



Lead Indicators
Shaping
Fashion to
2017

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Introduction

This Lead Indicator document is not intended to be just another source of information.

Its purpose is to provide a 'big picture' view of some of the key global drivers that are reshaping countries, markets, and societies at the global and local levels.

We have therefore provided a highly simplified overview of the trends, discontinuities and uncertainties associated with these Lead Indicators so we can better understand how that 'big picture' view may evolve over the coming years.

There are a many things in play locally and globally that could tip the balance at any time – think of demographic change, changing work and lifestyles, the increasing skills shortage, political change, and the impacts of IT and technologies.

The space we operate in is going to change – probably to a greater degree and more rapidly than most of us expect.

Being more informed about what might change longer term enables us to better understand the strategic issues we need to focus on and address in the medium to short term.

These Lead Indicators are being shaped by continuous dynamic processes and ongoing monitoring is an important tool to ensure we understand over time what is happening at the leading edge.

NEXT continuously monitors a wide range of highly reputable global sources providing a comprehensive research-backed basis for the Lead Indicator reporting we present to clients.

Tomorrow's successful businesses and organisations will be so because they have adopted continuous Lead Indicator monitoring and response processes which constantly drive adaptive changes in strategic planning.

The Foresight Context

Foresight enables us to form a view of the future that helps us to develop more relevant and effective strategies and implementation plans. It requires taking a different approach to thinking and strategic planning than that which has traditionally been the case.

Developing a foresight context requires us to think within future-focussed frameworks, such as those described in the following sections.

The Foresight Way of Thinking

We use the term 'Mental Models' to describe the way people think about the future.

'Mental Model 1' thinking is based on projecting forward from today and is based strongly on historical patterns. But that can be a dangerous way to plan for the future because there may be something looming over the horizon that is likely to change the whole playing field. A great example is how e-mail is currently destroying the traditional postal delivery model. Another example is how screw caps on wine bottles are threatening the traditional cork producing industry.

In contrast, 'Mental Model 2' thinking is a knowledge based way of thinking that is built around developing sets of alternative scenarios that portray how things may have changed some years into the future. For example, how will the international energy market look once the world reaches 'peak oil' in 2010 – 2012? How is it likely to have changed by 2020? By developing a set of alternative scenarios that explain how things may look some years into the future we can make more informed decisions today when we develop our go-forward planning strategies and our annual or biennial implementation plans.

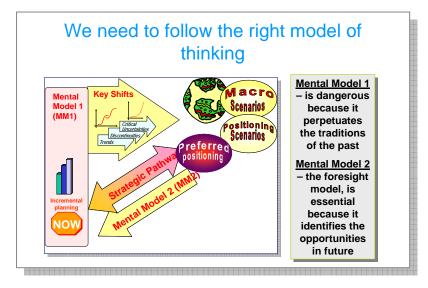


Figure 1: The foresight way of thinking

Knowing the Destination

No-one knows exactly how the future may play out. But we can develop views that portray several alternative futures that could happen. Some of those alternative futures may be negative, others may be positive, and still others could be a combination of both. A key component of the foresight process is developing a consensus view of 3 – 4 alternative futures (scenarios) and then selecting the preferred future amongst those alternatives that the majority wishes to head towards.

Once the preferred future has been agreed to, then every initiative and action in the political, environmental, R&D, social, and economic spheres can be aligned so that they are focussed in the same direction - to move a country or organisation in that preferred direction. This alignment reaches right down to our day-to-day activities at home and at work.

Such a preferred future is often called a vision – but it should be understood that a vision is more than a one-liner. It is actually something that has depth and breadth and needs to be visualised in a quite detailed way and developed on a consensus basis.

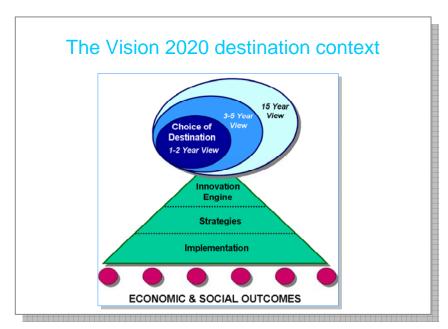


Figure 2: Understanding the 'destination' and how things are aligned

It should also be understood that any preferred future is based on a dynamic vision and that it will need re-visiting on a regular basis over time so that it can be reshaped as new information and knowledge comes to hand.

In this way we avoid becoming 'blindsided' by changes that are likely to occur after the initial visioning exercises are completed. Such changes happen all the time, in some cases by the second (see Peter Russell's 'World Clock' at http://www.peterrussell.dreamhosters.com/Odds/WorldClock.php).

The 3 Horizons

Once we know what our preferred destination some years into the future is, we then need to use a long-term context, which we call Horizon 3, as the guiding basis for all the decisions made regarding strategic planning at the Horizon 2 level, and short-term operational planning and day-by-day implementation at the Horizon 1 level.

This is what we call a 'backcasting' process – from Horizon 3 in the future back to Horizon 1 in today's world. It is quite the opposite from forecasting. Being in Horizon 3 requires us to imagine standing in the future at a particular point in time and visualising the things that might surround us in both our work and personal lives in our preferred future and developing a consensus-based picture of how that preferred future may look using foresight tools such as PESTE (a tool that uses five visualisation parameters – political, economic, social, technology, and environment).



Figure 3: 'Backcasting' from Horizon 3

Global versus Local

The final piece of the foresight jigsaw is to develop an understanding of where we fit individually, as a community, or as a country within a global context. Globalisation today means we can no longer live and work in isolation — even though many would like that to be the case. Globalisation imposes things upon us in our local daily lives and workplaces that we can't escape from. It can also draw the smart young people away from our country to benefit another — if we don't create an environment that is attractive for them to stay.

At the same time it offers us a growing opportunity to participate in and influence the larger national, regional and global spheres from our own small local place on the planet.

Global communications networks and the Internet are driving this global – local connectedness – in both directions.

Global versus local

Global Regional National Local

Figure 4: What happens globally impacts locally – and vice versa

Key Global Trends, Discontinuities & Uncertainties

To understand what a future view may look like, we need to develop an understanding the key drivers of change that are likely to shape that view. We call them 'The 7 Tsunamis of Change'.

The 7 Tsunamis of Change

We use the terminology 'Tsunami' because these major drivers of change have a similar impact to a large tidal wave. After the wave has vent its fury the landscape has changed. Some things remain as they were. Some have been changed. Others have disappeared forever.

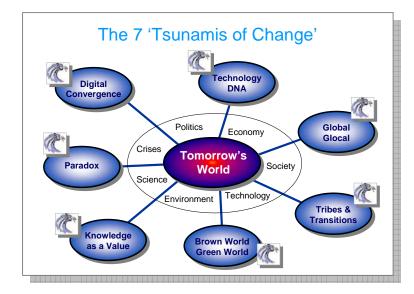


Figure 5: Seven major global drivers of change

These '7 Tsunamis of Change' are creating a similar effect at the global, regional, national and local levels.

Each Tsunami can be summarised as follows:

- <u>Digital Convergence</u> Chips in everything, total interconnectivity, virtuality.
- 2. <u>Technology DNA</u> Biological and technological convergence, cumulative innovations, the re-shaping of life itself.
- 3. <u>Global Glocal</u> The global village, cultural convergence, being the biggest or most unique.
- 4. <u>Tribes and Transitions</u> The digital divide, tribalism, demographic change, changing global lifestyles/work styles.
- 5. <u>Brown World, Green World</u> Climate change, resource productivity, water air energy.
- 6. Knowledge as a Value The hierarchy of knowledge and value, knowledge management, consumer power.
- 7. **Paradox** Unexpected outcomes, living with degrees of grey rather than black or white, solutions take opposites into consideration.

Trends, Discontinuities, and Uncertainties

Within each of these '7 Tsunamis' there are numerous trends, discontinuities, and uncertainties (TDUs) evolving at any one point in time.

- Trends are things that are changing along a relatively predictable pathway.
- Discontinuities are things that are likely to change the shape of the future in a way guite different to how things have been in the past.
- Uncertainties are areas where we can see that changes are likely to happen but we have no clear idea how and to what extent.

In the 2006 NIHERST Creative Sector 'Best Bets' Foresight project, we developed a comprehensive picture of global trends, including for the fashion industry, which we won't repeat here.

However, since that project was published we decided to take a more proactive foresighting approach. The following are some interesting broad-based TDUs emerging within these '7 Tsunamis of Change' that have particular relevance to the Advanced Fashion Sector 'Best Bets' Foresight project.

Technology & Resource shifts

Here are some quite unique trends, some likely to have major impacts, which relate to technology developments and resources:

• New 'fashion accessories' - Generations Y (14 – 28 years) and Z (under 14 years) have grown up with technology and so are very tech-savvy. Their attitudes towards what is acceptable and what is not are quite different to previous generations. This is evidenced by the fact that some 30% have tattoos and body piercings. A more bizarre fringe development is young people who are injecting radio-frequency identification (RFID) chips into their hands so that they can be tracked in trendy places, particularly in parts of Europe – no worries about 'big brother' in this group. It conjures up a whole new concept of 'fashion accessories' (Trendy Verichip link).

- <u>Peak oil</u> The close proximity of the world to 'peak oil' where global demand exceeds supply is a big shift. The International Energy Agency recently reported (<u>Link to July 2007 report</u>) that this is likely to occur between 2010 and 2012 far sooner than most have been expecting it might happen. This has huge ramifications to the world's economies and societies and will accelerate the shift to more sustainable alternatives. It will also impact upon the cost of many synthetic raw materials used by the fashion industry.
- <u>Land-use competition</u> Apart from ongoing urban encroachment, rapid growth of the bio-fuels sector has brought to light an interesting conundrum when it comes to land-use futures. The more farmers switch from growing crops for food to crops for bio-fuels, the greater the global concerns about food supply and security are becoming. The prices for many basic food commodities, such as grains and sugar, have been soaring and world reserves are at an all time low (<u>World food reserves link</u>). This may also impact upon the production of natural raw materials for the fashion sector.
- <u>Bio-plastics and sustainable synthetics</u> These are moving rapidly into the commercial production arena and the demand for such product, e.g. from Japan, appears to be strong (<u>Bio-plastics link</u>).
- Going back to nature to learn more about innovative and unique solutions to many of the world's challenges is an accelerating trend (Example link India).
- <u>Biological and technological convergence</u> The convergence between biological and technological systems and processes is accelerating. The boundaries between sectors are being crossed. For example, humans may soon be powering their own 'personal infrastructure' (<u>Fraunhofer link</u>) through a convergence of material science, ICT, micro-electronics, and fashion design. A whole new opportunity in 'functional fashion' is opening up.

Demographic Change

We are approaching a point that has not been seen in the history of mankind. This is the likely peaking of the world's population within a few decades. Birth rates are declining all around the world and in many countries - particularly developed countries - are well below replacement rates.

Demographers are tending towards a view that the world's population will peak some time between 2030 and 2070. Each new piece of information adds to a picture that seems to indicate that the population peak is moving closer towards the 2030 end of the time frame.

What this basically means is that the world's population is ageing – and rapidly. The population pyramids for Japan and Trinidad and Tobago have a lot of similarities (see Figures 6 and 7). Both show a 'bulge' in the population profile which is moving upwards as we move away from the year 2005 and head towards the year 2025.

The reason for this 'bulge' is a decline in birth rates, increased longevity, and, in the case of Trinidad, an additional loss factor caused by emigration. This results in an inverted population pyramid - which means there are proportionally fewer young people in the population than there are in the older generations. This has profound implications for the future of society and the economy in these and many other countries.

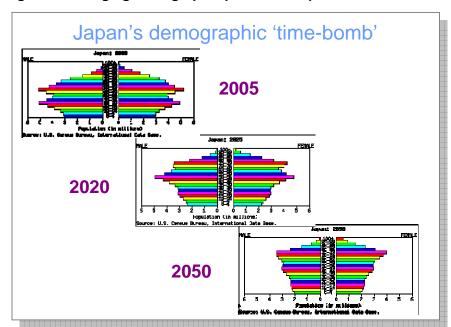
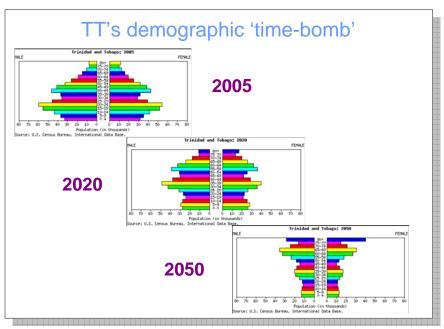


Figure 6: Changing demographic profile for Japan - 2005 to 2050





There are currently at least 60 countries in the world that have static or declining populations. T&T is one of them.

Even developing countries with high populations such as India, China, and The Philippines are showing a similar transition. China is already at the inverted pyramid stage today. India will be by 2025 and the Philippines will be by 2050.

Lifestyles

Lifestyles have been changing markedly over recent years. Key shifts which are likely to have a significant influence in the future include the following:

- The increasing independence and confidence of women is changing society.
- The role of the male is becoming less clear and increasing numbers of men are having difficulty adapting to a different role in life.
- Attention spans are decreasing with each generation. Young people increasingly have 'the attention span of gnats'.
- People are increasingly living within a blurred mixture of real and virtual worlds. The growing popularity of virtual spaces such as 'Second Life' reflects this.
- The nuclear family is increasingly becoming something that was in the past. Many children are now growing up in single parent households or in households where the birth mother or father has changed partners – sometimes more than once.
- Family size is declining rapidly and 1 2 children have become the norm for those couples who decide to have children at all.
- Substitute 'families' are increasing in demand the emergence of 'personal tribes'.
- Mobility is becoming everything in the real and virtual worlds.
- People are increasingly suffering from a time crunch never enough time to do everything - and are searching for 'gifts of time'.
- At the same time they are demanding more frequent and intense experiences that provide them with 'fascination'.
- More people are living global lifestyles. They move from country to country, build international networks, and interact online with people from around the globe.

Work Styles

The following are some significant shifts that are occurring in the workplace:

- Many jobs that have traditionally been male-dominated are declining in importance.
- The majority of high growth job areas around the world tend to favour women.
- This is partly because the business world is moving away from a 'command, control and confront' type of model 3 typical male characteristics to a 'communicate, consult, and compromise' type of model 3 typical female characteristics.
- More jobs are being outsourced and sub-contracted.
- Networking skills are becoming an essential capability in many career positions.
- Personal global connections are going to command a premium.
- The world is moving towards 24/7/365 operating models.
- The jobs of tomorrow are going to offer more flexibility and personal customisation.
- Knowledge and creativity are going to be in higher demand than physical strength.
- Telecommuting and home-based working is growing at a rapid pace.
- Technology is becoming an essential part of almost every job in every sector.

A 'World for One'

The trend towards more individualistic lifestyles is a growing global phenomenon. Here are some important indicators demonstrating this trend:

- More people are choosing to live life as a single. In large cities such as San Francisco and Frankfurt, over 45% of inner city households have just one occupant – and the trend is for increasing numbers to go solo (<u>Future impacts</u> of single person households - link).
- More women never want to have children in their lives. In some Scandinavian countries 30% of women will never have children.
- Mass marketing is dying rapidly as a concept. The focus now is on how to develop customised solutions for markets of one individual and develop value chains that can deliver on this basis.
- The large UK based Tesco food and grocery retail group is moving away from building and running large hypermarkets towards much smaller convenience stores that service individuals 'on the run'. They are focussing on catering for these evolving 'markets of one'.
- Individuals are paying a premium to have their own personal infrastructure. This supports their highly mobile individual lifestyles e.g. bottled water, video cell phones, iPods, energy producing clothing that re-charges cell phones and computers, and 'Verichips' which track a person's movements.
- Greater numbers of people want to be connected to the world 24/7/365 (every moment of every day). They want heads to roll if the power goes off or the mobile phone network fails. They cannot tolerate losing connectivity, even for a short period of time.

Generational Change and Attitudes

- The Allensbach Institute in Germany has been tracking generational attitudes in that country for many decades. They are finding that each new generation develops its own unique set of values and attitudes and they tend to carry these through with them as they age.
- Around the world we have seen a marked change in the lifestyles and expectations of today's over 60's compared to the same generation just several decades ago.
- The same applies to the Baby Boomer Generation, Generation X, Generation Y, and today's emerging Generation Z.
- By checking out the values being given a priority and the behaviour developing in association with each new generation, we can develop a picture of how society may shape up in a decade or two from now.

The Age Beyond the Knowledge Age

Danish Futurist, Rolf Jenson, wrote a book called 'The Dream Society' a few years ago. The book is about what he describes as the age coming after 'The Knowledge Age' (Link). He says that machines have largely replaced the need for humans to expend physical energy and computers are rapidly reducing the need to expend mental energy. But he also says that humans will still need to burn off the energy they inherently possess. If they don't they will have major problems coping with life.

In his view that will drive a demand for creativity - 'stories' and experiences that 'fascinate'. This will drive a change in both the workplace and at home. We are already seeing this happen in a number of ways:

- <u>Trends in 'fascination'</u> if our great grand-parents went to a restaurant for a
 nice dinner once every three months, the fascination they derived would last for
 weeks. Today's young adults and children demand almost constant fascination.
- <u>'Virtual worlds'</u> The emergence of 'virtual worlds' such as Second Life (<u>www.secondlife.com</u>), where millions of people pay a monthly subscription to participate, enables individuals to develop their own virtual characters ('avatars') and interact with other people's avatars in a 'virtual world' complete with cities, real estate, businesses, leisure activities, clubs and a whole lot more.

Figure 8: A virtual world where increasing numbers of people have a 'second life'

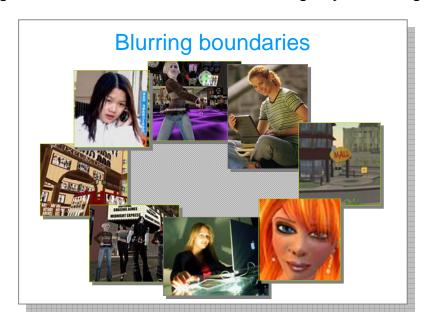


- <u>Internet sites such as YouTube (www.youtube.com</u>) where people can put up their own personal videos about almost anything and share them with the world.
- <u>'A million channels'</u> the explosion of cable TV and online channels that are moving towards a capability of delivering personally customised services.
- <u>Collaborative spaces on the Internet</u> for creative people to explore new ideas and concepts such as many specialist 'blogs' and the evolution of Linux software.

A Blurring of Boundaries

Boundaries between previously well-defined areas are becoming blurred and that is changing the shape of the world we live in.

Figure 9: The boundaries between real and imaginary are blurring



Here are just a few examples of what we mean:

- Gender roles are blurring Women are becoming more like men and men more like women.
- Real and virtual are blurring People increasingly move between the real world and virtual worlds as if it was an entirely natural thing to do.
- Reality and perception are blurring The difference between reality and perception is disappearing in many people's minds.
- Work, home and leisure are blurring The home is not just a home anymore
 but also a workplace for increasing numbers of people. The mobile phone
 keeps people connected to the workplace even when at home or participating
 in leisure activities.
- Accepted norms are blurring What previously used to be considered as outrageous and intolerable is increasingly becoming accepted as unique and different.
- Understanding of our biological inheritance is blurring The global obesity
 and diabetes type 2 epidemics are a reflection of a disconnect between
 people's understanding of their biological inheritance, the associated needs,
 and the way they eat, exercise, and live.

Globalisation

The whole globalisation trend is fascinating because it is actually providing an opportunity for any one person anywhere in the world to go global. The big driver is information and international telecommunications technology. The costs of communicating long-distance are plummeting and are now reaching fractions of a cent per minute at the leading edge. Private and business networks are flourishing as a result.

Increasing numbers of individuals are developing their own personal global networks. Others are joining global interactive portals such as www.myspace.com, and numerous other similar sites where they exchange views and collaborate with each other on areas of mutual interest.

Distance is becoming much less of a barrier than in the past. A small business in Trinidad can sell products and services directly to customers in China, Germany and Canada from their home-base by using simple Internet portals that have secure credit card transaction capabilities, search engine optimisation, and the international door-to-door delivery services of large global logistics players such as DHL and UPS.

Small interest groups – such as expatriate Azerbaijanis – can join together in one virtual space and share their heritage with each other – or any anyone else on the planet who is interested in their culture and views (see http://www.azeris.com/).

Globalisation does not necessarily favour the 'big' because ICT now makes things happen quickly. It may in fact tend to favour the small because small groups, businesses, and organisations can adapt more quickly to change.

'Perhaps that's what the 21st century has in store for us. The dismantling of Big. Perhaps it will be the Century of Small Things'

Arundhati Roy – Indian author and activist

'Worldsourcing' is also becoming a growth trend. Sourcing the best products, services and highly sought after skilled people, is increasingly being done on a global basis. National boundaries are fading quickly ('Worldsourcing' link).

And that is proving to be a challenge for politicians. People can no longer be kept as ignorant as in the past. Networks spread news rapidly around the world. People on the spot with camera and video-phones send us pictures and video footage of things that are actually happening. Untruths are quickly uncovered. Many politicians around the world are having great difficulty coping with this change as it diminishes the power they have traditionally held over people by sometimes withholding or distorting the truth.

Another highly significant trend is the shifting balance in economic power from the West to the East. China is likely to overtake the USA as the world's largest economy within the next 10 - 20 years.

Growing Gaps

This is an area causing a great deal of uncertainty around the world. Gaps are the basis of inequity and can lead to serious instability in societies. In Figure 10 we have summarised a number of key gaps we see developing around the world.

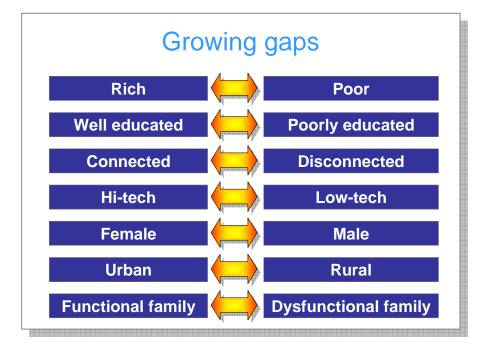


Figure 10: Inequity is not just a matter of dollars

Let's look at a couple of examples:

- The richest 2% of the world's adults own 50% of the world's wealth. The richest 10% of the world's adults own 85% of the world's wealth. The poorest 50% of the world's population own just 1% of the world's wealth (<u>UNU-Wider Link</u>).
- The practice of aborting female foetuses in parts of India and China has led to a serious imbalance in the gender ratios. In some areas the ratio is as high as 130 males to 100 females. 'Womenless' men tend to resort to a life of drugs, violence, and crime (<u>Imbalance link</u>).

On the other hand smart groups, such as Drishtee (Link) in India (they have developed Internet kiosks for small rural villages that connect villagers to national and international sites and services – including e-government services) and the 'One Laptop Per Child' global initiative being driven by Nicholas Negroponte in the USA, are developing innovative ways of closing the gaps.

Paradox

Paradox is one of the 7 Tsunamis. We feel it is highly relevant to this project because we need to understand many things human beings do are not always rational. Here are some examples of paradoxical behaviours that are shaping the future for the human race:

- Parents drive their children to school to protect them from the threat of abduction – but the chance of being injured or killed on the road is vastly higher than that of abduction.
- Driving children to school is actually desensitising children's natural risk-based survival sense.
- People drive SUVs around town with a Greenpeace or 'Save the Whales' sticker on the back window.
- People are actually eating themselves to death – a combination of poor diets, overconsumption, and sedentary lifestyles.



- The contraceptive pill gave women greater choices and freedom in life. But hormone residues from the pill in wastewater streams plus oestrogen mimics leaching from plastics such as phthalate-based softeners are contributing to a decline in male fertility levels (Phthalate link).
- The more time we save the less time we have to do everything we want to do.

Changing Value Chains

One of the biggest shifts, with major implications for small countries, is how value chains are changing.

The traditional value chain involved a number of intermediaries who played quite distinct roles and acted as links between suppliers and producers and end-consumers. The connectivity between suppliers and producers and end-consumers was often non-existent. These value chains were slow and expensive – often with an end sales price many times greater than the ex-producer cost and involved the shipping and transport of large volumes of product from place to place. They were 'mass-market' focussed.

New emerging successful value chains are built around a completely different paradigm and value proposition. They connect directly between suppliers and producers and end customers using sophisticated intermediaries to facilitate delivery. They are heavily IT based and use the Internet as the main interface. They also focus more on delivering to 'markets of one', often on a 'door-to-door' basis. They are more cost efficient and also tend to cater to end-customers who have less interest in the cost and more interest in getting what they want when they want it.

The World In 2020

The TDUs in the previous section help us to think about the types of shifts that are occurring and to imagine how things might change 5-20 years from now. We can convert those imagined views into valuable tools if we build them into scenarios. In this section we demonstrate how this can be done quite simply in both a global and national context.

Global Scenarios

It's difficult to find a set of purely global fashion sector scenarios as most tend to be regional or local in context. However, we came across one set of four scenarios put together for the EU textiles and leather sector in 2004 which provides four interesting alternative futures that can be extrapolated to a global scale.

A simple overview of this set of scenarios is shown in Figure 11.

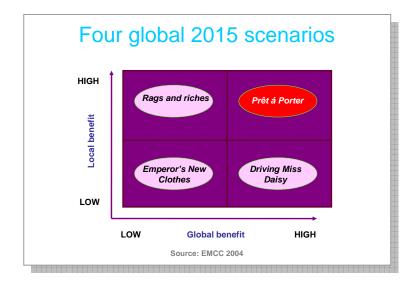


Figure 11: A set of possible fashion sector related global scenarios

The essence of each has been summarised on the European Monitoring Centre on Change website (<u>Link</u>) as follows:

<u>Perfectly Prêt á Porter</u> – There has been a long period of economic, social and technological progress and the world is at peace. International trade is free but fair and companies are looking for opportunities all over the world (a highly positive global scenario).

<u>Rags and Riches</u> – Developments in international trade, ICT, and production technology differ between regions and some of the traditional regions are maintaining their competitive advantage but have limited opportunity to exploit that internationally because of the regional differences (a middle of the road scenario).

<u>The Emperor's New Clothes</u> – Promising technologies have failed to bear fruit in the world's higher cost economies and so most is now outsourced from the most globally cost competitive sources, mainly in emerging market economies (a high risk scenario).

17

<u>Driving Miss Daisy</u> – Globally process and product technologies are developing rapidly but most of that development is coming from fast growing and emerging economies. The balance of global trade is shifting increasingly towards Asia at both the innovative and commodity ends of the markets (a disruptive scenario).

In essence, what these four scenarios describe are four different broad-based potential future outcomes for the fashion sector.

Small Country Scenarios

As shown in Figure 4, we have to think about regional, national and local scenarios within a global context. Over the past few years we have developed a simple matrix which we believe provides a useful basis for developing a set of scenarios (alternative futures) for small countries like Trinidad and Tobago.

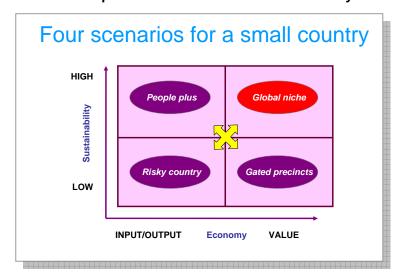


Figure 12: A set of possible scenarios for a small country like T&T

In broad terms each scenario focus could be described in the following way:

- Global Niche A positive scenario where the country has been able to develop a number of high value global fashion niches built around the natural resources, creative design capabilities, a high degree of innovation, new value chains, and the specialised technical capabilities that the country possesses. In 2015 this sector contributes 15% towards the country's GDP and this is expected to rise to 22% by 2020.
- <u>People Plus</u> A middle of the road scenario that foresees a largely cottage industry based fashion sector which produces a range of products under a 'fair trade' type of branding but does not add a lot of value to the economy. The basis is sustainable but the value is relatively low. As a result, fashion only contributes a few percent to GDP by 2015.
- <u>Gated Precincts</u> A partial solution where there has been a significant improvement in the country's economic position but where the wealth generated from fashion sector developments (15% of GDP by 2015) remains largely in the hands of an elite few and there is a large and growing gap between the 'haves' and the 'have-nots'.
- <u>Risky country</u> a negative scenario where the country has failed to develop the potential of its fashion sector. In contributes less than 2% to the country's

GDP in 2015. The country overall is making little or no progress economically or socially. The result is a flight of talent – including the people needed to drive the development of an innovative fashion sector, an increase in crime and despair, and the country faces a dismal future.

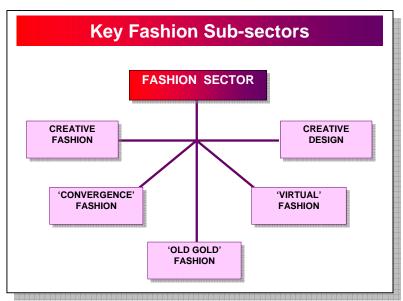
As in the case of the four global scenarios, as time progresses towards 2015 any one of the four scenarios may predominate but parts of the other three scenarios are also likely come into play.

The direction the country takes in the fashion sector will depend upon decisions made by the country's leaders, key stakeholders, and individual citizens, right now in 2007.

Future Fashion Opportunity Areas

We feel that the opportunity areas within a Horizon 3 context (5 - 10) years in the future) can be broadly grouped into five sub-sector areas as shown in Figure 13.

Figure 13: Our idea of what we think will be future fashion sub-sectors offering opportunities for T&T.



Each one of these areas offers a range of quite specific opportunities that have a great deal of potential for both niche and global players. In broad terms these subsectors have the following opportunity context:

- <u>Creative Fashion</u> This is the leading edge high value global fashion niche area that continuously evolves through the innovative use of ideas, materials, themes, and 'fascination'.
- <u>'Convergence' Fashion</u> This is a totally fascinating emerging field and overlaps a whole range of sectors including ICT, fashion design, biomechanics, and human biology. There are some huge opportunities emerging that will be built around 'solutions for one' individually customised packages which are perfect for a small country like T&T to become a player in. One example is clothing that generates electricity from body heat in quantities sufficient to power cell phones and small computers.

- <u>'Old Gold' Fashion</u> Rapidly ageing populations are becoming a global feature. But tomorrow's older people will not be like those of the same age from the past. They will be far more concerned about personal appearance and enjoying life to a much later age. They will demand their own fashion focuses and will also need some specialised smart new concepts to manage a decline in some natural bodily control functions things like incontinence and hip breakage from falls and Alzheimer's disease.
- <u>'Virtual' Fashion</u> Evolution of the Internet through the Web 2.0 (more interactive and self managed) and the upcoming Web 3.0 (far more visual rather than text based) phases is creating a whole lot of new opportunities. You can already sell virtual fashion in virtual marketplaces on sites such as 'Second Life'. You can visit sites where you can use virtual changing rooms to try on various fashion products. The opportunities are growing fast.
- <u>Creative Design</u> We have deliberately separated this from Creative Fashion because it is an area related to a global trend of collaborative design work which is done by teams from different parts of the world through a virtual interface. This started off largely in the car industry but is now moving into a whole range of fields. It is also a possible outsourcing function – just as India has done with the IT sector.

Putting the Opportunities in a Realistic Context

If we go back and look at Figure 4 once more, we can see that we have to look at the local context within a global context, and vice versa. So when we use foresight to identify new and emerging opportunities for a sector such as the fashion sector, we need to rationalise the areas we identify into ones which we can realistically become a player – based upon the resources, capabilities, technology, financial support, infrastructure and regulatory support available locally.

For this reason we suggest that perhaps the way we should be thinking about the types of opportunities available for the T&T fashion sector in future might be along the lines suggested in Figure 14. But it is open to discussion!

A possible T&T fashion opportunity 'thinking' context **Opportunity Area TT Opportunity** Creative fashion 'Convergence' fashion Old Gold' fashion 'Virtual' fashion Creative design Global Niche Global Niche Global Lead Plaver Linked Player Plaver

Figure 14: Possible future fashion opportunity contexts for T&T

We can define the intent of the ratings depicted in Figure 14 as follows:

<u>Global Niche Player</u> – This means the opportunities that T&T is likely to develop successfully are highly defined niche opportunities based upon a local resource and/or capability which already exists and can be leveraged. The resulting businesses would be T&T owned and marketing would be largely web-based. <u>Global Niche Linked Player</u> – This means the opportunities that T&T is likely to successfully pursue are through being a niche player within a larger global alliance or partnership that will develop and market relatively technically complex high value niche focussed products and services.

<u>Global Lead Player</u> - This means the opportunities that T&T is likely to develop successfully are through being a significant highly networked global player that has developed major collaborative or outsourcing arrangements with other key stakeholders in other parts of the world. Within these arrangements, T&T stakeholders can deliver internationally competitive outcomes for major clients.

Lead Indicators

The following Lead Indicators provide us with some interesting ideas and aim to stimulate our thinking about possible Horizon 3 'Best Bet' opportunity areas in the fashion sector.

Lead Indicator Trend Arrows

The indicator arrows used throughout this report have the following meanings:



Could go either way



Slight move



Moderate move



Strong move



Lead Indicators 1 – ICT Trends

<u>Virtual design</u> – ICT is changing the way everything happens in every sector and opens up new opportunities in fashion.





Trend momentum

We live in an increasingly ICT-driven world, which means that technology will continue to impact on every facet of life and industry. The virtual world is going to be a more common feature for the design and fashion industry in the near future.

Supporting views

Computer-aided draughting (CAD) has already revolutionised the design process.

- 2D/3D CAD/CAM fashion and textile design software already exists on the market, not only for the fashion industry but also a range of other key industries as well.
- These include aeronautics, upholstery, education, automotive, industrial and apparel.
- Other software packages incorporate a design factor for virtual clothing which uses techniques that determine a garment's shape and how the individual wears it. Virtual characters are used.
- Other software suites such as Virtual Fashion Works offer the possibility of designing clothing in minutes.
- Lectra Fashion PLM has developed a virtual solution in a collaborative environment for design and development.

Key references

The future of fashion in a virtual world

- A virtual approach for clothing design
- Virtual fashion works ; Lectra Fashion
- Optitex 2D/3D CAD/CAM fashion and textile design software

- 1. Do T&T designers need to employ virtual design techniques?
- To be globally competitive, local designers will need to become competent in virtual design in a market that is rapidly growing.
- As the need for virtual fashion increases, local designers will have to further stretch their capabilities to provide dynamic, contextsensitive clothing in the digital era.
- Sourcing designers who can function in a virtual world will undoubtedly provide a challenge.
- 2. Does this capability exist here currently?
- An opportunity therefore exists for the Caribbean Institute of Fashion and Design to offer such a module in its curriculum to future students of design locally using T&T expatriate talent as facilitators.

Lead Indicators 1 – ICT Trends

<u>Virtual Fitting</u> - Because the market is moving towards customised solutions for 'markets of one', virtual fitting rooms are becoming a necessity.

Try them on without trying them on!



The Adidas virtual mirror developed by researchers at the Fraunhofer Institute for Telecommunications and Heinrich-Hertz-Institute HHI, in Berlin.



Trend momentum

Virtual fitting aims to provide maximum comfort to customers by adapting designs to best fit by using scanners and 3D models. As virtual fitting gains momentum, the associated products will become more cost-competitive.

Supporting views

Virtual fitting is revolutionising the fashion industry and enables mass – customisation – a growing global trend

- Virtual fitting has a vital role to play in meeting societal needs and customer satisfaction and incorporates ergonomics and other health-specific requirements of users.
- The Ergoshoe System uses a laser foot scanner to create a 3-D computer model of a person's foot.
- Virtual fitting opens new market possibilities and increases competitiveness by introducing a technological innovation which will radically change supply chain structure.
- Adidas has developed a virtual mirror in its new Paris store that enables customers to try on shoes without actually having to put them on.
- Haptic technologies are now advancing to the point where customers can 'feel' the texture of fabrics virtually.

Key references

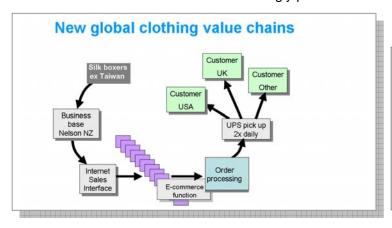
Virtual fitting offers a range of possibilities.

- A step forward for footwear ; Auto-snug clothing
- Virtual shoe-fitting mirror by Adidas ; Virtual feel haptics
- PolyU develops intelligent dressing mirror and fitting room

- 1. Are there benefits of applying virtual fitting to the T&T scenario?
- 2. Do we have the capacity locally to explore virtual fitting?
- Virtual fitting can be of benefit for local designers' overseas clients and the widely-dispersed Trinidadian Diaspora.
- Overseas clients are offered a 'virtual feel' of the fabric before the final garment is made using available software.
- Virtual fitting offers manufacturers the opportunity to better adapt their designs to their customers needs and aim towards individual customisation.
- This raises the question of affordability of virtual business e.g. virtual fitting may be more practical for Radical Designs or Janouras. Individual designers may have to collaborate.

Lead Indicators 1 – ICT Trends

<u>Virtual marketing and retail channels</u> – Virtual marketing and retailing is beginning to boom as customers demand increasingly personalised services.





Trend momentum

Virtual marketing and retail channels allow for a greater integration of customer shopping needs with suppliers by using technology. The shopping experiences of the young will increasingly involve a combination of the Internet, text messaging, IM and e-mail.

Supporting views

Interactive 'window shopping' caters to a 'digi-savvy' young demographic

- Ralph Lauren launched a 24 hour virtual interactive shopping window in the UK in January 2007.
- Bloomingdales have moved into 'social retailing' an approach that matches up social computing and mobile interfaces and facilitates social network based virtual shopping experiences.
- In-store young customers can stand in front of a paneled interactive mirror which provides on the spot feedback whilst interacting with others virtually through a live video feed.
- New Zealand Nature is a highly innovative virtual marketing company that has developed a series of micro-websites that connect with keywords which web users' favour.
- This brings potential customers directly to their website and gives them a major competitive advantage.

Key references

Virtual marketing and retail channel links

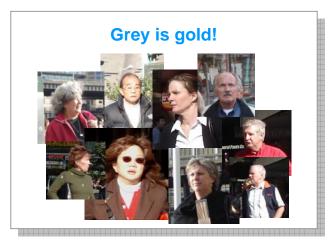
- Ralph Lauren Debuts 'Window Shopping' Touch Screen
- Ideas for Improving Retail Market Channels
- New Zealand Nature

- 1. How can virtual marketing be applied to the T&T fashion sector?
- Virtual 'window shopping' on the Internet will have mass customer appeal and generate widespread interest in the product.
- The costs of software for such virtual sites are falling and making it easier for a larger number of smaller players to join in.
- Virtual marketing has great potential for use in the cosmetics industry. The country's leading cosmetics company already has online marketing.
- 2. Can we use online marketing to connect to the country's large overseas Diaspora?
- However, greater PR mileage can be gained through online social networks such as myspace.com and facebook.com. This has the potential to extend the client base far beyond Trinidad and Tobago.



Lead Indicators 2 – Consumer Trends

<u>Demographic change</u> - The world's population is getting older. This is both an opportunity and a threat.





Trend momentum

Factors such as declining fertility rates and greater longevity have contributed to the rapid 'greying' of populations world wide. In tandem with the ageing of populations is the relative decrease in the numbers of young people in many societies around the world.

Supporting views

Whilst some fear the impacts of an ageing population, others have a view 'grey is gold'

- The most significant demographic change is the growing numbers of over 50 year olds all around the world. This is a long-term trend.
- The change in the demographic profile is proving to be positive for some areas of the market e.g. cosmetics and specialist clothing for older people, and negative for others, particularly lingerie and swimwear.
- The over fifties possess the greatest part of the wealth in most developed societies ('grey is gold').
- They are a group that wants to look smart and who have the time and money to choose what they want.
- Anything to do with 'Age Defiance" is a growth area almost everywhere in the world – even for younger generations.

Key references

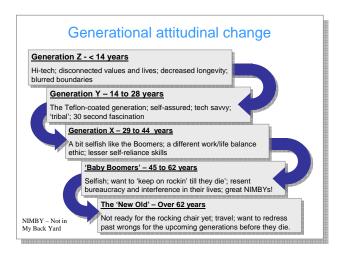
The impact of ageing populations on the fashion and glamour industry

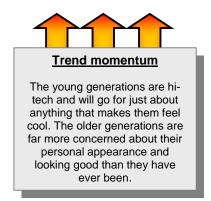
- The mature market
- Ageing population bad news for the UK cosmetics and fragrances industry
- Foresight 2020: Economic, Industry and Corporate Trends

- 1. What opportunities do ageing populations offer the T&T fashion sector?
- 2. How do we connect with this growth market globally?
- Design will have to increasingly encompass age-specific needs, such as health and well-being, limited mobility, etc.
- The sale of cosmetics will be influenced by the need for products in the battle against ageing, especially skin creams, sun protection and hair colouring.
- There will be a market demand for eco-friendly fashions focusing on both youth and the elderly that promote personal health and well-being.

Lead Indicators 2 – Consumer Trends

<u>Changing attitudes and needs</u> - The differences between generations today are far greater than they have ever been. Young and old have a new set of wants and needs.





Supporting views

The different generations have different attitudes towards what is 'hot' and what is not

- The 14-28 year demographic is fuelling a trend for disposable fashion - something worn once or twice and then thrown away.
- Young people also have concerns about the environment but ecofashion is not cheap.
- The techno-savvy generation relies on the web for keeping abreast of changes in fashion trends.
- Bizarre accessories such as Radio Frequency ID chips embedded under the skin are something the young generations think is 'cool'.
- The Baby Boomers and mature market are likely to focus on ecofriendly fashion designs because they have more disposable income and also are concerned about the future of the planet.
- A Dutch brand, 'Flocks', provides customers with details of the animal from which the wool for their clothes came from.

Key references

Inidications of changing fashion attitudes and needs by generations

- Eco-friendly fashions for the mature market; My Verichip
- Green fashion generational divide ; Fast-fashion vs. Eco-fashion
- Targeting Baby Boomers and the Savvy Smart Consumers

- What are the opportunities opening up due to greater generational differences?
- 2. What will Gen Y and Z think is cool in future?
- One possibility is that an increasing focus be placed on the over-50 generation and that would have a big impact on design in T&T.
- The concerns of the ageing Baby Boomers about the legacy they leave is opening up opportunities for more eco-friendly products.
- Generation Y will try out almost anything and so there are opportunities to experiment with the most radical and bizarre clothing and accessory items with this generation.
- Some of these will be based around hi-tech new age products.

Lead Indicators 2 – Consumer Trends

<u>Markets of one</u> – Mass marketing is dead. We are now moving into global marketing systems which cater for individual needs. That requires a quite different approach.





Trend momentum

Advances in ICT have made it possible for retailers and manufacturers to interact directly with individual customers. The customer is now king or queen and is demanding his or her own personal solutions and attention.

Supporting views

Individual customisation is becoming an expectation of highly sophisticated modern consumers

- Markets are moving from pushing products to fulfilling individual needs, moving from focusing solely on market share to measuring customer share, and moving from marketing to the masses to cultivating learning relationships with each customer.
- 'Virtual mirror' technology and photorealism shows customers exactly how their makeup will look so that customer satisfaction is guaranteed thereby eliminating unnecessary expense and experimentation.
- Customer satisfaction and control over a product are attainable through a digital bathroom mirror in which a person can edit his/her digital appearance using various graphic tools and virtual make-up.
- By 2020 nano-particles will be built into make-up. The user will simply smear make up over his or her face and, at the push of a button, electronics will manage their appearance throughout the day.

Key references

Individual customisation is the way its going

- The Future of Fashion
- Markets of one
- 'Virtual Mirror' technology used to sell makeup

What might this mean for T&T?

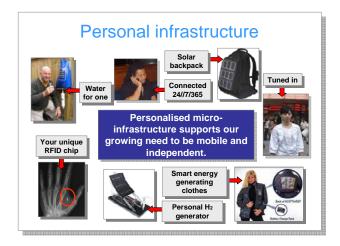
- 1. Can T&T participate to a greater extent in global 'markets of one'?
- 2. What do we need to do to make it work?
- Many T&T fashion players already produce relatively sophisticated and individually customised fashion products and designs.
- The biggest challenge is to connect more directly with these global 'markets of one' so that T&T products can be sold around the world.
- This means a much greater use of IT will be needed.

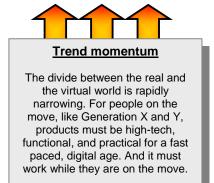
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Lead Indicators 3 - Functionalities

<u>'Infrastructure for one'</u> – People are increasingly on the move and being connected 24/7/365 is the most important thing. And that is leading to innovative new ideas.





Supporting views

Generations X, Y and Z want to take their personal infrastructure with them

- Generations X and Y are career-minded hard workers. They want a good job and an exciting career – even if it is on their terms.
- They are highly skilled at networking both in real and virtual environments.
- Generation Y, the 14-28 year-olds, spend significant time in the virtual world and are totally comfortable with new technologies.
- Solar powered garments that can recharge cell phones, iPods, or other electronic devices enable these generations to stay connected even when on the move.
- If they become disconnected by the failure of centralised infrastructure systems, they feel totally helpless.
- The demand for more innovative personalised infrastructure design products is going to increase.

Key references

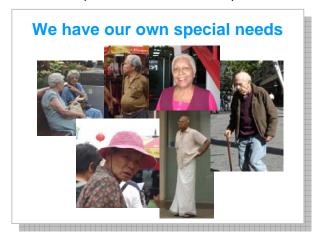
Functional Products

- Solar-powered style
- The ScotteVest
- Solar powered backpacks

- 1. What opportunities does 'infrastructure for one' offer T&T?
- 2. Is there a need to include designers from the non-textile sectors?
- 'Infrastructure for one' is opening up a whole new field of fashion design concepts that include materials science and ICT components.
- Opportunities exist for collaboration between designers and engineers to come up with innovative solutions.
- Further research into materials science and the innovative use of fabrics and textiles geared to the high degree of mobility of consumers is needed.

Lead Indicators 3 - Functionalities

<u>Age related needs</u> – With populations ageing all around the world, there is a growing need for specialised textile-based products that cater for their specific needs.





Trend momentum

Population shifts and generational transitions pose major challenges for the fashion sector – particularly as the baby boomers come of age. Mature markets are increasingly influenced by functional needs related to health and safety, limited mobility, and wellness – which are driving design.

Supporting views

Designing functional clothing for the over 65 year age group will be a future area of opportunity

- The growing number of people over 65 years in many countries has drawn attention to issues such as limited mobility and age related factors that shape these individual's needs.
- The fashion industry will need to cater to the unique clothing requirements of people in wheelchairs and those suffering from physical limitations caused by strokes, arthritis, rheumatoid ailments, paralysis, diabetes, oedema, Alzheimer's and the problem of incontinence.
- CATSeye is developing a new range of clothing that will allow the wearer to be tracked on the Internet - great for Alzheimer's disease sufferers.
- The increase in the number of seniors has resulted in the evolution of a niche market known as 'adaptive' clothing that caters to people with special needs.

Key references

Some specially focussed products

- Sweatshirts for asthmatics ; Trackable clothing
- Adaptive clothing
- Clothing solutions

What might this mean for T&T?

- What new
 opportunities do
 ageing populations
 offer T&T?
- 2. What do we need to do to be able to take advantage of them?
- A move towards healthy, active seniors may require special exercise clothing designed for the activities they participate in.
- There are also opportunities to provide solutions for those with physical limitations and adaptive clothing assistance needs.
- Local designers could create special lines for seniors that can be marketed through specialised global value chains that target this market segment.
- Features could include full length back snap openings and other adaptive features, such as long length zipper front openings and wheelchair dress designs that facilitate daily dressing.

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Lead Indicators 3 - Functionalities

<u>Future essential accessories</u> – The future essential accessories are likely to have a strong technology related theme and be able to perform specific functions.





Trend momentum

Future essential accessories will largely be based on technological advancements. RFID chips, clothing equipped with sensors, and compatibility with a range of electronic products including iPods, smart phones and other personal digital devices will become more commonplace.

Supporting views

Fabric sensors, RFID tags, and clothing equipped with Bluetooth devices will become essential accessories of the future

- A glove is currently being patented which can be used to control PCs, games consoles, machines, and electrical and electronic devices and equipment.
- New electronic modules for iPod and iPod+Bluetooth devices controlled by an ElekTex fabric sensor can be integrated into any garment or knapsack.
- Radio-Frequency Identity tags (RFID) are already being embedded in shielded products such as wallet guards and inserts, shielded bags, security sleeves for passports, credit cards, ID cards, etc.
- Researchers have been developing and testing innovative new ways to apply RFID technology. This includes a smart fabric enabled handbag that can manage its contents and remind you that you've forgotten your car keys.
- RFID chips can also provide protection against the loss of accessories.

Key references

'Smart' accessories

- Seamless knitted glove with Bluetooth; ElekTex
- Shielded bags; Security sleeves
- RFID protection

- 1. Can T&T's designers go hitech?
- 2. What do they need to participate in these growth opportunity areas?
- T&T's fashion designers have had a tradition of being innovative.
- There are increasing opportunities to focus on individual customisation and produce special accessories based on customers' emerging needs and functionalities.
- Local designers will need to become more informed about technological advances that are impacting on their sector.
- The challenge will be to develop key offshore alliances that can deliver the technology local fashion designers need to be innovative.



Lead Indicators 4 - Technology Trends

Environment adjusting materials - Smart fabrics are leading to the development of new apparel items that adapt to changing environmental conditions.





Technology is driving the development of a new range of fabrics and clothing that adapts to changing environmental conditions. These include garments which offer UV protection for those living in ozone-depleted areas of the world.

Supporting views

Smart materials science is leading to new and innovative environmentally adaptive clothing

- A Scottish technology group has developed a patented conductive polymeric yarn which enables its heating technology to be knitted into fabrics or gloves for wearing in harsh winter conditions.
- Burton Snowboards is expanding its range of clothing featuring Outlast temperature regulation technology.
- Paratech have developed flexible polymers that change from being insulators to metal-like conductors when pressed, stretched or twisted, and can be applied to different surfaces, including textiles, turning the host surface into a sensor that can be activated by touch or heat.
- New lines of modern sports and active outdoor wear include moisture management technology that draws moisture away from the skin to the garment's outer surface.

Key references

'Interactive' clothing

- Cool clothing; Hot stuff
- Temperature regulated clothing
- Moisture management fabrics

- 1. How well up with the play are we in this area?
- 2. Does this area offer our fashion sector some unique opportunities?
- Moisture management fabrics offer considerable potential for the global sport and leisure activity markets.
- Temperature adjusting textiles and clothing is another area where considerable potential to develop innovative products exists.
- Local scientists could explore the development of smart fabrics which respond to changes in environment (heat, humidity, rain, sun) by adjusting their pore size or thickness at a given moment to facilitate moisture transmission – perhaps to underpin the design of 'smart' clothes for the tropics.

Lead Indicators 4 - Technology Trends

<u>Electronic and ICT based smart materials</u> – Convergence between materials science, ICT, and fashion design is a strong growth trend.

Research students Aaron Toney and Wynard Marais with the Australian smart suit system. (Image courtesy of University of South Australia) VivoMetrics Bluetooth LifeShirt



Trend momentum

Smart fabrics are already an industry that is worth an annual US\$340 million and is growing at 19% annually. It is expected to reach US\$ 720 million by 2008. The next decades will see the gradual convergence of nanotechnology, biotechnology, IT and cognitive technologies.

Supporting views

The future of fashion will feature electrical and ICT-capable 'smart' materials

- Thin, flexible displays are becoming available that we will see built into clothing with increasing frequency.
- New materials will feature different tensile, thermal and optical properties, integration of IT into fabrics, and linkage of our bodies to the Internet for medical and communication purposes via clothing or 'skin-wearables'.
- VivoMetrics has incorporated Bluetooth wireless technology that connects their LifeShirt to data management systems which monitor vital body signs.
- The Fraunhofer Institute in Germany is developing electricity generating clothing that uses human body heat.
- The Australian 'smart suit' incorporates integrated electronic technology for the continuous monitoring of heart function.

Key references

Smart suits, smart fibres, smart clothes

- Future fashion 2016 ; The future of fashion
- Nanotechnology on the Catwalk; Bluetooth Lifeshirt
- Electricity generating clothing

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- 1. What technologies could T&T access?
- 2. How could we integrate such new technologies with our traditional fashion sector?
- The growing demand for 'infrastructure for one' is driving research to develop electricity generating textiles and clothing.
- Human body heat and electrical fields can be harnessed through advances in materials science.
- Biomedical engineering and design is an opportunity growth area e.g. using smart clothing to monitor heartbeats and vital functions.
- The promotion of health and safety adds a new dimension to fashion design in the digital era.
- The future may see the development of wearable electronics with embedded GPS systems, mobile phones, and digital cameras.

Lead Indicators 4 - Technology Trends

<u>Other material science developments</u> - Technology is adding a whole lot of new dimensions to traditional concepts of fashion and accessories.

The ultimate way of 'blending in'







Trend momentum

Nanotechnology and sensors embedded in apparel are opening up a whole new world of applications and possibilities for the fashion industry. But it will require a big shift in traditional approaches.

Supporting views

Nanotechnology is changing the face of the textile sector

- Fibres control the movement of medicine to administer timereleased antibacterial and antiallergenic compounds e.g. gloves that deliver arthritis medicine or antibacterial sheets in hospitals.
- Doilies, seat cushions, or wall hangings used in airplanes could continually absorb particles or gases or other airborne biohazards.
- Lightweight, machine-washable garments with embedded sensors collect pulmonary, cardiac, posture and activity signals.
- New programmable sensor technology embedded in apparel can now be dry-cleaned.
- Nanotechnology has been used to develop new fibres and textiles which can filter out viruses, bacteria, and other hazardous particles.
- A professor from the department of quantum and optical electronics of the Ulyanovsk State University in western Russia has patented a method of making things invisible.

Key references

Wearable sensors and nano-textiles

- Nano-textiles are Engineering a Safer World
- Infrared weight loss garments ; Invisible cloak
- Sensors which can be dry cleaned

- 1. Should the T&T fashion and design sector be developing competencies in such technologies?
- 2. What would be some niche opportunities?
- There are myriad possibilities in the burgeoning health care sector in areas such as embedding sensors that monitor vital functions.
- Wearable sensors can be used as a tracking device for Alzheimer's patients and as a monitoring device to ensure personal safety.
- Flame resistant clothing has both military and industrial applications.
- Clothing that makes people invisible has got to be an opportunity area with great potential for both military and personal use.

What Comes Next?

- This Lead Indicator document raises a number of 'So what?' challenges for the fashion sector.
- The next step is to develop a greater understanding of how these challenges are going to shape the potential fashion sector business opportunities at the Horizon 3 level 5 -10 years into the future that Trinidad and Tobago could exploit.
- These are types of opportunities that need to be converted into operational business entities within the next 5 years so that T&T is able to progress towards its goal of achieving fully developed nation status in 2020.
- They are also essential if the country is going to be in a position to provide higher quality employment opportunities and prospects for the increasing number of graduates the country is producing.