

Asia's Business Travel Market - The approaching market Tsunami

Stark choices

Ride it with new cabin technologies to wild success or drown with the old technologies

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The sharp drops in the Business Travel market as the recession bites is a major concern, particularly in Asia where the falls in demand have been near catastrophic. Even the best performing Airlines both in the region and world wide have seen huge demand drop particularly in the top end of the market in First and Business class. This compounded with the demand drop off in the Cargo demand as the recession advances has contributed to a very challenging time for Airlines in the region.

There is of course no question that the recession has been the principal factor in the demand drop off. However the precipitous Asian Business Class drop off is an interesting manifestation of a fundamental shift in the commercial aviation market structure in the last decade - particularly pronounced in the Asian market.

Global Airline Markets - structural changes

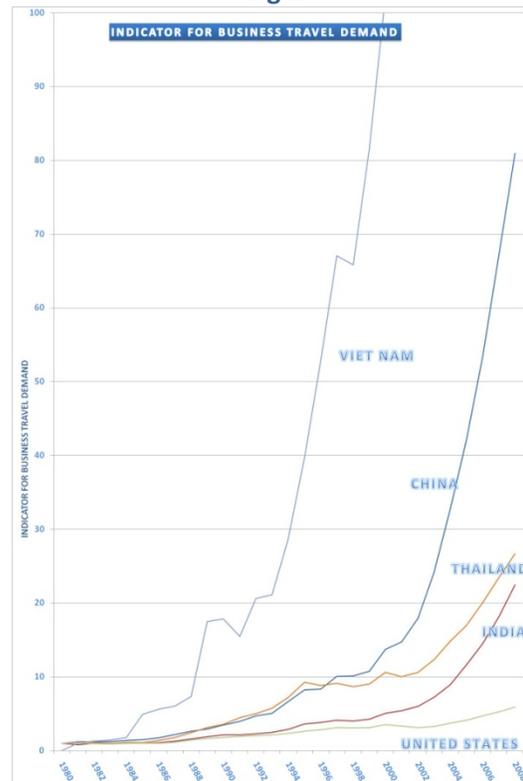
Business Travel

Conventional wisdom is that Business travel is a monolithic market segment. However while this was perhaps true till the 1980s, global economics has change this market fundamentally.

The rise in demand for business travel by businesses in the Asian region has fundamentally different economics to the

industrialized countries. The potential demand in this market if enabled is huge and growing. From our analysis , Fig 1., shows the changes in a Business Travel demand indicator for selected Asian countries. As can be see the growth in this indicator for the Asian countries when compared to the United States is enormous.

Fig 1

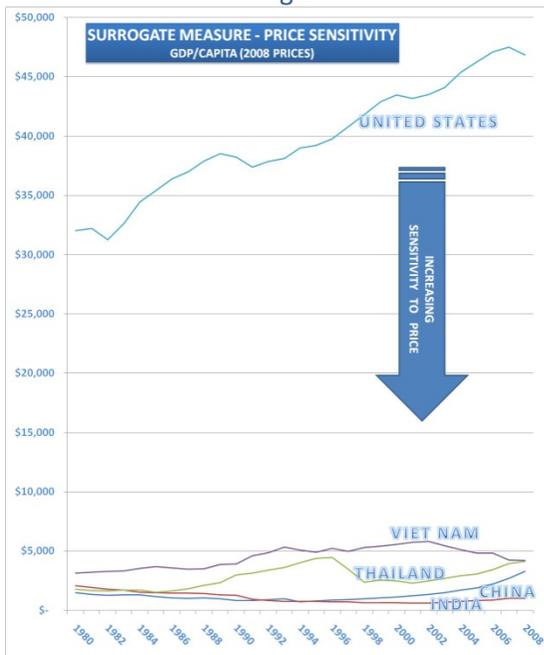


Source: MMILLENNIUM ANALYSIS

However, this market is not as price elastic as the Business travel market in industrialized countries. This is easily understood from Fig2

That illustrates the growth of GDP per capita in selected Asian countries as compared to the United States. The upshot of this is that Business travel for enabling global business is a much larger part of the cost of doing business in Asian and other developing economies and therefore as profitability falls the critical price point at which Business travel gets cut is much lower than in industrialized countries. Travel is then only for mission critical needs and excludes much of the discretionary travel.

Fig 2



Source: IMF

This fundamental factor is borne out in the recent precipitous collapse of the Business Class market in the Asian region as profitability in global business suffered from the recession. The critical price point for these markets was lower than the market offerings by the Airlines.

Therefore airlines need to hone in on the critical price points and critical human factors for this huge and emerging Business Market. *Most importantly offer these combinations at profitable operating costs. This will become even more critical as fuel prices begin to escalate.*

Capturing this emerging Business Market

The key factors for defining this as a sustainable market are:

- Define **Price points** that are acceptable in this relatively inelastic market.
- Define **Human Factors** for this market - to effectively enable the business processes of passengers. Sleep is a critical factor.
- Ensure **safety** levels that meet or exceed conventional seats and **engineering** that is feasible.
- Ensure that the offering is within the parameters of a **sustainable profitable** operating plan for airlines.

It is no secret that there has been considerable interest in the "premium economy sector" which is the space that these offerings will inhabit. However, there are a wide variety of ideas on what to offer and how to build a cabin to meet this offering.

The principal constraint in design is the space in the "Tube".

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Take away the aisle space required by regulation and there is a limited amount of 3-D space where the passenger accommodation needs to be created to best meet the human factors, the safety factors, and sound engineering and then have an operating cost low enough to enable the price points demanded by this market. As floor space on the aircraft is limited and sleep is a critical human factor overnight for enabling the passenger's business process. There is a limit to the cost reduction possible with horizontal flat beds on a single tier. Therefore the recent

interest in **vertical space** for efficient deployment of passengers to meet their requirements at a cost low enough to enable price points they will accept.

Vertical Space - the key to the solution

The use of vertical space to increase the number of passengers in the same 3-D space offers the opportunity to spread the operating cost of the aircraft over more passengers but with the advantage that the size of the seat and bed offerings do not have to be made uncomfortably small. However, this is a new paradigm that has many pitfalls and careful design is imperative.

The following are some of the show stoppers in using vertical space in tiered architectures that are not issues in a single level deployment.

SAFETY PITFALLS

- In upper levels of tiered architectures, *shared leg room* during a 90 second emergency evacuation can be disastrous as a locked mechanism on a seat will not allow middle passengers out. There is no adjacent floor to step onto while climbing over a seat.
- Shared ladders in a 90 second evacuation can be disastrous with handicapped or injured passengers on the ladder while others wait.
- visibility of the lower tier in seeing the upper tier as they egress during a 90 second emergency evacuation, to ensure that they don't land on the top of passengers on the lower tier or making their way out of the lower tier.
- Sleep accommodation not designed for crash conditions and far removed from the seats will create a safety hazard.

UTILITY & COMFORT PITFALLS

- Fully flat horizontal bed not possible.
- Aisle access for all passengers not easy.
- Position of passenger depends on other passenger positions.
- Communication with and service by cabin attendants are ergonomically efficient.
- Privacy when desired

Vertical space - market interest ?

So in theory there are reasons for the use of vertical space for creating a new cabin paradigm. However we at MMILLENNIUM GROUP needed to have clear market corroboration that there will not be psychological factors that will prevent market acceptance.

We therefore conducted a Market Survey at Dulles International airport in Washington DC for long haul passengers travelling to different parts of the globe.

We asked them to consider 3 options - all using the same space and priced identically:

1. The Air Sleeper that is tiered with 3 steps to the upper tier.
2. A Premium economy seat with a pitch of 37"
3. An economy seat with the option to sleep on time shared beds at a remote location in the aircraft when they become available.

77% chose the tiered Air Sleeper. 13% chose the conventional premium economy seats. 9% chose the conventional economy seat with the time shared bed.

Vertical space offering by the AIR SLEEPER

Air Sleepers are designed for markets all the way from economy and up. For this market our offerings in the premium economy can support a 6ft 3in lie-flat and horizontal experience. It is very much like most Business Class standard seats now

The optimum offering for the emerging Business Class Asian Market Tsunami is in tiered architectures!

around the world with a comparable width, but with about 2 to 3 times the number of seats as in conventional Business Class, thereby reducing cost per seat for the airlines. A Business Class type seat that takes up half the space can be priced at a little over half the

conventional Business Class price and still make more money for the Airline.

This is the space where the emerging Asian Market Tsunami lies!

Notably however the Air Sleeper and more generally the tiered architectures that use vertical space are a complementary product class to the traditional Business Travel market and not substitutes. Excellent design of traditional Business Class seats will continue to cater for a different market.

MMILLENNIUMM GROUP has had significant interest from airlines with strong long haul capabilities from around the world. We have commenced doing LOPAs for interested parties. for more information www.AirSleeper.Info.

Dr. Rajasingham is Founder, Chairman and Chief Executive of MMILLENNIUMM GROUP INC. an Engineering IP Company. Dr. Rajasingham has over 40 single inventor engineering patents around the world in areas of vehicle technologies, electrical and mechanical engineering and computer technology. Many of these technologies contribute to the intellectual property of the MMILLENNIUMM GROUP.

The MMILLENNIUMM GROUP directly and through subsidiaries is currently active in developing unique technologies for the aerospace, automobile, and IT industries.

Dr. Rajasingham has also had extensive experience in Global Economics and Finance as founder of Pinnacle Capital Investments LLC. an investment manager, as research head for CitiCorp's Global Emerging Markets and as Economist at the International Monetary Fund.

Early in his career, Dr. Rajasingham was Consultant with Mc Kinsey & Co. Dr. Rajasingham holds a PhD from U.C.Berkeley, A.M. and M.B.A. degrees from Stanford and a Bachelor's degree in Electrical Engineering from the Indian Institute of Technology where he was awarded the Governors Medal, and the Institute Gold Medal.