 5" tall. She is pursuing Post Graduation at TISS Mumbai. Father is a retired officer, and now working in the Private Sector. Mother was an Educationist, and a home maker now. Her elder sister is a qualified Chartered Accountant and working at Hyderabad. A compatible boy, serving as Officer in Army/Navy/Air Force is desired. Basic matching of horoscope will be desired.

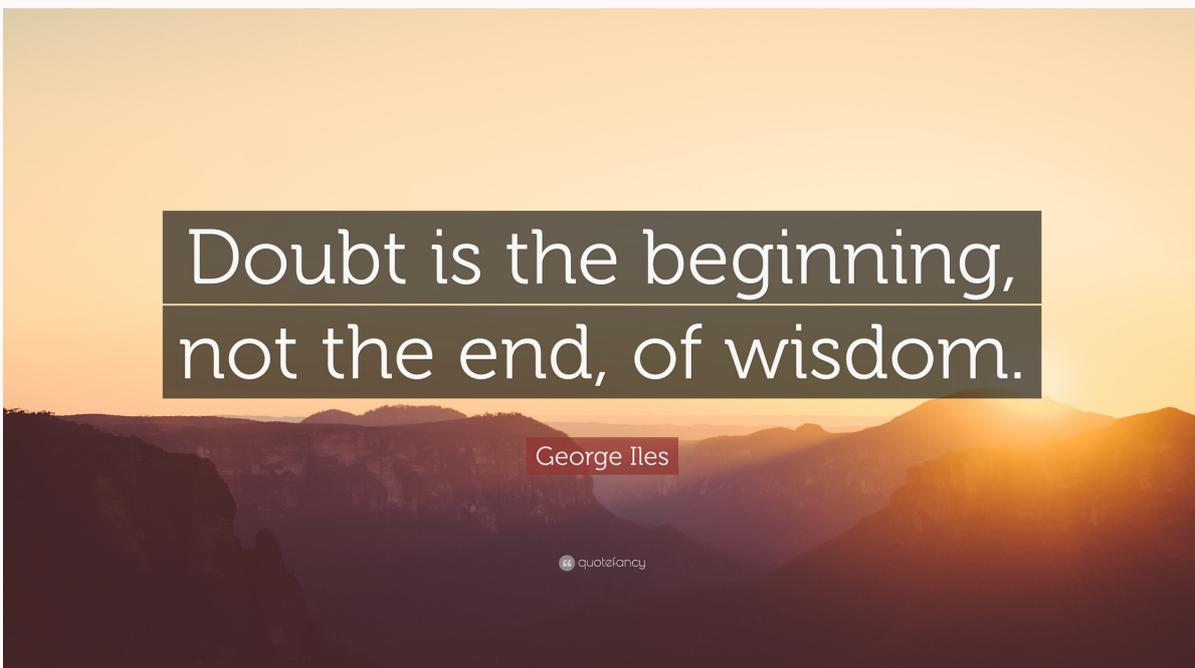
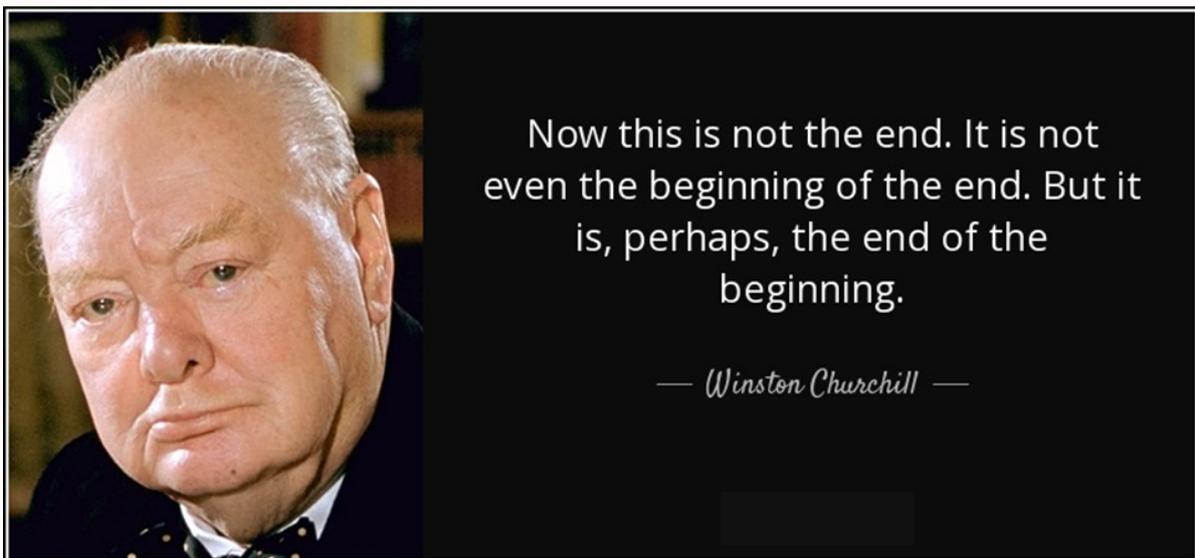
Col Lt Col Rakesh Rastogi can be reached at +91-9794000222 and rakesh.rusty@gmail.com, for additional details.

Suitable match is sought by Lt Col Balram Tiwari for his daughter. The daughter was born in Sep 1993 and is 5' 3" tall. Post her B.Sc studies, she is now completing the second year of her B Ed. Father is a serving officer, and her mother is a home maker. Her brother is B Tech qualified. The family is settled at Lucknow, and is seeking a Saryupari Brahmin Army Officer for the daughter.

Lt Col Balram Tiwari can be reached at +91-8318717724 and balramatlucknow@gmail.com, for additional details.

Suitable match is sought by Lt Cdr Vinod Khatri for his sister. She was born on 21 Dec 1990 and is 5' 4" tall. She is MBA (Finance), B Ed. qualified. Her father is a retired State Government employee, and mother is a home maker. Her elder sister is married, and brother is a serving Naval Officer posted at Mumbai. The family is settled at Ajmer, and is seeking a compatible well qualified and suitably employed boy for the daughter. It is a Panjabi Kharbanda family .

Lt Cdr Vinod Khatri can be reached at +91-7977165906 and khatri.vinod7@gmail.com, for additional details.



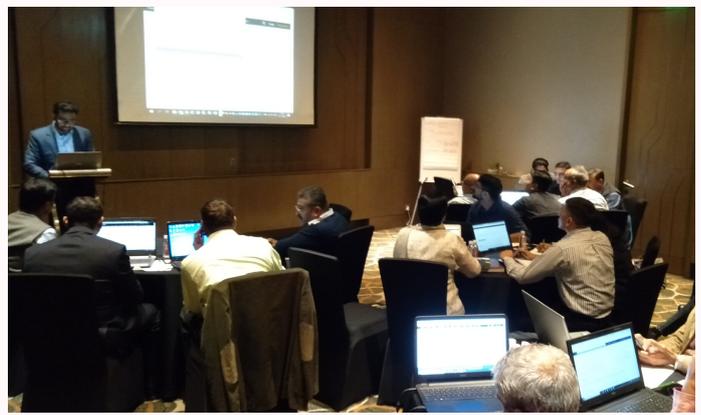


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For more information and details, check:
<https://www.forces-network.com/>





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