






Case Study – Market Research On Smart Packaging Solutions For Customer Tracking To Beverage Company

Value Delivered – Client was able to use the analysis to compare the available printing solutions and went ahead with the discussions on procuring the solution among recommended companies.

Problem to be solved – Client a beverage company in Europe was looking for smart packaging solution with less operational cost, low interaction time and more robustness as compared to what is already being used by them.

Solutions offered – GreyB evaluated different techniques for customer tracking and narrowed down to the ones that satisfied client’s criteria for replacing the existing one. Thereafter, GreyB evaluated the companies providing solutions for customer tracing and did SWOT analysis on the solutions to help client pick the best solution among the identified ones.

Since, all the companies didn’t list every piece of information, GreyB explored customer reviews on the solutions and in certain cases even contacted the companies to gather the missing pieces of information. This proactive approach towards locating remaining information added 6 more companies to the list which otherwise could have been left out.

Solution Comparison		
Identification Scheme	Pros	Cons
Sequence Number 	<ul style="list-style-type: none"> Simplest solution 	<ul style="list-style-type: none"> Has to be manually read by staff Numbers can overlap / clash Hard to combine data with other systems Adding additional numbers later can cause problems if design is not well planned Insecure: Numbers can be guessed Data quality: Asset IDs are easy to incorrectly enter
Barcode Sequence Number & Human Readable Sequence Number 	<ul style="list-style-type: none"> Simple solution Can be automatically scanned 	<ul style="list-style-type: none"> Numbers can overlap / clash Hard to combine data with other systems Adding additional numbers later can cause problems if design is not well planned Insecure: Numbers can be guessed Requires proprietary scanning hardware and software
QR Code Sequence Number & Human Readable Sequence Number 	<ul style="list-style-type: none"> Can be automatically scanned Can sometimes be scanned by smartphones and tablets with proprietary software 	<ul style="list-style-type: none"> Numbers can overlap / clash across teams/dept./existing software Hard to combine data with other systems Adding additional numbers later can cause problems if design is not well planned Insecure: Numbers can be guessed Requires proprietary software to view asset data

Online Fiber Laser Marking Machine (HGLaser)

Parameters under consideration

- Although, operation cost could not be identified but the machine can cost from \$3000-\$18000 based on model required. Further, there is no need of consumables for up to 100,000 hours.^{2,5}
- The read rate of QR code is specified to be high and further the high precision of laser makes marking on caps more clear. Therefore, interaction cost is estimated to be low (in terms of time).¹
- Can be operated for 24 hours continuously and has life expectancy of 100,000 hours.^{2,3(Page 2)}
- The QR code is printed directly on bottle cap and then sealed under a transparent plastic film making it more durable (visible from images of cap on website).¹
- The given line speed is up to 100 meters/minute.²
- QR code is printed inside the bottle cap ensuring proof of purchase.¹
- It uses unique code for each bottle cap code cannot be duplicated therefore 'Uniqueness'.¹

About Product:

Online Fiber Laser Marking Machine has been developed by HGLASER that can mark two-dimensional bar codes for the purpose of anti-counterfeiting and is used in alcohol industry.²

Further, company has previously worked with Yanjing Beer to implement HGLASER's QR code laser marking on beer bottle cap successfully. This was utilized to include the information of point rewards and anti-counterfeiting checking inside the beer bottle cap.¹

At the same time, the QR code on bottle cap does solve the problem of anti-counterfeiting, product traceability and security code checking.^{1,2}

Also, the products being offered by HGLaser have IP protection but only in China.⁶

Other Important Features:

- It has a small structure and can be easily installed on the assembly line.²

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> The product is well suited for metal marking.^{1(Page 7)} The product is almost free of maintenance cost as there is no need of consumables along with laser source life of over 100,000 hours.^{1(Page 1 & 7)} Intensity of fiber laser is up to 100 times higher than that of CO2 lasers with the same emitted average power and produces extremely small focal diameter which is good for printing QR codes on small surfaces such as bottle cap.² 	<ul style="list-style-type: none"> It requires a specific working condition i.e. temperature range of 0-35 degree Celsius and humidity of less than 90%.^{1(Page 7)} It has high initial cost as compared to Ink jet printers.^{1(Page 3)} [Although initial cost is high, the operating cost will be lower as compared to inkjet marking machines]

SWOT Matrix

<p>OPPORTUNITY</p> <ul style="list-style-type: none"> HGLaser has earlier worked with a beer company to provide them under the cap QR code printing solutions. Hence, its experience in this domain could be useful in implementing consumer tracking and setting up loyalty program.³ The company offers multiple products in this solution range: FlyingF 10F, 20F, 30F and 50F each one catering to different marking area requirements.¹ 	<p>THREAT</p> <ul style="list-style-type: none"> HGLaser does not have its own service centers in Europe. It operates in European region through its agents and thus it can be difficult to avail maintenance and support services.⁴
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