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CONSULTING

The Review

INSIGHTS, IDEAS & INFORMATION

Human Factors: a view from a Tornado cockpit

BY HUGH GRIFFITHS

Human beings are amazing and unpredictable. They can achieve great things and they can make disastrous mistakes. In business it is the actions and interactions of people that make the critical difference between success and failure. Yet very little effort is spent on training businesspeople to understand human behaviours. Do business leaders get taught the people stuff: how people make decisions, why people make errors, how they react to stress and fatigue etc? The truth is, they don't. The emergent world of Human Factors seeks to address this.

HUMAN FACTORS TRAINING

The aim of Human Factors training is very simple: to improve human performance. This is done through generating an understanding of how humans naturally interact with each other, their equipment and their surroundings. This understanding leads to a better management of human strengths and weaknesses with the aim of achieving two key outcomes:

1. Improved effectiveness. Personnel who have received Human Factors training communicate, teach, learn, operate and supervise better than those who haven't. In short, they become more effective at whatever they are doing (be it investment banking, brain surgery or landing a 747 at night on a short runway).

2. Reduced accidents and incidents. Human Factors training has been categorically proven to decrease the instances of human error and thereby save money and lives (eg Human Factors training is credited with a significant reduction in military and civilian aircraft accidents). Arguably, it would also have prevented many recent corporate disasters.

ORIGINS

Human Factors training has its genesis in the space race. From early beginnings in NASA and the Apollo programme in the 1960s and 70s it spread to airline flight decks and military aviation. These days, Human Factors training is undertaken by all the RAF's military pilots, and it is also mandatory in civil aviation. However, the importance of understanding human behaviour has slowly dawned on many other types of operation including Formula One racing teams, surgical teams, deep-sea diving companies and the nuclear industry. These days, businesses from banking to manufacturing are also embracing the invaluable insights that Human Factors training offers.

THE BUSINESS CASE

In safety critical environments like the oil industry it is very easy to justify the up-front investment in Human Factors training because the costs of human error far exceed the costs of the training! In aviation, for example, 80% of all incidents have human factors as a contributory cause. Given the cost of modern aircraft, one only has to prevent a single accident to justify the cost of the training many times over. The same is true for all safety critical industries, for example human errors contributed to the Deepwater Horizon incident in the Gulf of Mexico. Investing in Human Factors training is, therefore, one of the best investments some organisations can ever make.

But this training applies everywhere, not just in safety critical environments. In more mundane

"HUMAN FACTORS ADDRESSES THE ENTIRE HUMAN CONDITION"

CASE STUDY

In 2001, at Queen's Medical Centre in Nottingham, an 18-year old male, Wayne Jowett, was killed due to catastrophic human errors. Wayne was suffering from leukemia and was receiving two drugs, Vincristine and Cytosine. Cytosine must be injected into the spine while Vincristine is fatal if injected in the spine. A House Officer and a Registrar, working together, correctly injected the Cytosine into Wayne's spine. However, they then also incorrectly injected the Vincristine into his spine. Wayne died a painful death 4 weeks later.

An independent inquiry found that this tragedy was due to human factors (amongst other systems failures) such as:

- **False assumptions**.
  The Registrar assumed that spinal and intravenous drugs would not be on the ward at the same time (as was the case in his previous hospital).

- **False mental models and lack of situational awareness.**
  Both doctors were inexperienced in oncology but each, incorrectly, thought the other was very experienced, so gave him the (undeserved) benefit of the doubt.

- **Cognitive errors.**
  Despite the fact that he read the name Vincristine, the Registrar had an entirely different drug in his mind.

- **Authority gradient.**
  The House Officer was concerned that an error was possibly being made but did not have the confidence to challenge the Registrar, who was, after all, the boss.

While this is a medical case, perhaps some of the generic human issues above could apply in your organisation?

businesses the benefits of Human Factors training are less obvious but just as real. For example, situational awareness is a key human factors issue, yet how many organisations have business leaders who have proper situational awareness of what is happening around them? Perhaps fewer than you might think! The recent events in the banking industry are a case in point: senior banking leaders demonstrably did not fully understand the risks that they were exposed to through their portfolios of complex debt securitisation products. In addition, how many banks failed to understand that some rewards can engender behaviours that are unexpected, undesirable and dangerous? If you create a bonus system, for example, in which there are tremendous upsides to risk taking, but relatively few downsides for failure, people will be naturally encouraged to take irresponsible risks…

SCOPE OF HUMAN FACTORS

Essentially, Human Factors addresses the entire human condition. It teaches us what we are like, why we are like it, and how we can maximise our inherent strengths as humans and minimise our inherent weaknesses. It is fundamental to the operation of any business and encompasses elements of communication, leadership, teamwork, error reduction and self-awareness.

Some of the topics that a Human Factors development programme might cover include (but are not limited to):

- **Error and blame:** why humans make mistakes and what can be done about it. Models of human error and why errors happen. Different types of "blame cultures" and their unintended effects. Learning from error and how to generate open and honest error reporting so that people can learn from mistakes.

- **Mental processing:** how the human brain works; its strengths and weaknesses. How human memory works, the different types of human attention (selective, focussed, divided) and the issues associated with them. Human behaviours (rule based, skill based, knowledge based) and their implications. The seductive persistence of incorrect mental models and

the concept of confirmation bias (seeing what you want to see).

- **Situational awareness:** what situational awareness actually is. The different elements of situational awareness (perception, understanding and projection) and the different ways to build and improve situational awareness. Common barriers to situational awareness. What to do once situational awareness is lost and the best strategies for recovering it. Dealing with task saturation.

- **Decision-making:** the different types of decisions that humans make (e.g. rational v naturalistic), and how these decisions are affected by the prior experiences of the decision-maker. Decision-making methodologies and decision-making loops.

- **Resource management:** models of team dynamics such as the Tuckman model (forming, storming, norming, performing). Other team issues such as "risky shift", "group think" and "polarization". Adverse authority gradients and the dangers inherent in them. Monitoring and cross-checking across authority boundaries.

- **Sleep and fatigue:** human sleep issues and how fatigue affects human performance. Circadian rhythms and the different types of sleep (REM, non-REM etc) and what they achieve for the body. Sleep deficits and the effects of fatigue on human performance, both immediate and subliminal.

- **Stress:** the psychology and medical physiology of stress. What happens to the body under stress and why. The physical and psychological stressors that people are under in organisations. Individual stress reactions and how they can differ. The Yerkes-Dodson stimulation curve and issues associated with under-stimulation and over-stimulation. Tactics for managing and reducing stress.

- **Communication:** effective communication and the importance of vocal tone and body language. Non-verbal communication. The concept of transactional analysis in communicating across hierarchy boundaries. Common barriers to effective communication and tools and techniques that can be used to improve communication effectiveness.

SUMMARY

Human Factors is universally applicable: it isn't only relevant to astronauts and pilots! The success of all organisations, whatever their products or services, is ultimately generated by people. Perhaps the people flying your business might benefit from development of Human Factors awareness and skills?

HUGH GRIFFITHS is Executive Chairman at Inzpire Ltd, a company that provides Human Factors training to RAF pilots and Formula 1 teams. He has an MBA (Distinction) from Warwick University. A former Wing Commander in the RAF, he spent many years as an RAF Fighter Tactics Instructor on Tornado aircraft.

T +44 (0)7817 492658
E hugh.griffiths@inzpire.com

BRAND BASICS

BY BOB EMPSON

Brand is often understood to be just about logos, names and design. This article provides a more comprehensive perspective of brand, summarises the benefits of a strong brand and highlights some key issues to consider when investing in brands.

WHAT IS "BRAND"?

Brand is understood in many different ways. People usually focus on a narrow definition of brand and address it only in terms of logos, symbols, names and visuals. Other perspectives see brand as, for example, a legal concept, a relationship between the brand and the consumer or a personality. A broader and more strategic perspective defines brand as:

Awareness and perceptions in the minds of customers and other stakeholders that are important to them and are distinctive relative to competitors.

A brand can relate to an organisation, a product or service, or even places and people. This definition views brand as a psychological concept. Key points about it are that it:

- Recognises the research that has shown that awareness of a name is a key component of brand strength, even if people don't have detailed perceptions of what the name stands for.
- Explicitly encompasses the need to develop the brand amongst audiences wider than just customers.
- Expects that brands should be positioned in ways that are different and distinctive from competitors (organisations in any one sector too often promote propositions that are almost identical to many others in the sector).
- Will also need to create perceptions that are relevant and important to the target audiences (ie which are attractive to them).

BENEFITS OF A STRONG BRAND

The benefits for an organisation of a strong brand can include, for example:

- Customer and stakeholder trust and loyalty.
- Attracts new customers.
- A barrier to competitors (eg because of loyalty of customers and/or the investment needed to establish a competing brand).
- Higher prices and margins.
- Attracts and motivates staff.
- Creation of valuable assets (sometimes called brand equity).
- Can assist expansion into new markets and new services/ products.

And there can also be benefits to "consumers" of strong brands (although some argue that brands are not beneficial to society; see, for example, No Logo by Naomi Klein):

- Makes choosing easier and quicker.
- Provides reassurance.
- Can create a sense of "self-realisation" because of attachment to and association with the brand.

BRAND STRATEGY

A brand strategy plots how you will develop a strong brand consistent with the organisation's values and supporting the overall corporate and business strategies. Key components of a brand strategy can include:

- **Target audiences for the brand.** These will include customers and potential customers. Also important can be other stakeholders including, depending on the type of organisation: suppliers, investors, regulators, politicians, shareholders and members. Staff and potential staff will also be a key "audience" for your brand: the concept of the internal or employer brand was discussed in an article in The Review, Issue 3 (see our website).
- **Competitive positioning.** To ensure that your brand is both competitive and distinctive it is vital to understand how your competitors project themselves. A start can be made with online research into their website and social networking presence. Also look at published materials including annual reports and brochures. An investment in research to evaluate market perceptions of competitor brands and how customers experience them can be very valuable.
- **Current position.** It will be important to gain an objective understanding of existing awareness and perceptions of your brand amongst target audiences.
- **Desired identity.** This is a definition of how you want the brand to be perceived. There are many dimensions of brand identity that can be considered (see various publications by David Aaker) including, amongst others: product (eg range, uses, attributes), organisational attributes (eg innovative, trustworthy), personality (eg caring, humorous) and the nature of the relationship between the brand and customer (eg partners, friends). But perhaps the most important dimension is clarifying what benefits the brand will offer people; such benefits can be functional (eg range of products; technical functionality, ease of access), emotional (eg what they will feel when they are involved with the brand) and so-called self-expressive benefits (the extent a brand helps customers to express their self-image). It will be important to test if the proposed identity will be distinctive and will be attractive to target audiences.
- **Performance measures.** Brands are valuable assets in which a lot of time and money will have been invested. Thus it is good practice (often not followed!) to develop a set of metrics against which the strength of your brand can be evaluated and monitored. Some examples

of many possible metrics include: levels of awareness (eg prompted and unprompted); brand loyalty (eg customer purchase behaviour; customer retention rates); knowledge (the extent to which audiences understand what the brand stands for); satisfaction rates and perceptions of service quality; and the extent to which consumers have an affinity or liking towards it.

BRAND BUILDING

And, of course, your brand strategy needs to cover brand building strategies and actions. The focus is usually on "traditional" communications tools such as design, advertising, websites, media relations and, now, presence and activity in social media. For such communications to be effective there need to be clear and consistent propositions and messaging. However, such communication techniques are the tip of the iceberg. The overall customer "experience" needs to live up to the expectations created for the brand and its overall "promise"; thus other "tools" include, for example:

- Your people (eg how they behave, what they say, presentation). This will involve both recruiting and retaining people who can naturally "live" your brand, as well as providing appropriate training.
- Pricing (aligning price with the overall brand positioning; eg not being too cheap or too expensive).
- Service quality and how you respond to complaints and service failures. See also the article on Service Recovery in The Review, Issue 1 (see our website).
- Product design including technical standards, ergonomics and visual appeal.
- All processes and workflows with which customers interact (eg online, enquiries, purchase, delivery, accounts, after-care).

One last point is about where responsibility for the brand strategy and its implementation should lie in an organisation. Brand is not something only for your marketing and communications folk. Brand is a key strategic issue for every Board. And effective implementation and development of a strong brand will almost certainly involve every function within the organisation.

BOB EMPSON is Founder and Principal Consultant of White Maple Consulting. He is a Fellow of the Chartered Institute of Marketing and a Chartered Marketer. He has 30 years' experience of reviewing, developing and implementing brand strategies for organisations across many sectors, products/ services and even a country.
T +44 (0)20 8822 3320
E bob@whitemaple.com

APPS

Regular readers will know that we normally review some websites in this column. But, for a change, here are some apps we have downloaded and used (all on iPhone 4.0).

Al Jazeera

An alternative and excellent source for global news. Watch news with live streaming. Shame about the ads.
Free.

City Maps 2Go

Over 7,000 city maps are available for download. Download before you travel to avoid roaming charges. Each map has searchable Points of Interest. Brilliant value and very useful.
£0.69

Dragon Dictation

An effective voice recognition system. Accurately transcribes into text which can then simply be sent by SMS, email or submitted to Twitter or Facebook. Great for anyone with big fingers!
Free.

Met Office Weather

Shows frequently updated daily and 5-day UK forecasts. Also maps, alerts and rainfall radar. Far better than free application on iPhone and other well-known sources.
Free.

RAC Traffic

Displays incidents and traffic problems as coloured dots on a map. Easy to use. Tap a dot to learn more about the problem. Handy, but does seem to sometimes miss problems!
Free.

Sleep Talk Recorder

Promoted as a device to record your sleep talking, but other uses are possible. Highly rated in reviews.
£0.69

Urbanspoon

Finds restaurants near your location. Good in London but possibly not total UK. Useful recently in California. Good search facilities and reasonable basic information.
Free.

Book Reviews

Both these books should probably help you to be optimistic about the long term prospects for the global economy and geopolitics. But let's just hope that leaders around the world read and heed them.

On China
By Henry Kissinger

On China provides an engaging history of a civilization that "seems to have no beginning" and which adopted Confucian thinking, through to its rapid economic growth in the 1990s to become the global superpower it is today. On the journey there are revealing insights regarding, for example, the Korean war, the Cultural Revolution, Nixon's visit to Beijing in 1972, China's little-known geopolitical strategic success resulting from the brief Third Vietnam War of 1979 and, of course, Tiananmen in 1989. For those with an interest in leadership, much can be learned from Kissinger's discussion of Deng Xiaoping's transformative leadership, ruling "not like an emperor but as the principal mandarin", which liberated "the creativeness of the Chinese people to bring about their own vision of the future". Perhaps, also, the analyses of China's approaches to geopolitical strategy ("thorough analysis; careful preparation; attention to psychological and political factors; quest for surprise; and rapid conclusion") could give clues as to how Chinese businesses and entrepreneurs have become so successful.

Looking to the future, impending demographic challenges (partially self-inflicted by the one-child policy) are highlighted; and the book concludes that if China and the US compete as blocs there will be collision. Kissinger promotes the idea that the Sino-American relationship is one of co-evolution, rather than partnership, and that a Pacific Community would enable major countries in the region "to participate in the construction of a system perceived as joint rather than polarized between Chinese and American blocs". Although On China is unsurprisingly often written with an US perspective, anyone with an interest in modern China will find it essential background reading from a most authoritative source.

OVERALL RATING

Allen Lane/Penguin, 2011. £30

World 3.0
By Pankaj Ghemawat

Ghemawat provides extensive evidence that "the world isn't as globalized as many people think", for example: 1% of letters and only about 18% of all internet traffic crosses national borders, c.90% of people will never leave the country they are born in, and also 90% of all fixed investment in the world is domestic.

However, although he accepts that "some failures and fears do need to be taken seriously", his analysis shows that many fears are unfounded and cross-border integration often helps to reduce market failures, not compound them. To give just two examples, he reveals that levels of concentration in some key industries have actually decreased (eg in the car industry, the top 6 companies now account for 50% of car production, a decline in concentration from 1 in the 1920s) and, regarding food, more trade with less protectionism could significantly reduce world prices and volatility.

World 3.0 is thus a worldview that seeks greater prosperity through increased global integration but also accepts that some careful intervention and regulation might be necessary. Ghemawat argues that World 3.0 is better than the alternatives of World 0.0 (the "wild world" of hunter gatherers and tribes), and the opposing views of World 1.0 (the less open "walled world" of nation states) and of World 2.0 (the perceived "one world" of today in which both supporters and also detractors of globalisation overstate the level of integration but take directly opposite views about the need for regulation).

The authoritative evidence and wide-ranging ideas revealed in World 3.0 are often quite surprising and will challenge people on both sides of the globalisation fence.

OVERALL RATING

Harvard Business Review Press, 2011. £21.99

WHITE MAPLE NEWS

ILDA AWARDS

Bob Empson is chairing the judging panel of the 2011 Independent Living Design Awards (sponsored by the British Health Trades Association: BHTA). The awards will be presented at a gala dinner in London on 1 December by Angela Rippon.

STRATEGY CONSULTING

Over the last year we have worked on strategy assignments with a wide range of organisations including for example:

- **Publishing:** group-wide and global strategy for a specialist publishing group.
- **Solicitors:** design and management of a programme of projects to accelerate implementation of the firm's 3-year strategy.
- **Healthcare:** design and facilitation of the Board's strategy review workshop.
- **Professional institution:** design and management of the strategy consultation and development process.
- **Medical/humanitarian charity:** strategy/planning workshop with its Management Team.
- **Financial services:** strategy offsite for all staff of a pioneering business in the field of social investment.
- **International bank:** facilitation of strategy workshop for an European branch of a major international bank.

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