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### **Abstract**

Back in 1994, Kiss.com launched as the very first modern dating website, creating an entirely new type of experience.

Today, just about everyone understands what it means to "swipe left," and Pew Research finds that 30% of US adults have used an online dating site or app, while 12% have been in a committed relationship with someone they met online.<sup>1</sup>

When Kiss.com launched, we could not have imagined how our routine interactions would change from face to face to digital over the years. Artificial intelligence (AI) was still science fiction. In less than 20 years, AI has influenced how we shop, navigate websites, and interact directly with companies; how products are delivered; how we decide to entertain ourselves; and, of course, how we find our life partners! These same AI applications that are transforming the consumer digital experience are having as much of a dramatic impact on core business



JADA<sup>+</sup> Explores Artificial Intelligence in Dentistry

processes in dentistry. It also shows promising applications in dental practice transitions to help facilitate a much easier and successful buyer/seller match and transaction.

Are dentists ready for a digital transformation in how they buy, sell, hire, or join dental practices?

At ADA Practice Transitions (ADAPT), we envisioned and created a primarily digital environment where dentists could find the perfect match (whether practice or person), manage an evaluation, and complete a transaction with greater efficiency and success. Now that we have built a platform that some liken to Match.com for dentists, we're evaluating how AI can enhance the process and help ADAPT deliver even better recommendations. AI could even uncover great opportunities you may have overlooked, similar to Netflix, Stitch Fix, Priceline, or other tech-first companies.

By integrating AI into practice transitions, we are striving for three goals: (1) achieving better matches, faster, (2) bringing down the cost of the average practice transition, and (3) providing the right level of coaching to help dentists navigate their transitions.

# Why it is so important to find the right match

Picture your dental utopia. You work with staff in exactly the way that makes you comfortable. That could be all business or it could be building a team that feels more like family than employees. Likewise, your patients know exactly what to expect, whether that is 20 minutes of catching up on common interests or highly efficient appointments in which you get the job done. Finally, you are working your preferred

# IADA

### Meeting the Tide of Digital Innovation:

JADA<sup>+</sup> Explores Artificial Intelligence in Dentistry

schedule, doing the procedures you want to do, and getting paid accordingly.

Now imagine what happens when your utopia clashes with established office norms. Perhaps you expect the office to run highly efficiently with shorter appointments, but your patients and staff expect you to listen to all the details of their grandchild's dance recital. With that kind of mismatch, someone is bound to be unhappy. You may dread going to work, your staff may quit, or your patients may go elsewhere.

At ADAPT, we know that the key to succeeding in your new practice is being in a situation in which you are practicing dentistry in a way that is consistent with your overall vision and values. It is why we created a dental practice transition model that's rooted in matching dentists with shared philosophies of care.

In talking with dentists, we heard far too many stories of those who settled in a practice that wasn't quite right, only to leave a year or two later. When that happens, everyone loses: the practice, the staff, and the patients.

Isn't it better to find a practice that already fits you and your preferences rather than trying to find satisfaction in a place that's not quite right?

# How ADAPT blends technology with a human touch

When you create an ADAPT profile to buy, sell, join, or hire, you fill out an in-depth questionnaire that enables you to share your preferences. A series of filters then process the profiles to show the (human) ADA

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### Meeting the Tide of Digital Innovation:

JADA<sup>+</sup> Explores Artificial Intelligence in Dentistry

Advisor several potential matches and ranks them according to how well the profiles align. Next, the Advisor validates the suggested matches, applying feedback and additional input they have received from you and other dentists, ultimately enhancing the matching algorithm with a transition expert's human touch.

Because we can show multiple practice styles and locations, we often suggest something that just pushes the limits of what you indicate you are willing to accept, much like Netflix suggesting a seemingly obscure series you soon find yourself binging. We ask for feedback on how well the recommendations fit or flopped. Over time, these responses help us further improve our recommendations for you and other dentists transitioning with ADAPT.

The goal is to only show those matches that meet your goals, whether that is the practice that can become a great dental "home" or a buyer who can carry on your legacy.

## AI to deliver better recommendations

Al is just beginning to play a role in streamlining the matchmaking process. The ADAPT team is developing algorithms that will allow the Advisor to make better, faster recommendations. By "training" the algorithm to integrate your feedback on potential matches, the platform will learn what is really important to you and adjust the recommendations accordingly. The resulting feedback loop will only get stronger with more input. This is just like the Al you may have encountered in your day-to-day life as your Netflix or Amazon recommendations improve over time.

ADAPT's focus on philosophy of care means that many of the matching attributes are more gray than black or white. For example, every dentist



JADA<sup>+</sup> Explores Artificial Intelligence in Dentistry

talks about patient relationships being important, but some characterize relationships as more personal ("I know about their family and their interests"), whereas others keep them clinical ("I know everything about their oral condition and how to improve it"). It's a matter of where dentists put their energy and emphasis, and that requires more nuance than simple filters can discern.

At ADAPT, we have found efficient ways to characterize some of these gray areas in ways that allow us to be more predictive about the success of long-term matches. Doing so requires asking more than simple yes/no questions.

Imagine you're preparing to buy a practice, but you're not quite sure exactly what you want. All could help you articulate your dental practice "style" before you even begin to formally view actual practices. For example, interactive quizzes could ask your input on different options, showing you images of different types of operatories, asking how you would handle various cases, and gauging your preferred work style. None of these questions has a right or wrong answer, but, taken together, the All can begin to narrow the focus and serve up practices or candidates that better fit your style.

This would work much like Stitch Fix, the clothing site that shows you multiple outfits to determine your personal style. With each outfit you react to, the technology learns your preferred colors, cuts, fabrics, and so on.

Making better recommendations will allow our ADAPT experts to focus on coaching and educating our members, helping dentists better understand the process and prepare for what comes after we have found them the perfect match!

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# Growing the pool to fuel even better matches

ADAPT is what the start-up world calls a "network product." That means that growth drives success. In other words, each new participant exponentially increases the potential connections. The bigger the network, the better, more useful, and more efficient the solution becomes for its participants. The classic example is the telephone. One telephone is essentially worthless, but as more people have them, each is more valuable because you can connect with everyone in the network.

As the volume of ADAPT participants grows, the more effective and efficient the machine learning becomes, the more matches ADAPT creates and the better we become at identifying factors that lead to good matches.

# Al's role after the match: streamlining the entire transaction process

Al's role does not have to end when a match is made. Rather, Al can then use the same inputs that drove the recommendations to steer the transaction, from the LOI and due diligence through closing and beyond.

For example, your "style" inputs and other data could help deliver tailored financing options and customized next steps. We already offer extensive resources as part of our platform, but AI could help us bundle up exactly what you need for your unique transition process.

Similarly, sellers who input their practice details could receive an Algenerated evaluation that accounts for everything from the practice's

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### Meeting the Tide of Digital Innovation:

JADA<sup>+</sup> Explores Artificial Intelligence in Dentistry

finances and equipment to the location, hygiene schedules, treatment style, and community demographic and economic conditions. With the right inputs, the technology could then provide a comprehensive current valuation to help you better understand your situation and serve as a starting point in negotiations.

Using data collected throughout the process, a buyer could receive access to practice management systems that could help them get up to speed more quickly. Meanwhile, automated surveys could assess how patients are responding to the transition, guiding changes to ensure patient retention.

## Keeping the human in the transition

Even as AI begins to streamline the process, we believe that personal interaction always has value, even as it happens on a virtual platform. When a dentist articulates their philosophy of care, the ADA Advisor reads their words. The technology can then identify patterns and preferences to sort and group and order; however, the recommendation itself comes from the ADA Advisor. Our Advisors are the experts who have experience in what makes a good match between dentists, and they can pick up on nuances that a machine cannot.

Going forward, we will continue to rely on our expert Advisors to refine and provide the vast majority of this guidance. However, we're excited about how AI may enhance this in the future. We will continue to ensure that the human element is never lost. Our goal is for AI to complement, not replace, our Advisors.

Let's free up our Advisors to do what they do best: advising individual doctors by answering their unique questions, offering reassurance, and bringing a human touch to a complicated process.



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## References

Anderson M, Vogels EA, Turner E. The virtues and downsides of online dating. Pew Research Center. February 6, 2020. Accessed XXX. <a href="https://www.pewresearch.org/internet/2020/02/06/the-virtues-and-downsides-of-online-dating/">https://www.pewresearch.org/internet/2020/02/06/the-virtues-and-downsides-of-online-dating/</a>