Improving consumer perception and consumption of sheep and goat products

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Ancona, Italy
PART 1
Results of consumer and retailer studies
## Methods: a mix of qualitative & quantitative research

<table>
<thead>
<tr>
<th>Qualitative Research</th>
<th>Quantitative Research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective</strong></td>
<td>To quantify the data and generalize the results from the sample to the population</td>
</tr>
<tr>
<td>To gain a deeper understanding, contextualize a phenomenon, the why and how of things</td>
<td></td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td>Deductive, objective, sequential</td>
</tr>
<tr>
<td>Inductive, subjective, recurrent</td>
<td></td>
</tr>
<tr>
<td><strong>Sample</strong></td>
<td>Large number of representative cases</td>
</tr>
<tr>
<td>Small number of non-representative cases</td>
<td></td>
</tr>
<tr>
<td><strong>Data Analysis</strong></td>
<td>Statistical</td>
</tr>
<tr>
<td>Non-statistical</td>
<td></td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
<td>Recommend a course of action</td>
</tr>
<tr>
<td>Develop an initial understanding, theory development</td>
<td></td>
</tr>
<tr>
<td><strong>Examples</strong></td>
<td>Surveys, Experiments</td>
</tr>
<tr>
<td>In-depth interviews, focus groups case studies</td>
<td></td>
</tr>
</tbody>
</table>
Qualitative research
Results summary- MEAT

Non-consumers Motives

Likes
- Unique taste
- Sheep and goat raised more naturally
- More genuine and authentic

Dislikes
- Fatty
- High cooking skills required
- Less variety and availability
- Taste not familiar to young people
Results summary - Dairy

Non-consumers

Motives

Likes

Unique Taste

Versatility

Sheep and goat freely graze

Healthier compared to other dairy products (cow milk)

Dislikes

Poor information on product labels

High price and small variety

Taste/Smell

Fatty not for daily consumption
Quantitative research
Results on sheep and goat meat
Choice experiment for meat

Choice set
Choice experiment for meat
Choice experiment attributes

1. Protected designation of origin
2. Halal food authority
3. Fat
4. High protein content
5. EU agriculture
6. Lambda leg
7. Price: £ +/- 25%
8. Format
9. EU origin

(iSAGE Workshop
23 October 2019 – Meknes, Morocco)
# Results: meat cuts and type

*Beef is the reference category*

<table>
<thead>
<tr>
<th>Meat</th>
<th>Finland</th>
<th>France</th>
<th>Greece</th>
<th>Italy</th>
<th>Spain</th>
<th>Turkey</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef T-bone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lamb leg</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
</tr>
<tr>
<td>Lamb chops</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td></td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
</tr>
<tr>
<td>Goat chops</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td></td>
<td>▼</td>
<td>▼</td>
</tr>
<tr>
<td>None</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
</tr>
</tbody>
</table>

5% significance level
WTP Halal

-0.58
-1.47
-1.79
-0.65

2.74
(₺18.24)
WTP National origin

- France: 5.54
- Greece: 4.35
- Italy: 3.57
- Spain: 3.65
- Turkey: 3.11 (₺20.72)
WTP EU origin

<table>
<thead>
<tr>
<th>Country</th>
<th>WTP Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>2.30</td>
</tr>
<tr>
<td>Spain</td>
<td>1.62</td>
</tr>
<tr>
<td>Italy</td>
<td>0.69</td>
</tr>
<tr>
<td>Finland</td>
<td>0.94</td>
</tr>
</tbody>
</table>
WTP PGI/PDO

- France: 1.20
- Greece: 1.75
- Italy: 1.07
- Spain: 0.88
- Turkey: 1.73 (₺11.50)
- UK: 0.63 (£0.56)
WTP Carbon label

- Turkey: 1.06 (₺7.05)
- Spain: 0.70
- Greece: 0.88
- Finland: 0.54
WTP Organic label

<table>
<thead>
<tr>
<th>Country</th>
<th>WTP Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>3.54</td>
</tr>
<tr>
<td>Greece</td>
<td>1.99</td>
</tr>
<tr>
<td>Italy</td>
<td>1.40</td>
</tr>
<tr>
<td>Turkey</td>
<td>1.52 (£10.10)</td>
</tr>
<tr>
<td>UK</td>
<td>1.21 (£1.07)</td>
</tr>
</tbody>
</table>
WTP Less fatty

0.46
WTP High protein content

-0.42

-0.58
(-£0.51)
WTP Ready to cook

- Finland: 0.53
- Greece: -1.02
- Spain: -1.31
Let’s continue with ewe and goat cheese!
Choice experiment for cheese

### Fresh cheese A
- Milk source: Ewe milk
- Raw milk
- Animal rennet
- Low salt
- Origin: EU
- Price: 5.57 euro

### Aged cheese A
- Milk source: Ewe milk
- Pasteurized
- Non-animal rennet
- Origin: UK
- Price: 4.28 euro

### Fresh cheese B
- Milk source: Mixed goat and cow milk
- Raw milk
- Animal rennet
- Low salt
- Origin: UK
- Price: 3 euro

### Aged cheese B
- Milk source: Mixed goat and cow milk
- Pasteurized
- Non-animal rennet
- Low salt
- Origin: UK
- Price: 7.95 euro

None
# Preliminary results: cheese type

*None is the reference category*

<table>
<thead>
<tr>
<th>Meat</th>
<th>Finland</th>
<th>France</th>
<th>Greece</th>
<th>Italy</th>
<th>Spain</th>
<th>Turkey</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Aged cheese</td>
<td>🔺🔺</td>
<td>🔺🔺</td>
<td>🔺</td>
<td>🔺🔺</td>
<td>🔺🔺</td>
<td>🔺🔺</td>
<td>🔺</td>
</tr>
<tr>
<td>Fresh cheese</td>
<td>🔺🔺</td>
<td>🔺🔺</td>
<td>🔺🔺</td>
<td>🔺🔺</td>
<td>🔺🔺</td>
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</table>

5% significance level
WTP Cow milk

<table>
<thead>
<tr>
<th>Country</th>
<th>WTP Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finland</td>
<td>0.69</td>
<td>-0.36</td>
</tr>
<tr>
<td>Greece</td>
<td>0.50</td>
<td>-0.36</td>
</tr>
<tr>
<td>Turkey</td>
<td>0.56</td>
<td>-1.67</td>
</tr>
<tr>
<td>France</td>
<td>-0.25</td>
<td>-1.67</td>
</tr>
<tr>
<td>Spain</td>
<td>-0.35</td>
<td>-1.67</td>
</tr>
</tbody>
</table>

Note: The confidence intervals are expressed in the currency of the respective country.
WTP National origin

- Italy: 1.93
- Greece: 1.23
- Spain: 0.54
- Turkey: (-£1.98)
- UK: 0.27
- France: 0.68
- Finland: 0.55
- Others: 0.00

Values are in local currency and converted to British Pounds (GBP) for comparison.
WTP PDO
WTP Organic

- Italy: 2.64
- Greece: 2.11
- France: 1.40
- Spain: 1.76

Turkey: (₺1.92) 0.29
UK: (£0.54) 0.63
WTP Low salt

France: 0.22
Greece: 0.92
Italy: 0.95
Spain: 0.46
Turkey: 0.11

(₺0.74) (£0.26)
WTP Vegetable rennet

0.31
-0.76
0.16
0.44
-1.00
-0.80
-0.60
-0.40
-0.20
0.00
0.20
0.40
0.60

(₺1.07)
(£0.38)
Retailer survey
**Method: semi-structured qualitative interviews with retailers**

<table>
<thead>
<tr>
<th>Country</th>
<th>Meat products</th>
<th>Dairy products</th>
<th>Total interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(SMKT) (BTCH-RUR) (BTCH-URB)</td>
<td>(SMKT) (INDP-RETAIL)</td>
<td></td>
</tr>
<tr>
<td>FI</td>
<td>1 1 1</td>
<td>1 1</td>
<td>5</td>
</tr>
<tr>
<td>FR</td>
<td>1 1 1</td>
<td>1 1</td>
<td>5</td>
</tr>
<tr>
<td>GR</td>
<td>2 1 2</td>
<td>2 1</td>
<td>8</td>
</tr>
<tr>
<td>IT</td>
<td>2 1 1</td>
<td>1 3</td>
<td>8</td>
</tr>
<tr>
<td>ES</td>
<td>1 1 1</td>
<td>1 3</td>
<td>7</td>
</tr>
<tr>
<td>TR</td>
<td>1 1 1</td>
<td>1 1</td>
<td>5</td>
</tr>
<tr>
<td>UK</td>
<td>2 1 1</td>
<td>1 1</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10 7 8</strong></td>
<td><strong>7 11</strong></td>
<td><strong>44</strong></td>
</tr>
</tbody>
</table>
Barriers to higher penetration to the market for sheep & goat meat

Market consumption

- Habit & lifestyle
- Price
- Consumer knowledge
Expectations and innovation opportunities for sheep & goat meat

Most retailers interviewed are pessimistic about future sales but some do envisage opportunities:

- **Scope for provenance labelling and assurance schemes:**
  - Label Rouge, PGI (FR)
  - Origin from Lapland (FI)
  - Red Tractor (UK)

- Focusing on quick-to-cook cuts, and cheaper cuts e.g. adjoining cuts

- ‘Tell the whole story’ to improve consumer knowledge e.g. two successful examples of increased consumption of mutton and goat meat in two butchers in IT and UK
Barriers to higher penetration to the market for sheep & goat dairy products

- Consumer knowledge
- Aggressive marketing from vegetable milk

Market consumption
PART 2
Identified best practices across the chain:
iSAGE recommendations
Survey of multi-actor current best practices in the supply chain

The objectives were to:

1. Investigate **innovative approaches** in the sheep and goat supply chain (SC), and

2. Build a model of ‘**best practices**’ supporting innovation and improvements in SC performance
Method

- **Case studies** based on semi-structured interviews with SC market players and some secondary data collection (e.g. firms webpages)
- Three case studies per country, 22 case studies overall (11 lamb meat; 11 sheep & goat dairy)
- Cases **purposefully sampled** (Yin 1994) including innovative approaches, different products and SC organisations (meat/dairy, commodity/high quality production etc.) to allow general applicability of results
- Within and cross-case study analysis for theory building (Glasser & Strauss 1967)
Background concepts used

• The research was mostly inductive to identify what the SCs investigated are doing that is unique

• However, some broad concepts from the SC innovation literature were used for the research protocol and the analysis as references:
  • Continuous innovation (e.g. Soosay et al 2008)
  • Capabilities development (e.g. Beske et al 2014)
  • Changes in relations (van Mierlo et al 2010)
  • Changes in rules (van Mierlo et al 2010)
## Practices examples from the within-case analysis (1)

<table>
<thead>
<tr>
<th>SC case study examples</th>
<th>Best practices (BP) / failing factors (FF)</th>
</tr>
</thead>
</table>
| **A_UK. Tesco ‘cost of production’ contract** with 150 farmers (25% of which younger than 35 yrs.), where farm-gate price is based on market price and cost of production collected by an external consultant | • *Strategic sourcing (BP)*: young farmers  
• *Lean management (BP)*: supply continuity and conformity, (partial) SC consolidation  
• *Establishment of key learning point (BP)*: cost of production data collection  
• *Continuous negotiation (BP)*: negotiation about supply volumes (from initial 100% to current 70% compulsory sale to Tesco) |
| **B_GR. FARMA CHALASTRA S.A.** is a specialised firm in slaughtering and cutting, selling to supermarkets and foreign customers, supplied by ~ 100 farmers. Investment in cut differentiation (including cold cuts), charcuterie and biogas unit | • *Lean management (BP)*: supply continuity and conformity, (partial) SC consolidation, waste reduction  
• *Product innovation (BP)*: product differentiation (cold cuts)  
• *No partnership agreement with retailers (FF)*: focus on operations without a strong commercial strategy, subsequent low return to players upstream of the chain |
## Practices examples from the within-case analysis (1)

<table>
<thead>
<tr>
<th>SC case study examples</th>
<th>Best practices (BP) / failing reasons (FailR)</th>
</tr>
</thead>
</table>
| **C_FR. SICABA** cooperative slaughtering, cutting and marketing to different customers lamb meat (organic, Label Rouge, PGI labelled) supplied by its 228 members and other local farmers | • **Strategic sourcing (BP)**: high quality lamb  
• **Establishment of key learning point (BP)**: feedback on carcase performance  
• **Joint planning (BP)**: agreement on the sale schedule with the member farmers  
• **Product innovation (BP)**: offer of racks as ‘lamb fillet in the manner of magret’ to handle carcase imbalance  
• **Market routes differentiation (BP)**: to handle carcase imbalance |
| **D_FI. REKO-ring** lamb sale: case of an organic farmer undertaking slaughtering, cutting, direct sale at farm, market town through REKO-ring (pre-booking on Facebook), shops and hypermarket | • **Specialistic knowledge (BP)**: the farmer is the ‘knowledge owner’ of the slaughtering and cutting operations (he’s a Uni degree in Animal Science and attended courses in animal processing)  
• **Market routes differentiation (BP)**: to handle carcase imbalance by reaching different consumer segments |
## Best practices pattern matching examples (1)

<table>
<thead>
<tr>
<th>Meta-constructs and best practices with n. of SCs engaged [n.]</th>
<th>Contribution to better performance metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Establishment of key learning points</strong></td>
<td></td>
</tr>
<tr>
<td>• Feedback on carcase performance [2]</td>
<td>Product quality</td>
</tr>
<tr>
<td>• Data collection on cost of production [1]</td>
<td>Reduction of production costs</td>
</tr>
<tr>
<td><strong>Information sharing</strong></td>
<td></td>
</tr>
<tr>
<td>• Implementation of traceability till individual retail cut [6]</td>
<td>Consumer loyalty; Product quality; Reduction of transaction costs</td>
</tr>
</tbody>
</table>
## Best practices pattern matching examples (2)

<table>
<thead>
<tr>
<th>Meta-construct and best practices with n. SCs engaged [n.]</th>
<th>Contribution to better performance metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lean supply chain management</strong></td>
<td></td>
</tr>
<tr>
<td>• ‘Piecemeal’ approach to lean management [2]</td>
<td>Product quality consistency; Logistics efficiency; SC response time; Waste reduction</td>
</tr>
<tr>
<td><strong>Relationship management</strong></td>
<td></td>
</tr>
<tr>
<td>• Joint planning [8]</td>
<td>Information efficiency; Product availability on shelf; Logistic efficiency; SC response time; Consumer loyalty</td>
</tr>
<tr>
<td>• Strategic sourcing [7]</td>
<td></td>
</tr>
<tr>
<td>• Continuous negotiation [6]</td>
<td></td>
</tr>
<tr>
<td><strong>Handling carcass imbalance</strong></td>
<td></td>
</tr>
<tr>
<td>• Market route differentiation [10]</td>
<td>Consumer satisfaction; Product availability on shelf; Waste reduction</td>
</tr>
<tr>
<td>• Product innovation [5]</td>
<td></td>
</tr>
<tr>
<td>• Trade (export/import) [8]</td>
<td></td>
</tr>
</tbody>
</table>
Propositions for successful innovation in lamb meat SCs based on patterns of best practices

1. Knowledge management practices such as establishment of key learning points and information sharing facilitate operations, long-term relations and innovation

2. Innovation entailing operation efficiency requires a ‘piecemeal’ approach to lean management and relationship management

3. Product innovation to succeed requires strategic planning and relationship management

4. SC operators are required to seek continuous innovation and new end markets to handle production / sale imbalance problems
Thank you for your attention!

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