# Product experience and risk perceptions in Platform 1 users: a cross-sectional survey in Japan



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## **Background and Methods**

Philip Morris has been marketing a potential reduced-risk product commercialized under the brand name IQOS in Japan since November 2014. In order to define the population assessed in the sample of registered IQOS users which were randomly selected from Philip Morris Japan's consumer database. In an internet survey, participants were asked to estimate the risk to smokers of getting



health effects of IQOS, it is important to understand how the product is perceived and used under real world conditions. Perceived quality attributes and consumer satisfaction are key determinants for successful switching from cigarettes to an alternative product like IQOS.

We initiated a series of cross-sectional surveys in representative samples of the Japanese adult general population and, in addition, in samples of registered IQOS users in December 2016. An interim analysis of the first year data from the Japanese adult general population sample revealed a prevalence of IQOS use of 1.2% (Reference 1 – please see the leaflet). Perceived quality attributes and consumer satisfaction were

Results

 Figure 1: The overall risk score associated with smoking cigarettes and using IQOS

 0
 44.0
 63.7
 100

 No percieved igk

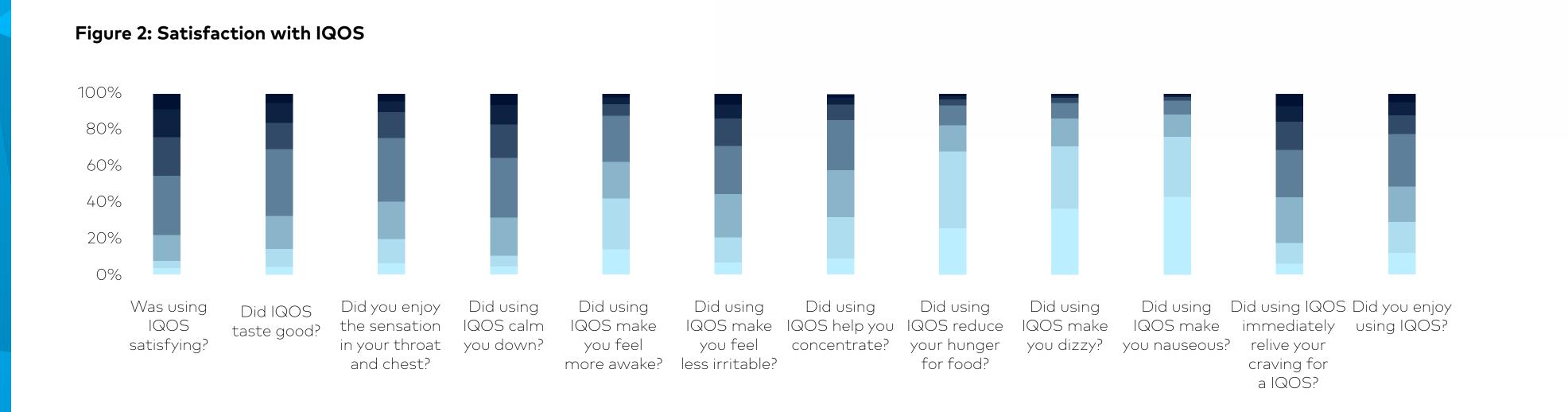
 No percieved igk
 IQOS
 Cigarettes
 Very high percieved risk

18 different diseases or adverse health conditions because of smoking cigarettes and similarly to estimate the risk to IQOS users because of using IQOS on a five point scale from no to very-high risk. To evaluate the degree to which IQOS users experience the reinforcing effect of using IQOS, participants were asked to confirm 12 statements on how IQOS made them feel today on a seven point scale from not at all to extremely. Eventually, participants were asked to indicate their agreement on aesthetic changes which occurred or not since they started using IQOS on a 5 point scale from strong disagreement to strong agreement.

Table 1: Sample characteristics (n=1,500)

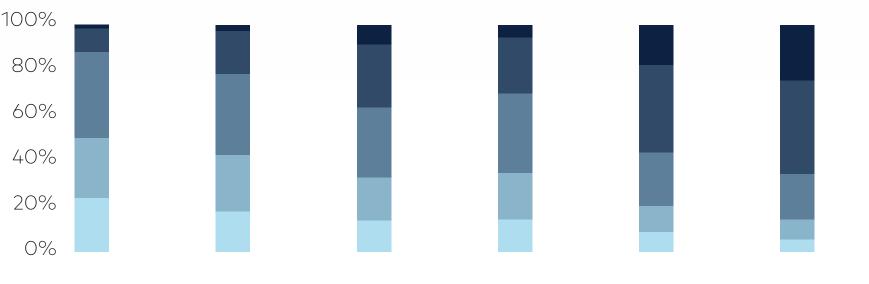
Mean age (years) [95%CI*]	Sex (pe	ercent) Highest education (percent)					Occupation (percent)						Current tobacco product use (percent)						Frequency of use	Intensity of use					
	Male	Female	College/ Universit;	0	High	know/Not	Don't know/Not applicable	Managing profession		employee			Student	Unem-	Farming/ Agricul- ture/ Fishery	IQOS	Cigarette	Ploom	E-cigarette	pipes / Kiseru /	tobacco (chew-	pipe	replace- ment therapy	number of days of IQOS	HeatSticks used per day
38.5 [37.9; 39.0]	81.6	18.4	55.3	37.5	6.6	0.6	27.1	20.3	16.9	14.3	14.0	3.9	1.8	1.2	0.5	100.0	26.9	8.1	4.5	1.2	1.1	0.9	0.7	29.2 [29; 29.4]	16.1 [15.6; 16.5]

\* CI= Confidence Interval



Quite a lot Extremely

Figure 3: Self-reported changes since using IQOS



Face skinIt's easierSence of smell Sence of tasteMy breathTeeth appearsappearsto exercisehas improvedhas improvedsmells betterless stainedsmootheror yellowishand firmer

Strongly	Somewhat	Neither agree	Somewhat	Strongly
disagree	disagree	or disagree	agree	agree

Not at all Very little Little

Consumer satisfaction

between March and July 2017 (completion rate=11.2%). A description of the sample including sociodemographic characteristics, current tobacco product use pattern, frequency and intensity of IQOS are shown in table 1. Results are reported as frequencies and means with 95% confidence interval in square brackets if applicable.

Moderately A lot

### **Risk perception**

The overall risk score associated with smoking cigarettes ranging from 0 (no perceived risk) to 100 (very high perceived risk) was 63.7 (62.8-64.6). The overall risk score associated with using IQOS was 44.0 (43.1-44.9) - shown in Figure 1. The overall perception of product use related health risks was higher for smoking cigarettes than for using IQOS (overall score difference of 19.5 (95% confidence interval, 18.5-20.5). Results on the reinforcing effect of using IQOS are presented as the average response of domain-related items ranging from 1 (not at all) to 7 (extremely): IQOS use satisfaction: 4.0 [3.9-4.19]; enjoyment of respiratory tract sensation: 3.7 [3.6-3.8]; psychological reward: 3.3 [3.2-3.4]; aversion: 2.1 [2.0-2.2], and craving reduction: 3.9 [3.8-4.0]. Complete results for all items are shown in Figure 2. Compared to a historic control of smokers (Reference 2 – please see the leaflet) notable differences can be seen in sub-scales "enjoyment of respiratory tract system" (3.7 vs 2.8 for smoking), craving reduction (3.9 vs 5.04 for smoking) and aversion (2.1 vs 1.4 for smoking).

### Self-reported changes

A person was considered to confirm a change statement if he/ she selected one of the two highest grading options "somefirmed most were "teeth appears less stained or yellowish" (66%), "my breath smells better" (56.4%) and "sense of smell has improved" (36.6%). Thirty point six per-cent confirmed that "sense of taste has improved", 22.1% that "it is easier to exercise" and 12.2% that "Face skin appears smoother and firmer". Complete results for all items are shown in Figure 3.

## Conclusions

IQOS users in Japan showed high awareness of locally communicated product characteristics and perceived using the product as having lower health related risks than cigarette smoking. Furthermore, they are generally satisfied with the product. Product Experience and Risk Perceptions in Platform 1 Users: a Cross-Sectional Survey in Japan

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## Background

Philip Morris has been marketing a potential reduced-risk product commercialized under the brand name IQOS in Japan since November 2014. IQOS reached a prevalence of use of 1.2% in the Japanese adult general population by 2017 [1]. In order to define the population health effects of IQOS, it is important to understand how the product is perceived and used under real world conditions. Perceived quality attributes and consumer satisfaction are key determinants for successful switching from cigarettes to an alternative product like IQOS.

## Methods

We initiated a series of cross-sectional surveys in representative samples of the Japanese adult general population and, in addition, in samples of registered IQOS users in December 2016. Perceived quality attributes and consumer satisfaction were assessed in the sample of registered IQOS users which were randomly selected from Philip Morris Japan's consumer database. In an internet survey, participants were asked to estimate the risk to smokers. of getting 18 different diseases or adverse health conditions because of smoking cigarettes and similarly to estimate the risk to IQOS users because of using IQOS on a five point scale from no to very-high risk. To evaluate the degree to which IQOS users experience the reinforcing effect of using IQOS, participants were asked to confirm 12 statements on how IQOS made them feel today on a seven point scale from not at all to extremely. Eventually, participants were asked to indicate their agreement on aesthetic changes which occurred or not since they started using IQOS on a 5 point scale from strong disagreement to strong agreement.

#### Table 1. Sample characteristics (n=1,500)

Image         Image         Image           Highest education (percent)         Gelge/Unversity         5.3           High School         37.5         Image           Junor High School         64         Image           Occupation (percent)         On't know/Not applicable         6.4           Managing profession         20.3         Image           Self-employed/Small private busines         16.9         Image           Manal employee         14.3         Image           Gelrad Employed/Small private busines         16.9         Image           Manual employee         14.3         Image           Manual employee         14.3         Image           Keiterd/Unemployed         18.3         Image           Marcel/Unemployed         18.3         Image           Marcel/Unemployed         19.3         Image           Forming/Agriculture/Fishery         10.3         Image           Forming/Agriculture/Fishery         12.3         Image           Forgaret1         12.3         Image         Image           Forgaret2         12.3         Image         Image         Image           Forgaret2         12.3         Image         Image         Image <th>Mean age (years) [95%CI]</th> <th></th> <th>38.5 [37.9; 39.0]</th>	Mean age (years) [95%CI]		38.5 [37.9; 39.0]
Highest education (percent)College/University55.3High School37.5Junior High School6.4Don't know/Not applicable0.6Occupation (percent)Don't know/Not applicable27.1Managing profession20.3Self-employed/Small private business16.9Manuel employee14.3Clerical employee14.3Kousewife39Student18Student12Farming/Agriculture/Fishery0.5Orrent tobacco product use (percent)GOSGos100.0Cigarette2.9Poor8.1Cigarette/Stisery/Shisha1.2Smokeless tobacco (chewing tobacco)1.1Smokeless tobacco (chewing tobacco)1.1Smokeless tobacco product use (percent)GosKister (Jarette2.9Ros1.1Stotaco (chewing tobacco)1.1Smokeless tobacco (chewing tobacco)1.2Smokeless tobacco (chewing tobacco)1.2Smokeless tobacco (chewing tobacco)1.2Smokeless tobacco (chewing tobacco)1.2Smokeless tobacco (chewing tobacco)2.2Stotaco2.2Smokeless tobacco (chewin	Sex (percent)	Male	81.6
High School         37.5           High School         6.6           Don't Know/Not applicable         0.6           Occupation (percent)         Don't know/Not applicable         27.1           Managing profession         20.3           Self-employed/Small private business         16.9           Manual employee         14.3           Clerical employee         14.3           Edited/Unemployed         14.3           Student         18           Retired/Unemployed         12           Farming/Agriculture/Fishery         0.5           Current tobacco product use (percent)         IQOS         100.0           E-cigarette         26.9         26.9           Ploorn         81         26.9           Current tobacco product use (percent)         IQOS         10.0           E-cigarette         26.9         26.9           Ploorn         81         26.9           E-cigarette         12         26.9           Smokeless tobacco (chewing tobacco)         11         26.9           Maceless tobacco (chewing tobacco)         11         26.9           Maceless tobacco (chewing tobacco)         11         26.9           Maceless tobacco (chewing tobacco)<		Female	18.4
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Self-employed/Small private business         16.9           Manual employee         16.3           Clerical employee         16.0           Housewife         3.9           Student         18           Keired/Unemployed         1.2           Farming/Agriculture/Fishery         0.5           Cigarette         26.9           Ploom         81.0           Facigarette         4.5           Cigarette/pipes/Kiseru/shisha         1.2           Cigarette/pipes/Kiseru/shisha         1.2           Forokeless tobacco (chewing tobacco)         1.2           Manual employee         1.2           Student         1.2           Retired/Unemployed         1.0           Student         1.0           Gigarette         2.6           Ploom         1.2           Student         1.2           Student         1.2           Student         1.2           Student         1.2           Ploom         1.2           Student         1.2           Student         1.2           Student         1.2           Student         1.2           Student         1	Occupation (percent)	Don't know/Not applicable	27.1
Manual employee         14.3           Cerical employee         14.0           Housewife         3.0           Student         1.8           External/Comployed         1.8           Retired/Unemployed         1.2           Farming/Agriculture/Fishery         0.5           Corrent tobacco product use (percent)         QOS           Poom         20.0           Facigarette         4.5           Corrent tobacco (chewing tobacco)         1.1           Stockless tobacco (chewing tobacco)         1.1           Stockless tobacco pipe         0.7           Manual employee         0.7		Managing profession	20.3
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Ploom       8.1         E-cigarette       4.5         Cigars / pipes / Kiseru / shisha       1.2         Smokeless tobacco (chewing tobacco)       1.1         Smokeless tobacco pipe       0.9         Nicotine replacement therapy       0.7         Average number of days of IQOS use in last 30 days [95% CI]       29.2 [29; 29.4]	Current tobacco product use (percent)	IQOS	100.0
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Cigars / pipes / Kiseru / shisha       1.2         Smokeless tobacco (chewing tobacco)       1.1         Smokeless tobacco pipe       0.9         Nicotine replacement therapy       0.7         Average number of days of IQOS use in last 30 days [95% CI]       29.2 [29, 29.4]		Ploom	8.1
Smokeless tobacco (chewing tobacco)       1.1         Smokeless tobacco pipe       0.9         Nicotine replacement therapy       0.7         Average number of days of IQOS use in last 30 days [95% CI]       29.2 [29; 29.4]		E-cigarette	4.5
Smokeless tobacco pipe     0.9       Nicotine replacement therapy     0.7       Average number of days of IQOS use in last 30 days [95% CI]     29.2 [29; 29.4]		Cigars / pipes / Kiseru / shisha	1.2
Nicotine replacement therapy     0.7       Average number of days of IQOS use in last 30 days [95% CI]     29.2 [29; 29.4]		Smokeless tobacco (chewing tobacco)	1.1
Average number of days of IQOS use in last 30 days [95% CI]       29.2 [29; 29.4]		Smokeless tobacco pipe	0.9
		Nicotine replacement therapy	0.7
Average number of HeatSticks used per day [95% CI] 16.1 [15.6; 16.5]	Average number of days of IQOS use in last 30 days [95% CI]		29.2 [29; 29.4]
	Average number of HeatSticks used per day [95% CI]		16.1 [15.6; 16.5]

Cl = Confidence intervall

## Results

The survey was completed by 1,500 current IQOS users between March and July 2017 (completion rate = 11.2%). A description of the sample including sociodemographic characteristics, current tobacco product use pattern, frequency and intensity of IQOS consumption are shown in table 1. Results are reported as frequencies and means with 95% confidence interval in square brackets if applicable.

#### **Risk perception**

The overall risk score associated with smoking cigarettes ranging from 0 (no perceived risk) to 100 (very high perceived risk) was 63.7 [62.8-64.6]. The overall risk score associated with using IQOS was 44.0 [43.1-44.9] (see figure 1). The overall perception of product use related health risks was higher for smoking cigarettes than for using IQOS (overall score difference of 19.5 (95% confidence interval, 18.5-20.5).

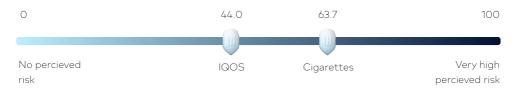
#### **Consumer satisfaction**

Results on the reinforcing effect of using IQOS are presented as the average response of domain-related items ranging from 1 (not at all) to 7 (extremely): IQOS use satisfaction: 4.0 [3.9-4.19]; enjoyment of respiratory tract sensation: 3.7 [3.6-3.8]; psychological reward: 3.3 [3.2-3.4]; aversion: 2.1 [2.0-2.2], and craving reduction: 3.9 [3.8-4.0]. Complete results for all items are shown in figure 2. Compared to a historic control of smokers [2] notable differences can be seen in sub-scales «enjoyment of respiratory tract system» (3.7 vs 2.8 for smoking), craving reduction (3.9 vs 5.04 for smoking) and aversion (2.1 vs 1.4 for smoking).

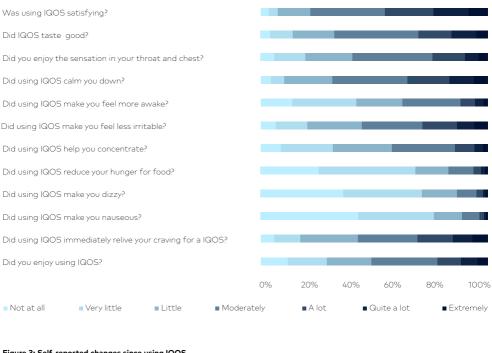
#### Self-reported changes

A person was considered to confirm a change statement if he/she selected one of the two highest grading options «somewhat agree» or «strongly agree». Changes which were confirmed most were «teeth appears less stained or yellowish» (66%), «my breath smells better»(56.4%) and «sense of smell has improved» (36.6%). Thirty point six percent confirmed that «sense of taste has improved», 22.1% that «it is easier to exercise» and 12.2% that «Face skin appears smoother and firmer». Complete results for all items are shown in figure 3.

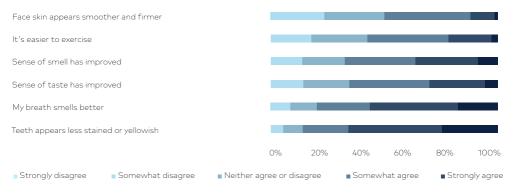
#### Figure 1: The overall risk score associated with smoking cigarettes and using IQOS



#### Figure 2: Satisfaction with IQOS



#### Figure 3: Self-reported changes since using IQOS



## Conclusion

IQOS users in Japan showed high awareness of locally communicated product characteristics and perceived using the product as having lower health related risks than cigarette smoking. Furthermore, they are generally satisfied with the product.

## References

[1] Van der Plas A, Prieto L, Skiada D, Dobrynina M, Baker G, Lüdicke F. Prevalence and patterns of tobacco use in Japan after the commercialization of a heat-not-burn alternative (IQOS) to cigarettes. 2017; Available from: https://www. pmiscience.com/library/prevalence-and-patterns-tobacco-use-japan-after-commercialization-heat-not-burn-alternative (Access on 26 Feb 2018).

[2] Cappelleri J, Bushmakin A, Baker C et al. Confirmatory factor analyses and reliability of the modified cigarette evaluation questionnaire. Addict Behav. 2007;32(5):912-23.

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#### Reduced-Risk Products

Reduced-Risk Products («RRPs») is the term we use to refer to products that present, are likely to present, or have the potential to present less risk of harm to smokers who switch to these products versus continued smoking. We have a range of RRPs in various stages of development, scientific assessment and commercialization. Because our RRPs do not burn tobacco, they produce far lower quantities of harmful and potentially harmful compounds than found in cigarette smoke.

#### **Competing financial interest**

The research described in this brochure was sponsored by the Philip Morris International group of companies

Global Forum on Nicotine June 14–16, 2018 Warsaw, Poland