Institute of Actuaries of India

Subject SA1– Health and Care

June 2019 Examination

INDICATIVE SOLUTION

Introduction

The indicative solution has been written by the Examiners with the aim of helping candidates. The solutions given are only indicative. It is realized that there could be other points as valid answers and examiner have given credit for any alternative approach or interpretation which they consider to be reasonable

Solution 1:

i)

1) Being the first product of the company, it might have been priced aggressively to gain market share. Given the high share (80%) of this product in revenue, it is unlikely to be a loss leader. The premium rate could be lower with a higher level of underwriting. This might have been resulted to lower premium with lower claims due to better underwriting. [1.5]
2) Promoters might be a very well known in India with a good brand value. This might have been under estimated at the initial stage while deriving the business plan. This might have led to significant enhancement in terms of distribution of its product and higher business. [1.5]
   The PMI market might not be so competitive earlier and the premium rate might be at higher side for the other insurers. ABC might have been reduced their level of required profitability to offer a cheaper premium which has resulted higher business. [1]
3) ABC might have added new distributors / distribution channels which were not anticipated at pricing stage. The added distributors post pricing the product are specialized in selling the PMI product. [1]
4) The remuneration to the distributors might be higher than the competition. This will impact particularly on the business through Brokers, IMF etc, who have options to place business with any available insurers. [1]
5) The reinsurance terms received could be better than the market enabling ABC to offer cheaper premium rates. However, this may not be the case given the claim ratio figure. [1]
6) There could be unique features in the product identifying it as unique in the market.
   Particularly, the guarantee of upper cap of premium increase in first 4 yearly renewals could be absent / lower in the market or at least in a portion of market. This has made the product popular resulted to higher business. [1.5]
7) Being a new company, ABC might have used technology based marketing (like digital marketing, e-sales etc.) which has resulted to higher business. [1]
8) The company could have initiated higher level of marketing in the first year which could be associated with other offers like free gifts to customers / distributors etc. This could be possible during the short term only. But the new business growth is as expected at the pricing stage. This indicates the higher level of business was not a one-off event and the higher business level is sustainable. [1.5]

[8]

Before any conclusion, it requires a further analysis to identify the reasons and to access to what extent it may be continued in future. If there are multiple reasons, the impact and possibility of continuing the same in future need to be estimated as accurately as possible. [1.5]

- If the increased level of business is coupled with higher costs (marketing / advertisement / sales etc), it is necessary to access the profitability of the portfolio after allowing for the higher level

of expenses. It should also be compared to the expected profitability of the portfolio at lower business volume expected at a lower level of expenses. [1]

- If the claim ratio is lower due to higher underwriting, the additional cost associated also has to be allowed for. The cost – benefit analysis of the higher underwriting has to be performed. Also, it could be a potential risk since the effect of underwriting will reduce subsequently resulting to higher claims. Given the upper cap of premium increase (5%) in the following 4 years, it may turn out to be risky. The growth of 10% in gross claim ratio during 2nd year may be an early indication to it. [1]
- If the product is priced aggressively as a loss leader in case the claim ratio is at higher side, the extent of possibility of selling other profitable products need to be analyzed. Given the very high proportion of revenue (80%) from this product, it is not likely. [1]
- If the higher new business is due to better reinsurance terms, it should be analyzed carefully as the net claim ratio has grown by 20% which is double the growth of the gross claim ratio. The reinsurer would have increased the premium rates in 2018-19 or increased the underwriting level or changed the retention level, which has lowered the claim ratio at the reinsurer's end but the net claim ratio (at the insurer's end) has increased, which may further worsen due to delayed reporting of claims. [1.5]
- The new business growth is as planned at the pricing stage. The level of associated expenses in 2018-19 needs to be compared with that of 2017-18. The comparison should be made on the basis of per unit basis rather than on absolute basis. [1]
- If there is a reducing trend in per unit cost, it is good and sustainable even if the 2017-18 business was at higher cost. However, if it is not so, the reasons for the same needs to be ascertained to find out possible corrective steps. [1]
- If the premium rates are lower than the market or it has some unique features like the cap on renewal premium increase, it is necessary to estimate the possible reactions of the competitions to estimate the further period for which it will be there. [0.5]
- If there is a competitive advantage in some or all portions of the market, then also the estimated time for which it will be present and the estimated extent needs to be evaluated. [0.5]
- Finally, full model office projections are to be performed for various combinations after allowing for appropriate parameters to conclude whether the current strategy to be continued or to switch to a better strategy quickly or slowly over future in order to achieve a optimal position. [1]

[6]

[14]

ii) The renewal rate is 20% higher than assumed. This might have happened for various reasons. Also, the renewal rates might have been varied widely across the following:

- by product type
- by distributor / sales channel
- by provider / hospital

- by medical procedure or policy benefit section
- by age
- by gender
- by occupation / annual income (if known)
- by region / area of residence
- by duration from entry
- by NCD level (if appropriate)
- by member cost-sharing, e.g. excess levels
- by underwriting method
- particular distribution channels or subsets thereof
- geographical area
- policy size
- benefit type
- past claim ratio [2]

If any particular segment is showing widely different renewal rates than others, it needs further investigation to find the reason for the same. The actual Renewal rate is to be calculated as No. of renewals happened during the period / No. of renewals invited in the same period. [1]

There has been no increase in premium rates during the renewal although a provision for increase byup to 5%. This might have a significant impact on the renewal rates. If the company initially increased the renewal premium rates and waived it subsequently then the renewal rates during the increased premium rates and during the waived-off period should be calculated separately. [1.5]

The expenses associated with the renewals also need to be analyzed along with the analysis. If the expenses are higher than assumed, it could be one reason for higher renewals. If any special renewal campaign was undertaken, it also has to be considered for the associated expenses. [1.5]

The claim ratios (both gross & net) has been increased in 2018-19, which comprises of new business & renewals. Comparison of gross & net claim ratios for renewals alone needs to be computed to identify any trends therein. [1]

If the structure of reinsurance is changed during renewals (say retention limits), the same should be considered accordingly. [1]

The renewal analysis needs to be done to identify any adverse trends early and to initiate appropriate actions. [0.5]

[6]

iii) The gross and net claim ratios for the PMI products needs to be analyzed according to the following categories:
For PMI and health cash plans there are various levels of investigation, namely:

- by product type
- by distributor / sales channel
- by provider / hospital
- by medical procedure or policy benefit section
- by age
- by gender
- by occupation / annual income (if known)
- by region / area of residence
- by duration from entry
- by NCD level (if appropriate)
- by member cost-sharing, e.g. excess levels
- by underwriting method [2]

To conduct the cohort wise analysis of gross & net claim ratios, care must be taken to calculate the corresponding exposed-to-risk properly. The following process need to be followed for the same: [1]

For all health and care insurance contracts, particular care will need to be exercised to ensure that only lives insured in the investigation period under consideration are included in the figures. It is equally important to ensure that claims are correctly included. [1]

Adjustments to exposed to risk will need to be made where the life exposure only contributes to part of the period under investigation. As data are largely computerized, adjustments can be made on a life-by-life basis using the date of entry and / or exit from the investigation. [1]

Further adjustments will need to be made to the exposed to risk if the life insured is subject to an initial period where no claim can be made (waiting period). [1]

The gross & net incidence rates needs to be calculated for each of the segments separately.
The claim amount should also investigated separately in the following manner:

PMI is written on an indemnity basis so the Sum Insured & Claim amounts may be different for the policies and mostly all are generally entitled to a full refund of costs, subject to exclusions & deductions up to the Sum Assured limit. [1]

However, there are likely to be some variations within the policy classes in that larger policy limits (e.g. maximum outpatient benefit level) will give rise to higher average claim amounts.

In analyzing average claim amounts under PMI, it is necessary to examine the experience, broken down into suitable categories.The costs of all the major diseases and procedures will be investigated (separately). [1]

These may be further sub-classified, depending on available data, by:

- Inpatient, day case or outpatient
- Type of hospital
- Source of distribution, e.g. broker, tied agents, bancassurance or direct sales
- Geographical region
- Policy type
- Presence of pre-agreed fee schedules. [1]

The analyst would focus particularly on whether new procedures, drugs or equipment were being used to treat illnesses differently than formerly. This will have a major effect on average costs. [1]

The effect could be upwards or downwards. For example, a new drug may rapidly improve the recovery time of certain illnesses, but may cost considerably more. [1]

The visible claim ratios are the impact of both the incidence rates and the claim amount distribution. [0.5]

The increase in claim ratios in 2018-19 may very well resulted due to late reporting of claims out of the 2017-18 policy years. [0.5]

Issue year wise analysis as per the above segments separately for renewals and new business should be able to identify any reason and trend thereof. [0.5]

We have to remember that a substantial portion of policy period commenced in 2017-18 will be in 18-19 and hence the analysis should be conducted through proper segmentation and exposed-to-risk calculation to have meaningful and like to like comparison. An analysis on the basis of earned premium could be a close approximation. [1]

Given the impact of underwriting and possibly waiting period etc, the extent of increase in both the rates next year do not looks unreasonable, however it may be justified through the above analysis. [1]

[13]

iv) Any increase in premium rate has an adverse impact on renewal. Prima facie evidences should be validated with the actual experiences. The information regarding A/E is not available but non-increase of premium at renewal indicates it is not far beyond expected level. [1.5]

The growth in gross claim ratio needs to be clear further. It seems that the ratios are calculated in a simple manner without looking at the correspondences. It seems that the gross claim ratio is the total claim during a FY / Total premium received during the FY. If this is the case, the growth

in gross claim ratio seems reasonable since the 2017-18 ratio would have accounted for possibly less than half year's claim. Also, the initial waiting period, effect of underwriting etc would have reduced the ratio further in 17-18. [2]

Also, the correctness of year-end provision in FY 2017-18 for Reinsurance premiums, Reinsurance claims receivable and IBNR along with any change in process / method in such calculations have big impact on the ratios. [1.5]

The 18-19 ratio will include claim for policy year 17-18 for which no premium received. The premium for the new business and renewal during the year will be included fully with partial claim during the year (the remaining claims will arise in the subsequent years). The 10% increase in the ratio does not indicate any clear indication, but the contribution from renewed policies will be important. This is because the experience of the new business in 18-19 should not be very different from 17-18 unless the marketing or underwriting strategy is changed substantially. This seems to be unlikely as the new business growth is similar to the pricing assumption. [2]

The higher increase in net claim ratio needs further careful investigation as it has more direct impact on ABC. If it is due to the increase in reinsurance premium rate, the reason should be investigated. The growth of claim ratio at RI side is likely to be lower or could have been de-grown. Proper analysis may indicate consideration of other RI or negotiation with the RI. [1]

The decision of not reducing the rate is supported by the higher renewal rate reducing expenses thereby. Any possible action like increasing rate needs to be supported by a detailed cost/benefit study. Apparently, the decision of not increasing the rate seems to be correct unless found otherwise through the supporting analysis. [1.5]

[8]

v) The draft reply should include the following:

A guarantee is viewed as a useful tool for marketing provided the guarantee is valuable and understood by the market. The feature of review (increase) in premium rate is a common feature in Indian health insurance and is a major concern to the customers. There are incidences where the premium increase happened at higher side and received wide media coverage. [2]

The guarantee offered clearly may turn out to be costly if it was not thought through in details initially. The claim inflation is very likely to exceed 5% and it may bite unless it is accommodated properly at the pricing stage. The period over which the guarantee will be applicable is 5 years from issuance of a policy. A similar guarantee is received from the reinsurer. Had it not so, it is really a source of risk which may impact the company adversely. Although, it is absolutely correct that even the reinsurer may not be able to afford a loss making guarantee for a longer time and

in such case, corrective actions should be initiated proactively. [2]

The initial premium rate might have been set at higher side to accommodate the guarantee. But it does not seem so due to the marketing success of the product. Whatever be the case, apparently it seems that it has been appreciated in the market well and it is continued to be so. [1]

The removal of such guarantee may impact the business volume adversely if it is perceived to be valuable in the market. A cost benefit analysis is crucial to estimate the likely impact of such removal. [1]

The portfolio is major business line of the company. Any impact on business for this product will impact the company and hence it is to be examined carefully. [1]

The apparent ratios may be misleading and only on the basis of 2 initial year's results (which do not look adverse overall), the withdrawal of guarantee may not be a wise decision. However, it will be analyzed further in details and the same will be monitored on a monthly / quarterly basis to initiate early action to any adverse trend identified. [1.5]

[6]

vi) The reply should include the following:

Possibly the higher growth in net claim ratio than gross claim ratio is the concern for the CFO. He might be thinking that the RI is making profit at the cost of the Insurer. [1]

It is true that if the RI is making any profit, it is at the cost of the insurer. However, this is on the expected level basis only which will be true over a long term. In an individual year, it may happen very well that the RI is at a loss position and vice versa. [1.5]

CFO might be comparing the RI premium paid and the claims recovered for the FY. RI premiums might be paid annually in advance, where the claims are recovered over next one year after paying the premium. Given the level of business growth in 18-19, it is very likely that the RI premium will be much higher than the claims recovered. However, the claims will be continued to be recovered out of this reinsured book without any payment of premium. Computation of RI premium on earned basis or a proper experience analysis for the reinsured portion may revel the actual picture. [2]

The major reason for having reinsurance is to reduce variance and to protect the company financials from short term fluctuations. Lower the retention level, lower will the variance and lower will be the upside potential in a given year if the experience turns out to be favorable. [2]

It is worth to conduct a study on reinsurance level to find out the appropriateness of reinsurance level in line with the risk appetite of the company, which depends typically on the level of capital among other things. If it is found to be really low, we may have to find the reasons and find

alternatives, if required. [1.5]

Being a new company, the company may be technically dependent upon RI considerably and there may be earlier contracts are in effect in this respect. Full background of having current RI arrangements and the available alternatives has to ascertained before concluding anything. [1.5]

[8]

[55 Marks]

Solution 2:

i) Possible reasons for complaints at the time of claim:

1. The benefits underlying the product could be very complicated that could create confusion at the time of claims.
2. The product has been mis-sold to the customer
3. The product brochure and sales documents are ambiguous and subjective leading to confusion at the time of claim.
4. The claim submission process is not well laid out leading to confusion at the time of claims creating Policyholder dissatisfaction.
5. The insurer may have made changes in the claims management practices which could lead to claims that were earlier getting paid are now getting rejected
6. The company may have taken stringent measures to reduce potential misuse, abuse or fraud and hence rejecting claims that, in their assessment, are not genuine.
7. The sales agent / distribution channel is not well trained to sell these products and hence they are unable to explain the product features.
8. The insurer may have started an incentive program for its claims assessors that are based on claims not paid. This could lead to increased claims rejection and subsequent complaints.
9. Insurer doesn't have a very strong network with its providers or the agreement between insurer and provider is not adequate leading to issues between the providers and insurers at the time of claim. This could delay the claims settlement process and may have irritated the policyholders
10. The claims professionals are not well trained or inexperienced, and they reject genuine claims leading to complaints. The insurer may have changed the TPA.
11. The claims systems are out of date leading to issues with claims management and settlement.
12. The Turn-Around-Time for claim settlement is very high compared to other insurers. Hence,it doesn't meet customer's expectations of faster settlement leading to complaints.
13. Incorrect expectations were set due to misleading advertisements by the insurer.
14. Poor initial underwriting may have led to stringent underwriting at the claims stage.

15. Compliance to regulatory requirements (e.g. additional verification or KYC at claims stage) leading to delay in claims processing and settlement. The reinsurer may have enforced a more stringent claims adjudication process (which was not there earlier)

[6]

ii) Possible mitigation

A detailed analysis of such complaints should be undertaken. This will enable the insurance company to better understand the areas of concern in order to address them. The list below is non-exhaustive in terms of possible mitigation measures available to the insurer.

1. Design products that are simple and easy to understand
2. Well laid out product brochure with clear description of benefits and what is covered and what is not
3. Strong and well-trained customer services department to handle Policyholder queries and grievances.
4. Welcome calling to new customers and explain the benefits, terms and conditions.
5. Train the distribution channel and act against errant distributors if they are making false promises to sell policies.
6. Well laid out procedures that provide clear guidelines to Policyholders regarding claims filing
7. A technological solution that makes it easier to file a claim and provides status during the time the claims is being processed by the insurer
8. A good provider network and a strong network management team to manage relationship with providers
9. Incentivize TPA if there are fewer complaints related to claims filing and settlement processes.
10. Well documented and structured processes to ensure better clarity to claims processors
11. Invest in educating Policyholders in terms of the dos and don’ts in simpler terms.
12. In addition, the insurer should work with the association of insurers to launch initiative in the areas of consumer education.
13. The association can promote and reward insurers with better sales practices.
14. The association can lobby with the government and various regulators to work out a solution whereby the provider networks implements the regulations proposed by the insurance regulator specially around electronic health records and claim filing documents
15. The association can launch initiatives and guidelines that forces providers to follow commonly accepted treatment protocols.
16. The association can work with the regulator to ensure standardized terms and conditions of policies.

[8]

iii) The objective of issuing the Protection of Policyholders' Interest regulations are as follows:

- To ensure that interests of insurance policyholders are protected.
- To ensure that insurers, distribution channels and other regulated entities fulfil their obligations towards policyholders and have in place standard procedures and best practices in sale and service of insurance policies.
- To ensure policyholder-centric governance by insurers with emphasis on grievance redressal.

[3]

iv) Possible aspects to be covered as per the regulation under the draft policy

The policy shall include the following aspects

- Steps that will be taken for enhancing Insurance Awareness to educate prospects and policyholders about insurance products, benefits and their rights and responsibilities.
- Service parameters including turnaround times for various services rendered.
- Procedure for expeditious resolution of complaints
- Steps that will be taken to prevent mis-selling and unfair business practices at point of sale and service.
- Steps to be taken to ensure that during policy solicitation and sale stages, the prospects are fully informed and made aware of the benefits of the product being sold vis-a-vis the product features attached thereto and the terms and conditions of the product so that the benefits / returns of the product are not mis-stated / mis-represented.

[6]

v) The usual underwriting practices followed by Health insurance companies in India is more akin to back-end underwriting whereby there is very limited initial underwriting and the risk of anti-selection or adverse selection is managed through waiting periods and exclusions. In certain circumstances, e.g. older age, high Sum Insured, or adverse disclosures in the application form, medical tests are conducted before policy is issued.

Having limited front end underwriting allows insurance companies to issue policies very quickly. At the time of the claim, the claims assessor checks whether the treatment undergone is covered and is not part of any of the exclusions and/or waiting period. Given the complexity of health conditions, at times, it becomes difficult to prove whether there has been any material non-disclosure.

Also, there is a significant asymmetry of information between the insurer and insured regarding insured's health conditions. At the same time, Policyholder's understanding of the policy terms and conditions are limited and many of them rely on the explanation provided by the distributors at the time of sale. This creates a mismatch of expectations between the insurer and insured in terms of benefit coverage and waiting periods. Hence, when the insured files a claim and it doesn't get paid due to any reason, it leaves a bad impression of the insurer and results into complaints filed by the Policyholder.

The current proposal is similar to front-end underwriting whereby the insurer underwrites the applicants at the time of proposal. Once the risk is accepted, all benefits are covered from day 1 i.e. there are no waiting period for any benefit. This practice is typically followed in some of the death benefit products whereby there are no waiting periods for death benefits once policy is issued. Having said some mass schemes do have initial waiting period for non-accidental deaths if there is no underwriting in any form.

Full underwriting at the proposal stage has the following advantages:

1. Insurer has a better understanding of the risk being underwritten. Hence, the actual claims experience is likely to be closer to expected specially for chronic related illnesses.
2. Given the lifetime renewability clause, the insurer is more confident in terms of long-term claims experience with front end underwriting
3. This will enable the insurer to sharply price the product and make it more competitive
4. The underwritten lives are expected to exhibit effect of selection in the early policy duration and hence the claims experience in the early years are likely to be lower. The insurer can pass on the benefit in its pricing making the premiums more competitive
5. The indemnity products offer life time renewability and hence, front end underwriting allows insurer to accept risks that they understand.
6. Processing claims will be faster and easier as the claims assessors don't have to spend additional time to check if the benefits are covered. Hence, it can lead to better claims management and Policyholder experience. Also, there will be cost savings.
7. As per the regulation, the cost of medicals is split between the insurer and the insured. so, this proposal will not significantly increase the cost of the insurer.
8. From the Policyholder point of views, front end underwriting offers peace of mind as once his proposal is accepted, all claims will be paid from day 1.
9. Less ambiguity would mean that the Policyholder is likely to have better claims experience. He is likely to stick with the company for a long time [5]

However, there are certain challenges in implementing the proposal

1. It will be very difficult to device a set of medical tests that can cover all conditions that are under waiting period. Even if it's available, it could be very expensive. for example, the tests that can detect cancers or similar chronic conditions are very expensive and may not be covered in routine medical tests.
2. The extra cost may not have been priced in the premiums. Hence this could impact the product profitability.

3. The healthy individuals opting to undergo medicals wouldn't impact the claims outgo and hence there may not be any savings. In contrast, the unhealthy applicants may not choose to undergo medicals and may continue to complain if the claims get rejected.
4. Since the cost is shared by with the insured, the insured may not be interested to pay such high expenses along with the policy premium. The cost of tests vis-à-vis benefit of no waiting period may not appeal to healthy customers.
5. The underwriting process will be very lengthy and time consuming and may increase the time taken to issue policy
6. It may also result in higher declines. This may impact insurer's image in the market specially if other insurers are not following similar practices.
7. The underwriting team strength and skills may be insufficient. This may increase insurer's expenses which may offset the savings from better expected claims experience
8. The underwriter may still need to exclude certain conditions because of underwriting decision which may not be acceptable to the Policyholder [5]

Recommendation

There are benefits of front-end underwriting specially from Policyholder experience and long-term claims experience. Hence, insurer may explore offering to Policyholders who are young say less than 40 years of age and are likely to be in good health. The medical questionnaire and tests could be designed in a way that it can assist the underwriter to identify potential risks that can result into claims in the next 2 years, typical waiting period.

The insurer can offer front end underwriting as an option to the Policyholder at the time of application and those that agree to undergo medical tests will not have any waiting periods. The insurer may bear the expense of medicals to incentivize the Policyholder. Those agreeing to undergo medicals are likely to be in good health and it may lead to positive selection. The savings in claims cost can be passed to the Policyholder by way of insurer bearing the cost of medicals or through any other means approved by the regulator e.g. higher NCB etc. [2]

[12]

vi) Impact on claims experience due to coverage of mental illness

Mental illnesses are very difficult to diagnose and treat. Usually mental illnesses are chronic in nature with few acute phases. There is a big stigma attached to mental illness and it usually goes unreported for a very long time. The societal trends are changing though with more people willing to talk about their mental illness. While the government is educating the Importance of being healthy both physically and mentally, the regulator is trying to ensure that policyholders can claim for the benefits.This may encourage them to seek treatment and lead a healthier lifestyle.

With treatment for mental illnesses now covered under the insurance policy, it is likely to increase both frequency and severity. The actual impact on the claims will be difficult to

quantify since the insurer wouldn't have any experience as such claims would either not have been reported or would have got rejected. Similarly, industry data too may not be available. The insurer may analyse rejected claims where cause of rejection is due to mental illness and it may give some indication of most frequent cause of hospitalization. However the data may not be credible since many claims may not have been reported.

Since the insurer is covering only for inpatient hospitalisation, an estimate would have to be made about the increased incidence of in-patient hospitalisation due to covering of these illnesses. the actuary may consult medical research papers or doctors to estimate the % of patient suffering with mental illness that may require hospitalisation and cost of such treatments. If the product also offers OPD benefits, then a similar effort is required to estimate the burning cost.

The claims assessors will need to be trained to handle claims related to mental illness.

Since the benefit is covered with immediate effect, the insurer may find it difficult to reject any claims related mental illness if there weren't any related questions in the application form. It may be very difficult to establish if the illness existed at the time of policy inception and hence covered under the PED exclusions.

The insurer may also need to contact the providers to understand the treatments offered by them and how it can be added to their existing agreement. If the insurer is offering cashless services, it may also want to reach out to specialist providers and have an agreement with them. This will enable the insurer to manage claims cost.

Going forward, the insurer may need to change the initial underwriting guidelines as well as proposal forms. The underwriters may want to have a question around mental illness.

Further the underwriting manual needs to be updated. Should there be a disclosure related to mental illness at the time of application, the underwriters should be able to assess the risk and make a judgement in terms of whether to accept the risk and at what premium.

The underwriters will also need to be trained to handle such applications.

Similarly, the claims guidelines / manual need to be updated to handle claims related to mental illness.

As this is a recent change, it is likely to take some time before the full impact is experienced by the insurer. This will give insurer an opportunity to monitor the experience very closely and wait for the opportunity to reprice the product to reflect the additional risk.

[10]

[45 Marks]

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