

The Retail Institute

Active & Intelligent Packaging for Future
Connected Consumer

ActInPak

Riga, 5-6 June 2018

The Retail Institute



The Retail Institute

The Retail Institute is a specialist research team within Leeds Beckett University offering over 20 years' of knowledge in the consumer goods and retail packaging supply chain.



Research Themes



Consumer of
the Future




Product &
Packaging
Innovation



Retail
Business
Globalisation

Research Operations



Membership
Scheme

Applied
Research
&
Consultancy

Academic
Research

Our Clients & Partners



The Retail Institute

Kraft *Heinz*

Associated
British Foods
plc

Waitrose

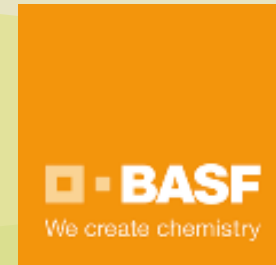
 **ASDA**

YOUR M&S



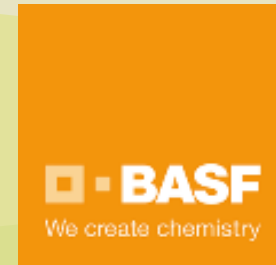
Ardagh Group 

MARS



Nestlé

MARS




P&G



SIG Combibloc



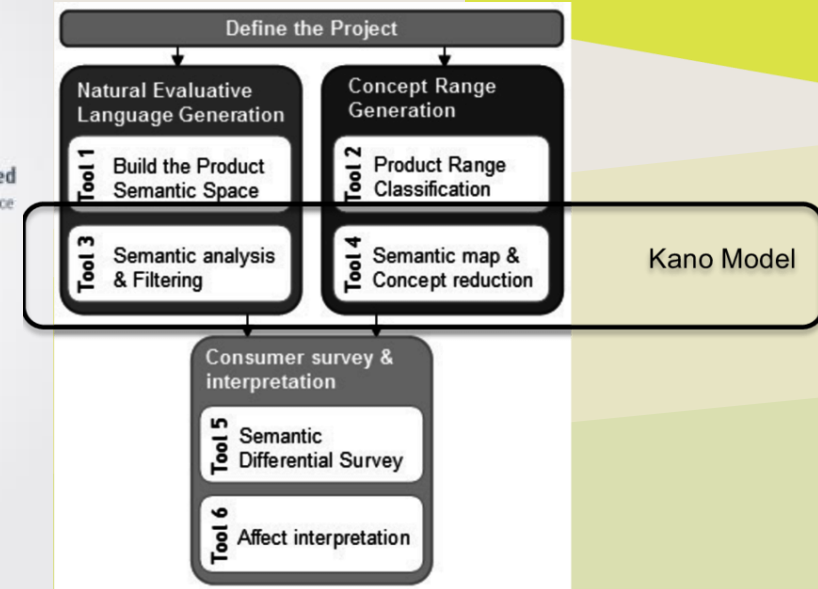
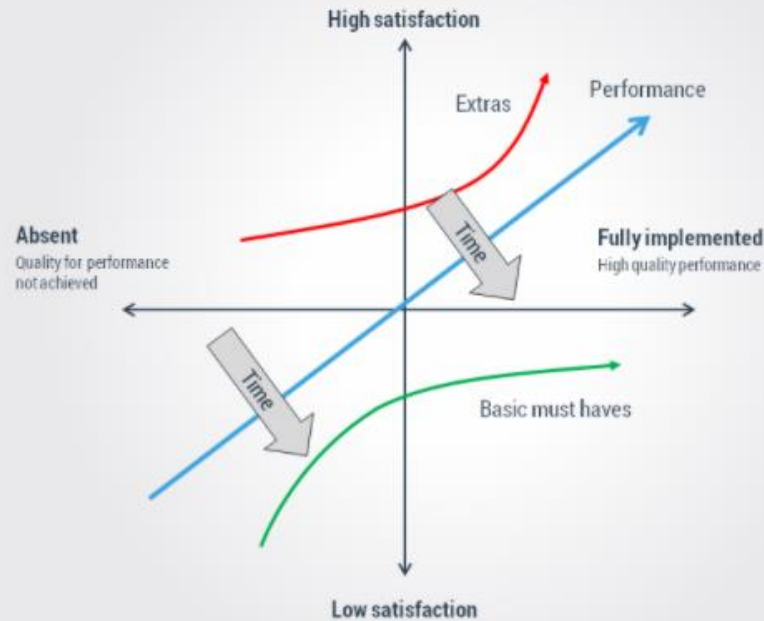
fresh thinking!
 klöckner pentaplast



ALLIED
Trusted by the World's Finest Brands



Consumer Lead Innovation



- 30% Category growth
- 40% Increase in consumption
- Eco-friendly and ergonomic design
- Great emotional & sensorial appeal

Consumer Purchase Drivers



Consumers & Packaging



- Outperforming in category: 9.4% compared to market growth of 0.4%.
- 21% of market share
- Incorporation of Sensory Science into product design

Packaging is a **communication tool** for consumers:

- Labelling (Value, Nutritional, Ethical, Recyclability information)
- Sensory Attributes (colours, graphics, brand, language, tactility, olfactory)
- Functionality attributes (per category, for ex. visibility of produce, digital labelling)
- Innovative pack attributes (differentiation) communicates product value

The findings show that the following factors such as, the quality of the packaging material, Innovation and practicality, and the package design seem to be the most important on product selection during buying process.

Consumer Acceptance of Smart Technologies

- Respondents were in favour of the use of technology to extend shelf life.
- Nanotechnology derived the highest level of awareness of all technologies.
- Consumer acceptance depends on the type of technology and application.
- Participants **were not willing to pay** more for the use of smart packaging technology
- However, **willingness to pay more increased** with the provision of information.



Industry A&I Packaging Survey

Safety Quality Indicators

- Delay of microbial spoilage
- Slow rates of rancidity reactions
- Decrease of nutrient loss and delay of colour changes
- Decrease of off odours/flavours
- Delay of microbial spoilage and retention of texture
- Delay of ripening
- Signal temperature conditions and storage time
- Signal packaging leaks and storage conditions in MAP
- Indicate microbial spoilage
- Indicate presence of specific pathogenic bacteria (E coli for ex.)

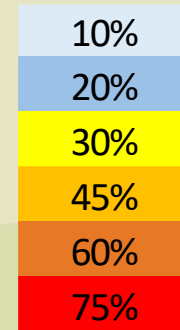
Other Intelligent Packaging Functions

- Tamper Evidence/ Pack integrity
- Traceability / RDIF / tags/ chips
- Product authenticity/anti-counterfeiting – holographic images, logos, hidden design print elements

- Global Tea Manufacturer
- Global Glass Containers Manufactures
- Global FMCG Brand Owner (2)
- Global Pet Food Brand Owner
- Global Dairy Producer
- Global Plastics Manufacturers
- UK Retailers (2)
- UK Protein (Beef) Manufacturer
- UK Cardboard/Print Industries
- UK Flexographic Industries
- Scandinavian Pharma/Food Packaging

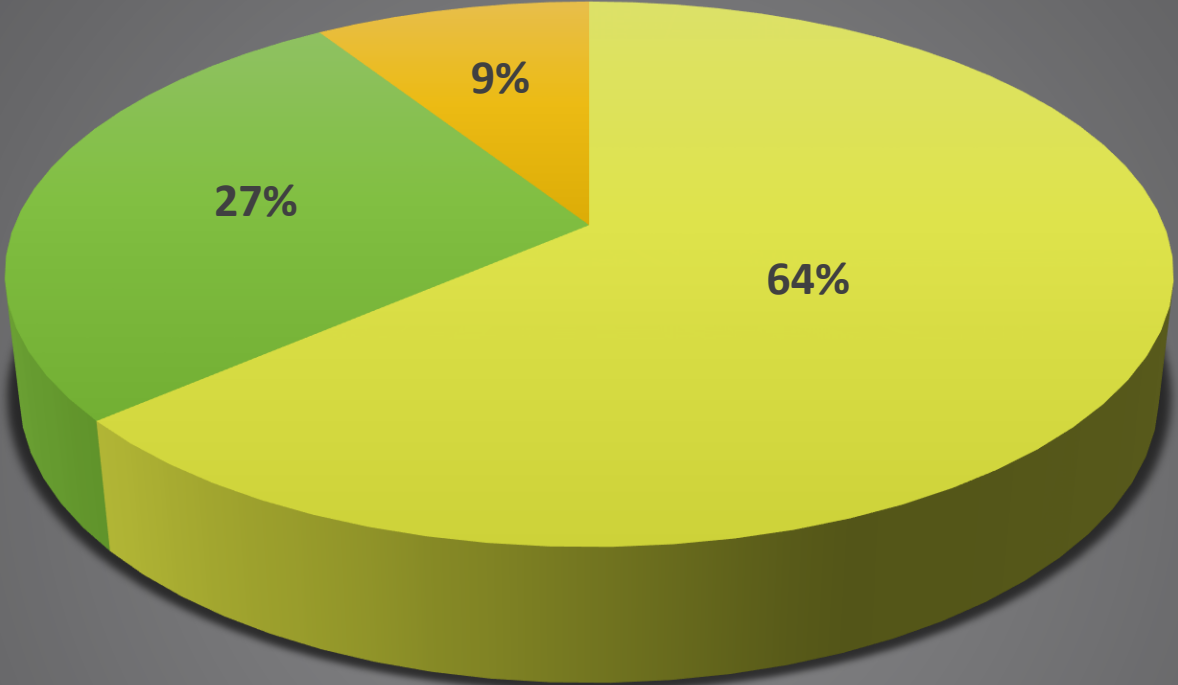
Industry A&I Packaging Survey

SAFETY QUALITY INDICATORS					
	1	2	3	4	5
Delay of microbial spoilage	10%	10%	10%	20%	45%
Slow rates of rancidity reactions	10%	10%	20%	30%	45%
Decrease of nutrient loss and delay of colour changes	10%	10%	10%	45%	45%
Decrease of off odours/flavours	10%	10%	45%	20%	45%
Delay of microbial spoilage and retention of texture	10%	10%	20%	20%	45%
Delay of ripening	30%	10%	30%	30%	20%
Signal temperature conditions and storage time	20%	10%	10%	45%	20%
Signal packaging leaks and storage conditions in MAP	10%	10%	20%	60%	20%
Indicate microbial spoilage	10%	10%	10%	45%	30%
Indicate presence of specific pathogenic bacteria (E coli for ex.)	10%	10%	30%	45%	20%
OTHER INTELLIGENT PACKAGING FUNCIONS					
Tamper Evidence/ Pack integrity	10%	10%	10%	30%	45%
Traceability / RDIF / tags/ chips	20%	20%	10%	45%	20%
Product authenticity/anti-counterfeiting	10%	20%	20%	45%	20%



Industry A&I Packaging Survey

Importance Ranking



- Improve Product and Value
- Provide More Convenience
- Provide Protection Against Theft Counterfeiting & Tampering

Industry Perspective

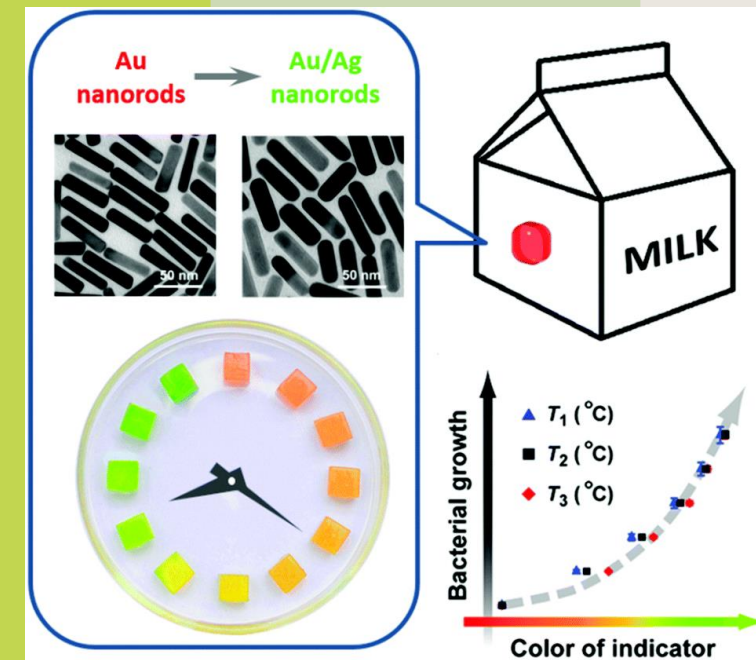
Mars Petcare: For me if anything indicated shelf life once the pack was open that would be AWESOME. For example Dentastix has 14 days once open to be fed but I suspect not many people know that!

RPC Rigid Plastic Packaging: There are a couple of other points that might be of interest.

- For us active packaging is far more important than intelligent packaging. Anything that improves the performance of the pack (especially in the food or chemical industries) has an impact on what we make. Extending shelf life and delivering products in a more palatable condition are very important to us.
- Intelligent packaging is more niche in our field anyway. Many of the technologies have been around for a while (RFID, QR codes etc.) but have not really found a use other than for marketing campaigns and gimmicks. Yes they are a great publicity tool but very few have found a real positive and sustainable use yet.

EFIA, Flexographic Association: Active and intelligent packaging is very important in our industry and a lot of developments have been done. A lot of interactive features are printed using flexo too.

ABP Foods (Meat Manufacturer): For our products technologies that extend shelf life, communicate spoilage to prevent food waste would be critical.



Industry Perspective

- Meat quality and safety are highly dependent on packaging technology.
- Active packaging positively changes the internal conditions of packaging.
- Intelligent packaging monitors product conditions and information exchange.
- Active and intelligent packaging enhance meat quality and safety.



Active & Intelligent Packaging

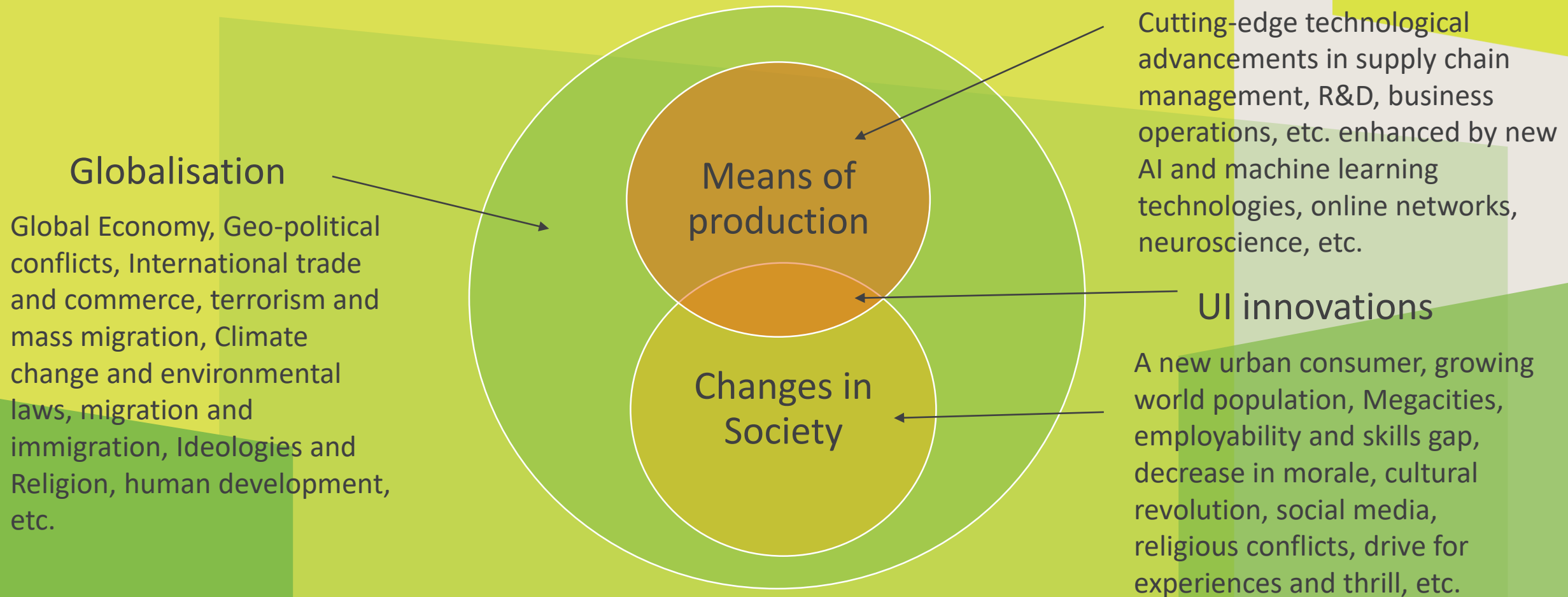


WHERE PEOPLE START PRODUCT SEARCHES 2016



Soper, Spencer. "More Than 50% of Shoppers Turn First to Amazon in Product Search." Bloomberg.

The intersection of globalisation, business transformation and Socio-technological trends



What is happening right now?

1. Predicting the future is a profitable business;
2. The rise of the big four (FAAG) and what it means to your business, project, research, etc.;
3. Three area of concern for companies: attention, intention and retention (AIR);
4. Strategic Partnerships and alliances, multi-disciplinary working teams - merging Marketing, IT, Sales and Customer Services (MSCS);
5. Integrating Onstage (explicit) and Off-Stage (implicit) user-experiences;
6. Algorithm-driven business – delivering and gathering the right information to/from the right audience at the right time using the right channels (legally).



Consumers change and so do trends...



el products
rufacturers

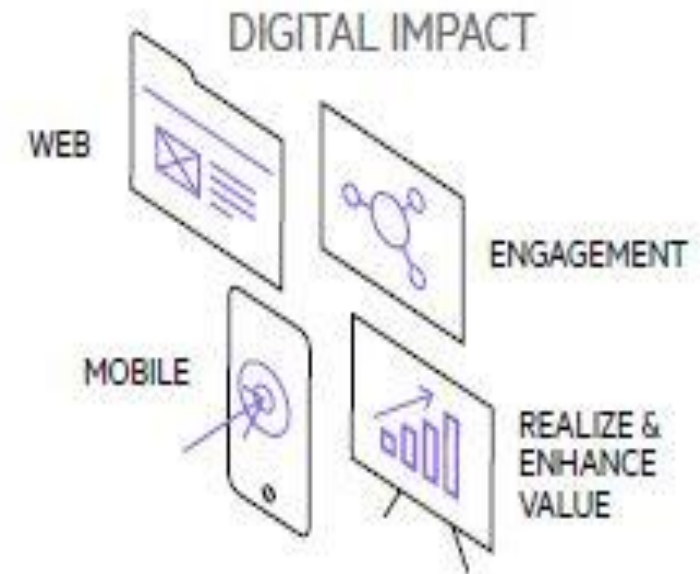
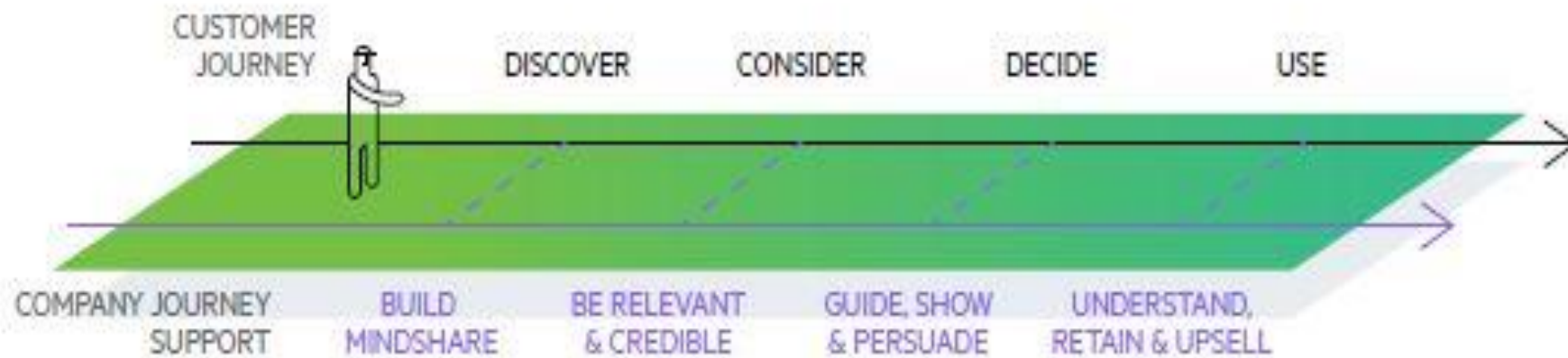
anufacturers
3 billion
rufacturers

rs have been
) the nearest
oint.

onitor;
alysis

- Story-telling
- Part of the Customer Journey
- Increased Customer Engagement through UX and Personalisation
- Data – Market Intelligence
- Leveraging Strategic Alliances and Partnerships

Empowered Consumers...



channel purchasing (on-the-go).

Some interesting Stats...



ing planning.

ices on other sites and



nes before finalising

their purchase decision.

“The Future of business isn’t tied to the permeation of Facebook, twitter, i-Phones, and droids, pins on Pinterest, tablets, or real-time geolocation check-ins. ***The future of business comes down to relevance*** and the ability to understand ***how technology affects decision making and behaviour*** to the point where recognition of new opportunities and the ability to strategically adapt to them becomes a competitive advantage.” Brian Solis

