Unintended consequences of selling B2B digital subscription add-ons for customer onboarding

WEB APPENDIX

Web appendix A

Pilot study to understand B2B SaaS service agreement context

The key informants in our survey are managers who procure B2B digital subscription services for their companies, whom we recruited online through Prolific (https://prolific.ac/). The respondents were employed by for-profit businesses, non-profit businesses, and government agencies (local, state, and federal) in the United States. An initial screening step asked respondents if they were involved in or knowledgeable about (i.e., as a user or buyer) the service agreements of a service to which their firm subscribed. Each respondent was compensated for completing the survey. In total, 118 managers completed the survey. Their mean age was 38 years, and 34.7% were women. On average, respondents had been working at their current company for 6.9 years, and 29.7% were in middle management positions, 52.5% in lower management, and 17.8% in upper management or executive-level positions. They used the subscription service (44.1%), were directly involved in its purchase (26.3%), or both (25.4%), emphasizing their key informant status. Subscription services represented in our sample included software (e.g., CRM software, data storage, cloud computing), communication (e.g., broadband, cable, telecom), financial (e.g., online banking, payroll solutions), and healthcare (e.g., insurance) services. Our respondents represented a wide range of industries, and the top three sectors were professional, scientific, and technical services (North American Industry Classification System [NAICS] code 54; 15.0%); information (NAICS code 51; 12.5%); and finance and insurance (NAICS code 52; 11.7%).

In the survey, we asked respondents to reflect on a B2B SaaS service agreement of which they were a part. The respondents provided detailed information about the focal service, indicating the service category, how long they had been using it, the types of add-on services included in the initial service agreement, the extent to which they can add or modify the list of add-ons to their service agreement, how they can add or modify the list of add-ons if needed, and their firm's current service adoption stage. Finally, respondents provided information about the overall relationship with the service provider, their company, and themselves.

On average, 60.6% of respondents indicated that their service package cannot be changed during the agreement. Specifically, 62.3% indicated their company can "make changes to [their] service agreement (i.e., change the number or types of add-ons you are subscribing to) only once the agreement ends or gets renewed," 52.6% indicated their company can "only make changes (i.e., add or remove) to the list of add-ons in [their] service once the service agreement ends or gets renewed," and 67.0% indicated their company can "flexibly adapt the service agreement, such as by adding or removing add-on services only once the service agreement ends or gets renewed." An open-ended question prompted them to elaborate on the reasons for these chosen responses, and an illustrative quote stated: "We aren't able to do add anything until the contract is cancelled or renewed. We have to ride out the contract if we want to add more services or addons later."

To explore any distinguishable features of contracts that allow for modifying the add-ons at any point versus only at the end or renewal of the agreement, we examined descriptive features such as the industry, service familiarity, demographics, and occupation features. We found no significant differences, suggesting similar compositions.

Web appendix B

Study 1a: Interview guide for B2B SaaS service provider-side managers

[Opening remarks] *Thank you for participating in this interview. We are conducting research on the business processes at [Company X]. Your input is very valuable to our research as it provides context and helps us narrow down the key factors.*

Demographic:

1. We'll proceed with your name in case of follow-up questions, but would you like to remain anonymous? Y/N
2. Name (if provided):
3. Position and tenure:
4. How many people are in your position within this department?
5. Gender (write down): F/M
6. What are your roles on a daily basis? Can you please walk me through an example?
7. What is your primary business objective in your position?
8. Which platform are you involved with? Standard/Professional
9. Which account are you involved with? Small/Mid-market/National

Overall lifecycle:

10. Can you briefly describe the process of customer journey at [Company X]?
11. What are some examples of your interactions with the customers? (direct/indirect)
12. Our definition of the business process is: Opportunity, project creation, project implementation, and post-implementation. How well do you think this capture the actual journey?
13. What stage are you more familiar with? Please provide more information on the customer journey if we are missing any.

Impression on retention:

14. On a high level, how do you think [Company X] is doing in terms of customer retention?
15. Say out of 100, how many of the customers do you think has transitioned to CS in the past year?
16. Based on the data provided, the current average retention rate is X%. Why do you think it is higher/lower/similar to your expectation?

Key drivers of retention:

17. What do you think are the key drivers of customer leaving, in general?
18. (Show visual) At what stage(s) do you think this loss occurs relatively more than others? Please elaborate.
19. Are you aware of the disconnect reasons survey that customers fill out? How much of it do you think truly captures the reason of disconnect? Why? Anything you think is missing?

Internal influences:

20. What characteristics of the customer are important to consider in retention?
21. How do you think different customer types matter in retention? Which types of customers are more likely to churn versus others?
22. How do you think different product types matter in retention? What about the number of products sold in a bundle?
23. How do you think different types or activities of coaches matter in retention? Any examples or additional comments on the coaches?

External influences:

24. What do you think about the impact of competitors?
25. What do you think about the impact of market conditions?

Company X's improvement plans on retention:

26. Are you aware of any efforts/initiatives by [Company X] to retain customers for the past 5 years? If so, please explain.
27. Are you aware of any future plans/initiatives by [Company X] to retain customers?
28. If you were to develop a strategy to retain customers, how would you do? How about in opportunity? Onboarding?

Miscellaneous impact/shock:

29. Are there any potential untrackable/non-data impact that you would like to bring up?
30. What do you think about the impact of upselling?

Closing:

31. Is there anything else we missed or you think is important to consider?
32. Can you please recommend who knows well about customer churn at [Company X]?

Thank you very much for your input. We may follow up with you for clarification. Please let us know if you have any questions or comments.

Study 1b: Interview guide for B2B customer-side managers

[Opening remarks] *Thank you for participating in this interview. We are conducting research on the business processes involving B2B SaaS adoption. Your input is very valuable to our research as it provides context and helps us narrow down the key factors.*

Introductory:

1. Name:
2. Gender:
3. Company/industry:
4. Position:
5. Tenure in the position:
6. Tenure in the company:

SaaS product onboarding stages:

Please think of a customized SaaS subscription package that is implemented in a project to fit your company/team's needs through service agreements.

7. What is the main SaaS product you could speak to in terms of its overall project stages? What is the main goal/usage of the product?
8. Can you please briefly describe your primary usage and your involvement/role with the package?
9. Can you please briefly describe the SaaS adoption process in your org in stages?

SaaS add-ons:

SaaS packages are commonly sold as a baseline service with multiple potential add-on services.

10. Considering the SaaS product you are referring to, what are some examples of its add-ons? Can you please elaborate on how they are adopted and used?
11. If you had to add or remove certain add-ons after signing the service agreement, what processes would be needed?

Key drivers of retention:

12. From your own experience, what do you think are the key factors for successful customer onboarding for B2B SaaS products?
13. From your own experience using SaaS products, at what stage(s) do you think customer defection is relatively more likely than others? Why?

External influences:

14. Can you tell us how you get support for your SaaS product when you encounter issues (e.g., service outage, software bugs, technical/operational issues)?

Internal influences:

15. What are your thoughts on the impact of add-on bundling before versus after implementing the product?

Closing:

15. Is there anything else we missed or you think is important to consider? Or did you have any questions?
16. If you can recommend anyone else who would like to comment on this topic, please do not hesitate to contact me.

Thank you very much for your input. We may follow up with you for any clarifications if necessary. Please let us know if you have any questions or comments.

Web appendix C

A: Study 2: Geographic location of the collaborating firm's customers

Australia	Luxembourg
Bahamas	Malta
Bahrain	Mexico
Belgium	Netherlands
Bermuda	New Zealand
Brazil	Poland
Canada	Portugal
China Peoples	Puerto Rico
Cyprus	Singapore
Czech Republic	Slovakia
Denmark	South Africa
France	Spain
Germany	Sweden
India	Switzerland
Ireland	Turkey
Israel	USA
Italy	United Arab Emirates
Japan	United Kingdom
Kenya	

B: Study 2: Distribution of the total number of add-on services purchased by the customers

Number of add-on services purchased	% of customers in the sample that purchased the number of add-on services
1	2.61
2	23.91
3	36.99
4	22.35
5	9.11
6	3.50
7	1.27
8	0.18
9	0.06
10	0.01

C: Study 2: Distribution of the add-on services purchased by the customers

Add-on service	% of customers in the sample that purchased the add-on service
Audit services	3.21
Business intelligence (BI) insight	6.00
Connectors and web services	8.90
Drive	.27
Employee notification	.08
Expense pay-related add-ons	7.72
Expense automation	28.52
Invoice management-related add-ons	6.84
Other extended services	.51
Service administration	2.75
Travel and expense related add-ons	9.20
Travel request management	.46
Trip management app	.30
User support desk	25.24

D: Study 2: Distribution of retention rate by the total number of add-on services purchased by the customers

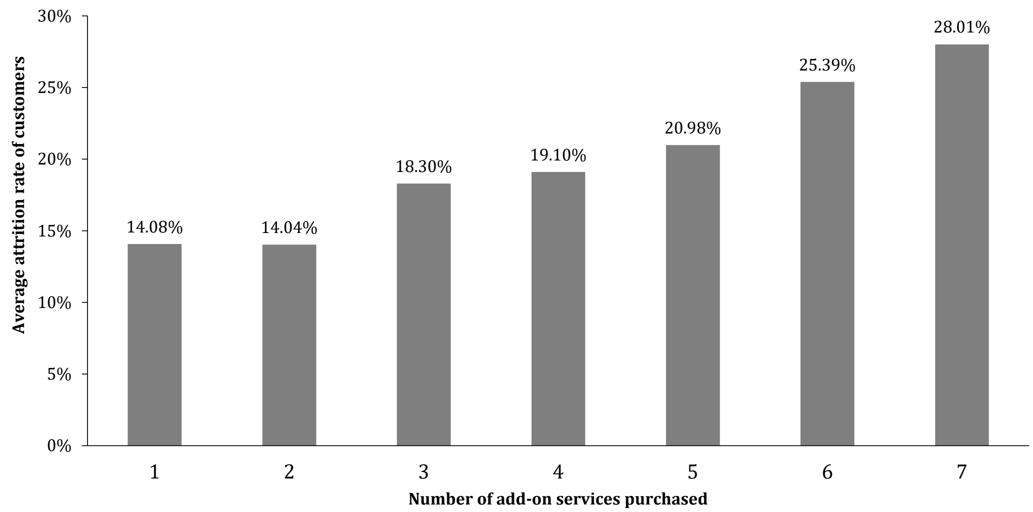
Number of add-on services purchased	Average retention rate of customers
1	85.92
2	85.96
3	81.70
4	80.90
5	79.02
6	74.61

Note: We omit statistics for customers that bought more than 6 add-ons because they constitute less than 2% of the total sample (see Panel B above).

E: Study 2: Distribution of retention rate by the add-on purchased

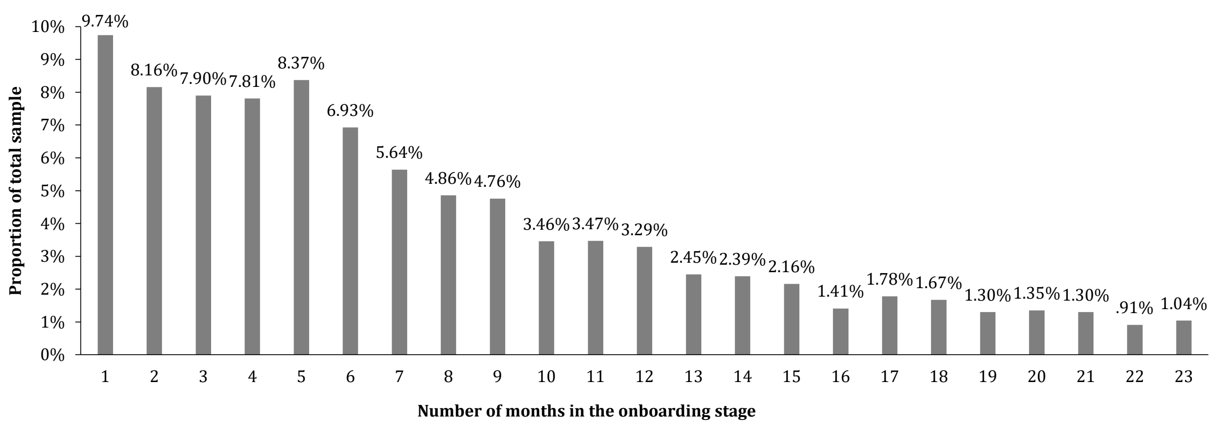
Add-on service	Average retention rate of customers
Audit services	82.79
Business intelligence (BI) insight	83.56
Connectors and web services	77.84
Drive	78.68
Employee notification	66.13
Expense pay-related add-ons	81.67
Expense automation	83.76
Invoice management-related add-ons	70.51
Other extended services	84.04
Service administration	80.42
Travel and expense related add-ons	83.45
Travel request management	83.84
Trip management app	91.43
User support desk	83.63

F: Study 2: Visualization of attrition rates by the total number of add-on services purchased by the customers



Note: There are instances in our dataset where a firm bought 8 and 9 add-ons (see Panel B above). We do not include them in the plot because together they represent less than .5% of the entire sample.

G: Study 2: Histogram of number of months in the onboarding stage taken by customers



Note: All months after month 23 represented less than 1% of the sample in each month. So, we end the histogram in month 23.

Web appendix D

Study 2, Part A: Control function residuals

	DV: Number of add-on services sold (OLS regression)		DV: Number of add-on services sold (Poisson regression)	
	Estimate	Pr > ChiSq	Estimate	Pr > ChiSq
Intercept	1.464	.002	.644	.009
Main effect				
Holiday season	.090	<.0001	.027	<.0001
Control variables				
Total subscriptions purchased	.000	.569	.000	.673
Contract duration	-.010	<.0001	-.003	<.0001
Billing frequency (monthly vs. quarterly)	-.019	.265	-.008	.356
Client size fixed effects (12 categories)	✓		✓	
Add-on service fixed effects (14 categories)	✓		✓	
Service account team fixed effects (19 categories)	✓		✓	
Client country fixed effects (37 categories)	✓		✓	
Log likelihood	-111,824.328		50,034.970	
Akaike information criterion	223,816.655		251,876.204	
Chi-squared test of the holiday season variable	$\chi2 = 78.82$ (p <.0001)		$\chi2 = 26.65$ (p <.0001)	
N	74,871		74,871	

Note: DV = dependent variable.

Web appendix E

Study 2, Part A: Robustness check results (Firth bias correction)

	Model 1		Model 2		Model 3	
	Estimate	Pr > ChiSq	Estimate	Pr > ChiSq	Estimate	Pr > ChiSq
Intercept	1.358	<.0001	-608.700	<.0001	-4.126	.007
Main effects and moderating effects						
Number of add-on services	-.149	<.0001	-.534	<.0001	-.487	<.0000
Communication channel richness	.399	<.0001	.554	<.0001	.533	<.0001
Number of add-on services × communication channel richness					.052	.002
Control variables						
Actual subscriptions used	.006	<.0001	.005	<.0001	.005	<.0001
Contract duration	.000	<.0001	.000	<.0001	.000	<.0001
Actual service usage duration	.046	<.0001	.036	<.0001	.037	<.0001
Billing frequency (monthly vs. quarterly)	-.323	<.0001	-.255	<.0001	-.252	<.0001
Service outage	.105	<.0001	.063	.018	.063	.019
Client category	.173	<.0001	.118	<.0001	.117	<.0001
Add-on service fixed effects (14 categories)			✓		✓	
Service account team fixed effects (19 categories)			✓		✓	
Client country fixed effects (37 categories)			✓		✓	
Contract period fixed effects			✓		✓	
Control function residuals			✓		✓	
Inverse Mills ratio			✓		✓	
Akaike information criterion	64,805.517		63,005.526		62,992.365	
−2 log likelihood	64,787.517		62,771.526		62,756.365	
N	74,872		74,871		74,871	
Cases where the customer retained the contract	61,415		61,414		61,414	