



2017 Performance Plan for Yan Guo

Employee Information

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|-----------|---|----------|--------------------------|
| FIRSTNAME | Yan | LOCATION | UPPER GWYNEDD PA USA-OFF |
| LASTNAME | Guo | COUNTRY | USA |
| TITLE | Assoc. Dir, Quant. Sciences-(56153131) | MANAGER | Jane Cynthia Folske |
| DIVISION | GHH-Z005 | JOBCODE | 56153131 |

Year End Review

Overall Performance Category

Successful

Year-End Review Comments

Comments by Jane Cynthia Folske

Overview of Key Accomplishments

In 2017, Yan designed a TV and digital heavy-up pilot for BELSOMRA. She showed herself to be a collaborative and proactive partner with her clients. She had a bias for action, asked good questions to seek understanding of the root of each issue that she addressed, and was flexible when the initial output needs adjustment or the scope of the project shifted. Her results-orientation and acting with a sense of urgency even when the business needs shifted/changed were very advantageous to her. This project changed course several times, and ultimately the pilot approach was not adopted. Yan's enthusiasm and optimism never seemed to waiver.

Yan collaborated with a cross functional team including market research, marketing, promotion, the consumer CoE, and agency partners (Initiative, Evolution Road) as well as multiple analytical service providers (comScore, Symphony, crossix, IQVIA) to further evolve measurement practices using the exposure-to-claim approach. She worked with comScore/Symphony to evolve their control group selection approach to better meet Merck's standards. She produced multiple ROI outputs to inform consumer media investment decisions across multiple franchises. She crafted output to inform Merck's paid search bidding strategy, starting with JANUVIA. This is an area of great opportunity for Merck, and Yan is instrumental in moving this forward.

Yan worked extensively with the KEYTRUDA team leading to publication of the initial set of sales impact and ROI results based on two methodologies - exposure-to-claim (partnering with comScore/Symphony) and marketing mix modeling (partnering with ZS). With the KEYTRUDA consumer team, Yan proved her expertise and gained credibility despite the challenge of being new to Merck and to the team. She listened carefully to the team members' concerns and consistently followed up with thorough and accurate responses. Technically, Yan was characteristically careful to understand deeply what each external analytical partner had done and to appropriately interpret and value the resulting output.

Yan was a full member of the Project Constellation core team, representing Investment Analytics & Decision Sciences on this project to influence the vendor selection, approach and output to maximize the opportunity that this project represents to Merck.

Stakeholder Feedback

Yan's stakeholders consistently recognized her collaborative, proactive, partnering approach to every project that she owned as well as her pleasant, enthusiastic nature and high level of engagement. Despite her short tenure with Merck thus far, she seamlessly transitioned from new employee to trusted partner. Her stakeholders suggested that she should continue to be proactive in her sharing of best practices and recommendations for improved approaches. Yan is recognized as an expert in the methodologies that she applies. One stakeholder commented that, while this is appreciated, in certain situations Yan might improve her approach by boiling down the technical details into a more concise package, and once she does this, this stakeholder expressed that Yan would be "unstoppable" as a partner to the business.

Opportunities for 2018

In 2018, Yan has the opportunity to have key impact on the business in the arena of HCC media investments. In particular, Yan has several brands that have signed up for the exposure-to-claim methodology, and she can continue to hone the actionable recommendations that come out of these to influence Merck's HCC media investments to be more and more effective and efficient. BELSOMRA is one of these brands, and in addition to applying this methodology, Yan is poised to deliver the most comprehensive marketing mix model, assessing HCC media at the most granular level that the Promotion Optimization team has attempted via this methodology. This is likely to be key in informing the strategy for this franchise in the second half of 2018, and will also involve Yan using her leadership to pull together insights for promotion, direct selling, and managed care contracting into one package to inform the discussion. Yan will likely produce a marketing mix model for JANUVIA, and is on point to manage ZS through the next iteration of the KEYTRUDA marketing mix modeling work stream. This is likely to be an exciting year for Yan!

Performance Objectives

Customer

Be partner with other functional experts across Merck and external agencies

On Track

Insert the multi-channel/digital subject matter expertise needed to partner with other functional teams (Market Research, Market Promotion, COE, IA&DS, etc.) and external agencies to define necessary capabilities, oversee campaign strategy effectiveness, and keep multi-functional team well informed on progress, best practice in HCC media, associated metric and outcomes.

Individual Objective Category

Delivered Significantly Above Objective

Individual Objective Category

Delivered Significantly Above Objective

Priority Details

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|----------------|---|-----------------------|--|
| Objective Name | Be partner with other functional experts across Merck and external agencies | Objective Description | Insert the multi-channel/digital subject matter expertise needed to partner with other functional teams (Market Research, Market Promotion, COE, IA&DS, etc.) and external agencies to define necessary capabilities, oversee campaign strategy effectiveness, and keep multi-functional team well informed on progress, best practice in HCC media, associated metric and outcomes. |
| Start Date | 01/01/2017 | Due Date | 12/31/2017 |
| Status | On Track | | |

Other Details

Accomplishments

| | | | |
|----------------|--|-----------------|------------|
| Progress Notes | Partner with Keytruda, Januvia, Belsomra, Zostavax, P23 and Gardasil team to layout TV/Digital campaign evaluation plan, monitor campaign performance, measure strategy effectiveness and deliver data driven analysis | Completion Date | 12/31/2017 |
|----------------|--|-----------------|------------|

Financial Performance

Optimize customer engagement strategies to maximize business impact

On Track

Identify through data to optimize customer engagement strategies such as channel mix, customer journey sequencing and customer targeting to improve business impact or ROI

Individual Objective Category

Delivered On Objective

Individual Objective Category

Delivered On Objective

Priority Details

| | | | |
|----------------|---|-----------------------|--|
| Objective Name | Optimize customer engagement strategies to maximize business impact | Objective Description | Identify through data to optimize customer engagement strategies such as channel mix, customer journey sequencing and customer targeting to improve business impact or ROI |
| Start Date | 01/01/2017 | Due Date | 12/31/2017 |
| Status | On Track | | |

Other Details

Accomplishments

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|----------------|---|-----------------|------------|
| Progress Notes | Led internal and external business partners to analyze hundreds of million dollar investment to optimize HCC media strategies to help brand team to achieve positive financial goals. | Completion Date | 12/31/2017 |
|----------------|---|-----------------|------------|

Innovation

Leverage past work experience and bring in new ideas

On Track

Inject experience design principles and other new ideas to design and measure multi-channel (TV, Digital, etc.) experiments that focus on improving business and customer value

Individual Objective Category

Delivered Significantly Above Objective

Individual Objective Category

Delivered Significantly Above Objective

Priority Details

| | | | |
|----------------|--|-----------------------|---|
| Objective Name | Leverage past work experience and bring in new ideas | Objective Description | Inject experience design principles and other new ideas to design and measure multi-channel (TV, Digital, etc.) experiments that focus on improving business and customer value |
| Start Date | 01/01/2017 | Due Date | 12/31/2017 |
| Status | On Track | | |

Other Details

Accomplishments

| | | | |
|----------------|---|-----------------|------------|
| Progress Notes | Assessed methodologies from varying analytical vendors to recommend the best practice for Merck brands based on past broader experiences in Pharma industry, CPG industry and management consulting industry. Leveraged my academic education and past work experience to establish the best practice for exposure-to-claim study, marketing mix analysis and pilot design for TV and Digital | Completion Date | 12/31/2017 |
|----------------|---|-----------------|------------|

Operational Excellence

HCC Media Measurement/Optimization

On Track

Produce and champion adoption of insights derived from cookie-to-claim studies and marketing mix modeling of TV and digital promotional effectiveness (e.g., paid search, banner ads, Web site visits) to improve optimization of the consumer media investment mix.

Individual Objective Category

Unrated

Individual Objective Category

Unrated

Priority Details

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|----------------|------------------------------------|-----------------------|--|
| Objective Name | HCC Media Measurement/Optimization | Objective Description | Produce and champion adoption of insights derived from cookie-to-claim studies and marketing mix |
|----------------|------------------------------------|-----------------------|--|

modeling of TV and digital promotional effectiveness (e.g., paid search, banner ads, Web site visits) to improve optimization of the consumer media investment mix.

Start Date 01/01/2017

Due Date 12/31/2017

Status On Track

Other Details

Accomplishments

| | | | |
|----------------|--|-----------------|------------|
| Progress Notes | 1) Led Exposure-to-Claim study in consumer marketing to support brand team's media planning decisions --- Collaborated with market research team, COE, media agencies and consulting companies to quantify net conversion lift from media campaigns, deliver data-driven insights, and recommend optimal media strategies for KEYTRUDA, ZOSTAVAX, JANUVIA and BELSOMRA --- Provided ROI assessment for \$74MM invested in 2017H1 for KEYTRUDA TV and \$17MM investment on KEYTRUDA Digital based on conversion analysis. | Completion Date | 12/31/2017 |
| Progress Notes | 2) Led marketing mix analysis to evaluate promotion campaign performance, quantify business impact and deliver ROIs for HCC medias at national level --- Provided ROI assessment for \$86MM invested in KEYTRUDA TV, for \$26MM invested in KEYTRUDA Digital Display, for \$16MM invested in KEYTRUDA paid search | Completion Date | 12/31/2017 |

Operational Excellence

Pilot Design for TV and Digital

On Track

Address measurement needs for big-ticket investment decisions by designing robust, carefully constructed pilots to sales impact and ROI valuation, coordinating with agency, promotion and marketing collaborators to insure holistic input.

Individual Objective Category

Delivered Significantly Above Objective

Individual Objective Category

Delivered Significantly Above Objective

Priority Details

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|----------------|---------------------------------|-----------------------|--|
| Objective Name | Pilot Design for TV and Digital | Objective Description | Address measurement needs for big-ticket investment decisions by designing robust, carefully constructed pilots to sales impact and ROI valuation, coordinating with agency, promotion and marketing collaborators to insure holistic input. |
| Start Date | 01/01/2017 | Due Date | 12/31/2017 |
| Status | On Track | | |

Other Details

Accomplishments

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|----------------|--|-----------------|------------|
| Progress Notes | 3) Designed and developed a solid methodology for media pilot program analysis to evaluate promotion impact in testing markets. --- Successfully delivered pilot design for BELSOMRA TV and Digital. Recommended \$5M TV spend and \$3MM digital spend for 6 month test period in selected best-bet DMAs to accelerate promotion return | Completion Date | 12/31/2017 |
|----------------|--|-----------------|------------|

Operational Excellence

Project Constellation for Customer Engagement Analytics

On Track

Partner to make progress on centralization of consumer decision support from disparate decision support sources (IA&DS, agency, Google analytics self-serve, Evolution Road) via Project Constellation and other initiatives including coordination of insights with Evolution Road.

Individual Objective Category

Delivered On Objective

Individual Objective Category

Delivered On Objective

Priority Details

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|----------------|---|-----------------------|--|
| Objective Name | Project Constellation for Customer Engagement Analytics | Objective Description | Partner to make progress on centralization of consumer decision support from disparate decision support sources (IA&DS, agency, Google analytics self-serve, Evolution Road) via Project Constellation and other initiatives including coordination of insights with Evolution Road. |
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|------------|------------|----------|------------|
| Start Date | 01/01/2017 | Due Date | 12/31/2017 |
| Status | On Track | | |

Other Details

Accomplishments

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|----------------|---|-----------------|------------|
| Progress Notes | Worked with cross-functional team to design and build consumer data management platform (DMP) and HCC engagement analytic tool to support media targeting and media analytics across all franchises. --- Be partner with Salesforce Krux team to understand media data tagging and collection process. Interviewing design vendor candidates for dashboard design and KPI selection | Completion Date | 12/31/2017 |
|----------------|---|-----------------|------------|

People

Manage internal and external vendors to deliver business insights in timely fashion

On Track

Manage internal and external vendors to create national HCC media plans and standard solution design, evaluate consumer marketing campaign performance and recommend optimal investment mix

Individual Objective Category

Delivered On Objective

Individual Objective Category

Delivered On Objective

Priority Details

| | | | |
|----------------|---|-----------------------|---|
| Objective Name | Manage internal and external vendors to deliver business insights in timely fashion | Objective Description | Manage internal and external vendors to create national HCC media plans and standard solution design, evaluate consumer marketing campaign performance and recommend optimal investment mix |
| Start Date | 01/01/2017 | Due Date | 12/31/2017 |
| Status | On Track | | |

Other Details

Accomplishments

| | | | |
|----------------|---|-----------------|------------|
| Progress Notes | Managed ZS team to successfully complete ROI assessment for \$86MM invested in KEYTRUDA TV, for \$26MM invested in KEYTRUDA | Completion Date | 12/31/2017 |
|----------------|---|-----------------|------------|

Digital Display, for \$16MM invested
in KEYTRUDA paid search

Quality/Compliance

Understand and support US Market compliance plans

On Track

Understand and support US Market compliance plans by:

- 1) Complete all relevant compliance training and review updated policies
- 2) Continue to thoughtfully share sensitive data like promotional program ROI, NPV and product financial assumptions in the appropriate manner - "need to know" basis
- 3) Continue to understand media planning process and strategies across all franchises

Individual Objective Category

Delivered On Objective

Individual Objective Category

Delivered On Objective

Priority Details

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|----------------|---|-----------------------|---|
| Objective Name | Understand and support US Market compliance plans | Objective Description | Understand and support US Market compliance plans by: 1) Complete all relevant compliance training and review updated policies 2) Continue to thoughtfully share sensitive data like promotional program ROI, NPV and product financial assumptions in the appropriate manner - "need to know" basis 3) Continue to understand media planning process and strategies across all franchises |
| Start Date | 01/01/2017 | Due Date | 12/31/2017 |
| Status | On Track | | |

Other Details

Accomplishments

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|----------------|--|-----------------|------------|
| Progress Notes | Completed required company training programs on time. | Completion Date | 12/31/2017 |
| Progress Notes | Understood Merck usual protocol for ROI, NPV, pre-tax vs after-tax and other product financial assumptions | Completion Date | 12/31/2017 |
| Progress Notes | Understood business stakeholders' role and responsibility and point of contact for HCC media studies | Completion Date | 12/31/2017 |

Signature

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|-----------|----------------------------|-------------------|
| Manager: | <u>Jane Cynthia Folske</u> | <u>03/14/2018</u> |
| Employee: | <u>Yan Guo</u> | <u>09/04/2018</u> |