CHINESE PERCEIVED TRUST OF SECURITY ELEMENTS APPLIED TO AUSTRALIAN RED-MEAT PACKAGING

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I.   INTRODUCTION

With rising awareness of food scandals, Chinese consumers are willing to purchase international food products that offer superior quality control processes. International brands however are not immune from deceptive counterfeit trading which targets any product categories proving growth in consumer demand and provides an easy 'economical gain for intentional fraudsters' [1]. Foods deemed everyday or premium status are all vulnerable and this has caused Chinese consumers to be risk adverse, heightening scrutiny over food products authenticity prior to purchase. In return, the security technology industry offers numerous and diverse applications for brand and product protection, promoted as fraud deterrents. However, many businesses question their effectiveness and added value to their consumers. This research investigates Chinese consumers appraisals of security features on red meat packaging to gain insights on the contributing factors that either strengthen perceived trust or alternatively give reason for suspicion and deter willingness to purchase.

II.   MATERIALS AND METHODS

This research uses mixed methods to triangulate perceptions on trust and premium status on Australian red meat packaging proposed to online Chinese consumers. A Qualitative Multivariate Analysis (QMA) [3] was adopted to map participant responses on a two-dimensional preference matrix. Participants were randomly recruited from Chinese international students, aged between 25-35 years, newly attending The University of Melbourne, Australia. Sixteen subjects of 2 cohorts with online shopping experience were asked to group assess and plot the visual variants which were consecutively presented. Variant representations comprised of red-meat packaging and commercially available anti-counterfeiting technologies. The preference map anchors assessed perceptions on product status (everyday to premium) and confidence (doubt to trust). The settled coordinates of each variant were measured and compared. The individual's unique views in addition to the collective group comments were also captured as part of participants reasoning for skepticism and 'initial trust' [2].

The analysis output results were two-fold (Figure 1): qualitative transcription concepts that can be grouped into key insights; and group-nominated coordinates for each appraisal that is compared and ranked on trust-premium hierarchy.
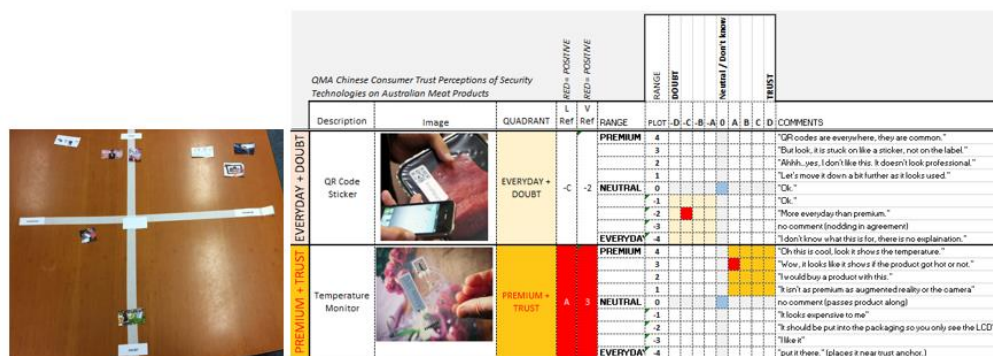

Figure 1. QMA Study and the Two Analysis Outputs: Transcriptions and Coordinates.

III. RESULTS AND DISCUSSION

Findings demonstrate that meat packaging with security technologies can enhance consumers perceived trust and premium status with the appropriate consideration on the identified influence levers (Table 1).

Table 1 Identified Influence Levers and Rate of Participant Agreeance (n=16)

Influence levers	Agreeance	Insights
Technology fit	16	Selection type appropriate for food category (red-meat)
Layering	15	Quantity & position (overt/covert, freshness wrap, structural pack)
Identity links	16	External testimonials not controlled by brand (health organisations)
Transparent purpose	14	Connection & invitation to investigate (visual or digital cues for action)
Design embedding	16	Professional Integration (hidden technology, exposed usability)

Technology fit (selection) defines the idea that each food and beverage category (e.g. meat products compared to wine) do not necessarily adopt naturally the same security technologies, each food category requires review to identify the appropriate applications fit for use.

Layering (quantity) of overt (seen) and covert (hidden) technologies was considered a strong indication of product protection. Interestingly however, participants expressed skepticism when presented with 6 or more technologies applied to one product in which it was concluded as a group that the product was counterfeit.

Provenance is an important factor for identity and origin reference with the use of imagery and storytelling which was clearly supported within the study. The Australian made logo, local awards or association badges were essential as they acted as integrity checkpoints, referred here as *Identity links (testimonials).* Researching other reputable websites offered independent reviews that gave evidence for authenticity.

The *Transparent purpose* (connection) is the visible cues used to allow consumers to clearly identify security elements for self-validation. Chinese consumers are tech-savvy and willing to participate in authenticity check measures. Participants preferred technology to be openly purposeful for them. Inviting investigation or connection which would lead to offering a 'reward attraction' [4] beyond the immediate information.

Finally, it was clear that sophistication of the packaging was foundational to the integrity of the product's trustworthiness. Security technologies that were *Design Embedded (integration)* were ranked higher than retro-fitted packaging. The technology visuals were examples from commercial sites and those with elements not presented inside the brand design were rated lower on trust and appraised as potential fakes.

IV. CONCLUSION

This study reveals that due to Chinese consumers low trust propensity, each security technology is weighed for authenticity and hence, not treated as equal. Each application in comparison to another has a perceived trust ranking either strengthened or weakened by the identified levers of influence which are: 1. selection; 2. quantity; 3. testimonials; 4. connection and reward; and 5. integration. Security technology is not a one-size fits all and thus, these insights are valuable for supporting both emerging businesses with little market familiarity, as well as established exporting businesses navigating fraudsters. The learnings provide a criteria list to consider and test against. Overall, the study uncovers influences on consumer perceptions for red-meat packaging and security technologies that drive consumer confidence prior to purchase.

REFERENCES

1. Spink, J., Moyer, D. C., Park, H. & Heinonen, J. A. 2013. Defining the types of counterfeiters, counterfeiting, and offender organizations. Crime Science, 2, 8.
2. McKnight, D. H., Cummings, L. L., & Chervany, N. L. (1998). Initial Trust Formation in New Organizational Relationships. The Academy Of Management Review, (3), 473.

3. Beckley, J. H., Paredes, M. D., & Lopetcharat, K. (2012). Product innovation toolbox. [electronic resource]: a field guide to consumer understanding and research. Hoboken, NJ : Wiley-Blackwell, 2012.